

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

convenes

MEETING 46

ADVISORY BOARD ON  
RADIATION AND WORKER HEALTH

DAY TWO

MAY 3, 2007

The verbatim transcript of the 46th  
Meeting of the Advisory Board on Radiation and  
Worker Health held at The Westin Westminster,  
Westminster, Colorado on May 3, 2007.

*STEVEN RAY GREEN AND ASSOCIATES  
NATIONALLY CERTIFIED COURT REPORTING  
404/733-6070*

C O N T E N T S

May 3, 2007

WELCOME AND OPENING COMMENTS DR. PAUL ZIEMER, CHAIR DR. LEWIS WADE, DESIGNATED FEDERAL OFFICIAL	10
ROCKY FLATS SEC PETITION MR. MARK GRIFFON, WORK GROUP CHAIR PETITIONERS	11
BETHLEHEM STEEL SEC PETITION DR. SAM GLOVER, NIOSH, OCAS PETITIONER	213
LOS ALAMOS NATIONAL LABORATORY SEC PETITION DR. GREG MACIEVIC, NIOSH, OCAS PETITIONER COMMENTS	261
WR GRACE SEC PETITION MR. LAVON RUTHERFORD, NIOSH, OCAS	310
PUBLIC COMMENT	329
COURT REPORTER'S CERTIFICATE	369

### TRANSCRIPT LEGEND

The following transcript contains quoted material. Such material is reproduced as read or spoken.

In the following transcript: a dash (--) indicates an unintentional or purposeful interruption of a sentence. An ellipsis (. . .) indicates halting speech or an unfinished sentence in dialogue or omission(s) of word(s) when reading written material.

-- (sic) denotes an incorrect usage or pronunciation of a word which is transcribed in its original form as reported.

-- (phonetically) indicates a phonetic spelling of the word if no confirmation of the correct spelling is available.

-- "uh-huh" represents an affirmative response, and "uh-uh" represents a negative response.

-- "\*" denotes a spelling based on phonetics, without reference available.

-- (inaudible)/ (unintelligible) signifies speaker failure, usually failure to use a microphone.

**P A R T I C I P A N T S**

(By Group, in Alphabetical Order)

BOARD MEMBERSCHAIR

ZIEMER, Paul L., Ph.D.  
Professor Emeritus  
School of Health Sciences  
Purdue University  
Lafayette, Indiana

EXECUTIVE SECRETARY

WADE, Lewis, Ph.D.  
Senior Science Advisor  
National Institute for Occupational Safety and Health  
Centers for Disease Control and Prevention  
Washington, DC

MEMBERSHIP

BEACH, Josie  
Nuclear Chemical Operator  
Hanford Reservation  
Richland, Washington

1 CLAWSON, Bradley  
2 Senior Operator, Nuclear Fuel Handling  
3 Idaho National Engineering & Environmental Laboratory

GIBSON, Michael H.  
President  
Paper, Allied-Industrial, Chemical, and Energy Union  
Local 5-4200  
Miamisburg, Ohio

GRIFFON, Mark A.  
President  
Creative Pollution Solutions, Inc.  
Salem, New Hampshire

1           LOCKEY, James, M.D.  
2           Professor, Department of Environmental Health  
3           College of Medicine, University of Cincinnati

4           MELIUS, James Malcom, M.D., Ph.D.  
5           Director  
6           New York State Laborers' Health and Safety Trust Fund  
7           Albany, New York

          MUNN, Wanda I.  
          Senior Nuclear Engineer (Retired)  
          Richland, Washington

          PRESLEY, Robert W.  
          Special Projects Engineer  
          BWXT Y12 National Security Complex  
          Clinton, Tennessee

          ROESSLER, Genevieve S., Ph.D.  
          Professor Emeritus  
          University of Florida  
          Elysian, Minnesota

          SCHOFIELD, Phillip  
          Los Alamos Project on Worker Safety  
          Los Alamos, New Mexico

SIGNED-IN AUDIENCE PARTICIPANTS

ABILA, EDMUND, MET OP.  
ABILA, JUAN, RF WORKERS  
ADKINS, LEONILA, SPOUSE  
ALBERG, JEANETTE, SEN. ALLARD  
ALLEN, WILLIAM, ROCKY FLATS  
BARKER, CARL, RF RETIREE  
BARKER, KAY, ANWAG  
BARNETT, WILLIAM, RFES  
BARRIE, GEORGE, ANWAG  
BARRIE, TERRIE, ANWAG  
BLAKESLEE, JACK, ROCKY FLATS  
BLAKESLEE, JOANNE, ROCKY FLATS  
BOLLER, CAROLYN, CONG. MARK UDALL  
BRADSHAW, CHARLENE A., RADIATION ORG.  
BREYER, LAURIE, NIOSH  
BRITTON, CAKER J., WIFE  
BRITTON, LESSIE S., RFETS  
BROCK, DENISE, NIOSH  
BROEHM, JASON, CDC  
BUCHANAN, DENNIS, RCT  
BUFFO, RON, SON RF WORKER  
BUTZ, JR., REINHOLT, S.O.E.  
CALDWELL, NANCY, RF WORKER  
CARLSON, AUDREY, SPOUSE  
CARLSON, ROBERT I., RADIATION  
CARRELL, DENNIS  
CHANG, CHIA-CHIA, HHS  
CLARK, DEBBY, RFETS  
DEFORGE, CLIFF, RF RETIRED  
DELFORGE, DOUGLAS, ROCKY FLATS  
DIENST, JOHN, ROCKY FLATS  
DIGIACONO, RON, SELF  
DOBROVOLY, MICHELLE, ENGINEERING  
DURAN, BEA, DOE  
DURAN, SAM J., RF  
ELLIS, ANN, ROCKY FLATS  
ELMLINGER, RON, PCM  
EVASKOVICH, ANDREW K., ICUA LOCAL 69  
FINLEY, B., DPOST  
FITZGERALD, JOE, SC&A

FOX, CAREY, RFETS  
FOX, MARY, RFETS  
GADSON, CURZIE, ROCKY FLATS  
GAFFNEY, RICHARD S., RFETS  
GAHOR, PATRICIA A., RFETS  
GARRIMONE, YVONNE, DAUGHTER OF DECEASED  
GOMEZ, DELMA G., RFETS  
GOMEZ, ERNA, ROCKY FLATS  
GONZALEZ, JUAN, ROCKY FLATS  
GONZALEZ, NORMA, ROCKY FLATS  
HANKET, JOE, ROCKY FLATS RETIRED  
HANKINS, LARRY, RETIRED UNION  
HARLAN, RONALD A., ROCKY FLATS RETIREE  
HARLAN, S., SPOUSE  
HARRISON, CONSTANCE, NIOSH  
HARTMAN, ALAN, RF RETIREE  
HEWITT, JAMES, ROCKY FLATS  
HEWITT-BALLOU, CHERYL, DAUGHTER  
HILLER, DAVID, SEN. KEN SALAZAR  
HINNEFELD, STU, NIOSH  
HOFFMAN, GAYLE, RF WORKER  
HOLGERSON, ERIC, ROCKY FLATS  
HOWELL, EMILY, HHS  
HOMOKI-TITUS, LIZ, HHS  
HUEBNER, LIZ, ROCKY FLATS  
IMSE, ANN, ROCKY MOUNTAIN NEWS  
JACQUEZ-ORTIZ, MICHELE, CONG. UDALL  
JENSEN, DIANE, ROCKY FLATS  
JOHN, PADIA, ROCKY FLATS  
KESSLER, MIKE, 5280  
KLOTZ, JIM, RF  
KOHLER, ROMAN, R.F. HOMESTEADERS  
KOTSCH, JEFF, DOL  
KRULL, WARREN S., SAIC  
KUBIAK, MICHAEL S., ORAU/MJW  
LAHTI, ROSE, ROCKY FLATS  
LEVALLEN, BETTY  
LEVEN, TIM, PCM  
LINK, RICHARD A., ROCKY FLATS  
LOGAN, MICHAEL D., ROCKY FLATS  
LUCERO, GENNY, RADIATION ORG.  
MAKHIJANI, ARJUN, SC&A  
MARQUEZ, MARK W., STEELE WORK

MARSCHALL, HANNA, RF WORKER  
MARTINEZ, LADONNA, RFLATS SPOUSE  
MARTINEZ, MATTHEW A., RFETS  
MAURO, JOHN, SC&A  
MAYES, CALVIN, RF WORKER  
MCALLISTER, ROBERT J., ROCKY FLATS  
MCCARTHY, BILLY, RETIRED  
MCCARTHY, DIANN, SPOUSE  
MCCLURE, ROB, KCNC-TV  
MCDONALD, SEAN, DENVER POST  
MCFEE, MATTHEW, ORAUT  
MCKEEL, DAN, SINEW  
MEANEY, CHERYL, RFW & SPOUSE  
MEZT, RICHARD, ROCKY FLATS  
MILLER, DUANE R., ROCKY FLATS  
MILLER, HYMAN, ROCKY FLATS  
MILLETTE, RON, RF WORKER  
MILNE, CHARLES, MSU  
MILNE, LINDA, ROCKY FLATS  
MOBLEY, JERRY, ROCKY FLATS  
MOBLEY, WALTER M., CONSTRUCTION  
MOSELEY, HENRY, RF  
NEWBY, KEVIN, RF EMPLOYEE  
NEWBY SHERRY, SPOUSE  
NORMAN, JOAN, ROCKY FLATS  
OLDS, RICHARD, RF WORKER  
PADILLA, JUDY, FORMER RFP WORKER  
PALIZZI, TOM, ROCKY FLATS  
PAZIER, LARRY, HUSBAND OF RF  
RAMOS, LARRY, RF RETIRED  
ROMERO, DENNIS R., RF WORKER  
ROSE, WILMA, SELF  
RUIZ, HARRIET  
RUPP, MARYANN, SPOUSE OF DECEASED WORKER  
RUTHERFORD, LAVON, NIOSH  
SABEC, DONALD, ROCKY FLATS  
SCHULTZ, JEFFREY W., ENGINEERING  
SCHULTZ, LAURA, RF CLAIMANTS  
SHEPARD, SALLY, SELF  
SHORT, DEBORAH, RF  
SINGER, GARY L., ROCKY FLATS  
SPENCER, BETTY, RF SPOUSE  
STEELE, MARYJO, ROCKY FLATS

STEPHAN, ROBERT, SENATOR OBAMA  
STICKERMAN, CHAD, RF ENGINEER  
THIELEN, JEREMY, RFETS  
THIELEN, JOHNATHAN, RFETS  
THIELEN, TODD, RFETS  
THIELEN, VAL, RFETS  
THOMAS, RHONDA, ROCKY FLATS WORKER  
TINKLE, ANN, ROCKY FLATS  
TINKLE, DALE, ROCKY FLATS  
ULSH, BRANT, NIOSH  
VAUGHN, JIM  
VAUGHN, LINDA  
VIGIL, DENNIS E., ROCKY FLATS  
WEAVER, JACK, RETIRED RF WORKER  
WHITE, LIBBY, DOE  
WILLIAMS, RHONDA, FOR PARENT  
YEATER, JADYA, ROCKY FLATS  
ZIEMER, MARILYN

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

(8:00 a.m.)

WELCOME AND OPENING COMMENTSDR. PAUL ZIEMER, CHAIRDR. LEWIS WADE, DFO

2 DR. ZIEMER: Thank you very much. I do want to  
3 remind you, if you've not already done so, to  
4 please register your attendance with us today,  
5 and you can do this during the break if you  
6 haven't already done it. There's a  
7 registration book in the foyer.  
8 There are also a variety of documents on the  
9 back table, including the agenda and some Rocky  
10 Flats-related materials, as well as other  
11 materials that the Board is dealing with. We  
12 have a number of SEC petitions actually that  
13 we're dealing with today, and if you need  
14 copies of those, those are on the back table,  
15 as well.  
16 Pardon my early-morning voice, but we'll make  
17 it through if you can bear with me.  
18 I'm looking to see whether we need more chairs,  
19 and if -- if any of the staffers, or maybe  
20 Larry Elliott can make a quick assessment and  
21 see if we need to request more. And if I see  
22 too many people standing, maybe we'll need to

1 request more, but I think there are apparently  
2 some seats yet. Okay. Thank you.

3 Let me call upon -- oh, I also want to point  
4 out that Dr. Melius has joined us today, was  
5 able to arrive last night. Dr. Poston will not  
6 be able to be with us today. Josie Beach is  
7 not at the table, and we'll explain why in just  
8 a moment. In fact I'll ask Mr. -- Dr. Wade to  
9 do that when he makes his opening remarks now.

10 **DR. WADE:** Well, thank you, Paul, and welcome,  
11 all, again. We very much appreciate your being  
12 here. We appreciated your comments last night.  
13 It was a -- it was a long night, but a very  
14 important night I think for the Board to  
15 experience, so thank you for your patience and  
16 we appreciate your comments.

17 As Paul mentioned, Josie Beach is conflicted  
18 with regard to this particular petition at  
19 Rocky Flats and is not at the table, following  
20 the Board's procedures.

**ROCKY FLATS SEC PETITION**  
**MR. MARK GRIFFON, WORK GROUP CHAIR**  
**PETITIONERS**

21 **DR. ZIEMER:** Okay. Thank you very much. Let  
22 me outline quickly how we will proceed here.  
23 We're going to begin with the presentation from  
24 NIOSH where they give us an update on the SEC

1 petition evaluation. The evaluation report is  
2 an official part or step in the SEC process.  
3 Following that we will hear from the  
4 petitioners. Then there will be an opportunity  
5 for members of the Congressional delegations,  
6 and there are a number of those here this  
7 morning, to add official comments for the  
8 record.

9 We will then hear from the Board's working  
10 group. The Board has a working group on Rocky  
11 Flats and they will provide their report.  
12 Then after that, the Board will have a  
13 discussion period and deliberate on the -- on  
14 the SEC petition material.

15 I do want to remind you, in case you had  
16 forgotten, and that is that the Board's final  
17 product is a recommendation. We're not the  
18 ones that determine whether or not there will  
19 be a class added to the Special Exposure  
20 Cohort. We make a recommendation on that.  
21 That recommendation goes to the Secretary of  
22 Health and Human Services, together with  
23 recommenda-- any recommendation from NIOSH.  
24 And from that the Secretary of Health and Human  
25 Services passes along or makes an official

1 recommendation to Congress. It is Congress  
2 that ultimately makes the decision in this  
3 process. So what we do here today is part of  
4 that process.

5 There are time limits on it, though, so we --  
6 for example, whatever the Board's  
7 recommendation is, that will go immediately --  
8 after this meeting -- to the Secretary. He  
9 will act rather promptly on that, within -- I  
10 think it's 30 days, yes, and then Congress has  
11 another 30 days to react to that. So there's a  
12 little time delay there.

13 But that is the process, so I want to make you  
14 aware that this Board -- or remind you that  
15 this Board is advisory. We're -- we're not the  
16 folks that make the ultimate decision on that.  
17 Ultimately it really rests in the hands of  
18 Congress.

19 **ROCKY FLATS SEC PETITION**

20 So with that as preliminary remarks, we're  
21 going to begin first with the Rocky Flats SEC  
22 petition evaluation update. That will be  
23 presented by Dr. Brant Ulsh, who is a member of  
24 the staff of NIOSH, and Dr. Ulsh, we welcome  
25 you to the podium to present the SEC petition

1 update -- or petition evaluation update.

2 **DR. ULSH:** Thank you, Dr. Ziemer. Good  
3 morning, everybody. As Dr. Ziemer mentioned,  
4 I'm just going to give a brief update. Many of  
5 you were here a year ago when I presented  
6 NIOSH's evaluation report on Rocky Flats, and  
7 I'm not going to repeat that whole  
8 presentation. There are a couple of members of  
9 the Board who were not seated on the Board at  
10 that time, so I will just give a brief update  
11 for their benefit, and just to remind everyone  
12 since it's, you know, been some time since I  
13 last spoke to you.

14 I would like to start today the way that I  
15 started a year ago, and that is to say thank  
16 you. I think a lot of times we don't say thank  
17 you to the people who really deserve it. And  
18 first of all I'd like to thank the petitioners.  
19 Tony DeMaiori, who I understand is not here  
20 today, but Tony was intimately involved in this  
21 process -- he even attended a couple of the  
22 working groups, and it was very valuable to  
23 have him at the table and to get his insights -  
24 - and Jennifer Thompson, who I see is going to  
25 present next. Both of these people worked

1           tirelessly on your behalf, and so I think that  
2           there's a debt there, too. So I'd like to  
3           thank them.

4           Most importantly, I'd like to thank the former  
5           workers. You gave a valuable service for your  
6           country, and I have benefited from it, we've  
7           all benefited from it, and we recognize your  
8           sacrifices. So I want to say thank you to the  
9           workers.

10          The question that the Board is going to be  
11          deliberating on today has nothing to do with  
12          the workers' loyalty or dedication. That is  
13          beyond reproach. There is no question in  
14          anybody's mind about that.

15          There is also no question that the workers are  
16          suffering. All of you here today have been  
17          touched by cancer personally or a member of  
18          your family has been touched by cancer  
19          personally. My family has been touched by  
20          cancer. I understand what that's like, and  
21          there's just no question the suffering that --  
22          that you all are going through.

23          But the question that the Board is wrestling  
24          with today is upon what basis should  
25          compensation decisions be made, and so I'd just

1           like to give you a brief update here.  
2           First of all, the -- the proposed class  
3           included all United Steel Workers who were  
4           employed at Rocky Flats between 1952 and 2005.  
5           NIOSH expanded this class because we determined  
6           that it wasn't really feasible to limit it to  
7           the United -- to the union members, so we  
8           expanded it to all workers between those time  
9           periods.  
10          I'd like to talk to you about the information  
11          that we have available to complete dose  
12          reconstructions, and the primary source of  
13          information that we use is dosimetry records,  
14          both internal dosimetry and external dosimetry.  
15          Now in terms of internal dosimetry, we have  
16          over half a million results. And by that, I'm  
17          talking about primarily urinalysis samples, but  
18          also lung counts, fecal samples -- so there is  
19          a wealth of internal bioassay results.  
20          Now on the other hand, we also have external  
21          dosimetry results, and this is a little bit  
22          difficult to pin down the exact number. We  
23          have 231,500, more or less, external annual  
24          dosimetry totals. Now to get the number of  
25          actual external dosimetry results, you would

1           have to multiply that by the number of exchange  
2           cycles, and I can tell you that that translates  
3           to well over a million individual external  
4           dosimetry results.

5           We also have access to an extensive records  
6           collection at DOE's Mountain View facility, and  
7           we have called upon them numerous times  
8           throughout the course of the working group's  
9           investigation.

10          And finally we have interviews with former  
11          workers. Both NIOSH and SC&A have availed  
12          ourselves of talking to the people who actually  
13          worked at Rocky Flats, and that has been one of  
14          the greatest pleasures for me over the past --  
15          well, year plus, is getting to know some of the  
16          people who contributed to the Rocky Flats  
17          story.

18          So in terms of the dosimetry results that I  
19          just told you about, here's what this  
20          translates into. We have received 1,207 or so  
21          cases referred to us from the Department of  
22          Labor for dose reconstruction. Of those 1,200  
23          we have completed dose reconstructions on  
24          1,061. You might have noticed Larry gave --  
25          Larry Elliott gave some numbers yesterday. I

1 think his were just a touch higher. He might  
2 have gone onto the database a little bit later  
3 in the day, so... What this breaks down to is  
4 we have external dosimetry for 1,100-plus of  
5 these claims. We also have internal dosimetry  
6 for almost 1,100. And so when you look at the  
7 total number of claims, 1,207, we have some  
8 dosimetry -- at least -- of both type for 1,068  
9 claims.

10 Now just to briefly review -- I'm not going to  
11 go into detail here. I think we're at the  
12 stage of the process where getting into the  
13 details is the prerogative of the working group  
14 and so I won't really get down into the  
15 details. Just to review, though, the bases of  
16 the petition as it was submitted -- there were,  
17 I believe, seven -- and four of those bases  
18 qualified the petition for evaluation, and  
19 those bases are listed here. The ones in  
20 yellow are the ones that qualified.

21 And those were external (sic) to highly  
22 insoluble plutonium oxides. You might have  
23 heard this called "super S" or "super Y". And  
24 here is one -- this is one topic where I think  
25 it should be pointed out that going through

1           this arduous process of evaluating the SEC  
2           petition has had some real benefit to the  
3           workers, because we were certainly aware of  
4           this super S issue, but going -- considering  
5           this in the course of the working group  
6           investigation accelerated our thinking and our  
7           putting together a position on this, and we  
8           have promulgated methods to handle super S --  
9           potential exposure to super S plutonium in dose  
10          reconstruction. So I think that -- that is  
11          something you can certainly point to and say  
12          that it was information that was provided to us  
13          by the public. We have heard it. We have  
14          seriously considered it and we have responded.  
15          The next basis of the petition was an inability  
16          to link exposures to specific incidents. And a  
17          year ago I acknowledged that yes, it's not  
18          always possible to -- in fact, it's often not  
19          possible to link particular exposures to  
20          specific incidents. But we have methods of  
21          handling that in dose reconstruction.  
22          The next basis was periods of inadequate  
23          monitoring. And I'm trying to recall back into  
24          the petition, I think the examples that were  
25          provided were the super S again, exposure to

1           super S and concerns about whether or not that  
2           could be accounted for, and also neutron  
3           monitoring.

4           And similarly, the neutron monitoring issue  
5           came up under the context of unmonitored  
6           exposures, because in the earlier years there  
7           were people who were at risk of neutron  
8           exposure who were not monitored.

9           And then there were three more bases of the  
10          petition that did not qualify. Those are  
11          listed here.

12          Okay, so that takes us through the time period  
13          where the petition was presented and NIOSH  
14          presented our evaluation of the petition, and  
15          that was April 27th of last year. So what has  
16          happened since then?

17          Well, at that time the Advisory Board referred  
18          the matter to a working group, which is a  
19          subset of the people that you see sitting up  
20          here in the front. And between April 27th of  
21          last year and now, so a little over a year, the  
22          working group embarked on a very extensive,  
23          very comprehensive investigation of your  
24          concerns. And the other parties involved in  
25          that investigation were NIO-- the NIOSH/ORAU

1 team and also the Board audit contractor, SC&A.  
2 This has been a very active working group. I  
3 think you can come away from this process  
4 confident that we have kicked over every rock  
5 that we could. We considered your concerns  
6 very seriously. The topics that were covered  
7 throughout the course of that investigation are  
8 listed here. One of the biggest concerns I  
9 think was data integrity, and also data  
10 completeness, which is closely related.  
11 Another topic was coworker data. We also spent  
12 a lot of time on other radionuclides at Rocky  
13 Flats, and by that I mean other than uranium  
14 and plutonium, the main radionuclides. And  
15 also early neutron doses.  
16 Now again, I'm not going to get into details  
17 here. I think that's the prerogative of Mark  
18 Griffon, and you'll be hearing from him a  
19 little bit later.  
20 And finally, this is the position that we  
21 presented a year ago, and it is our position  
22 today, that we feel that we have the ability to  
23 do dose reconstructions with sufficient  
24 accuracy.  
25 Now I know that that may not be a popular

1 decision. I'm aware of that. But at the end  
2 of the day, what we're faced with is making  
3 compensation decisions based on an SEC  
4 designation or based on dose reconstruction.  
5 And NIOSH is required to bring to bear the best  
6 available science and to conduct these dose  
7 reconstructions where it's feasible. Because I  
8 think, at the end of the day, what I owe you,  
9 what NIOSH owes you, is an answer to the  
10 question: Did the cancer that has touched me  
11 or my family, as a -- as a former worker at  
12 Rocky Flats, was that a result of the radiation  
13 exposure that you received at Rocky Flats. It  
14 is only through dose reconstruction that we can  
15 answer that question and provide you with  
16 closure, and we owe you that.  
17 So with that, that ends my presentation. I  
18 would be happy to entertain any questions from  
19 the Advisory Board, if there are any.

20 **DR. ZIEMER:** Thank you, Brant. Board members,  
21 do you have questions at this time on Brant's  
22 comments, or anything related to the evaluation  
23 report?

24 I -- I do want to ask one question. Maybe you  
25 can elucidate this, in case -- and I think it's

1           been discussed before, but we -- we've heard a  
2           number of cases where individual records have  
3           zeroes entered where -- in -- or minimal dose  
4           values entered. And on many sites we  
5           understand that that reflects the fact that the  
6           dose was low enough it could not be detected.  
7           But we also recognize there's some limit of the  
8           device and therefore the agency assigns a  
9           number that's above zero to account for the  
10          fact that the dose may really not be zero. Now  
11          we've heard I think from a number of folks at  
12          Rocky that allege that in their case the zeroes  
13          may really represent cases where they were  
14          either told not to wear their badges or, for  
15          one reason or another, the true dose was shall  
16          we say hidden. Do you have a way to account  
17          for that on individual dose reconstructions if  
18          the -- if the person ha-- makes that allegation  
19          re-- with respect to their own record?

20          **DR. ULSH:** Well, Dr. Ziemer, this was a topic  
21          that I spoke about a year ago in -- in -- well,  
22          the part of it that I spoke about a year ago  
23          was the concern where workers might have left  
24          their badges in their lockers. I went through  
25          some logic as to why we don't feel that that is

1 a -- that systematically compromises our  
2 ability to do dose reconstruction.

3 Now, in terms of the individual case, certainly  
4 if we are aware of a situation or the workers  
5 tell us of a situation where this might have  
6 been done -- well, we have coworker  
7 distributions that could be applied, if  
8 necessary.

9 **DR. ZIEMER:** So in the individual case, you  
10 wouldn't necessarily always use that other  
11 value, which is basically halfway between the  
12 minimum detectable and the zero point --

13 **DR. ULSH:** Well --

14 **DR. ZIEMER:** -- if you know, for -- if -- if  
15 there were an affidavit that indicated that  
16 there was some shenanigans going on.

17 **DR. ULSH:** If it -- if we had credible evidence  
18 that that kind of thing was going on, and we  
19 could pin it down, certainly that would call  
20 that particular reading into question. And you  
21 know, at the end of the day, if necessary, you  
22 could just treat that as not a -- not a  
23 datapoint that we should use and we could  
24 certainly assign coworker data.

25 Now I don't want to leave you --

1           **DR. ZIEMER:** No, I --

2           **DR. ULSH:** -- with the impression that we  
3 routinely do that --

4           **DR. ZIEMER:** Right.

5           **DR. ULSH:** -- but if, you know, a worker was --  
6 you know, could pin it down for --

7           **DR. ZIEMER:** There -- there is a method for  
8 handling that --

9           **DR. ULSH:** Yes.

10          **DR. ZIEMER:** -- in those cases. That -- that's  
11 the point I wanted to make.

12          **DR. ULSH:** Yes.

13          **DR. ZIEMER:** Other Board members, questions or  
14 comments?

15          Yes, Dr. Lockey.

16          **DR. LOCKEY:** Yesterday one of the petitioners  
17 had mentioned -- I think she was an office  
18 worker -- that the vaults were near the office  
19 area, and how is that handled? I'm just  
20 curious about that.

21          **DR. ULSH:** Dr. Lockey, I'm reluctant to get  
22 into individual dose reconstructions. I can  
23 tell you that in terms of -- in the general  
24 situation where we have a worker who was  
25 monitored, we would use their dosimetry

1 results. But if we're talking about a worker  
2 who was not monitored, we have methods in our  
3 dose reconstruction where we can evaluate where  
4 that person worked, evaluate their potential  
5 for exposure to radioactive materials, and we  
6 have coworker data. You know, if the worker  
7 was not monitored, we apply either the 50th  
8 percentile -- I'm talking external dosimetry  
9 now -- the 50th percentile if they were  
10 intermittently exposed to radiation, or the  
11 95th percentile if they were routinely exposed  
12 to radiation. So in a situation like this --  
13 again, I don't know the intimate details of  
14 this particular situation, but if a worker were  
15 not monitored but they had the potential to be  
16 routinely exposed to radiation, we would give  
17 them a -- a dose that is higher than 95 percent  
18 of the people who were monitored on site.

19 **DR. ZIEMER:** This is off the subject, but the  
20 AV man has reminded me that if you're on-line  
21 listening by phone, would you please mute your  
22 phone. We're apparently getting a lot of  
23 background noise. For those who are on the  
24 phone lines, if you're simply listening in, if  
25 you would please mute your phone. Thank you

1 very much.

2 Okay, Board -- other Board members with  
3 questions? Yes, Michael Gibson.

4 **MR. GIBSON:** Brant, you mis-- mentioned that  
5 there's well over one million individual  
6 results. Do you know how many employees were  
7 employed at Rocky Flats between 1952 and 2005?  
8 And of that number, how many of those employees  
9 should have been monitored?

10 **DR. ULSH:** Between 1952 and 2005. Well, Mike,  
11 I can't -- I can't give you the exact numbers  
12 of workers who were employed. I can tell you  
13 the badging policies at the site, which can  
14 give you -- give you some clues about this.  
15 Pretty much throughout the site I think, at  
16 various times, if a worker was expected to  
17 receive greater than ten percent of the  
18 exposure limit they were required -- let me  
19 restate that. If a worker had the potential to  
20 receive greater than ten percent of the  
21 exposure limit, they were required to be  
22 externally monitored.

23 Now during the D&D era, the DOE limit was 100  
24 millirem per year, and so if you were expected  
25 to have the potential to receive greater than

1           100 millirem per year, then you were required  
2           to be externally monitored.

3           Now to answer your question directly, no, I  
4           don't know the exact number of people employed  
5           at Rocky Flats by year. Those are the policies  
6           that were in place at the time that dictated  
7           who was to be monitored.

8           **MR. GIBSON:** Well, I guess -- to follow up on  
9           that, I guess what I'm trying to get at is --

10          **DR. ZIEMER:** Use the mike -- use the mike,  
11          Mike.

12          **MR. GIBSON:** Out of these in excess of one  
13          million results, could you give us an idea of  
14          what that equates to as far as how many  
15          monitoring records per employee that you're  
16          basing this on?

17          **DR. ULSH:** Well, that gets to the other part of  
18          the discussion which -- let me see if I can  
19          find it -- nope, wrong way. You actually bring  
20          up a good point and I'm glad that you did  
21          because I can clarify a little bit here.

22          When I talk about the numbers for whom we have  
23          external and internal dosimetry, these third  
24          and fourth bars, there's another part of the  
25          equation and that is the completeness of the

1 monitoring. And as you know, Mike, on the  
2 working group we did look at data completeness  
3 and we evaluated 52 workers, 32 who -- who were  
4 randomly selected by SC&A and 20 who were known  
5 to be among the workers who received the  
6 highest cumulative doses at -- on site. And we  
7 looked at their records and what we found was  
8 that they were by and large complete. And what  
9 I mean by that is there were certainly periods  
10 where there was no monitoring data, but those  
11 largely corresponded to periods when either the  
12 worker was not on site or they were in jobs  
13 that had low exposure potential such that they  
14 would not be required to be monitored.

15 So again, Mike, I can't give you exact numbers  
16 of how many people worked at Rocky Flats over  
17 the years. It was certainly in tens of  
18 thousands, if not higher. And I can tell you  
19 that the people who we expected to be  
20 monitored, the evidence -- the weight of the  
21 evidence points us to that they were. So I --  
22 I can't answer your question directly about how  
23 many -- of the workers, what percentage was  
24 monitored.

25 **DR. ZIEMER:** Thank you. Follow-up, Mike?

1           **MR. GIBSON:** Yeah. And then that -- the  
2 results of when they should and should not have  
3 been monitored is based on site  
4 characterization records or what...

5           **DR. ULSH:** No -- no, it was based on -- well,  
6 the analysis was completed in two steps. SC&A  
7 completed the first step, and that was to look  
8 at the records and determine when there was  
9 monitoring present and when there was not  
10 monitoring present. And then NIOSH took that a  
11 step further and looked at those periods when  
12 there was not monitoring data. And again, the  
13 -- the goal of the data completeness  
14 investigation was to decide -- was to evaluate  
15 whether there was any evidence that there were  
16 missing records. In other words, here's a  
17 person who clearly should have been monitored,  
18 we would expect them to have monitoring  
19 information, but do we see it or don't we. And  
20 what we found was that in every case where we  
21 saw a period without monitoring data, there was  
22 a very logical explanation for that. It's not  
23 like you had a process operator in 771, who  
24 were among the high-- highest exposures on  
25 site, who was not monitored.

1           **DR. ZIEMER:** Okay, thank you. Other questions?  
2           Brad.

3           **MR. CLAWSON:** Brant, I understand, you know,  
4           and NIOSH has done an excellent job, I'm -- and  
5           I'm not criticizing this, but using coworker  
6           data I have a very hard time with. Out of  
7           anybody on this Board, I still suit up day  
8           after day and go into these zones. I'm going  
9           to give you an example, because two weeks ago  
10          there were four of us that went into the cell,  
11          did the same work, same respiratory, and when  
12          we walked out we were sitting with 50 to 75 MR  
13          difference between the lowest guy and the  
14          highest guy. And I -- I really have a hard  
15          time using coworker data because, you know  
16          what, you can get into a lot of different  
17          things because I've brought the same questions  
18          up. When I can go into a zone or in -- into a  
19          cell handling the actual product myself, with  
20          my hands and my finger rings, and it shows that  
21          my dose to my hands is half what it was to my  
22          body, I -- you know, there's -- there's  
23          integrity of a lot of this stuff and I really  
24          have a hard time with worker -- coworker data.

25          **DR. ULSH:** Thank you, Brad. You bring up a

1           very good point, and I'm glad you did. In  
2           terms of -- in terms of coworker data, I think  
3           that there's a great misunderstanding about how  
4           we apply coworker data, and you've exact--  
5           you've just hit on the exact reason that we  
6           apply it the way that we do, because if you  
7           have two workers who work on the same job, for  
8           instance, the recorded doses can be very  
9           different for those two workers. As you  
10          probably know -- I'm sure that you do --  
11          distance from the source, shielding, there are  
12          vari-- various factors that can make those two  
13          workers have different doses. And so you would  
14          have to be extremely cautious to -- to apply  
15          one worker's data to another individual worker,  
16          and that's why we don't do that.  
17          What we do is we look at all of the workers who  
18          were monitored on site, all of them, and we  
19          apply the 95th percentile. That means that  
20          that particular worker would have had to  
21          receive greater than 95 percent of the workers  
22          who were monitored. So we understand that  
23          that's a concern, and so we don't apply one  
24          worker's dose to another worker.

25          **DR. ZIEMER:** Phil.

1           **MR. SCHOFIELD:** I got a question on the  
2 bioassays. Now some people I assume were on  
3 annual, some semi-annual and maybe some  
4 quarterly. Particularly some of those people  
5 who are on the manual (sic), they may -- had a  
6 job where they worked or passed through an area  
7 and could have actually picked up some low-  
8 level intake. If, during their interview, you  
9 find this -- that they said look, you know, I -  
10 - I remember once I had positive nasal smears  
11 but they never had me submit a bioassay sample  
12 out of that, how are you going to account for  
13 those missed...

14           **DR. ULSH:** That's a very good question, Mr.  
15 Schofield. Again, what we go back to is --  
16 there's a couple of issues that you've  
17 mentioned there. If the worker was monitored -  
18 - be it on an annual basis, a quarterly basis,  
19 whatever basis -- and let's say they're going  
20 along, they have a nega-- they have a zero  
21 bioassay result or lower than limit of  
22 detection, another one, another one, and then  
23 all of a sudden you show up with a positive  
24 bioassay result. Well, this gets to the  
25 concern that was expressed in the petition: At

1           what point did that exposure happen.  
2           Well, it was sometime between the last two  
3           bioassay points, and what we do is assume -- we  
4           take the situation that gives the highest dose  
5           to the worker and we say it was the day after  
6           that last bioassay result. Now, what that  
7           leads to -- since we consider a chronic intake  
8           exposure, that leads to the highest possible --  
9           it's essentially a bounding estimate.  
10          Now what happens if you've got a situation  
11          where the worker was unmonitored, completely  
12          unmonitored. Well, that's where we resort to  
13          coworker data, again. Normally we apply the  
14          50th percentile intake. In other words, the  
15          average intake at the site. However, in the  
16          case of Rocky Flats, due to some concerns that  
17          Mark may talk about later, or may not, I don't  
18          know, we have agreed to go at the 95th  
19          percentile there, as well. So if you've got a  
20          worker who walked through a contaminated area  
21          and picked up some material -- some plutonium,  
22          uranium, whatever it was -- we will be  
23          assigning for unmonitored workers the 95th  
24          percentile, and that means we're giving them  
25          credit for a higher dose than 95 percent of the

1 workers -- including the operators, the people  
2 who were dealing with plutonium on a daily  
3 basis -- for that very reason.

4 **MR. SCHOFIELD:** One more question. How about  
5 the people who were exposed to potentially  
6 maybe a mixture of maybe plutonium, americium  
7 or thorium or uranium, but their bioassays --  
8 they were only really being looked at for like  
9 plutonium. How you going to account for that  
10 when the person says look, you know, I didn't  
11 work just with plutonium. I also did work with  
12 uranium, I did work with thorium. But in their  
13 bioassays they were only looking for plutonium,  
14 so how you going to account for those missing  
15 things?

16 **DR. ULSH:** We do account for that. In terms of  
17 an overestimating dose reconstruction, we have  
18 methods to look at the highest doses across the  
19 complex -- or highest intakes, rather. We also  
20 look at the individual's job history. We have  
21 job history cards that tell where they worked  
22 and when. If we know that they were working in  
23 Building 71, we know that they were potentially  
24 exposed to plutonium and americium, for  
25 instance, and we consider that. If they were

1           working in Building 881, we know that uranium  
2           should be added to the mix. So we do -- we do  
3           explicitly consider the radionuclides that they  
4           could have been exposed to in various areas of  
5           the site.

6           **MR. SCHOFIELD:** How accurate are these job  
7           cards? I mean how often were they actually  
8           updated or reflected a person's work history?

9           **DR. ULSH:** What we found -- what we found is  
10          that these cards were pretty detailed. They  
11          were primarily available for employees of the  
12          prime contractor. I'm trying to remember how  
13          far up we have those -- from the early years up  
14          through the later years, I can't remember  
15          exactly what year. And they're very detailed.  
16          They talk about any time there was a job  
17          change, any time there was a salary increase,  
18          they're on those cards, so they're very  
19          detailed. And that's actually quite different  
20          from what you might see at other sites. I  
21          don't know, I haven't been involved intimately  
22          -- as intimately at other sites as I have with  
23          Rocky Flats, but these are a very valuable  
24          resource for us.

25          Also, the -- well, the -- the NDRP also used

1           those job history cards, so that's not really a  
2           separate source of data, but they're pretty  
3           detailed.

4           **MR. SCHOFIELD:** Okay, what about people like  
5           some of the crafts you would have, some of the  
6           guards who may on their cards actually be  
7           assigned to a certain particular area or  
8           certain particular building, yet because of the  
9           nature of their work they actually -- or the  
10          RCTs would be another case -- could actually be  
11          floated or moved around, and yet those cards  
12          are not going to necessarily reflect all the  
13          areas they were in.

14          **DR. ULSH:** You're right, there are certain job  
15          categories -- like the trades workers, for  
16          instance; fitters, for instance -- who could  
17          have floated around the site and we do consider  
18          that. I don't want to say at all times  
19          periods, but certainly at some time periods in  
20          -- during the Rocky Flats history, some of the  
21          crafts were located -- headquartered in one  
22          particular building, but they went where the  
23          work was needed. And so we're aware of that  
24          and we consider where they could have possibly  
25          went and to what radionuclides they could have

1 possibly been exposed, and we do take that into  
2 consideration in their dose reconstruction.

3 **MR. SCHOFIELD:** So exactly how are you handling  
4 that information on their dose reconstruction?

5 **DR. ULSH:** Well, for instance -- well, if they  
6 were monitored, it's pretty straightforward to  
7 -- well, as straightforward as, you know, dose  
8 reconstruction ever is. If they were not  
9 monitored, again, we resort to the coworker  
10 information that we have, and we know that  
11 those parti-- in those particular situations  
12 where you're talking about the trades who  
13 might've worked anywhere on site, we know that  
14 we have to consider not only plutonium but also  
15 uranium, whatever they could have been exposed  
16 to, and so we do assign coworker or missed dose  
17 on that basis.

18 **DR. ZIEMER:** Thank you. Further questions?

19 (No responses)

20 Okay. Thank you very much, Brant, and we'll  
21 now move on to the petitioners. And let's see,  
22 who's going to start for the petitioners? Oh,  
23 okay, please...

24 (Pause)

25 **MS. THOMPSON:** My name is Jennifer Thompson and

1 I'm a representative of the petitioner. As  
2 noted earlier, Tony DeMaiori, the most recent  
3 former president of the steel workers, could  
4 not be here today. He's the primary agent for  
5 the petition; however, he's working at a  
6 nuclear power plant in South Carolina and could  
7 not come away for the meeting today and he  
8 sends his -- his apologies to you, as well as  
9 his thanks to you for all of your efforts on --  
10 on this Special Exposure Cohort petition.  
11 I've been involved in the petition process  
12 since the beginning. I volunteered to help the  
13 United Steel Workers in drafting the petition,  
14 and that was about two and a half years ago,  
15 and never dreamed then that two and a half  
16 years later I'd be speaking to you today, so  
17 it's been a very -- very long process and I  
18 appreciate everybody's involvement and  
19 dedication to the process throughout.  
20 I worked at Rocky Flats for 14 years, starting  
21 in 1991. I worked in plutonium facilities,  
22 Building 707, Building 776, Building 777,  
23 Building 371, so I'm familiar with the site. I  
24 am not a scientist. I'm not an industrial  
25 hygienist. I'm not a radiation protection

1 expert. But I do have a good understanding of  
2 the methods, processes and procedures that were  
3 in place and used at Rocky Flats throughout the  
4 time period that I was there, and am familiar  
5 with the history of the site as well, having  
6 drafted history documents on the site.  
7 Again, I just want to thank the Board for its  
8 service so far. We appreciate your dedication.  
9 I want to thank Mark Griffon and the entire  
10 working group, who have spent many, many, many  
11 hours, and we appreciate their hard work.  
12 I want to thank some of the folks in the Rocky  
13 Flats community -- Terrie Barrie, Laura Schultz  
14 and others who have worked countless hours.  
15 There's many of you, too many names to mention,  
16 but -- but thank you to all of you.  
17 I also want to thank our Colorado Congressional  
18 delegation, who have done an outstanding job  
19 delivering unprecedented (sic) bipartisan support  
20 of this effort, as evidenced by the letter that  
21 you all received yesterday, the public  
22 statements that they have made. It is -- it is  
23 refreshing in -- in terms of renewing faith in  
24 government to know that our elected officials  
25 care deeply about the people that they

1 represent, and we greatly -- greatly appreciate  
2 that.

3 Last night the Board patiently heard from  
4 dozens of Rocky Flats workers, those that have  
5 cancer, those that have other illnesses, those  
6 who have family members who have cancer and  
7 other illnesses. And this petition process is  
8 -- is really for them, and we are very -- very  
9 concerned and one of our goals is that we don't  
10 believe that our workers should have to fight  
11 with the government over dose reconstruction at  
12 the very time that they are fighting for their  
13 lives. This -- the process that is put in  
14 place -- the process itself is not feasible,  
15 and so beyond the science, even if the science  
16 were perfect, the process does not deliver  
17 timely, accurate dose reconstruction.

18 I'm going to speak for a while and then I have  
19 a few other folks who are going to come up and  
20 speak, so I hope you'll bear with us when we go  
21 through the transition. The major things I  
22 want to address during my presentation are the  
23 timeliness factor, the fairness factor,  
24 feasibility, the law and -- and -- and what is  
25 the right thing.

1           We were asked when we went into this petition  
2           process to prove that there was a class of  
3           Rocky Flats workers for whom it was not  
4           feasible to accurately estimate -- estimate the  
5           radiation dose they received. We believe that  
6           our petition has done that, as evidenced by the  
7           two-year process, and I'll get into that later.  
8           We also know that they had their health  
9           endangered by their exposure to radiation, and  
10          we do not feel we had to prove that because the  
11          government itself has said that there's 22  
12          cancers for which radiation is a causal factor,  
13          and so we feel like that was taken care of.  
14          As the gentleman of NIOSH went over the basis  
15          of our petition already, we submitted it on  
16          February 15th. Our major factors were exposure  
17          to the high-fired oxides, which was a unique  
18          form of plutonium; inability to link exposure  
19          to specific incidents; periods of inadequate  
20          monitoring; lack of monitoring; changes in  
21          methodology and inconsistency in procedures;  
22          unmonitored/undetected exposures surfacing  
23          throughout time; and the negative effect of  
24          site closure on the accuracy of dose  
25          reconstruction. And I know that that one was

1 kind of thrown out, but we still consider that  
2 to be a valid factor.

3 The timeliness of the petition has been a big  
4 issue, and those of you that were here over a  
5 year ago heard me speak on this and I'm going  
6 to hit upon it again. The law required that  
7 NIOSH make a recommendation within 180 days of  
8 receipt of our petition. The -- Health and  
9 Human Services implemented its own rules to  
10 implement the law, and they said that the 180  
11 days actually meant 180 days from when NIOSH  
12 determined the package was certified. In  
13 either case, that deadline was not met. The  
14 petition -- the recommendation from NIOSH did  
15 not come until 440 days after submittal. And  
16 now here we are, two years, two months, 18  
17 days, 807 days from submittal. I'm not going  
18 to go over the details of the time frame here,  
19 but as you can see, it's been a long and  
20 arduous process.

21 And while the petitioner was required to meet  
22 every deadline in the process or run the risk  
23 of having our petition thrown out, the same has  
24 not held true for the government. We had 30  
25 days to respond to the questions initially

1           during the validation process. We responded  
2           with over 500 pages of additional information,  
3           and we met that 30-day deadline, even though we  
4           are all volunteers.

5           The length of this process severely hindered  
6           the petitioners' ability to respond. We have -  
7           - we no longer have any union -- access to  
8           union resources or backing. We have no money,  
9           and most of us are gainfully employed, thank  
10          goodness, in -- in other areas and so  
11          difficulty in attending daily working group  
12          meetings and things like that, whereas if Rocky  
13          Flats was still open, our employer was flexible  
14          and would have allowed that participation.  
15          We have a handful of volunteers at this point  
16          versus the Goliath that NIOSH has created on  
17          the other side of the table. You know, when  
18          we're in meetings, it's fairly intimidating  
19          when you're one person and -- and you've got  
20          over 20 people with PhDs and -- and science  
21          backgrounds and everything, and access to the  
22          records that we can't even get, you know, on  
23          the other side of the table, so that's a little  
24          frustrating.

25          Closure has made records retrieval difficult.

1 NIOSH has the ability to command the records,  
2 and still sometimes it takes them months to get  
3 them. The workers do not have that ability.  
4 When they request their records, sometimes they  
5 wait as long as a year to get their files, and  
6 then the files that they get are incomplete.  
7 This severely hinders their ability to present  
8 their case during the individual claim process.  
9 *The Rocky Mountain News* has been covering this  
10 topic very closely and has provided a bunch of  
11 information, and I want to thank them, and I  
12 quote a lot from their articles today -- and  
13 I've tried to give attribution where due.  
14 Lynn Anspaugh -- I'm not sure the sp-- how to  
15 say the name -- is someone who's a biophysicist  
16 and an expert in dose reconstruction, and he  
17 said that government scientists have ongoing  
18 discussions about the validity of dose  
19 reconstruction, and he says -- he says that --  
20 basically that if you can spend enough time and  
21 enough money, you may get it right. But the  
22 question is, timeliness is one of the factors  
23 in delivering the conditions of this program.  
24 And if you can't do it in a timely manner, it  
25 becomes unmanageable and it's no longer

1           feasible.

2           Members of the Congressional delegation for

3           Colorado have asked NIOSH not once, not twice,

4           but four times now to grant this petition a

5           fair and timely review, and to date have been

6           unsuccessful in securing that. The U.S.

7           Congress required NIOSH to make a timely

8           recommendation, and Congress has never intended

9           for this process to drag on for years while

10          scientists search for new methods.

11          Another petition we're aware of was recommended

12          for approval based on the timeliness factor.

13          We believe that sets precedence for the Board

14          today with respect to the Rocky Flats petition.

15          If timeliness were ever an issue, at Rocky

16          Flats it definitely is.

17          The question has never been could NIOSH ever

18          reconstruct dose at some point in the future

19          time with accuracy. The question was, when we

20          submitted the petition February 15th of 2005,

21          could dose accurately be reconstructed. The

22          law did not say Petitioner, point out flaws in

23          the government's ability to reconstruct dose.

24          NIOSH, fix some of the flaws, admitting

25          inabilities, and then recommend denial of the

1           petition based on a new set of standards that  
2           did not exist at the time the petition was  
3           submitted. The law clearly states the purpose  
4           of the compensation program is to provide  
5           timely, uniform and adequate compensation.  
6           Justice delayed is justice denied.  
7           We have learned, and as evidenced by the empty  
8           chair at the table today, that some members of  
9           the Board have been instructed that they cannot  
10          vote on the Rocky Flats petition based on  
11          relationships with the United Steel Workers.  
12          As a direct result in NIOSH delaying this  
13          petition, if this -- if this conflict were ever  
14          valid, such a restriction is no longer valid  
15          today for the following reasons: The Rocky  
16          Flats workers on behalf of which this petition  
17          was filed no longer have any financial or  
18          contractual relationship with the United Steel  
19          Workers. Local 8031 no longer has a single  
20          nuclear worker in its membership. United Steel  
21          Workers no longer receive any dues from the  
22          former Rocky Flats members, nor do they provide  
23          representation or services to the members. The  
24          United Steel Workers, as an organization, does  
25          not benefit in any financial way from this

1 petition being granted.  
2 NIOSH, on its own right, expanded the class to  
3 include all Rocky Flats employees, so this is  
4 no longer a steel worker petition. This is now  
5 a Rocky Flats petition. Therefore, no  
6 relational conflict exists, and we urge that  
7 all members of the Board demand their right to  
8 vote today. And if they are not allowed to  
9 vote, we request of NIOSH to provide, in  
10 writing, the legal basis for any restrictions  
11 on voting to the petitioner within 14 days.  
12 It appears that there's a double standard on  
13 the conflict of interest issue, as the Board is  
14 being -- members of the Board are prevented  
15 from participation due to conflict of interest,  
16 but NIOSH repeatedly relies on experts that  
17 have conflicts of interest. And experts who  
18 have testified against workers in worker  
19 compensation hearings are serving key roles in  
20 this process. The government's own General  
21 Accounting Office identified conflicts of  
22 interest in this process as an issue.  
23 As you well -- as the Board is, I'm sure, too  
24 closely aware, there's been a tremendous amount  
25 of political pressure to not approve Special

1 Exposure Cohort petitions, in particular the  
2 Rocky Flats petition. This dates back to -- to  
3 2005 when an OMB pass-back memo encourages  
4 administrative clearance on petitions before  
5 they could be approved and asked the  
6 interagency to address any imbalance on the  
7 Board and -- and actually resulting in changing  
8 out of members of the Board and things along  
9 those lines.

10 This is a excerpt from an e-mail from a Deputy  
11 of La-- Depu-- Deputy for the Department of  
12 Labor, who stated that we should do everything  
13 possible to oppose these SEC petitions.

14 Further evidence of the tampering is this  
15 address any imbalance in membership of the  
16 President's Advisory Board on Radiation and  
17 Worker Health, require NIOSH to apply conflict  
18 of interest rules and constraints to the  
19 Advisory Board contractors. The government is  
20 clearly trying to manipulate the process.

21 Getting back to the feasibility of the actual  
22 science, F. Owen Hoffman stated that this is --  
23 that dose reconstruction is an inexact science,  
24 that -- that it depends on an extensive amount  
25 of judgment; that two different investigators,

1 given the same data, would come up with  
2 different doses. The -- the people that are  
3 doing the dose reconstruction, 88 of them, not  
4 all of them have degrees in health physicists  
5 (sic) and with the workload that they're placed  
6 with, reviewing one and a half cases each  
7 workday, we believe that this process leads to  
8 a situation where it is not feasible for them  
9 to accurately reconstruct dose.

10 Further evidence of this has to do with -- I'm  
11 sure you -- you all will recall who were here  
12 last year [name redacted] who presented with  
13 us, and he couldn't be here today because he's  
14 [identifying information redacted] up in  
15 Loveland. He -- his case was denied three  
16 times, and then approved finally just recently  
17 based on inaccuracy of records. And what this  
18 points to, and we're going to hear more about  
19 this later, but what this points to is [name  
20 redacted] had a tremendous perseverance,  
21 tremendous capabilities and resources to be  
22 able to fight his process for four years. He  
23 kept at it and kept at it. He could have given  
24 up after the second denial, but he didn't. How  
25 many other workers are like [Name Redacted], who

1           have submitted and been denied but haven't had  
2           the ability, capabilities or financial strength  
3           to continue through this process? How many  
4           other workers in the end would NIOSH have to  
5           come back and say we can't do it because the --  
6           the records are inadequate? How can they three  
7           times deny [Name Redacted] based on science, and  
8           then finally approve him, throwing up their  
9           hands, saying we -- we don't have the records?  
10          Another person, Diane, had a dose  
11          reconstruction done. She's -- she's -- was --  
12          talked to you guys last night, and she came out  
13          with a 42 rem dose reconstruction. Then they  
14          reconstructed her dose and came out with 25  
15          rem. So one time 42 rem, one time 25 rem.  
16          Where's the accuracy in that?  
17          We have heartbreaking stories of people with 47  
18          percent probability that are denied. How do we  
19          know that their doses weren't off by ten rem  
20          and they should have been approved?  
21          NIOSH would like you -- the Board to believe  
22          that the issue with high-fired oxides is taken  
23          care of. We do not believe that, as the  
24          petitioner. In 2003 it was stated that the  
25          precise nature of super class Y material is not

1           known, and here we are just four years later  
2           saying we have the whole problem figured out,  
3           that we've got a new model -- although it's not  
4           tried and validated, tested or proved, that we  
5           have a new model now and that just fixes  
6           everything. We believe that there's no way  
7           that we could know enough today about high-  
8           fired oxides. Where's all the research?  
9           Where's the scientific expertise that looks  
10          into this? Usually challenges like this take  
11          decades for the scientific community to  
12          resolve.

13          SC&A pointed out upper bound dose limitations  
14          having to do with coworker dose models, and  
15          that's not a new factor. The Defense Threat  
16          Reduction Agency dose reconstruction program  
17          found the same challenges when dealing with  
18          dose reconstruction.

19          And this is an interesting dichotomy. I think  
20          you'll remember [name redacted] from a previous  
21          e-mail I showed you, but in 2004 he was singing  
22          a different song. In 2004 he said if there's a  
23          justification for an SEC anywhere, common sense  
24          suggests that it should be Rocky Flats. He  
25          also said does it make any sense to continue to

1 defend a do-- a dose reconstruction process  
2 that will just get more complicated and  
3 attenuated.

4 We believe there's many unresolved petition  
5 issues to date. We believe that the neutron  
6 doses between 1952 and 1970 are still  
7 problematic. We believe that the issue of  
8 missing records is -- is still prominent. The  
9 issue of the zeroes in 1969 to '70 was fully  
10 looked at and NIOSH was proud that only 26  
11 percent of the ones they thought were missing  
12 were actually missing. Twenty-six percent is  
13 not good enough when you have cancer.

14 And they looked at one year in detail. What  
15 would happen if they looked at every year in  
16 detail? Would they not find similar examples  
17 of missing data every single year?

18 SC&A -- there's large gaps in internal dose  
19 data, notably from 1964 to 1992. We're still  
20 concerned about the adequacy of the coworker  
21 model, in particular for workers that are  
22 involved in high-dose work activities. A 95  
23 percent of the average site employment is not  
24 appropriate for high-dose workers.

25 We're concerned about the thorium dose

1 reconstruction abilities. I've already talked  
2 about the dose records for people with high-  
3 dose rate jobs. We're concerned that the new  
4 models have not been sufficiently tested or  
5 proven. We're concerned that when they are  
6 proven or when -- when things are researched  
7 that the -- the sample size looked at is  
8 statistically invalid when you're talking about  
9 a population of potentially 20,000 people and  
10 you look at 52 cases -- okay? If I was giving  
11 a PhD dissertation and I turned that in, I  
12 would get laughed at -- okay? That is not a  
13 statistically accurate sampling.  
14 We're concerned about lack of independent  
15 verification on the use of the neutron dose  
16 reconstruction project. And SC&A was also  
17 concerned about NIOSH's ability to validate or  
18 to demonstrate that it can apply its stated  
19 methods, approaches and coworker models to  
20 enable dose reconstruction with sufficient  
21 accuracy. Again, I would say even if your  
22 models were perfect, could this be done, could  
23 it physically be done?  
24 We're still concerned about high-fired oxides  
25 and their effect on the human body, and the

1 fact that this is a relatively recent  
2 phenomenon and that it hasn't been given the  
3 attention that it deserves.

4 We're still concerned that the site profile  
5 still fails to recognize plutonium production  
6 mission in Building 881, even though NIOSH has  
7 been repeatedly told that there were plutonium  
8 operations in that facility.

9 We are concerned that no effort has been made  
10 to determine the radioactive cocktail effect  
11 described in the petition whereby plutonium, in  
12 combination with chemical exposure, could have  
13 implications to how plutonium is metabolized in  
14 the body.

15 These are a lot of issues, two years and three  
16 months into the process.

17 We believe that just the fact alone that the  
18 working group met this week to discuss issues  
19 that are still unresolved means that our  
20 petition was valid, and that it should be  
21 approved. We believe that since it's been more  
22 than two years and significant factors are  
23 still unresolved means the petition was valid  
24 and should be approved. The fact that NIOSH  
25 has made the changes to the site profile, added

1 new TIBs, changed the particle size for high-  
2 fired oxides, developed new coworker models,  
3 added adjustment factors, tweaked other models  
4 -- all of these changes prove that the petition  
5 was valid. If the petition was not valid they  
6 would not have had to make all these changes.  
7 The law asked us, when we submitted that  
8 petition on February 15th of 2005, to show that  
9 you could not accurately, feasibly reconstruct  
10 dose. We proved that when we submitted the  
11 petition. The law never said submit a  
12 petition, have all of the challenges addressed  
13 over a long, arduous process, and then have  
14 that petition denied based on a new set of  
15 standards that did not exist at the time the  
16 petition was submitted. These new factors,  
17 these new models, they are unproven, they are  
18 untested and unvalidated.

19 We believe that the Board has no legal or moral  
20 choice other than to approve this petition in  
21 its entirety today. We ask you to consider the  
22 law, ignore the politics. A law is a term for  
23 -- for dose and radiation exposure. A law is  
24 not a term for cost of worker health benefits.  
25 We ask you to look deep into your heart and ask

1           yourself what did Congress intend, what does  
2           the American public intend, and what do our  
3           workers deserve? Someday is not good enough.  
4           The fact that maybe tomorrow or five years from  
5           now or two years from now we may be able to  
6           reconstruct dose, that is not good enough. The  
7           law requires timeliness. The law meant today.  
8           At this point I would like to invite Jerry  
9           Harden, the former president of the United  
10          Steel Workers of America, Local 8031, to come  
11          present on behalf of the petition. Thank you.  
12          **DR. ZIEMER:** Thank you very much. Jennifer and  
13          Jerry, before you take the podium, I understand  
14          we have Senator Salazar now on the phone, so if  
15          you would concede the mike for a few minutes,  
16          we'll hear his comments.  
17          **MS. THOMPSON:** Yes, we will gladly concede to  
18          the Honorable Senator.  
19          **DR. ZIEMER:** Thank you. Senator, welcome. We  
20          have just heard from the peti--  
21          **SENATOR SALAZAR:** Hello -- Dr. Ziemer?  
22          **DR. ZIEMER:** Good morning. We've just heard  
23          from the petitioner. We're pleased to hear  
24          your comments to the Advisory Board at this  
25          time.

1 (The following statement was greatly distorted  
2 by faulty telephonic transmission.)

3 **SENATOR SALAZAR:** Thank you very much, Dr.  
4 Ziemer and let me welcome you and members of  
5 the Board to Westminster, Colorado. Also  
6 welcome to the Rocky Flats workers and their  
7 families.

8 To the Board, I appreciate your service to our  
9 country. I know that you work very hard  
10 carrying out your responsibilities, so I want  
11 to thank you for doing so and I also want to  
12 thank you for allowing me to speak to you very  
13 briefly this morning. I know you have a full  
14 agenda and I have a number of issues that I'm  
15 trying to work through to develop a bipartisan  
16 approach to (unintelligible) whole host of  
17 things, so I wanted to take time out today just  
18 to speak to you about the workers at Rocky  
19 Flats (unintelligible) other nuclear weapons  
20 facilities. I believe that the workers really  
21 are part of that generation of World War II and  
22 Cold War heroes of our nation and we need to  
23 make sure that we are (unintelligible) what  
24 they have done for our country. They risked  
25 their lives and their health to help us prevail

1           in our long struggle against the Soviet Union  
2           (unintelligible) recognition of their service  
3           and the price they paid in terms of illness and  
4           mortality, Congress enacted the Energy  
5           Employees Occupational Illness Compensation  
6           Program Act. The mission under that program is  
7           to compensate those workers for illnesses or  
8           (unintelligible) exposure to radiation and  
9           other harmful substances.

10          In passing the legislation, Congress explained  
11          (unintelligible) the purpose of the  
12          compensation program is to provide for timely -  
13          - and I underscore timely -- uniform and  
14          adequate compensation, end of quote. And  
15          Congress (unintelligible) also recognizes there  
16          would be circumstances where there isn't  
17          (unintelligible) information about what workers  
18          were exposed to or when or in what amount, so  
19          these workers would be able to  
20          (unintelligible). In recognition of that fact,  
21          Congress created the Special Exposure Cohort to  
22          reduce the burden of proof off these workers.  
23          (Unintelligible) workers should become part of  
24          the Special Exposure Cohort when their dose --  
25          doses can't be calculated with sufficient

1 accuracy.

2 Well, now it's been more than six years after  
3 the passage of the Act and more than two years  
4 after the filing of the Rocky Flats workers'  
5 SEC petition. (Unintelligible) painfully clear  
6 that there's (unintelligible) about how to  
7 calculate the dose of radiation  
8 (unintelligible) Rocky Flats workers with  
9 sufficient accuracy. (Unintelligible) the  
10 Board's own workgroup struggled over this issue  
11 for nearly (unintelligible) to determine  
12 (unintelligible) methodologies or  
13 (unintelligible) would be able to  
14 (unintelligible).

15 I don't question the capabilities or the  
16 (unintelligible) of all those who participated  
17 (unintelligible) over the last  
18 (unintelligible). But (unintelligible) the  
19 issue is sufficient accuracy, we have totally  
20 lost focus of the essential purpose of this law  
21 that says timely compensation (unintelligible).  
22 The Rocky Flats SEC petition was submitted on  
23 February 15th, 2005 (unintelligible) about the  
24 methodologies sufficient accuracy 22 months  
25 later and whether or not (unintelligible)

1 workers (unintelligible) Special Exposure  
2 Cohort all nine members of the Colorado  
3 delegation (unintelligible) this happens we  
4 consider to be the most important issue that's  
5 facing our state (unintelligible) Republican,  
6 Democrat, Senator Allard and myself coming  
7 together (unintelligible) delegation joining  
8 together (unintelligible) the Rocky Flats  
9 workers to ask you (unintelligible) this  
10 petition. So today I am calling you, Mr.  
11 Zimmer (sic) and members of the Board, to  
12 expressly request on my behalf as a U.S.  
13 Senator, on behalf of my colleagues here in  
14 Congress, to reinforce the request  
15 (unintelligible) my request is to  
16 (unintelligible) the timely approval of what  
17 was (unintelligible) Congress stated in the  
18 statute passed by Congress and so I'd ask of  
19 you to move forward and to (unintelligible).  
20 Thank you, Mr. (sic) Ziemer -- Zimmer (sic)  
21 again for the opportunity to speak to you and  
22 the Board.

23 **DR. ZIEMER:** Thank you very much, Senator, for  
24 your comments, and we will be continuing our  
25 deliberations. David Hiller is here with us

1           today from your staff and will keep you  
2           informed of the progress. So thank you for  
3           being with us.

4           **SENATOR SALAZAR:** (Unintelligible) appreciate  
5           that and I look forward to the (unintelligible)  
6           the Board. Thank you very much  
7           (unintelligible).

8           **DR. ZIEMER:** Thank you. Okay, now we'll be  
9           pleased to hear from Jerry Harden.

10          **MR. HARDEN:** Good morning. Once again I'm  
11          appearing in front of you nice-looking people  
12          that have toured the country, staying in good  
13          hotels, listening all day to sad stories.  
14          Now with that being said, my name is Jerry  
15          Harden. I was a 37-year employee at the Rocky  
16          Flats nuclear weapons site. I was also a  
17          three-term president of United Steel Workers of  
18          America, Local 8031, representing the hourly  
19          production and maintenance workers at the  
20          plant.

21          Today I want to point out two important  
22          anniversaries. First is the 38th anniversary  
23          of the 776 building fire, causing the biggest  
24          dollar loss in U.S. history to that point, and  
25          that occurred on May 11th. Second is the one-

1 year anniversary, April 27th, of my appearance  
2 before this panel pleading for cohort status  
3 for sick Rocky Flats workers. How much has  
4 that year cost in lost dollars and heartache?  
5 This was a well-intentioned program that has  
6 since been grossly mismanaged. It has meant  
7 windfall profits for contractors,  
8 administrators, intellects, bureaucrats and  
9 attorneys, providing only token relief for the  
10 sick Rocky Flats workers.  
11 As you on the Board should know, U.S.  
12 Department of Energy has been funding studies  
13 and gathering data on its radiation workers for  
14 approximately 40 years through the United  
15 States Transuranium and Uranium Registries.  
16 This effort analyzed thousands of organs and  
17 tissue samples from dead DOE radiation workers.  
18 Hundreds of dead Rocky Flats workers were part  
19 of this effort with their donations of organs,  
20 or in some cases their whole bodies, to be  
21 dissected and studied to determine the effects  
22 of their work exposure to specific medical  
23 conditions. Today Rocky Flats workers are  
24 still waiting for cohort status, recognizing  
25 the health conditions caused by their job site

1 exposures.

2 These previous and ongoing efforts should have  
3 provided the information to handle these  
4 claims. Why hasn't it? How many more millions  
5 of dollars and years of time will be squandered  
6 on other pseudo-science projects such as dose  
7 reconstruction in the ongoing effort by the  
8 Department of Energy and its contractors to  
9 ignore, deny and minimize the health damage to  
10 Rocky Flats workers?

11 I will offer some other related examples of the  
12 mismanagement of the Rocky Flats plant by the  
13 Department of Energy and its contractors that  
14 have been recognized by truly independent  
15 agencies. The first is the Colorado State  
16 Workers Compensation process, and we have had  
17 four provable radiation deaths that have  
18 proceeded through that, proving that those  
19 workers' survivors' claims were valid.

20 The first of the claims was [Name Redacted], the  
21 second was [Name Redacted], followed by [Name  
22 Redacted] and [Name Redacted]. All of these men  
23 were Rocky Flats workers who were employed in  
24 the hot areas.

25 The second item I'd like to mention today is

1 the [Name Redacted] landowner lawsuit decision  
2 in Federal Court. They took over 15 years and  
3 \$30 million by the contractor and DOE to  
4 prepare for the case. But we were headlines in  
5 the *Rocky Mountain News* with a \$350 million  
6 settlement, and this is of course being  
7 appealed by the DOE.

8 The third case is the [Name Redacted] false  
9 claims lawsuit decision, in Federal Court as  
10 well. His attorney claims that \$500 million  
11 has been spent by DOE and the contractors to --  
12 to pursue that case. The Department of Energy  
13 has appealed these verdicts, using their  
14 typical strategy of denying, stalling and  
15 creating more red tape to prevent settling  
16 these cases.

17 This is similar to the way that the sick Rocky  
18 Flats workers' claims have been handled. The  
19 federal government and the Department of Energy  
20 have been proven unable to provide a meaningful  
21 way for these affected by their actions to have  
22 a realistic and timely justice provided. How  
23 did Department of Energy hold these  
24 corporations involved accountable? By  
25 providing them additional bonuses and by paying

1           for their legal fees for their disgraceful  
2           performances. I wish that the sick Rocky Flats  
3           workers could benefit from some of their  
4           generosity as well.

5           In summary, there is autopsy data on hundreds  
6           of dead Rocky Flats workers establishing health  
7           effects; one of the worst industrial fires in  
8           U.S. history; two very large Federal Court  
9           judgments against the Department of Energy and  
10          the contractors for safety conditions at Rocky  
11          Flats; four proven radiation death cases  
12          through the State Workers Compensation Program;  
13          and numerous out of court settlements. What is  
14          it going to take to prove that employ at --  
15          employment at Rocky Flats hurt some of the  
16          workers?

17          And with that, I would say I'm open for any  
18          questions or comments -- chickens. Please help  
19          the sick Rocky Flats workers, granting them  
20          cohort status. Thank you.

21          **DR. ZIEMER:** Thank you very much. Jennifer?

22          **MS. THOMPSON:** Thank you. At this time I would  
23          like to introduce Mr. Jack Weaver, long-time  
24          Rocky Flats employee, particularly focused in  
25          Building 771 as a subject matter expert noted

1 by DOE and numerous others. Thank you, sir.

2 **MR. WEAVER:** Oh, I tore up the equipment.

3 Thank you, Jennifer. Good morning to the  
4 Board. Good morning to my brothers and sisters  
5 from Rocky Flats -- appreciate you being here  
6 again.

7 I'm going to take a little different tack at  
8 what's going on here. I'm going to talk a  
9 little bit about me personally because  
10 obviously I have a long tenure at Rocky Flats.  
11 Then I'm going to talk about some of the issues  
12 that we had.

13 I started at Rocky Flats September the 5th,  
14 1961. I started on a labor gang 'cause that's  
15 one of the ways you got into the plant to get a  
16 job. Two months later I had signed a posting,  
17 passed the test and became an assistant  
18 chemical operator. I was supposed to be  
19 assistant chemical operator for -- for two  
20 years, but for -- because of the need of -- of  
21 operations personnel, operators to run the  
22 production equipment, six months later I took a  
23 test, I became a chemical operator. I worked  
24 12 years as a hourly chemical operator and a  
25 chemical operator crew leader. I became a

1           foreman after that. After foreman, a  
2           supervisor, building manager, operations and  
3           building manager for 771 and 371, ultimately  
4           became an assistant dist-- or general manager,  
5           deputy general manager under EG&G.  
6           So I -- I had a chance to work in all positions  
7           from the lowest on the hourly rung to almost  
8           the highest at the plant site. I had the  
9           chance to work in many different situations, so  
10          I'll go back and start with some of those.  
11          The first day I worked in 771 building as an  
12          assistant chemical operator I was taken in and  
13          given a briefing about the building and the  
14          rules of the building, went to lunch. Came  
15          back from lunch, was taken to the locker room,  
16          shown how to dress out, given a half-mask  
17          respirator and told to follow the crew leader.  
18          We went back into the hallway at 771 building  
19          and he says climb up in those pipes, we're  
20          going to decon the overhead. What does that  
21          mean? You know, I had no clue what that meant.  
22          Well, what it meant was take a bunch of chem  
23          wipes and what we called KW and go clean the  
24          pipes -- literally wipe down the contamination.  
25          There was no check on the respirator. It was a

1           single-strap half-mask respirator. I was in a  
2           space approximately four foot by four foot with  
3           a multitude of pipes running through it. I was  
4           a pretty skinny kid at that time so I could get  
5           through it pretty easily. I don't know I could  
6           do that today. But that's what we did.  
7           As an assistant chemical operator you were kind  
8           of a go-fer and a -- and a do-all for the  
9           operators; all the dirty jobs, the decon job,  
10          we got them.  
11          Well, when I became an operator I started  
12          learning the processes. Initially at Rocky  
13          Flats, in the '50s and early '60s, you were  
14          assigned to a job, you stayed on that job.  
15          Well, as it -- as the production schedules  
16          changed and need for increased production and  
17          because of radiation exposure, people started  
18          having to be rotated. And so we were rotated  
19          from job to job to job, so we had to learn  
20          every job, and we worked every job. And that  
21          included an operation called chemical makeup,  
22          some people called it chem prep, in which you  
23          had to prepare chemicals for the processes in  
24          which you were -- you had no respiratory  
25          protection, no monitoring or anything. But you

1           were working with raw chemicals --  
2           (unintelligible) nitric acid, hydrofluoric  
3           acid, hydrochloric acid, all kinds of things  
4           like that that were used in the process -- and  
5           so you inhaled those.

6           Do we know what that does to you? I don't.  
7           All I know is that a lot of people became sick  
8           because of the chemicals that -- that we dealt  
9           with.

10          Anyway, moving on. Working in 771 building was  
11          a -- was a very unique experience in the early  
12          days because we didn't have a lot of -- of  
13          safety programs. You walk in and you might  
14          work on this side of the glovebox through a set  
15          of gloves, looking on the back side of the  
16          glovebox. There weren't any gloves; they'd  
17          rotted off, but they were taped over. You were  
18          not in respirators, but the back side of the  
19          glovebox was posted for respirators, you know?  
20          You had dosimeters -- or you didn't have  
21          dosimeters; you had film badges in those days.  
22          And our frequency was a change of every two  
23          weeks. And sometimes you would -- you would  
24          come back, as people have stated, no data  
25          available, or less than readable data and

1           stuff. I had some of that -- I had -- I  
2           changed my badge frequently, every two weeks.  
3           I got information back, but it wasn't always  
4           the information that -- you know, you'd go ask  
5           well, what happened? I mean I worked beside  
6           this guy; he got 100 millirem, I didn't get  
7           any. How come? No answer.  
8           Anyway, things changed somewhat. We in-- we  
9           in-- installed some programs like the glove  
10          quality program where we changed gloves on a  
11          periodic basis so we wouldn't have those gloves  
12          falling off the gloveboxes and stuff. But we  
13          worked in a chemical processing building that  
14          had 26 miles of processing piping; 200 tanks  
15          with sight gauges on them, each with a  
16          potential for a leak; 12,000 flanges, 15,000  
17          welded joints, that sort of thing -- every one  
18          of them with a potential to leak, and most of  
19          them did. So we had a lot of issues with --  
20          with deconning and dealing with radiation  
21          exposure, alpha contamination, et cetera.  
22          For me personally, I got data in 1962 -- and if  
23          you -- if you know the history of Rocky Flats,  
24          1962 was -- summer of '62 was the first year  
25          that Rocky Flats suffered a strike by the

1 union. It went on for 28 days, in August.  
2 When I got back from strike I was called into  
3 the office and told I was -- we were back about  
4 a week and I was called into the office and  
5 told you've exceeded 5,000 millirem for the  
6 year; you're going to have to go to 774  
7 building and cool off. So I went to 774  
8 building to cool off. First of the year I was  
9 back in 771, doing my normal thing. It went on  
10 like that.  
11 '69 I was working midnight shift. I had a call  
12 on May the 11th about 6:30 in the evening from  
13 my boss, [Name Redacted], and he says get your  
14 carpool and get to work now. I said what's  
15 wrong, [Name Redacted]? He said I haven't got  
16 time to explain it, just get here. So I called  
17 my carpool, said I'll be by and pick you up in  
18 five minutes and we're going to work. What's  
19 up? I don't know, we're going to work. So we  
20 get out on the hill there at 128 and we look  
21 over towards Rocky Flats and all you can see is  
22 red lights flashing all over the place and you  
23 go -- do I really want to go to work? I'm not  
24 sure, but we did.  
25 We pulled into the east gate. Guard said where

1           the hell do you guys think you're going? Well,  
2           we're going to work down in 71. Oh, well,  
3           don't go near 76. And I said well, what's  
4           wrong? He said there's a big fire going on  
5           down there and they haven't got it contained.  
6           Well, we got down to 71 building, got dressed  
7           out, went to the office and boss said there's a  
8           fire in 76 building. They're putting water on  
9           it. It's running down the elevator, through  
10          the tunnel and into the back of 71 building.  
11          Go get the floor pickups and decon -- start  
12          deconning the hallways and get it back to the -  
13          - the tunnel. So we did that, worked all night  
14          long getting water picked up and stuff.  
15          About an hour into this, boss came in and says  
16          you guys come out here. He says I got  
17          something for you. So we went out to the --  
18          the clean area. He says here, put these on.  
19          Say what the hell's that? He says that's a new  
20          type of respirator, called a full-face mask.  
21          We were wearing half-masks when we first got  
22          there. He gave us a full-face respirator, but  
23          actually what it was was an old World War II  
24          gas mask with a particulate filter on it.  
25          Well, as you can see, I wear glasses. My

1 vision at that time was 20/800, 20/850, so I  
2 didn't see real well without them. But I  
3 pulled my glasses off, put this thing on and  
4 bumped into a few walls and stuff and spent the  
5 rest of the night deconning.

6 The following weeks we wound up going into the  
7 tunnel, which was between 71 and 76, and  
8 cleaning that, then eventually going up to 76  
9 building and into supplied breathing air suits  
10 and -- and cleaning -- packaging oxides and  
11 bringing them to 71, drying them, storing them  
12 and processing.

13 We processed a lot of material. We processed  
14 millions of grams of plutonium. People talk  
15 about plutonium. They don't really understand  
16 or know the amount of material that went  
17 through that site. I'm not talking a few  
18 grams. When I read the books and -- and hear  
19 the stories and talk to the people from Los  
20 Alamos and they talk about what they did back  
21 in the Manhattan Project, and they were dealing  
22 with micrograms and milligrams of plutonium.  
23 We dealt with kgs per hours, kgs per shift,  
24 hundreds and thousands of kgs per year,  
25 millions of grams of oxide that went through

1 the process.

2 What we did it for was to keep this country  
3 safe, and we did it very well. But we paid a  
4 price, because if you talk to people at other  
5 plants, and I've been to every one of the other  
6 plants, save Paducah and -- and the one in  
7 Ohio. Every one of them, when you talk about  
8 Rocky Flats, they just can't understand why --  
9 why we did what we did and how come we put up  
10 with what we did because they don't have the  
11 people that have been exposed like we do. They  
12 don't have the hundreds of people that have  
13 high exposures and -- and internal depositions  
14 that we did. And it's hard to deal with that  
15 kind of stuff because some people it affects  
16 and some people it -- it doesn't affect, but  
17 probably will in the future, and I'm probably  
18 one of those.

19 I continued to work, as I say, Rocky Flats.  
20 Through the years I -- I became a foreman in  
21 '73 in 71 building on midnight shift. I worked  
22 there until 1980 and I went up to 371 to start  
23 that building up, and I did. I started it up.  
24 I also shut it down, because it was not what we  
25 had asked for. In 1968 the government came to

1 the people in the building and asked for --  
2 what we would like to see in a new facility  
3 because they felt that 71 building had a 25-  
4 year life span and it ought to be closed down  
5 after 25 years, so they were going to build a  
6 new facility called 371 and 374 to replace 771  
7 and 774. It was supposed to be on line in  
8 1976. I went there in 1980; it was still not  
9 on line. We didn't put the first plutonium in  
10 until 1981.

11 A lot of things that we asked for did get put  
12 into the building. A lot of things we didn't  
13 ask for got put into the building. The  
14 building was not designed properly to handle  
15 acid atmosphere plutonium recovery, and  
16 therefore it did the same thing as 71 building  
17 -- it leaked. People got exposed.

18 One of the things -- and I'll back up for just  
19 a moment and talk about -- is americium.

20 Americium is a byproduct of plutonium. It in-  
21 grows in the plutonium in the -- in the weapons  
22 in the field, and after a period of time has to  
23 be brought back and reprocessed and -- and the  
24 americium removed from the plutonium because in  
25 the field what it's doing is giving the

1 military folks high doses of gamma, and the  
2 military doesn't want to put up with that. I  
3 don't blame them. So they send them back.  
4 So we had a process in which we recovered the -  
5 - the plutonium and the americium, did a  
6 separation process, purified the plutonium,  
7 sent it back into the weapons product. And we  
8 separated the americium, purified it, made it  
9 into an oxide and we sent it to the americium  
10 pool down at Oak Ridge for a number of years  
11 until we filled the pool up so full they said  
12 that we didn't need any more americium because  
13 there'd be more than five lifetimes worth of  
14 americium for everybody to use.  
15 So we quit saving it, so it became a waste  
16 product. And it went into the waste in what  
17 was now a cold process for buildings like 774  
18 and 374, now became a hot process because of  
19 all the -- the gamma that was going through the  
20 system in the waste -- americium waste. So  
21 those people got exposed where they weren't  
22 exposed previously to the higher levels.  
23 Another thing I'd like to speak about for a  
24 minute is when I went to work there in 71  
25 building, the talk in radi-- in the radiation

1 field was obviously about alpha and gamma and  
2 beta. Nobody talked about neutrons. Nobody  
3 had an idea what was going on with neutrons.  
4 It wasn't until about 195-- or 1965, 1966 that  
5 they determined that neutrons were an issue,  
6 and that we ought to do something about it.  
7 And what they did was they started installing  
8 plexiglas and benelex around the gloveboxes.  
9 Makes it harder to work in the glovebox, makes  
10 it a -- a tougher job for you to do your job  
11 and therefore you spend longer exposure time in  
12 the glovebox. And it really got, in a lot of  
13 cases, more exposure, especially to your --  
14 your hands and wrists and chest area, than you  
15 did without the -- the benelex and plexiglas.  
16 What they didn't realize or didn't pay  
17 attention to was benelex and plexiglas are  
18 extremely hazardous, flammable-wise. And so  
19 when the fire started in '69 in 76 building, as  
20 it burnt through the first window and got to  
21 the outside protection, benelex and plexiglas,  
22 and started burning that. When it started into  
23 the benelex, benelex is -- comes in sheets  
24 about a quarter-inch thick and they laminate it  
25 together -- one inch, two inch, three inch,

1 four inch -- whatever thickness you need. So  
2 it would get into this benelex and get to the  
3 glue and start burning. And one of the reasons  
4 that the fire continued to burn as long as it  
5 did was because they couldn't get the benelex  
6 put out.

7 They put water on the plutonium. That didn't  
8 put it out 'cause water won't do anything to  
9 put out a plutonium fire. The only thing you  
10 can do to put out a plutonium fire is take the  
11 oxygen away from it. So all the plutonium  
12 burned into oxides, so we spent a lot of time  
13 taking care of the oxides and getting all of  
14 that stuff out of the building before we ever  
15 got to the point where we were tearing out the  
16 equipment and cleaning up the building.

17 Although it was never completely cleaned; a lot  
18 of it was covered over with paint.

19 Anyway, moving right along, I continued to work  
20 at the Flats and participate in the programs.  
21 One of the things that I saw early on was that  
22 I'm getting exposed.

23 Oh, I forgot to tell you that right after the  
24 fire in '69 we were working cleaning up and  
25 stuff. Well, in -- in August of '69 again I

1           come into the office on midnight shift. The  
2           boss says you're out of here. I said what's  
3           up? He says you're over-exposed. Well, '69  
4           was the only other year that I got notice that  
5           I had exceeded the five rem limit for exposure.  
6           And the reason I'm talking about this is  
7           because I'm going to bring something up here in  
8           a few minutes about my exposure.  
9           So anyway, we continued to work. I continued  
10          to -- to ask questions and -- and participate  
11          in the programs. I talked to you about the  
12          frequency earlier. One of the questions was  
13          about how frequent was -- were people's badges  
14          changed, how frequently were they body-counted  
15          and how frequently did they have urinalysis and  
16          that sort of thing. My personal situation was  
17          that after I was identified with an internal  
18          deposition and a high -- high dose and exceeded  
19          the -- the guideline, I had a body count every  
20          six months. I got a pee bucket every six  
21          weeks. Every one of those came back extremely  
22          high in plutonium and americium. I could do  
23          one today and it would still do the same thing.  
24          The last one I did, just before I left, the  
25          information was you're still in the category of

1 extremely high.

2 So I'm sitting here with -- with plutonium and  
3 americium in my system. I'm fortunate. I  
4 haven't had what a lot of these other folks  
5 have had as far as health issues. I've had  
6 some minor health issues, but I haven't had the  
7 heavy issues, the cancer issues and that sort  
8 of thing. Will I? I don't know. Probably. I  
9 mean how can you not have, if you've got an  
10 internal deposition and a large body burden --  
11 I mean a large dose.

12 I just want to share this one piece of paper  
13 here with you. This -- this is the Rocky Flats  
14 Environmental Technology Site annual report  
15 card for the year 2000, individual lifetime  
16 report, Jack Weaver. Cumulative TEDE reported  
17 since 1/1/89, 659 internal -- no, I mean  
18 external; no internal; 659 millirem total dose  
19 for the year.

20 Now in 2000 I was working in a situation where  
21 I was doing contract work and oversight,  
22 reviewing work packages and et cetera, so I  
23 wasn't on the floor every day, but I would go  
24 out and review the packages on the floor with  
25 the workers and such. So I still received 659

1 for the year, even though I didn't have hands-  
2 on in the -- in the gloves or hands-on to the  
3 equipment.

4 But here's -- here's the results on a lifetime  
5 dose. External, 89967; internal, 119796, for  
6 a total of 209763. How many people in here are  
7 you going to find that's got that kind of a  
8 dose? Not many. I'm probably one of those 20  
9 or 30 people that they talked about that --  
10 that got reviewed because I'm in the high end  
11 of things. There are other people that are  
12 higher than I am, and quite a few of them that  
13 are in that area of 100 to 200 to 300 rem over  
14 the -- over the -- or millirem, I'm sorry, over  
15 the -- no, rem -- over the lifetime of -- of  
16 working at Rocky Flats.

17 Anyway, what I -- what I wanted to convey was -  
18 - was this. There are a lot of great people,  
19 brothers and sisters that worked at Rocky  
20 Flats, that did a hell of a job maintaining the  
21 integrity of -- of our armed services so this  
22 country could stay free and -- and be able to  
23 stand here today and talk to you people. It's  
24 a shame that these people have not been treated  
25 with the dignity that they haven't 'cause they

1           deserve better than what they've been getting.  
2           I just want to say that I hope you people find  
3           it in your hearts and in your heads today to  
4           listen to what Senator Salazar had to say, to  
5           listen to what Jennifer -- by the way, who did  
6           an outstanding job, in my mind, of presenting  
7           this morning -- to what Jerry said, to what Tom  
8           will say here in a few minutes, what [Name  
9           Redacted] will say, and what the people said  
10          last night, and please, please pass the SEC  
11          cohort. When you go to other sites and you ask  
12          them about how many of their people are -- are  
13          exposed, how many of their people have had  
14          internal depositions and stuff, you won't find  
15          any site, not even Hanford and Savannah River,  
16          that have the people that have been exposed  
17          like Rocky Flats people have. These people  
18          deserve to be treated with justice and dignity.  
19          Please do that for them. Please vote for the  
20          cohort.

21          I thank you for your time.

22          **MS. THOMPSON:** Thank you, Jack. Now I would  
23          like to introduce Mr. Bill Brady, a law  
24          professor at the University of Denver Sturm  
25          College of Law, who teaches an advanced law

1 class in hazardous waste and toxious (sic)  
2 torts. He represents cancer victims and others  
3 who've been exposed to toxic substances. Thank  
4 you.

5 **MR. BRADY:** Mr. Chairman, members of the  
6 committee, it's already been a long morning and  
7 I don't know if you had a break planned at all,  
8 and I would offer you the opportunity -- if it  
9 was your preference -- to take the break now.  
10 The --

11 **DR. ZIEMER:** Well, I'm (unintelligible) --

12 **MR. BRADY:** -- derriere can only endure --

13 **DR. ZIEMER:** -- you so much time afterwards  
14 that --

15 **MR. BRADY:** Yeah.

16 **DR. ZIEMER:** -- no, I -- unless you are going  
17 on for an extended period, I think -- we have a  
18 few moments yet. We'd be --

19 **MR. BRADY:** Okay, great.

20 **DR. ZIEMER:** -- pleased to have you --

21 **MR. BRADY:** I don't plan on going on for an  
22 extended period, but I am a lawyer, so...

23 **DR. ZIEMER:** Well, we -- we've been duly  
24 warned. Thank you.

25 **MR. BRADY:** Mr. Chairman, members of the

1 committee, I was here last night and heard some  
2 of the testimony, and actually I also read much  
3 of the transcript from last April. And it  
4 struck me that there has been a huge disconnect  
5 in what has been going on. One thing I've  
6 learned in 30 years of -- of practicing law and  
7 teaching law students and trying cases to  
8 juries and judges and teaching young lawyers  
9 and older lawyers in post-doctorate programs is  
10 that human nature doesn't change much. Most  
11 people are not impervious to the kind of gut-  
12 wrenching pain and suffering that have -- have  
13 been presented over the last two days. Whether  
14 you're a steel worker, a scientist, a lawyer or  
15 a -- a member of a blue-ribbon government  
16 panel, you can't be impervious to this kind of  
17 pain. You'd have to be awfully cold and  
18 callous and anesthetized to the hu-- human  
19 condition we've heard about.

20 So how then, given the constraints of your  
21 abilities under the law and your charge as  
22 members of this Board, how can you help? Well,  
23 what I'd like to do is very, very briefly talk  
24 to you about a client of mine, who many of you  
25 know and have heard from, and that is [Name

1 Redacted]. [Name Redacted] is a -- is a very  
2 special person. Now I know that this is  
3 anecdotal and you've heard tons of anecdotes  
4 the last few days. And many of you are  
5 scientists, and I've worked with scientists  
6 before, and experts, and I know that anecdotal  
7 evidence is only indicative of that one  
8 person's case. But I think [Name Redacted] case  
9 is very, very illustrative of many of the cases  
10 here, and I'd like to take a few minutes to  
11 talk to you about it.

12 [Name Redacted] came to me seven months ago. He  
13 had been denied three times in various  
14 petitions that he had submitted under the  
15 EEOICPA, and he was a very frustrated person  
16 because he had now just been diagnosed with a  
17 second primary cancer. His first primary was a  
18 glioblastoma multiform, an extremely deadly  
19 form of brain cancer. The reason I say [Name  
20 Redacted] a very special person is because [Name  
21 Redacted] is still alive. He's lived four and  
22 a half, almost five years now from his  
23 diagnosis in June of 2002. But unfortunately,  
24 he now had been diagnosed with a second  
25 primary, a myelodysplasia syndrome, which is a

1 form of bone marrow cancer. And he was very  
2 frustrated.

3 [Name Redacted] has degrees from Ohio State  
4 University, both a bachelor of science and a  
5 master's degree in nuclear engineering, and is  
6 a very smart guy, and I had a lot of respect  
7 for him. He was 42 years old at the time of  
8 his diagnosis, way outside the profile for this  
9 particular condition. [Name Redacted] and his  
10 wife, who is also an engineer, had been trying  
11 desperately to get the government's attention.  
12 I brought a banker's box over there of  
13 materials that I've accumulated in the last  
14 seven months on this case. [Name Redacted] has  
15 three others of those, documents that he had  
16 submitted over time. His first petition was  
17 filed in September of 2002, over four and a  
18 half years ago. The process has gone on  
19 interminably.

20 Well, I looked at his case. I talked with his  
21 oncologist. We talked with an expert over at  
22 the University of Colorado Health Sciences  
23 Center, Dr. Jim Ruttenber, and they were as  
24 perplexed as I was as to why [Name Redacted]  
25 claims had been denied.

1 We talked to him about his work. [Name  
2 Redacted] had spent 16 years at Savannah River  
3 as a project engineer, manufacturing plutonium  
4 triggers; another six years doing the same work  
5 at Rocky Flats, and another six months doing  
6 similar work at Fernald. He left Rocky Flats  
7 in June of 2000. And what was curious to me  
8 was when I looked at some of the site exposure  
9 matrices, I found that [Name Redacted] was  
10 listed as still being employed at Rocky Flats  
11 in the fall of 2003. He'd left in June of  
12 2000. He was diagnosed with the glioblastoma  
13 multiform brain cancer in June of 2002, and  
14 they still had him at Rocky Flats working there  
15 some -- more than a year later.

16 So we started taking a look at some of the  
17 other records, and we found that there were  
18 numerous calculation errors, mathematical  
19 errors, based upon the doses to which he had  
20 been exposed. In addition to that, there had  
21 been chemicals which had never been factored  
22 into his dose reconstruction process, chemical  
23 exposure -- not just radiation.

24 [Name Redacted] had had significant amount of  
25 neutron radiation and described to me how he

1           used to wear a bellybutton dosimeter under two  
2           layers of protective equipment, and that very  
3           often he would stick his head into an area  
4           where there was plutonium and have to work with  
5           it, yet there would be no reading on the  
6           dosimeter. This whole issue of neutron  
7           radiation and some of the issues that were  
8           raised in the petition today by Jennifer, the  
9           areas that she had raised, we raised in [Name  
10          Redacted] case. We got into the whole issue of  
11          high-fired oxides and the inaccuracies of  
12          bioassays. We further studied plutonium, a  
13          number of other issues that have been raised by  
14          the committee in their questions to Dr. Ulsh  
15          earlier, as well as by Dr. Ruttenber raised --  
16          who raised them to us.

17          Well, we got a hearing in front of the  
18          Department of Labor Final Adjudication Board,  
19          and I had [Name Redacted] the oncologist,  
20          testify. He stated that he'd only had one  
21          other case that he treated of a glioblastoma  
22          multiform, and that was an individual who had  
23          worked at Rocky Flats, and [Name Redacted] --  
24          two cases. [Name Redacted] has been practicing  
25          oncology in the Denver metro ar-- metropolitan

1 area for over 20 years. He was amazed that  
2 [Name Redacted] had been denied, and basically  
3 said to me you can't look at an elephant and  
4 keep calling it a zebra. That's what they're  
5 doing. It is absolutely clear that this man's  
6 cancer, at 42 years of age, outside of every  
7 profile, is absolutely caused by his chemical  
8 and radiation exposure. But the chemical  
9 exposure had never ever been considered in the  
10 dose reconstruction process.  
11 So we went forward. We presented the evidence.  
12 And about a month ago we got a decision. And  
13 the decision is very, very instructive because  
14 of the findings that were made in [Name  
15 Redacted] case. And I'd like to read just a  
16 short portion of that decision to you.  
17 (Reading) The Final Adjudication Board reviewed  
18 your case and the new statement of accepted  
19 facts was written based upon the extensive  
20 research of toxicants you presented as having  
21 been exposed to during your employment. The  
22 toxic substances you identified were researched  
23 through other site exposure matrices not  
24 previously available, a repository of  
25 information related to toxic substances

1           potentially present at covered DOE sites. It  
2           has now been accepted that you were exposed to  
3           the following toxicants while employed:  
4           plutonium nitrate and chloride solutions,  
5           plutonium oxide, plutonium oxalate, plutonium  
6           fluorides, plutonium dibutylphosphate, uranium  
7           oxides, neptunium oxides, acids such as  
8           hydrofluoric, sulfonic, oxalic, ascorbic,  
9           nitrous and hydrozene, sodium  
10          tetraphenylborate, volatile organic -- organic  
11          compounds and organic solvents such as TCE,  
12          carbon tetrachloride, MEK, PCBs, mercury, heavy  
13          metals such as lead, chromium and cadmium,  
14          thorium, ferrous sulfumate and aluminum nitrate  
15          nonhydrate -- nonahydrate. None of that had  
16          been considered previously.  
17          Based on this new information, the case was  
18          then referred to a new district medical  
19          consultant, different from the prior district  
20          medical consultants who had denied [Name  
21          Redacted] previous petitions. The new district  
22          medical consultant, who this time was a doctor  
23          skilled in occupational medicine and not the  
24          cardiologist who had previously denied [Name  
25          Redacted] claim -- a cardiologist who, by the

1 way, stated that he spent three hours reviewing  
2 [Name Redacted] case and consulted WebMD in  
3 order to research his condition. The new  
4 district medical consultant stated the  
5 development of cancer is a multi-stage process  
6 which can best be understood as involving --  
7 promoting malignant conversion and tumor  
8 progression. In general, carcinogen-related  
9 cellular DNA damage that is not reversible is  
10 term initiation. The process of promotion  
11 occurs when DNA-damaged cells begin to  
12 replicate. Known chemical promoters include  
13 many of the toxicants to which [Name Redacted]  
14 was exposed, and are capable of promoting the  
15 initiated cells. Some of the toxicants to  
16 which [Name Redacted] has been accepted as  
17 having been exposed to are suspected human  
18 carcinogens, and he cites a whole list of them.  
19 In summary, although the literature and  
20 epidemiological basis of evidence is non-  
21 confirmatory of an occupational toxicant  
22 exposure etiologic basis of brain cancer, there  
23 is insufficient evidence to suggest any  
24 alternative causal etiology. An assessment of  
25 the medical evidence and all potential causal

1 factors for brain cancer suggest that it is at  
2 least as likely as not that the occupational  
3 toxicant exposures at Savannah River were a  
4 significant factor in contributing to [Name  
5 Redacted] cancers.

6 Now, I don't know how many other folks here  
7 have submitted petitions and have received the  
8 same treatment that [Name Redacted] received the  
9 first three times. I suspect that there are  
10 quite a few.

11 I listened to Dr. Ulsh's answers today. They  
12 troubled me. The scientific process permits  
13 reasonable assumptions giving the applicant, as  
14 the law requires, the benefit of the doubt so  
15 long as there is a modicum of evidence, a  
16 modicum of competent evidence upon which to  
17 base those reasonable assumptions. But when  
18 there is no longer a residuum of competence  
19 evidence, confounding factors are too great to  
20 overcome. The science of risk assessment and  
21 causation conclusions based upon that science  
22 is reduced to little more than junk science  
23 when you rely upon irrelevant, irrational,  
24 incomplete, inaccurate and unreliable evidence.  
25 The operative -- the operative -- the operative

1 phrase I think these days, in the words of my  
2 kids, is garbage in/garbage out.  
3 There's a wall of human suffering out here, and  
4 they deserve better treatment than they've been  
5 given. When Rocky Flats contractors provide  
6 evidence that is incomplete, inaccurate and  
7 unreliable, the logical result mandates  
8 approval of the Special Exposure Cohort. These  
9 people from whom you've heard do not have, as  
10 [Name Redacted] apparently has had, the luxury  
11 of time. Time is a commodity many of these  
12 folks cannot afford.

13 [Name Redacted] case took four and a half years.  
14 Fortunately, thank God, he's still with us.  
15 But other people are dying, and their families  
16 -- as you know -- are being left economically,  
17 as well as emotionally, devastated.  
18 You can end that suffering today. Please, by  
19 the grace of God, approve the petition. Thank  
20 you.

21 **MS. THOMPSON:** Thank you, Bill. I would now  
22 like to ask Michelle to come up. You heard  
23 from Michelle last night, but she'd like to add  
24 one additional comment on -- on behalf of her  
25 family.

1           **MS. DOBROVOLNY:** Good morning, panel. Thank  
2           you for taking the time. I actually didn't get  
3           a chance to speak last night, but that's okay.  
4           I believe there's just been so much said here  
5           that it doesn't need to be repeated, but I just  
6           want to give you a very quick synopsis of my  
7           situation.

8           My name is Michelle Dobrovolny. I'm 42 years  
9           of age. I am also sick. I have been denied  
10          six times. I don't know if I'll have the  
11          luxury of a seventh. I have watched many of my  
12          family members -- whom all worked out at Rocky  
13          Flats -- die, one right after another, of  
14          cancer -- hideous cancers. It's a very sad and  
15          difficult situation. [identifying information  
16          redacted] is sick with berylliosis. He, too,  
17          will succumb to death.

18          As I stand here before you, I don't really need  
19          to go into a lot of detail because I think many  
20          have covered everything that needs to be  
21          covered. But as you make this decision for our  
22          lives and the compensation that could help some  
23          of us, I want you to remember that you are  
24          going to affect those that have died, those  
25          that are in the process of dying, and those

1 that are in the future that may face the same  
2 consequences that we have. Please also keep in  
3 mind that sometimes calculations of the  
4 smartest people don't apply to this. It's  
5 simple common sense.

6 Your cause to action would be to vote yes for  
7 us. When we left that plant site and ended  
8 with the chemicals that we worked with, that's  
9 when your job really began. We gave 100  
10 percent of our time, our effort and our lives  
11 in dedication to doing what we needed to do to  
12 support our country. It's time that you give  
13 100 percent back to us as employees. I speak  
14 on behalf of -- this is a family. We're not  
15 individuals. We are a Rocky Flats family, and  
16 we deserve the very most integrity, the same  
17 integrity that we gave our job when we showed  
18 up every day at plant site. Thank you very  
19 much.

20 **MS. THOMPSON:** We have one additional gentleman  
21 who wasn't able to come last night. Mark  
22 Danhauer has a brief comment that he would like  
23 to give, and I appreciate your indulgence on  
24 this matter. Thank you.

25 **MR. DANHAUER:** Good morning. I started working

1 out at Rocky Flats in -- I think it was  
2 beginning of '02. I worked out there a year,  
3 and I started working in G mod and about two  
4 months later I was going into kidney failure  
5 and I found out that I had stage three large B-  
6 cell non-Hodgkin's lymphoma that was from my  
7 chest to my pelvic area. They gave me about a  
8 25, 30 percent chance to survive as I've been  
9 in remission now for three and a half years  
10 now, thank God.

11 I'm 41 years old and I'm totally disabled. I  
12 can't work. I have so much chronic pain that  
13 they can't even figure out what to give me  
14 anymore. They've tried the -- you know, the  
15 morphine, the fentanyl patch, which I have on  
16 right now, and the methadone and I take 19 and  
17 a half pills a day. And I look like I'm in  
18 pretty good shape, look like I can work. I  
19 mean I worked construction for 20 years. But  
20 at the end of the -- probably right around the  
21 middle of the day, I have a hard time climbing  
22 ten stairs to go up to my bedroom. It -- I --  
23 I can't even begin to explain or make you  
24 understand, unless you are a cancer patient and  
25 have gone through the intense chemo, you know,

1           that I've been through and I know some of the  
2           people here have been through. It is the most  
3           humiliating and degrading and painful thing  
4           I've ever gone through in my entire life, and I  
5           went through that for eight months, and I  
6           continue to go through it.

7           Just because I'm in remission for three and a  
8           half years doesn't mean that I have no more  
9           pain. I just went in for a checkup a couple of  
10          weeks ago, and they found a spot on my lung.  
11          I'm going to keep an eye on it. It's not  
12          really -- I'm not too concerned about it yet,  
13          but it's still a big concern for me and my  
14          family and my wife and -- I'm not going to sit  
15          here and try to beg you guys to -- to pass this  
16          bill, but the monetary and the health insurance  
17          -- I think the health insurance is more  
18          important than the money, even though I've been  
19          financially devastated from this. I've gone  
20          through the bankruptcy 'cause of the medical  
21          bills, everything.

22          It's just the peace of mind I think for having  
23          the health insurance and not having to worry  
24          about that because right now it costs me  
25          probably -- I'm filing for Social Security

1           disability. You know how that works. I'll  
2           probably never get it, or if I do, it'll be  
3           four or five years down the road.

4           I -- I have no income. [identifying  
5           information] supports me. I'm supposed to be  
6           the man of the house. Instead, I'm at home,  
7           doing little chores here and there, trying to  
8           get through the day. It's not the way it's  
9           supposed to be. I guess sometimes I don't feel  
10          like a man 'cause I can't take care of my  
11          family, and that sucks.

12          And I know I'm one of the younger ones to have  
13          this type of problem, but I'll always have it,  
14          and I know I'll never be able to work again. I  
15          was 37 years old when I got sick. I almost  
16          needed a kidney transplant, you know, all kinds  
17          -- by the grace of God, I made it through it,  
18          but the aftereffects are just inexplicable --  
19          unexplainable. You can't even begin to  
20          understand it unless you've been there.

21          And I'm not going to sit here and try to  
22          convince you to pass this bill or, you know --  
23          I'm kind of at a loss for words. I'm a little  
24          nervous, little upset. I just hope that you  
25          guys take the time to realize this affects so

1 many people, down to my grandkids, down to my  
2 step-grandkids. They're -- they're still my  
3 babies. I can't even play with them. So take  
4 all that into consideration, that that just  
5 doesn't affect us. It affects everybody, our  
6 whole family, the kids. So -- I've been up  
7 here long enough and made a fool of myself, so  
8 -- but thank you for your time.

9 **MS. THOMPSON:** I want to thank the Board for  
10 all the time that you've given us, and it's for  
11 people like that that we've applied for Special  
12 Exposure Cohort, 'cause we really believe that  
13 people like [name redacted] should not have to  
14 fight for compensation at the time they're  
15 fighting for their lives. I ask you to please  
16 consider the law -- again, ignore the politics  
17 -- to look into your heart and to do the right  
18 thing. It was never the intent of this program  
19 that it should go on this long. It was never  
20 the intent of this program that the  
21 petitioners' findings would result in all these  
22 changes and then the petition would be denied  
23 based on that. And don't get me wrong. We're  
24 really glad that our petition has been the  
25 impetus for better science and for a better

1 model and for all those things. But what we're  
2 saying is that the models are unproven. You  
3 still can't accurately reconstruct dose. I'm  
4 asking you to look at the fact that someday is  
5 simply not good enough, that accuracy and  
6 feasibility means today, and I ask that you  
7 please today approve our petition.

8 **DR. ZIEMER:** Thank you very much, Jennifer, and  
9 other folks from the petitioning group. We do  
10 want to hear from the -- the Congressional  
11 delegation, but I think it would be appropriate  
12 that we -- we take our break first, so let's  
13 take a 15-minute break. Try to be back here  
14 promptly about 25 of, and then we'll have an  
15 opportunity to hear from a number of the  
16 members of the Congressional delegation.  
17 (Whereupon, a recess was taken from 10:23 a.m.  
18 to 10:45 a.m.)

19 **DR. ZIEMER:** We have a number of individuals  
20 from the Congr-- Colorado Congressional  
21 delegation that are going to provide some  
22 remarks for the record. We'll begin with  
23 Jeanette Alberg, who is on the staff of Senator  
24 Wayne Allard. Jeanette, we'd be pleased to  
25 hear from you at this time.

1           **MS. ALBERG:** Thank you. It is a pleasure to be  
2 here today to speak on behalf of U.S. Senator  
3 Wayne Allard. David Hiller with Senator  
4 Salazar's office and I will be reading a letter  
5 from the Colorado Congressional delegation.  
6 Before we read the letter I did want to preface  
7 the letter with a couple of comments, basically  
8 echoing Senator Salazar's earlier comments.  
9 It's important to note that this letter has  
10 bipartisan support. All nine members of the  
11 Colorado Congressional delegation have signed  
12 onto this letter in support of the Rocky Flats  
13 Special Exposure Cohort petition, so thank you  
14 for your fair consideration of that.  
15 I mentioned the bipartisan aspect because  
16 today's decision, the decision that you're  
17 faced with, is not about politics. It's about  
18 making the right decision and making -- being  
19 fair to the people at Rocky Flats. So thank  
20 you for your fair consideration of these  
21 comments.

22           (Reading) Dear Dr. Ziemer, Dr. Wade and members  
23 of the Advisory Board: As members of the  
24 Colorado Congressional delegation, we write to  
25 you again in support of the Special Exposure

1 Cohort petition of the former Rocky Flats  
2 workers. The men and women who served at the  
3 Rocky Flats nuclear weapons plant throughout  
4 the Cold War are national heroes. Many in the  
5 Rocky Flats workforce knowingly and unknowingly  
6 risked their lives to help protect our country.  
7 They deserve to be honored and cared for by the  
8 nation they served.

9 The intent of Congress in passing the Energy  
10 Employee Occupational Illness Compensation  
11 Program Act was to ensure that the men and  
12 women who put themselves in harm's way by  
13 working at Rocky Flats and other nuclear  
14 production facilities had a clear and just  
15 process for applying for appropriate financial  
16 and medical benefits and compensation under the  
17 law and authorized by Congress. By law, Cold  
18 War veterans who became ill from exposure to  
19 radiation, beryllium and silica while working  
20 at DOE facilities were to be provided timely,  
21 uniform and adequate compensation.

22 As you know, the administration of the EEOICPA  
23 program has not been without controversy.  
24 Tragically, administrative waste and  
25 programmatic difficulties have delayed the

1 payment of program benefits author-- authorized  
2 by Congress. Numerous reports have accused the  
3 Department of Energy and the Department of  
4 Labor of mismanaging the Energy Employee  
5 Occupational Illness Compensation Program, and  
6 delaying and wrongfully denying benefits due to  
7 Rocky Flats and other nuclear workers. Agency  
8 documents suggest that the Department of Labor  
9 delayed and denied such benefits as a result of  
10 conscious administrative policies.

11 In a few instances, NIOSH, too, has contributed  
12 to some delays and denials by insisting that it  
13 can reconstruct workers' radiation doses in the  
14 absence of adequate data, spurring public  
15 skepticism. While NIOSH has worked with the  
16 Board's contractor to develop alternative  
17 methodologies, the resulting changes in  
18 methodology have led to long delays in the  
19 demon-- in the determination of claims. In  
20 these instances, NIOSH's defense of its  
21 methodologies in the face of legitimate and  
22 documented criticism has frustrated the  
23 Congressional intent to provide timely benefits  
24 and has raised questions regarding the fairness  
25 of the EEOICPA program.

1           The Advisory Board, too, has been dragged into  
2           this sorry history, through no fault of your  
3           own, with the disclosure of communications  
4           between the Office of Management and Budget and  
5           the Department of Labor. These communications  
6           suggest a deliberate effort to -- by some to  
7           reduce compensation to nuclear energy workers  
8           by stacking the Board with opponents of  
9           compensation who would vote against Special  
10          Exposure Cohort petitions.

11          The history of Rocky Flats offers its own  
12          examples of misconduct and mismanagement, from  
13          inadequate monitoring of workers, efforts to  
14          disguise the absence of data or the intentional  
15          destruction of monitoring data, disastrous  
16          fires, and even a raid by the Federal Bureau of  
17          Investigation to seize and protect records.  
18          Many Rocky Flats workers who helped clean up  
19          the extremely toxic contamination from fires at  
20          the plant have been denied benefits for  
21          illnesses, even as a federal judge has  
22          determined that neighboring landowners are  
23          entitled to compensation for financial losses  
24          due to contamination of their properties from  
25          these very same fires.

1           As a result of this long history, many Rocky  
2           Flats workers and their families wonder if  
3           their government has abandoned them. These  
4           workers, the people of Colorado and their  
5           elected officials are justifiably upset by the  
6           conduct of the responsible agencies.

7           **DR. ZIEMER:** And we'll hear from David Hiller  
8           from Senator -- oh, from Senator Salazar's  
9           staff. Thank you.

10          **MR. HILLER:** Let me conclude the -- the  
11          delegation letter that Jeanette began.  
12          (Reading) We remind you of this unfortunate  
13          history because you do not write on a blank  
14          slate. Instead, the Board's actions over the  
15          coming days will be viewed by the people of  
16          Colorado and the nation with these sad facts in  
17          mind.

18          On February 15, 2005, the United Steel Workers  
19          of America, Local 8031, filed a petition to  
20          have its members who worked at Rocky Flats  
21          included in the Special Cohort -- Special  
22          Exposure Cohort under the Energy Employees  
23          Occupational Illness Compensation Program Act.  
24          Much has changed since the petition was filed.  
25          The cleanup at Rocky Flats has been completed,

1 all of the workers have been laid off, and the  
2 Steel Workers Local 8031 no longer counts a  
3 single former Rocky Flats worker among its  
4 current membership. As a result, Local 8031 is  
5 a representative of the petitioners in name  
6 only. The Steel Workers provide no financial,  
7 technical or legal support to the petitioners.  
8 It is also worth noting that NIOSH elected to  
9 expand the class of workers subject to the  
10 petition far beyond the class of workers who  
11 were formerly represented by the Steel Workers.  
12 By NIOSH's action, the class of workers subject  
13 to this petition now includes all employees of  
14 DOE, DOE contractors or subcontractors who have  
15 worked at the Rocky Flats plant from April,  
16 1942 through February, 2005.

17 Approval of the pending petition and membership  
18 in the cohort would not guarantee benefits to  
19 this broad class of workers, but it would make  
20 it easier to obtain benefits for workers with  
21 the kinds of cancer known to be caused by  
22 radiation. NIOSH has opposed this petition, as  
23 it has opposed other petitions, claiming to  
24 have adequate data and methodologies to  
25 calculate the exposures of Rocky Flats workers.

1           However, the Advisory Board's contractor,  
2           Sanford Cohen & Associates, has documented  
3           areas of inadequate data and unreliable  
4           methodologies.

5           Two years after the filing of this petition and  
6           more than six years after of the Act, NIOSH's  
7           methods and dose reconstructions of Rocky Flats  
8           workers remains subject to substantial doubt.  
9           The Advisory Board is now tasked with making a  
10          recommendation as to whether or not it is  
11          feasible to estimate with sufficient accuracy  
12          the radiation dose that members of the Rocky  
13          Flats SEC petitioning class received. NIOSH,  
14          Sanford Cohen & Associates and the Advisory  
15          Board's Rocky Flats workgroup have debated this  
16          issue for nearly 18 months. Congress did not  
17          intend to create an endless program that would  
18          re-evaluate constantly-evolving sets of data  
19          with ever-changing methodologies. To the  
20          contrary, the Act expressly states that the  
21          purpose of the compensation program is to  
22          provide for timely, uniform and adequate  
23          compensation.

24          We are long past the point of timeliness in  
25          compensating the Rocky Flats workers. Many of

1           these Cold War veterans have already died, and  
2           many of their surviving families continue to  
3           struggle economically due to lost income and  
4           unpaid medical bills. Many more are ill and  
5           continue to suffer, medically and economically.  
6           Granting Special Exposure Cohort status to  
7           these workers will not resolve all of the  
8           injustices that have been inflicted upon them,  
9           but it will allow some of these workers and  
10          their survivors to receive benefits while it  
11          can still provide meaningful relief. Many seek  
12          only the comfort of knowing that their  
13          survivors will be taken care of.

14          We therefore urge the Advisory Board to act  
15          promptly on the Rocky Flats SEC petition  
16          request, while keeping in mind that there are  
17          documented concerns regarding NIOSH's ability  
18          to accurately reconstruct doses for all class  
19          participants, and that it is far too late to  
20          further postpone a decision with the hope that  
21          accurate doses can yet be calculated. Thank  
22          you in advance for your full, fair and prompt  
23          consideration of this petition.

24          Signed by all nine members of the Colorado  
25          delegation: Senator Salazar, Senator Allard,

1 Representative Diane DeGette, Representative  
2 Doug Lamborn, Representative Marilyn Musgrave,  
3 Representative Ed Perlmutter, Representative  
4 John Salazar, Representative Tom Tancredo,  
5 Representative Mark Udall.

6 And I would now like to introduce Carolyn  
7 Boller, representative of Congressman Udall.

8 **MS. BOLLER:** I just want to thank you all for  
9 the work that you've put into this. I think  
10 I've rewritten my comments at least 45 times in  
11 the last 24 hours.

12 I just want to say that I've had the honor of  
13 working with the Rocky Flats workforce for 15  
14 out of the last 20 years. I worked for  
15 Congressman David Scaggs prior to Congressman  
16 Udall, and over that period of time I've heard  
17 those stories. I've heard them from the  
18 Department of Energy. I've heard them from the  
19 plant site managers who bo-- and the workforce,  
20 who all tell me we don't have records.

21 As of January I had a conversation with the  
22 Kaiser-Hill representative who said I don't  
23 understand why this petition can't be granted.  
24 We don't have records that support the ability  
25 to do accurate dose reconstruction.

1           So what I'd say to you is grant this full  
2           petition. Let's move on, let's get these folks  
3           the help that they need, the security that they  
4           need, and the recognition. And I appreciate  
5           your consideration.

6           **DR. ZIEMER:** Thank you. And also we have Jason  
7           Thielman representing Representative Musgrave's  
8           office.

9           **MR. THIELMAN:** Mr. Chairman, members of the  
10          Advisory Board, thank you for giving us an  
11          opportunity to address you today. Behalf of  
12          Congresswoman Marilyn Musgrave and the scores  
13          of residents from the Colorado Fourth  
14          Congressional District, I request that you make  
15          a recommendation for the special SEC status.  
16          In my preparation for visiting with you this  
17          morning I visited with the Congresswoman, and  
18          she reminded me that for years the workers of  
19          Rocky Flats have put their health on the line  
20          for the security of our nation, and that they  
21          should not be given the runaround by the  
22          federal government when Congress has made it  
23          clear that they should be given indemnity for  
24          prolonged exposure to radiation. Yesterday in  
25          listening to the testimony from the many

1           impacted workers, I was particularly struck by  
2           a comment from Laura Schultz describing the  
3           service of the workers of Rocky Flats as  
4           invisible Cold Warriors. She and many others  
5           also additionally mentioned that they felt they  
6           could no longer believe anything their  
7           government says.

8           Many of us here work for the government and  
9           believe in public service. And probably what  
10          is most disturbing to me is something that we  
11          believe in passionately and work for has been  
12          so undermined in the face and the hearts of  
13          people who have committed so much to their  
14          country. These folks are invisible and have  
15          been treated as they are invisible. And we  
16          cannot correct the wrongs that have been done  
17          to them, but we do have an opportunity to set  
18          it right. And I urge this committee to do so.  
19          You probably have it within your ability to  
20          address the form of the law and allow you to  
21          not grant the status. However, the substance  
22          of the law, I believe, demands that we treat  
23          these pe-- these people and their family with  
24          the respect that they deserve for the  
25          commitment and dedication they have given this

1 country. Thank you.

2 **DR. ZIEMER:** And then we're pleased to hear  
3 from Bill Holer, who represents Representative  
4 Perlmutter's office.

5 **MR. HOLER:** Thank you, Dr. Zimmer (sic),  
6 members of the working group, it's an honor to  
7 be here today and I've had the opportunity,  
8 though have not been involved with the working  
9 group as long as some of the -- my other  
10 colleagues here, but I participated in several  
11 of the meetings and am very, very impressed  
12 with the quality and the professionalism that -  
13 - that's entailed in this group.

14 Congressman Perlmutter has signed the Colorado  
15 Congressional delegation letter and is in full  
16 support of its recommendations to approve fully  
17 and completely the Special Exposure Cohort  
18 petition to grant relief to the Rocky Flats  
19 workers. Congressman Perlmutter, since taking  
20 office, has worked closely with several Rocky  
21 Flats workers who are seeking relief under the  
22 provisions of the EEOICP Act, and working with  
23 those individuals to hear their personal  
24 stories, their problems and their frustration  
25 over lack of timely and -- and decisions in the

1 matter have -- have certainly made Congressman  
2 Perlmutter and myself aware that these delays  
3 have gone on too long.

4 As has been demonstrated by the independent  
5 evaluation by Stanford (sic) Cohen &  
6 Associates, many of the NIOSH evaluation  
7 procedures, methodologies, the missing data,  
8 and in some cases by, quote, an order of  
9 magnitude in inaccurate measurements of  
10 estimated exposure data when tested against  
11 known data. In other words, in spite of all  
12 the work, when tested, the evaluations and  
13 exposure levels can vary in -- in significant  
14 numbers, and I think that points to the fact  
15 that -- that we don't have an accurate picture.  
16 And it's time to stop -- to stop doing the  
17 evaluations and it's time to really move  
18 forward and -- and -- and take care of this  
19 class of worker that deserves it so much.  
20 Accordingly, Congressman Perlmutter urges that  
21 this working group grant the SE (sic) petition  
22 today. Thank you very much.

23 **MR. HILLER:** Dr. Ziemer, let me also introduce  
24 my colleague on Senator Salazar's staff, Erin  
25 Minks, who many of you know because she has

1           been doing a great deal of direct constituent  
2           work with members of the Rocky Flats community.  
3           Erin Minks.

4           **MS. MINKS:** Thank you, David, and my colleagues  
5           here and members of the Board, I didn't know if  
6           I wanted to speak this morning because  
7           generally when your -- your boss speaks, you  
8           don't always need to follow. It's kind of a  
9           tough act to follow. But this does have a  
10          personal meaning for me so I guess this morning  
11          I speak on behalf of other Congressional aides  
12          who are tasked with working with their  
13          constituents during these process, and I wanted  
14          to, first and foremost, thank the Board and the  
15          working group members for -- for allowing and -  
16          - and working with us as we try to participate  
17          and understand this process to interpret to the  
18          folks here in the audience.

19          We understand, regardless of how adversarial  
20          this can become, that ultimate this is a huge  
21          sacrifice of your personal time, and we really  
22          respect the work that you do and really  
23          appreciate that. But generally, as -- as  
24          having worked with a lot of the folks in the  
25          audience on individual cases, I will say, as a

1           caseworker, that there are many different  
2           layers to the story of the site. There are  
3           many different chapters. There are different  
4           patterns of monitoring. And this program  
5           itself fundamentally, based on the scientific  
6           evaluations, needs to have that affirmation to  
7           go forward to substantiate what we're talking  
8           about today.

9           However, I speak for not just me but other  
10          folks here in the audience and other  
11          Congressional aides, that when it comes to  
12          explaining how zeroes after the '69 fire are  
13          not reconciled, and yet folks who have cancer  
14          from those years still don't go over 50 percent  
15          in their POC. That's -- as a policy-maker and  
16          as an aide and as someone trying to interpret  
17          and represent their interests, that is a  
18          challenge which I imagine we may continue to  
19          have to work with.

20          And so once again, we appreciate your work and  
21          we ask that you continue to work with us as we  
22          interpret your decisions. But it's -- it's  
23          been an interesting road and we just generally  
24          -- there is no easy answer to this process and  
25          we understand that, so thank you again for

1           letting me speak today.

2           **DR. ZIEMER:** We thank all the representatives  
3           of the Congressional delegation who are here,  
4           and I suppose just on a personal note, you  
5           know, sometimes it's pleasing to see that there  
6           are things that we can get bipartisan support  
7           on now and then.

8           Now, we're going to hear from our workgroup  
9           chairman. While he's getting ready there, let  
10          me point out and maybe share with you a moment  
11          one of the sort of struggles this Advisory  
12          Board has, because what you see here at Rocky  
13          Flats is multiplied over the country -- at  
14          Hanford, at Savannah River, at Oak Ridge Y-12 -  
15          - the same kind of issues. And we are  
16          struggling, this group of 12 people, to address  
17          these same kinds of issues all over the  
18          country, as -- as is NIOSH and as is our Board  
19          contractor. And -- and indeed, a lot of time  
20          and energy has been put in, particularly by  
21          this workgroup, the Rocky Flats workgroup, in  
22          trying to be diligent in saying what is there,  
23          what -- what do we have in the way of  
24          information, because we are obligated by law to  
25          look at that. We -- we are also obligated to

1 consider the issue of timeliness, and we  
2 struggle with that, too, realizing that the  
3 timeliness issue is countrywide and we're  
4 trying to deal with multiple sites almost  
5 simultaneously and try to handle that issue of  
6 timeliness.

7 But be that as it may, one of our sort of  
8 required responsibilities is in fact to look at  
9 the NIOSH evaluation report. We have help from  
10 our contractor to do that so that we get  
11 basically an independent look at it. Recognize  
12 that we have a mix of individuals on this  
13 Board. We're not all technical people -- some  
14 are, some are not. But we -- we rely on  
15 outside help, too, to get an independent look.  
16 Now whenever you do that, obviously not  
17 everybody will see things the same way, and  
18 then we face the issue of sorting out NIOSH's  
19 view, our contractor's view, our individual  
20 views, the viewpoints of the constituents, so  
21 all of these -- all of these aspects are here  
22 before us.

23 So we want to hear from our workgroup that has  
24 looked very hard at the NIOSH evaluation  
25 report. They've worked with our contractor

1 very closely in trying to evaluate what data we  
2 have here at this site, its validity, its --  
3 its extent in terms of missing or adequacy,  
4 missing data or adequacy of data, its  
5 reliability -- all those issues, we're  
6 obligated to do that under law. We -- we  
7 recognize that this has taken time, and that  
8 timeliness issue comes upon us as a -- in some  
9 cases, an overriding issue because we recognize  
10 that this kind of process, particularly for  
11 scientists, they just love to study things, you  
12 know, and keep studying things. But we realize  
13 at some point you have to make a decision, and  
14 -- and that point is upon us.

15 Now we -- we have a working group that's really  
16 been a hardworking group. Mark Griffon's been  
17 chairing it. Mark, introduce the members of  
18 the workgroup for the folks here, and then give  
19 us your report and then we'll have a discussion  
20 period.

21 **MR. GRIFFON:** Okay. Yeah, the workgroup is  
22 myself and Wanda Munn, Bob Presley and Mike  
23 Gibson. And I -- I have a few slides which  
24 you're -- are going to help me advance here. I  
25 -- I have so many notes I could-- I didn't want

1 to stand at the podium, but I think everyone  
2 should be able to hear me from here.  
3 It -- the -- you can go to the first slide, I  
4 guess.  
5 I think one of the -- one key point here is --  
6 is, you know, just to reinforce, for those of  
7 you who weren't involved in all of our  
8 workgroup meetings, we -- we did have -- I  
9 think we say 12 -- down there 12 workgroup  
10 meetings, 19 conference calls, some of those  
11 technical calls were in between workgroup  
12 meetings. We did keep minutes for all those  
13 conference calls, so you know, to -- to say we  
14 -- I -- I -- I think I agree with NIOSH on this  
15 that, to the extent we could, we certainly  
16 looked at -- at everything and we -- you know,  
17 we -- we dug into these issues as -- as  
18 completely as we could, for sure. I think  
19 everybody's effort was commen-- you know, to be  
20 commended in that regard. SC&A certainly put  
21 an extensive amount of work to support the  
22 Board in this effort, and -- and all the work -  
23 - all the information provided by the  
24 petitioners and their -- their attendance on  
25 the conference calls, as well as Congressional

1           staffers attended several of our workgroup  
2           meetings via conference call, so it was a -- a  
3           lengthy process and a lot of issues were --  
4           were certainly considered.

5           For those of you who were not involved so  
6           closely in the workgroup, through the course of  
7           the workgroup we had a -- a -- a matrix that we  
8           developed, and I probably have nine iterations  
9           of this matrix. I believe the final one is in  
10          the back -- is that -- is that correct? The  
11          final one, dated April 30th, should be  
12          available in the back with the materials. It's  
13          not? I'm seeing -- do we have that available,  
14          Lew?

15          **DR. WADE:** I believe it is.

16          **MR. GRIFFON:** We'll check on that, but we'll  
17          make additional copies if they're not there.  
18          This matrix details -- and I think we have a  
19          total now of 38 comments, 38 items on the  
20          matrix, and some of them have sub-items  
21          actually on them, but this is our detailed way  
22          of sort of tracking what we were reviewing and  
23          if it was resolved or not resolved. And as we  
24          went along, sev-- a lot of -- many of these  
25          items in the matrix are -- are sort of -- they

1 fall into one broader category, so when I  
2 present today, I'm going to touch the mean  
3 broad categories, not necessarily every matrix  
4 item. But I think this is certainly very  
5 useful to look at for the -- a little more in-  
6 depth read on what we -- what we went through.  
7 So I think we'll go to the first slide and some  
8 of these -- for those of you who have followed  
9 our workgroup, you'll recognize these issues  
10 from Brant's introduction, as well as  
11 Jennifer's presentation. But these are the  
12 main -- I think there's nine items on this list  
13 that we covered and I'll -- I'll go -- I'll  
14 just go through these one by one. They're not  
15 necessarily in any order, but starting with the  
16 -- go to the next slide.  
17 The question of -- of super S and, you know, we  
18 -- we examined this in the workgroup for -- for  
19 an extended period of time. It is correct that  
20 a model was developed during the process of  
21 this review, finalized during the process of  
22 this review, and we -- or -- or some of us were  
23 certainly -- wanted to see further proof that  
24 actually this was a bounding model, so we asked  
25 -- and this is -- this was part of our balance

1 of -- of how to do our job in the workgroup.  
2 You know, we wanted this demonstration that the  
3 model worked and bounded all workers in the  
4 class. That -- that's sort of our criteria.  
5 To do that, we asked for more information, for  
6 more proof from NIOSH, and that took a little  
7 lon-- a little more time.  
8 The proof -- some of the things we asked for  
9 was the model relied on six cases to develop  
10 sort of an ov-- overarching approach that would  
11 be bounding for all workers with regard to  
12 super S exposures. We knew that there were  
13 several other workers that could have been  
14 defined as -- as having a -- a super S exposure  
15 that could have been considered in developing  
16 this model, and we asked for all that case data  
17 so that we could compare to see if -- if, in  
18 looking at those other cases -- I think there  
19 were about 25 of those -- if those other cases  
20 were in fact bounded by the -- the approach  
21 offered by NIOSH, put forward by NIOSH. And in  
22 fact at -- at the end of this, and it did take  
23 an extensive period of time, SC&A did agree  
24 that the model provided -- this -- this TIB-49,  
25 which is this new super S model, did bound the

1 doses for all worker-- and was claimant  
2 favorable for all workers, with regard to this  
3 super S situation.

4 I think we can go to the next one.

5 External and internal data completeness. We --  
6 this was -- this was mentioned a little earlier  
7 this morning, and -- and this sort of came at  
8 the -- in the -- in the middle to the end of  
9 our -- our cycle of workgroups. We -- we had  
10 some questions originally about some of the  
11 database data and -- and some of the databases  
12 that are used in this program, had some  
13 questions about the data that populated the  
14 data. I think someone earlier said garbage in,  
15 garbage out. We certainly were -- were -- you  
16 know, had concerns with that regard. We wanted  
17 to check the integrity of that data.

18 As -- as we evolved in this, we realized that  
19 at Rocky Flats there's less extensive use of  
20 coworker models and more extensive use of  
21 individual radiation files. So then we said  
22 well, you know, it -- it certainly seems, based  
23 on some presentations, that most workers had  
24 some radiation fi-- some radiation records,  
25 internal and external, but were they complete

1 records. So we wanted to see -- you know, when  
2 -- when you say a worker has radiation records,  
3 does that mean one record out of 20 years or  
4 does that mean, you know, pretty complete for  
5 all their years of employment. So we did this  
6 analysis.

7 It was 52 case-- cases selected. We did try to  
8 stratify that a little bit so that we had some  
9 statistical validity to the analysis. We did  
10 look at -- at production workers, which would  
11 have been the -- the likely higher exposures,  
12 and we did another set -- subset that was a  
13 randomly-selected set. I won't get too far  
14 into the details of this, but a -- again, the -  
15 - and -- and we looked at -- at -- I think we  
16 also looked at annual gaps. We didn't  
17 necessarily look at every badge cycle, so you  
18 know, it wasn't a perfect analysis, but we  
19 wanted to get a sense of whether these  
20 individual radiation files were complete.  
21 And a -- a couple sub-items came out of this  
22 review. We -- we did note some -- or SC&A's  
23 report noted some gaps in the early period,  
24 especially in the early years, for -- related  
25 to some of the workers. And we also had this

1 sort of separate issue that we were tracking  
2 independently, but it certainly fell into this  
3 same range of data completeness, and that was  
4 with regard to the '69-'70 -- we did find, and  
5 NIOSH agreed with this, that there were cases  
6 where there were zeroes in the database, and  
7 the individual actually had not been -- or  
8 their dosimeter had not been measured. And --  
9 and we actually tracked back memos that explain  
10 why this -- when this policy was sort of put  
11 into place and there was some rationale for it  
12 based on the -- the risk of exposure.  
13 Nonetheless, here we are -- are. We had people  
14 that were not measured and they had zeroes  
15 ente-- entered into the database. So that was  
16 troubling.  
17 NIOSH did agree, through this workgroup  
18 process, that for '69 and '70 all those zeroes  
19 would be removed out of the database. And this  
20 -- this really only affects the -- these  
21 coworker models that we do. All these coworker  
22 models are year by year. So if we remove all  
23 those zeroes, at least we're -- we're biasing  
24 the average results higher, so any time we have  
25 to use that coworker model we're going to be a

1           little more claimant favorable anyway. So that  
2           was the idea, is we can't trust these zeroes.  
3           NIOSH agreed, let's just get rid of them.  
4           We did ask -- and I think Jennifer sort of  
5           alluded to this, we did look at the question --  
6           and I know I specifically asked this question -  
7           - how do we know when this policy stopped or  
8           when it started. You know, we had this memo we  
9           were kind of hanging our hat on, or NIOSH was  
10          hanging their hat on, but we -- we were  
11          questioning on the workgroup, you know, when  
12          did this stop or start. We had SC&A look into  
13          this through this data completeness analysis,  
14          and we couldn't find any other year where we --  
15          we found this practice. So we looked at -- we  
16          had hard copy records comparing against  
17          database. We didn't -- we just did not find  
18          this to be pervasive in any other year, so that  
19          correction was acceptable at the workgroup  
20          level.  
21          Two other sub-groups came out of that.  
22          Building 81 -- some of the gaps we found in the  
23          early records from -- I -- I -- I'm -- I think  
24          it was the fi-- mainly in the '50s, I don't  
25          think it extended into the '60s, involved some

1 individuals that worked in Building 81 or -- or  
2 some -- some of the uranium buildings, and they  
3 did not have any monitoring rec-- any external  
4 monitoring records. And at this point we --  
5 we've had a presentation for -- sa-- and NIOSH  
6 -- NIOSH agrees to this point. They -- they do  
7 say, however, that the -- they've looked at  
8 their coworker model that they have and -- and  
9 given what they know about the processes,  
10 they've made a strong argument to the workgroup  
11 that the -- the -- they would apply the 95th  
12 percentile for all those years. Probably from  
13 '52 up to '60 they'd apply the 95th percentile.  
14 In other words, some of the highest doses --  
15 external doses found on site would be applied  
16 to those individuals, and they made a -- a  
17 compelling case to the workgroup that that  
18 would be a bounding approach for that -- for  
19 those uranium workers in -- in -- I think it's  
20 just Building 81. I might -- there might be  
21 related buildings there.

22 Now that -- I -- I should also point out that -  
23 - that we -- we -- we had compelling evidence.  
24 We didn't necessarily see a -- a -- I don't  
25 think that, at that stage of the game, we had a

1           -- a sort of demonstration case on the table  
2           for that.

3           Okay, I think -- oh, one more thing on data  
4           completeness. Another issue related to sort of  
5           the Building 81 issue was -- Building 44 came  
6           up in the discussions and we had a similar  
7           question as to whether they had data that could  
8           bound penetrating and non-penetrating doses for  
9           Building 44. And actually through the  
10          workgroup process, they identi-- they -- they  
11          brought out raw film badge records that  
12          supported their -- their case that they could  
13          in fact bound those individuals. They -- they  
14          -- that -- that particular building had some  
15          fairly significant skin doses in -- especially  
16          in those early years, but they did -- through  
17          this process we -- they made available the --  
18          the hard-copy records of film badge data for  
19          those workers and, you know, it -- it was  
20          compelling to the workgroup that they could  
21          bound all doses for those workers in that  
22          building.

23          Okay. The neutron data for 1952 through 1970,  
24          this is the NDRP -- Neutron Data -- Neutron  
25          Dose Reconstruction Project doses. I -- I know

1           it's come up earlier. You -- you can note by  
2           the timing of that bottom report, SC&A  
3           submitted a supplemental -- April 30th, so I --  
4           I don't even know if this is posted on the web  
5           site at this point, but it certainly -- this  
6           has been the last sort of sprint to Denver for  
7           us. We've had, you know, two workgroups and  
8           probably four technical phone calls in the last  
9           couple of weeks working through this issue, and  
10          -- and it -- it -- we had this on our -- on our  
11          matrix early on. It's just that as we -- some  
12          of the issues didn't sort of come to the  
13          surface until later in -- in the -- in the  
14          process, and we do have some issues and  
15          specifically the lack of records in the early  
16          period requires some back-extrapolation for one  
17          time period. And then throughout that whole  
18          time period there's a reliance on -- in the  
19          NDRP what they call notional dose, which is  
20          basically an -- an estimated dose. It's not a  
21          -- an individual's film badge measurement.  
22          It's -- it's a -- it's a -- an estimate based  
23          on a neutron-to-photon ratio, so a lot of these  
24          people had badges with gamma measurements, but  
25          they didn't have a neutron badge. So this NDRP

1 project tried -- attempted to calculate  
2 neutron-to-photon ratios that could be applied,  
3 and they calculated these notional doses and  
4 these were added into the individuals' dose  
5 records. But certainly they're not -- they're  
6 not original film measurements. They're --  
7 they're -- they're estimates. And -- and I --  
8 we -- we'll go more into the neutron thing at  
9 the end of -- get through the rest of these and  
10 then we have -- I have a little more to say on  
11 the neutron question, so...  
12 The data reliability question, one -- one slide  
13 does not do this service for what we went  
14 through for looking at data reliability, or for  
15 what the petitioners provided in terms of  
16 affidavits and testimony, even as of last night  
17 and -- and this morning. Your petition that  
18 was put before us provides a -- a wealth of --  
19 of information that we -- we did, in the  
20 workgroup level, attempt -- and I think we  
21 captured all of them -- attempted to go through  
22 the petition and include those all in our  
23 matrix and cover all those issues. Many of  
24 those fall into the broad category of data  
25 reliability, and that -- so when you see the

1 matrix, there's items -- I think 12 through 27  
2 or so -- a lot of those are the specific issues  
3 brought out in the petition regarding data  
4 reliability. And -- and we -- in -- in looking  
5 at this, we looked at several different  
6 components, but we -- we -- we did want to look  
7 at -- we had database data, and you know, my --  
8 my inkling with -- as -- as a member of this  
9 Board for the entire time, as most of my  
10 colleagues know by now, is -- you know, I tend  
11 to -- if you have an electronic database,  
12 that's fine, but show me the raw data and I  
13 want to validate that electronic data to make  
14 sure that everything's -- everything's kosher  
15 within that database, and that was part of the  
16 effort.

17 And then additionally we looked at the raw  
18 records -- and these would be logbooks,  
19 urinalysis logs, a number of different things  
20 that we looked at -- and we compared them to  
21 individuals' radiation files to see -- you  
22 know, okay, did this information get into the  
23 individuals' files correctly. We also looked  
24 at -- at safety logs, as another just check.  
25 So we looked at a number of different kind of

1 logbooks to check this data reliability  
2 analysis.  
3 Generally speaking, what -- I -- I guess what  
4 we -- we -- the bottom line on this is that we  
5 didn't really see any systemic problems with  
6 data reliability. But we did see some  
7 discrepancies, and that doesn't -- that doesn't  
8 mean that, you know, some of the allegations  
9 that are made are not correct. We -- we --  
10 SC&A's report does note some discrepancies when  
11 -- when looking at some of the issues raised by  
12 the petitioner. But in general, in looking it  
13 as a -- an overall question of do we see this  
14 as a broad issue for the entire class and does  
15 it impact, you know, the ability to be able to  
16 reconstruct doses for all members of the class,  
17 we didn't see a systemic problem, so...  
18 I think I'm ready for the next one.  
19 The -- other radionuclides, we -- we also spent  
20 a -- a -- quite a bit of time on this. At --  
21 at the end we got down to -- some of the  
22 significant ones we discussed were americium  
23 operations. We also discussed neptunium,  
24 several other nuclides, and -- and we basically  
25 found that -- that they -- they did have

1 sufficient either individual records or -- or  
2 other information that they could bound doses  
3 for those nuclides.

4 We did come down to -- to thorium as a problem  
5 or -- or a little more of a problem. We had to  
6 -- we took a little longer in assessing this  
7 problem. The -- basically the -- the final  
8 result on the thorium was that -- NIOSH  
9 provided an approach using a certain method, a  
10 NUREG-1400 method, and SC&A concluded that that  
11 basically was not an appropriate approach and  
12 it was not bounding. However, what -- what  
13 NIOSH has given us in addition to that was they  
14 have other -- other process-specific  
15 information that gives us a -- a -- strong  
16 evidence to the workgroup that in fact that  
17 they can bound the doses on -- on these cases,  
18 so -- now this -- this also is one of those  
19 that we haven't seen a demonstration of this  
20 other data being used, so we haven't seen this  
21 proof of principle necessarily. But there's a  
22 strong impression at the workgroup level that  
23 they do have process-specific data that would  
24 be applicable to this situation and could bound  
25 doses for these -- these thorium workers.

1 Internal dose -- and this is one of the -- the  
2 coworker models. I -- I think the -- one --  
3 one important thing to preface th-- with this  
4 slide is that it -- it appears, at least on  
5 NIOSH's review of the current claimants -- now  
6 that doesn't necessarily mean that population  
7 might not -- we -- we certainly understand that  
8 population could change, and will change. But  
9 based on the current claim files they have,  
10 there's a very limited number of individuals  
11 that will be required to use the coworker model  
12 for internal dose assessment. And our data  
13 completeness review sort of supported that --  
14 or it did support that. You know, individuals,  
15 for the most part, had urinalysis records.  
16 They might not have had them for every cycle  
17 for every year, but -- but there were  
18 urinalysis records there that we felt were  
19 sufficient to be able to reconstruct internal  
20 doses.

21 Now if you get to the coworker question, where  
22 -- where we -- and I think Brant alluded to  
23 this earlier in his presentation for NIOSH, the  
24 coworker model is based on HIS-20, this  
25 database data -- actually a -- a pedigree of

1           that original HIS-20 database. We -- in -- in  
2           our analysis we did find some discrepancies  
3           between the raw data and this electronic  
4           database, and -- and we did note that there  
5           were -- there were some discrepancies. NIOSH  
6           concedes that there's some discrepancies in  
7           there. We did, however, find that -- that all  
8           upper-bound values that we could check seemed  
9           to be in the database, and therefore NIOSH is  
10          saying we -- we acknowledge limitations in the  
11          database, in the data itself, and therefore we  
12          will rely only on a 95th percentile, or the  
13          upper bound of this data, to use for coworker  
14          dose assessment. And you know, I think that is  
15          a reasonable approach, especially considering  
16          the fact that most -- most individuals have  
17          their own individual bioassay records, or -- or  
18          some rec-- you know, enough records to do dose  
19          reconstruction.

20          Oh, okay, this goes back -- this goes back a  
21          few workgroups for -- the -- the lung count --  
22          the question of the adequacy of the lung  
23          counting data came up, and I believe -- I want  
24          to make sure I get this right, but I believe  
25          early on NIOSH basically conceded that there

1           were problems with the lung counting data in  
2           the database, and that -- but however, they  
3           point out that they're not going to use any of  
4           that data for dose reconstruction for the  
5           cases. They're going to rely on urinalysis  
6           data. The only way they might use the lung  
7           counting data is to -- to -- along with the  
8           urinalysis data, to check dose determinations  
9           that way, but they will not just solely rely on  
10          lung counting data. So they acknowledge that  
11          there's some problems with that data, but their  
12          method doesn't rely on that data. So this goes  
13          back to the TIB-38, which is the model that  
14          uses the urinalysis data along with that --  
15          TIB-49 references that super S model that we  
16          talked about earlier on, so we -- we felt this  
17          was reasonable.

18          And the decontamination/decommissioning period,  
19          specific questions on this period came up. We  
20          actually -- and this is another situation where  
21          a TIB was actually developed during the time  
22          the workgroup was meeting, so -- but this was  
23          sort of a TIB -- a Technical Information Bulle-  
24          - the bulletin that extended the coworker model  
25          out to the D&D period and -- similar to TIB-38

1           and a similar approach would be used regarding  
2           the 95th percentile. And I think given those  
3           two factors, we -- we still believe it -- it is  
4           a bounding approach, al-- although I -- I  
5           agree, it was developed, you know, kind of  
6           during our workgroup process, so...  
7           Are there any more? Okay.  
8           Okay, and -- and this is the external and  
9           internal -- or I mean ext-- external gamma and  
10          external beta, and -- and the conclusion on  
11          this really was that the external gamma models  
12          and external beta models -- coworker models  
13          seem adequate for reconstructing doses. Some  
14          of these models also have a neutron com-- these  
15          models also talk about neutrons. We've  
16          separated that issue out 'cause we -- we do  
17          have some remaining concerns on the neutron  
18          monitoring, so the coworker models seem applic-  
19          - or seem sufficient with regard to gamma and  
20          beta exposures. We have the separate remaining  
21          questions regarding the neutron NDRP data, and  
22          that would also revert to this coworker model  
23          because it is populated with NDRP data.  
24          And that's it -- and then I -- I think the --  
25          the -- the final -- I think some of the

1 conclusions that we have here is -- are  
2 primarily focused on the neutron NDRP -- the  
3 adequacy of the neutron NDRP data and we --  
4 we've kind of -- this is -- this is a complica-  
5 - this is a complicated issue to discuss. We -  
6 - we've spent, like I said, these last several  
7 weeks digging hard into this issue. And at  
8 this point I think it's best to sort of present  
9 it the way the workgroup sees it over different  
10 time periods, 'cause I think there were  
11 definitely different factors to consider in  
12 different time periods.  
13 1952 through '58, and I'm sorry I don't have  
14 these on slides, these are -- well, you saw the  
15 report came out on the 30th, so I don't have  
16 these on slides yet. But 1952 through '58, one  
17 thing -- it appears to the workgroup in  
18 reviewing this that many of the highest exposed  
19 people to neutrons for that time period were  
20 not measured for neutron exposure. They --  
21 they were assigned notional dose, as we talked  
22 about before, but they weren't measured. A  
23 couple of different -- and these are just  
24 factors that we considered in this time period.  
25 The proposed method for '52 through '58, or the

1 NDRP method, is to -- basically they rely on a  
2 -- a ratio developed for 1959, and they apply  
3 it backwards into the earlier years. And we  
4 have some concerns about that, for a few  
5 reasons. One is we -- we think there could be  
6 a large -- they -- they use building-specific  
7 ratios, and we've seen that there could be a  
8 large variation of -- of neutron/photon ratios  
9 at the worker level or -- or, you know, sub-  
10 building level, sort of, so you've got a wide  
11 variation and you're using one central estimate  
12 of a neutron/photon ratio to do your estimates,  
13 and we think that's problematic.

14 Another very important piece for this -- this  
15 sort of back-extrapolation period is that there  
16 were some significant process changes during  
17 that time period and -- you know, this included  
18 mo-- they -- they -- they moved certain  
19 operations, including -- assembly went from  
20 Building 91 to Building 76, I believe, and  
21 there was some other significant changes. I  
22 don't want to detail them here in this  
23 presentation, but we have them and if -- if  
24 this comes down to a motion, they'll be  
25 detailed in that way. But there were several

1 process changes and we couldn't be sure that  
2 all these process changes were going to either  
3 have no effect on the neutron/photon ratio in  
4 19-- you know, when comparing to 1959 or if  
5 they would bias it one way or another, we just  
6 weren't sure. There were many changes that  
7 made it uncertain and we couldn't determine  
8 whether -- which direction it could go.  
9 And finally, the NDRP report itself  
10 acknowledges that they -- they had no  
11 independent validation of the NP ratio during  
12 tho-- those years of interest. In other words,  
13 they had no measurement data from '52 through  
14 '58, field surveys or things like that, that  
15 would support that those building NP ratios  
16 from '59 were in fact in the right ball park,  
17 so that was one time period where they had the  
18 least amount of data. I want to stress that.  
19 The next time period -- we've got four little  
20 time periods here -- '59 through '64. It  
21 appears still that many of the highest exposed  
22 workers were not measured for -- for neutron  
23 exposures. A lot of them had -- a lot of the  
24 individuals seemed to have notional doses  
25 assigned, so that problem remains.

1           Again, the proposed -- we have the same  
2           question of the NP ratio, the proposed NP  
3           ratio, relies on this central estimate by  
4           building. And if we look at -- at that, at the  
5           worker level there seems to be a wider variance  
6           of those NP ratios, so we're not certain that -  
7           - we can't be certain that that's approp--  
8           appropriate for bounding the doses. And I -- I  
9           think those are the -- the main two issues  
10          there.

11          The -- the strength during that time period is  
12          that they have a lot more measurement data, and  
13          they -- I -- I believe they do have some  
14          independent measurements during that time  
15          period to sort of support the -- the NP ratios  
16          of that time.

17          Going on to '65 through '68, at this point --  
18          '65 we do see a transition in the data where --  
19          and -- and this is supported by some of the  
20          expert -- that we heard from -- that -- that  
21          worked on -- on the project, but nonetheless,  
22          the data sort of -- of supports it, which is  
23          that most of the highest exposed now from '65  
24          onward seem to be -- seem to have been  
25          measured. There -- there are film badge

1           measurements there for them. In other words,  
2           you don't see this trend of the highest exposed  
3           being all notional or estimated dose. It --  
4           it's more of the individual film badge-measured  
5           data.

6           '65 through '68 still has that remaining  
7           question of a building-wide neutron/photon  
8           ratio, central estimate, being assigned to  
9           individual workers. And you know, how do you  
10          know if that average is appropriate for every  
11          worker, so we still have that remaining  
12          question.

13          And finally, the last sort of sub-group is '69  
14          and '70. This period of time has a high number  
15          of original films which were not recovered or -  
16          - or -- I -- I guess just not recovered. In  
17          the process of doing this NDRP project, they  
18          recovered all these films and reread a lot of  
19          them for -- for inclusion to do this better  
20          estimate of dose. And for '69 and '70, a lot  
21          of the original films could not or were not  
22          recovered for this project. So you have a lot  
23          more sort of missing data and a lot more  
24          notional dose in that time period. And then --  
25          and then I gue-- so that's one distinction for

1           that last -- those last two years. Again,  
2           still the remaining issue of the -- one central  
3           estimate for the neutron/photon ratio versus a  
4           -- a -- you know, a building-wide central  
5           estimate used.

6           So that's the four periods. In this -- I did  
7           want to say, from '59 on through '70, so -- so  
8           we have four time peri-- I know this gets a  
9           little confusing, but looking from '59 forward,  
10          the -- the one issue that -- that was  
11          consistent through all those, that kept coming  
12          up, was this use of the neutron/photo ratio --  
13          a building-specific central estimate of the  
14          neutron/photon ratio to estimate these -- these  
15          neutron doses. And NIOSH has indicated, and --  
16          and I -- I'd actually like NIOSH, if Jim Neton  
17          or Brant Ulsh is available -- has indicated  
18          that they have -- within the NDRP data itself,  
19          that they have data that they could possibly  
20          use something other than a central estimate for  
21          the neutron/photon ratio but rather more like a  
22          95th percentile approach, but I'll let Jim  
23          speak to that.

24          **DR. NETON:** Thank you, Mark. Jim Neton,  
25          Associate Director for Science in OCAS. It's

1 correct, we -- we have a large amount of  
2 information between '59 and through '70. I  
3 believe there's a total of 87,000 neutron  
4 measurements that were reread for the NDRP, and  
5 most of those are in this period. Admittedly,  
6 in '59 there are fewer, and they become more  
7 prominent as you go forward, but we believe  
8 there's sufficient data there to estimate the  
9 95th percentile of the distribution by year.  
10 Currently the model -- the -- the variance of  
11 the model has already been calculated and used  
12 in our dose reconstructions at the 95th  
13 percentile. For example, overestimating dose  
14 reconstructions do use the 95th percentile of  
15 the building-specific ratios. And for best  
16 estimates, we apply -- Mark correctly  
17 identified -- a central estimate and an  
18 associated uncertainty distribution about it.  
19 But we believe there are sufficient data  
20 available to allow us to calculate the 95th  
21 percentile, either through the variance of the  
22 model or just the straight 95th percentile of  
23 the distribution of the NP ratios observed, to  
24 bound the neutron doses for workers in -- in  
25 the '59-forward time period.

1 I don't know if there's any questions on that,  
2 but --

3 **MR. GRIFFON:** Thank you. And -- and you know,  
4 I guess -- I -- I think that's -- that's kind  
5 of where -- I guess that completes my report  
6 out. I would ask other workgroup members if  
7 they had anything to add or -- or comment on at  
8 this point.

9 **DR. ZIEMER:** This -- this is for workgroup  
10 members. Workgroup members?

11 (No responses)

12 Okay, Board members, do you have questions for  
13 Mark? Jim Melius.

14 **DR. MELIUS:** Yeah, I have a number of  
15 questions, so --

16 **UNIDENTIFIED:** (Unintelligible)

17 **DR. MELIUS:** Yeah, I know, I got to -- figure  
18 out all these cords here.

19 That's my last question. Fir-- first of all,  
20 I'm a little confused on the April 30th report  
21 from SC&A as to whether that was made available  
22 to the petitioners and to the general public in  
23 any way?

24 **UNIDENTIFIED:** Can someone (unintelligible) --

25 **DR. ZIEMER:** My under--

1           **DR. MELIUS:** (Unintelligible) available here at  
2 this meeting?

3           **DR. ZIEMER:** My understanding is that -- I  
4 think -- is Joe Fitzgerald here? Joe, did we  
5 get copies of that to the petitioners? If --  
6 if we did, it's been within the last hour, I  
7 think. It's -- it's not been -- if you want to  
8 talk about timely.

9           **MR. FITZGERALD:** Yeah, we -- we made one hard  
10 copy which we gave to Terrie -- Ms. Terrie  
11 Barrie.

12           **DR. ZIEMER:** And the electronic copies were  
13 distributed to the Board, probably after you  
14 left home or --

15           **MR. FITZGERALD:** (Unintelligible)

16           **DR. ZIEMER:** -- I -- I don't believe I got a  
17 copy of it yet.

18           **MR. FITZGERALD:** My understanding was the  
19 electronic copy was cleared through General  
20 Counsel at NIOSH probably Friday sometime.  
21 From there, I'm -- I'm not sure.

22           **DR. ZIEMER:** There were some Privacy Act issues  
23 with that report that required a -- I guess a  
24 legal review, but in any event, I don't -- my  
25 guess is Board members have not seen it.

1           **MR. GRIFFON:** Our -- our intention in -- in the  
2           workgroup process, for those who followed it,  
3           was to -- to get a report to all petitioners  
4           and Congressional staffers at least a month in  
5           advance of this meeting, and I think we -- I  
6           think the main report was put out -- I hope  
7           they got SC&A's main report about early April -  
8           - no? I'm seeing --

9           **UNIDENTIFIED:** (Off microphone)  
10          (Unintelligible)

11          **DR. ZIEMER:** Yeah, there -- there were two --  
12          there was I think two volumes -- or two parts  
13          to that report. Those were distributed a  
14          couple of weeks ago, I believe.

15          **MR. GRIFFON:** But this supplemental certainly  
16          is -- was -- I mean just completed, you know,  
17          within the last, you know, four or five days,  
18          so -- but we need to at least get it now to  
19          everyone.

20          **DR. MELIUS:** Yeah --

21          **MR. GRIFFON:** It's been --

22          **DR. MELIUS:** -- I -- I mean I would just like  
23          to point out, I -- I --

24          **MR. GRIFFON:** Yeah.

25          **DR. MELIUS:** -- I hardly think that's a fair

1 process for the people that are -- the  
2 petitioners nor people trying to address this  
3 issue, and I think we need to -- also as -- the  
4 Board and working with NIOSH, come up with a  
5 better process for communicating these -- and  
6 distributing these reports. I understand the -  
7 - the need for reviewing and so forth, but this  
8 process seems to keep breaking down and -- in  
9 terms of that. I mean, for example, I have the  
10 -- the pre-- pre-privacy-cleared copy of it,  
11 the April 27th draft, which I -- and I have no  
12 idea -- I don't think there are major changes,  
13 but there are only a few changes in it and I  
14 really don't think it's fair for the  
15 petitioners or for the people interested in the  
16 site to come here and not have this information  
17 made available to them in a -- in any fashion  
18 here, other than I guess within the last hour.  
19 I -- I have some questions. I'd like to know  
20 more, and I don't know if -- who -- whether  
21 Mark, you're the person answering this or -- or  
22 Joe Fitzgerald or who -- the basis for the --  
23 the sampling of the -- the 52 cases that were  
24 looked at where we're looking in terms of data  
25 integrity issues and -- and so forth. I think

1           there was a comment from I believe one of the  
2           petitioners that commented on --

3           **MR. GRIFFON:** Yeah.

4           **DR. MELIUS:** -- how that hardly seems to be an  
5           adequate sample, and I'm trying to understand  
6           the sampling better. I --

7           **MR. GRIFFON:** Yeah, maybe Joe -- Joe or -- or  
8           Arjun, if you can speak to that, I -- I would  
9           appreciate it.

10          Go-- going -- I -- I will say that going  
11          through 52 full claims files was, you know, a  
12          rigorous amount of work, so --

13          **DR. ZIEMER:** Dr. Makhijani --

14          **MR. GRIFFON:** -- we did want a good set of  
15          records, but --

16          **DR. ZIEMER:** Dr. Makhijani perhaps can answer  
17          that.

18          **MR. GRIFFON:** Yeah.

19          **DR. MAKHIJANI:** Yeah, I'm Arjun Makhijani from  
20          SC&A. As was mentioned, the 52 cases consisted  
21          of two groups. There were 32 randomly-selected  
22          and that was done with the help of our  
23          statistician, Harry Chmlynski, and we sampled a  
24          sufficient number to get an idea of the size of  
25          the gaps. It wasn't at a level where you could

1 tell what was going on for individual workers,  
2 but it was to explore whether there were  
3 significant gaps overall in the data record for  
4 the groups of workers. They were split up into  
5 two periods, '52 to '63, inclusive, and '64 to  
6 '92. And that was done because in the earlier  
7 period there were a large number of workers who  
8 were not badged because they were thought to be  
9 at risk of low exposure or -- for instance,  
10 Building 881 was not badged in the '50s. And  
11 then in '64 the policy had been -- said that  
12 all workers were badged, but then it turned out  
13 that it wasn't quite all workers, but it was in  
14 the 90-plus percents of workers who were  
15 badged. So we wanted to examine the extent of  
16 the gaps in monitoring in the two different  
17 periods, and we did that.

18 In the second piece of it, we identified a  
19 number of gaps in -- in both periods in  
20 internal and external monitoring records and so  
21 the second part of the exercise was to look at  
22 20 workers who had the hi-- among the highest  
23 cumulative exposures. This was workers in the  
24 1990s whose records were looked at by Rocky  
25 Flats retrospectively, and they were grouped

1           into categories, one to four, and three and  
2           four were the highest exposed cumulatively, and  
3           we selected ten from each group to see if there  
4           were gaps in the records of workers who were  
5           acknowledged by Rocky Flats to be the most  
6           exposed cumulatively.

7           And there -- in the internal dose records we  
8           did not find big gaps -- that is, annual gaps -  
9           - but we did find some gaps in the external  
10          dose records. And so that's why subsequently --  
11          particularly in the '50s. And so that's why  
12          subsequently a lot of the effort of looking  
13          into the adequacy of data focused on external  
14          dose in the 1950s.

15          Sorry for the long reply.

16          **MR. GRIFFON:** Thank you -- that's good, thanks.

17          **DR. ZIEMER:** Jim, a follow-up and --

18          **DR. MELIUS:** Yeah, just to fol-- I mean I would  
19          just point out that -- I mean while I  
20          understand the amount of effort involved in  
21          this, I don't want to, you know, downplay that,  
22          but at the same time, for -- a small sample  
23          like this would not necessarily identify sub-  
24          groups that may be -- where there may be issues  
25          with. It -- it may be adequate statistically

1 if the -- we're assuming that whatever these  
2 gaps are, problems are, are there  
3 systematically, but -- and cover everybody.  
4 But certainly for sub-groups of workers in  
5 certain buildings or certain parts, it would  
6 not address that and would -- would not  
7 identify that, and I -- I think that still  
8 would be an ongoing concern.

9 I also have related to that the issue of --

10 **DR. MAKHIJANI:** (Off microphone)

11 (Unintelligible)

12 **DR. ZIEMER:** Yeah, Arjun has an additional  
13 comment on that, and then we'll move on.

14 **DR. MAKHIJANI:** Yeah, I think Dr. Melius is  
15 right about that, but the statistical sampling  
16 was a very -- it was a very broad-mesh  
17 sampling. It was not designed to reveal say  
18 gaps in monitoring for individual  
19 radionuclides, and it was not designed to yield  
20 information that was statistically valid on  
21 gaps for individual job types and so on. It  
22 was are there -- you know, what's the size of  
23 the group of workers in these two periods that  
24 have gaps, and so it was a very broad-screen  
25 take. So you're -- you're right about that.

1           **DR. ZIEMER:** Thank you. Proceed.

2           **DR. MELIUS:** Thank you. And I think related to  
3 that in sort of a -- as a separate effort,  
4 there was an issue of these data discrepancies  
5 and so forth which were I think individual  
6 reports of potential problems, and so forth --  
7 that -- and on that my understanding is that,  
8 again, there was no systematic problem found  
9 with that in -- in the investigation of that,  
10 but there were a number of individual reported  
11 discrepancies that were, you know, verified by  
12 -- by the process. And my question there is  
13 then -- then -- then what happens with those?  
14 How are those individual discrepancies  
15 identified, because one of the problems with  
16 this overall process is it -- to me, that -- I  
17 would think that would end up being dependent  
18 on the claimant being aware of the potential  
19 discrepancy and pointing it out. And given the  
20 problems in getting access to records and  
21 giving the problems in -- you know, many times  
22 the original worker has died and so it's a  
23 family member with, you know, very little  
24 information trying to file the claim. So I  
25 guess my question is more for the -- the

1 workgroup and maybe for NIOSH, how do we -- how  
2 are these then identified or are we just sort  
3 of, you know, getting rid of them, not --  
4 pretending they don't exist?

5 **DR. ZIEMER:** And perhaps Dr. Ulsh from NIOSH  
6 can address that.

7 **DR. ULSH:** Yes, Dr. Melius. Actually the  
8 integrity of the individual radiation files  
9 were approached by the working group, NIOSH and  
10 SC&A via a number of different approaches, one  
11 of which was to look at -- as Mark has  
12 mentioned, at the database itself which was  
13 used for -- in situations of generating  
14 coworker data. But in terms of this exercise,  
15 looking at the 52 -- the 52 hard copy radiation  
16 files, the objective of that exercise was to  
17 determine whether or not there were -- first of  
18 all, whether there were periods where  
19 monitoring data didn't exist; and secondly, if  
20 so, were there reasonable explanations for  
21 that. So we did not find in that particular  
22 piece of the investigation -- I'm speaking only  
23 for NIOSH -- we didn't find any unexplainable  
24 gaps in either internal or external, with one  
25 exception. We looked, as -- as Arjun has

1 mentioned, there were 52 workers, and you  
2 multiply that -- that by the number of years  
3 that they worked, and then double it for  
4 internal and external. And what we found was  
5 that for internal, they were complete. In  
6 other words, there were no gaps that -- where  
7 you would expect them to have been monitored  
8 and the records were not present. And  
9 secondly, in the external dosimetry, we found  
10 out of the 52 workers with several years of  
11 employment each, we found only one case where a  
12 worker was missing -- didn't have dosimetry  
13 data for one year, and that was clearly noted  
14 in his radiation file. So as I think Mark  
15 said, and you can correct me if I'm wrong,  
16 Mark, we didn't find anything that compromised  
17 our -- our ability to -- at least systema--  
18 systemically, to accurately reconstruct doses.

19 **DR. ZIEMER:** No, I -- as I understand the  
20 question you asked, though, in an individual  
21 case if the -- if the individual did not self-  
22 identify that they thought records were  
23 missing, how would we know it. Is that --

24 **DR. MELIUS:** Yeah --

25 **DR. ZIEMER:** -- the nature of the question?

1           **DR. MELIUS:** -- I mean the issue is when  
2           there's the discrepancy reported, and part of  
3           the problem with -- is that the -- since these  
4           are individual data, the SC&A report on this is  
5           -- does not identify the examples very well and  
6           so it's a little hard -- I'm just trying to get  
7           an asses-- assessment of -- of this issue and -  
8           - that. I think Arjun already addressed the  
9           issue with the -- the sampling of the 52.

10          **MR. GRIFFON:** Right.

11          **DR. ULSH:** You might perhaps be thinking of --  
12          and I -- again, I don't have SC&A's report in  
13          front of me. There was another piece of this  
14          data -- data integrity investigation and that  
15          involved the -- we looked at every single  
16          concern expressed in the petition, every single  
17          concern that was expressed by the public at the  
18          last work-- Advisory Board meeting in April --

19          **DR. MELIUS:** Uh-huh.

20          **DR. ULSH:** -- and the concerns expressed by  
21          members of the public throughout the working  
22          group process. And NIOSH captured all of those  
23          and we went through and evaluated each one of  
24          those to determine whether or not they  
25          presented a systematic problem for us. I think

1           it's fair to say that NIOSH and SC&A, on a few  
2           individual instances, may not be in agreement  
3           whether or not there is a problem in that  
4           particular case. But we certainly did not find  
5           anything systematic that would prevent us from  
6           doing dose reconstruction. Does that --

7           **MR. GRIFFON:** Yeah, that -- and that's what we  
8           tried to look at and -- and -- and I know what  
9           you're saying, Jim. If -- you know, if we had  
10          some individuals that were -- were -- you know,  
11          not everyone's going to dig into the data the  
12          way some of these individuals did, and -- and --  
13          - for example, there was a particular case, the  
14          question of zeroing the dose, and the person  
15          felt that they -- they -- you know, they have  
16          affidavits saying worked a high rad job for a  
17          couple quarters and dosimetry's basically  
18          zeroes or whatever, and so we -- we had several  
19          of those. And some of them -- which I agree  
20          that we didn't reach agreement on between SC&A  
21          and NIOSH. We did, though, try to look and say  
22          okay, by looking at the database and other  
23          records and other reviews that we did, do we  
24          see any sort of pattern that would indicate  
25          that this was going on, and -- and I -- you

1 know, we -- we didn't find any systemic  
2 problems like that.

3 Now I'm not sure that we had a perfect, you  
4 know, method to be able to detect those  
5 problems, but we -- we did try several  
6 different approaches to try to find those kinds  
7 of problems, 'cause they were raised in several  
8 -- either in open testimony or -- or in -- as  
9 part of the petition, so we were aware of those  
10 problems and we did look into those. But it --  
11 it remai-- you know, the question remains -- I  
12 guess the other question would be, and I think  
13 it came up in earlier public comments, is how -  
14 - how do you -- would you basically acknowledge  
15 that in an individual DR, and you might treat  
16 that differently than just using LOD over two  
17 for assi-- for fixing that zero. But in the  
18 case where a person doesn't have the  
19 information to support as much, then it's  
20 probably treated as -- you know, as -- as zero,  
21 so -- you know.

22 **DR. ULSH:** It depends on the --

23 **MR. GRIFFON:** Yeah.

24 **DR. ULSH:** It's hard to speak generally about -

25 -

1           **MR. GRIFFON:** Yeah, right.

2           **DR. ULSH:** -- about this. It would depend on  
3 the specifics of the individual case.

4           **MR. GRIFFON:** Yeah.

5           **DR. MELIUS:** Brant, before you sit down, I have  
6 another question I think maybe you can answer.  
7 My understanding then would that be as a result  
8 of this review, NIOSH has made a number of  
9 changes in how they're handling certain aspects  
10 of dose reconstruction? And so I presume that  
11 in effect the site profile is being re-- redone  
12 or up-- updated. My question is, for -- for  
13 the record is will you then follow the usual  
14 policy and go back and recalculate dose  
15 reconstructions for all the people that have  
16 already had those done who would be affected by  
17 these changes?

18           **DR. ULSH:** That process is already underway.  
19 Some of the issues that have been captured we  
20 have completed Program Evaluation Reports.  
21 Some of them we're going to have to wait for  
22 the dust to settle here today to go back and,  
23 you know, put those changes into place. But  
24 yes, Dr. Melius, the answer to your question is  
25 yes, we certainly will in cases where the

1 changes -- you know, in response to public  
2 comment and -- and the investigation that the  
3 working group has conducted, we certainly will  
4 go back and look at cases that have been  
5 completed in the past that have a probability  
6 of causation of less than 50 percent and  
7 evaluate the impact of any of those changes on  
8 those case.

9 **DR. MELIUS:** Okay. Thank you. I have one more  
10 set of questions. These are for Mark and -- do  
11 that. If I understand you correctly, the -- as  
12 a result of your review, there are I believe --  
13 well, three areas that -- where NIOSH has not  
14 demonstrated the ability to do adequate  
15 individual dose reconstructions? One is the  
16 thorium issue you mentioned in one slide?  
17 Thorium and some related (unintelligible) --

18 **MR. GRIFFON:** As far as seeing proof of -- of  
19 the -- of the process yet, the thorium question  
20 remains in -- in that SC&A did not believe that  
21 the approach was appropriate for bounding. But  
22 we -- we have seen the other documents and the  
23 data that are available that we believe could  
24 be used to bound. So they -- they haven't  
25 given us a -- a necessarily case example, but

1           it's only because they -- they still bel-- you  
2           know, th-- we had a -- a situation where the --  
3           SC&A and NIOSH were not in agreement on the  
4           final comment as sort of a -- a backdrop.  
5           They're saying they have this other information  
6           --

7           **DR. MELIUS:** Uh-huh.

8           **MR. GRIFFON:** -- which could be used to bound,  
9           and so that's where that stands. We haven't  
10          seen the case demonstration of it, no. That's  
11          right.

12          **DR. MELIUS:** And -- and the -- the second area  
13          is the neutron dose, '59 to '70 that I think  
14          Jim Neton -- I may have it --

15          **MR. GRIFFON:** Yeah, I --

16          **DR. MELIUS:** -- time period wrong.

17          **MR. GRIFFON:** -- I should actually clarify the  
18          -- the neutrons -- time frame I just discussed.  
19          I -- I -- I think, as a workgroup, for the '52  
20          through '58 time period, I believe we have, you  
21          know, come to consensus on that, that that time  
22          period just -- the concerns I've stated exist  
23          and I -- and cause problems in terms of being  
24          able to -- to reconstruct doses.

25          **DR. MELIUS:** Uh-huh.

1           **MR. GRIFFON:** For '59 beyond, those other time  
2 periods, I still have those concerns, but we  
3 don't have a consensus in the workgroup --

4           **DR. MELIUS:** Well --

5           **MR. GRIFFON:** -- on all those items, so I -- I  
6 just wanted to say that for -- for the record.

7           **DR. MELIUS:** Okay, and I understand, I'm just  
8 trying to -- the sort of the factual --

9           **MR. GRIFFON:** Yeah.

10          **DR. MELIUS:** -- question is is has -- I think  
11 if you remember right, our, you know, SEC  
12 review process was to take into account -- it's  
13 a demonstration that they can actually do the  
14 dose reconstruction in the way they say they  
15 can, and -- and my understanding is that, both  
16 for the thorium and the neutron '59-'70, they  
17 have not yet. There may be data available for  
18 doing so, but the-- there's a question --

19          **MR. GRIFFON:** Right, the '59-'70, right now the  
20 approach stands as -- as they've -- I mean they  
21 -- they've given us a case example, but it uses  
22 their current approach.

23          **DR. MELIUS:** Okay.

24          **MR. GRIFFON:** What Jim Neton said today on the  
25 record is -- is, again, a -- another option

1           that they may use, but they haven't demonstra--  
2           we haven't seen a demonstration of that, no.

3           **DR. MELIUS:** Okay.

4           **MR. GRIFFON:** That's correct. And -- and I  
5           think lastly, just -- I -- I did point this out  
6           in my presentation, but it might have got lost  
7           a little bit, but the pre-1960 Building 81  
8           uranium workers for external dose -- again, we  
9           -- we -- we had ample evidence put in front of  
10          the workgroup that they could bound these  
11          doses, but we haven't seen a -- a case example  
12          for that, so that's another one, just for  
13          completeness.

14          **DR. MELIUS:** Okay. Thanks, Mark.

15          **DR. ZIEMER:** Mark, you -- you've been largely  
16          silent on the period beyond 1970. Does the  
17          workgroup have any conclusions or position on  
18          the ability to reconstruct doses for the period  
19          beyond 1970? Or did you not address that?

20          **MR. GRIFFON:** I -- no, we -- we certainly  
21          addressed it. We -- I mean part of -- what --  
22          what Arjun said is cer-- is -- is accurate,  
23          that we -- in this data completeness review we  
24          were looking at all time periods, and the  
25          reason that we ended up targeting the '50s was

1           -- was that we found some of these data gaps  
2           and -- and issues. So I agree, that wasn't a  
3           perfect -- you know, necessarily a robust  
4           statistical sample, but we did do sort of --  
5           when we found areas that looked like potential  
6           issues, we did sort of drill down to more  
7           probative investigations. Those went into the  
8           areas such as Building 81 and -- and such as  
9           the early '50s for neutrons and other things.  
10          Post-1970 -- well, the NDRP, they -- they went  
11          from film to TLD at that point. The -- but --  
12          but we didn't find any indication for internal  
13          or external dose that there'd be a problem for  
14          reconstructing.

15          **DR. ZIEMER:** Thank you. The reason I asked  
16          that question, certainly in a number of other  
17          sites the Board has made recommendations where  
18          certain years are covered and other years are  
19          not covered by SEC status, and it wasn't clear  
20          to me whether the workgroup was comfortable --  
21          maybe that's not the word to use, but was  
22          suggesting that the question of reconstructing  
23          dose after 1970 was not, in their minds, a -- a  
24          problem as compared to those earlier years.  
25          That's sort of rhetorical at this point --

1           **MR. GRIFFON:** Yeah.

2           **DR. ZIEMER:** -- but I was trying to ascertain  
3           that.

4           Okay, other -- other questions, Board members?  
5           Let -- let me suggest a couple of things here.  
6           We have some options before us, one -- one of  
7           which -- well, all of them involve some sort of  
8           action, I want to push the Board to take some  
9           sort of action. Your -- your options are,  
10          number one, to accept or agree with the NIOSH  
11          evaluation. Number two, to disagree with the  
12          NIOSH evaluation -- that is, to basically state  
13          that doses can-- cannot be reconstructed with  
14          sufficient accuracy and therefore to recommend  
15          SEC.

16          You would have an option, although I would  
17          certainly be uncomfortable with it, to extend  
18          this process further to tie up loose ends.  
19          There clearly are loose ends, but those loose  
20          ends seem to continue to occur month after  
21          month. We tie up one set of loose ends and  
22          others appear. It reminds one a little bit of  
23          "Fantasia" and the brooms that multiply  
24          exponentially.

25          Or you would have an option of subdividing

1           this, I -- I guess, as has been done in other  
2           cases, and saying yes, part of this is  
3           straightforward. We're -- we -- we feel an SEC  
4           is clear and perhaps part of it not.

5           So those are four options. You may want to  
6           cogitate on this for a bit. I -- I know some  
7           of you want to get refueled with food. The  
8           lunch hour is upon us. We hadn't wanted -- I -  
9           - I had hoped we could come to closure to this,  
10          but we've heard -- we've heard a lot of  
11          different -- we've heard testimony from the  
12          petitioners, we've heard testimony from the  
13          Congressional staff, we've heard testimony from  
14          NIOSH, from our working group, we've had a lot  
15          of input. You may want to reflect on this for  
16          a bit and then come back and be prepared to  
17          make a motion, but I'd like some comments on  
18          whether you would like to do that or proceed at  
19          this point with some action. Wanda Munn.

20          **MS. MUNN:** I had hoped that your fourth option  
21          would be lunch. Clearly this is not going to  
22          be a closure that's reached in a matter of five  
23          or ten minutes. This will be a discussion that  
24          will be of significant time constraint, I  
25          think. Pushing past the lunch hour to

1           undertake that probably is not wise for us.

2           **DR. ZIEMER:** Other comments?

3                               (No responses)

4           What is your pleasure, Board members? You want  
5           -- you want to continue now or -- our lunch  
6           break was scheduled for 11:45 so we're into  
7           that hour. You're too numb to react? Is that  
8           --

9           **MR. PRESLEY:** Let's go eat lunch.

10          **DR. ZIEMER:** Okay. Well, that gives the Chair  
11          the prerogative then, if no one has any  
12          particular opinions, we'll go with mine.

13          That's the way it works, you know. Let us take  
14          a one-hour lunch break and come back. We will  
15          continue deliberations on the Rocky Flats  
16          petition, and we will adjust the other items on  
17          the agenda accordingly. So those will slide  
18          back in-- into place. So thank you all. We  
19          will reconvene as quickly as we can after 1:00  
20          o'clock, probably about 1:15. Thank you very  
21          much.

22                               (Whereupon, a recess was taken from 12:15 p.m.  
23                               to 1:35 p.m.)

24          **DR. ZIEMER:** If you would take your seats,  
25          we'll try to come to order, please.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

(Pause)

Thank you very much. I'll declare the meeting to be back in order. Before we continue our deliberations, I -- I have received a hand-carried letter from Governor Bill Ritter. I'd like to read this rec-- letter into the record. The record -- the letter says (reading) In care of: Paul Ziemer, Chairman; Lewis Wade, Executive Secretary; and members of the Advisory Board on Radiation and Worker Health, Regarding Rocky Flats United Steel Workers of America, Local 8031, Special Exposure Cohort petition. Dear Drs. Ziemer and Wade and members of the Advisory Board: I am writing today to join in and endorse the letter you received yesterday from the entire Colorado Congressional delegation seeking justice for the Special Exposure Cohort petition of the former Rocky Flats workers. That letter compellingly documents the reasons why this petition should be granted. Simple fairness dictates that give these workers the benefit of the doubt in light of their exposure to radioactive materials, beryllium and silica. In an ideal world, the Department of Energy

1 would have maintained comprehensive and useful  
2 dose records. In the absence of such records,  
3 and given adequate time, perhaps NIOSH could  
4 adequately reconstruct dose and exposure  
5 records and calculate likely health  
6 consequences. But as you know, this is far  
7 from an ideal world. The dose monitoring  
8 records and other data accumulated at Rocky  
9 Flats were, in too many circumstances, less  
10 than adequate to the task at hand. NIOSH's  
11 efforts to reconstruct doses and exposures have  
12 encountered methodological and data challenges  
13 and have dragged out far too long.

14 Mr. Chairman, working together with the State  
15 of Colorado and the federal government --  
16 working together, the State of Colorado and the  
17 federal government made dramatic and even  
18 unprecedented progress in cleaning up the Rocky  
19 Flats site and converting much of that site to  
20 a wildlife refuge. Surrounding property owners  
21 are moving forward in their efforts to be  
22 compensated for the damage done to their  
23 properties by releases of radioactive  
24 materials. One enormous task remains  
25 unfinished, and it is the task with -- with by

1 far the greatest human element. It is time,  
2 far past time, that fair compensation is  
3 provided to the people who worked and toiled at  
4 Rocky Flats on behalf of a great national  
5 purpose, and who may have been stricken as a  
6 result of their work.

7 I urge you in the strongest possible terms to  
8 act promptly on the Rocky Flats special  
9 exposure petition.

10 Respectfully, Bill Ritter, Jr., Governor.

11 Now Board members, you've had time to cogitate  
12 over your lunch, brief as it may have been, and  
13 I'd like to urge that we take action on the  
14 proposal that is before us. The Chair  
15 recognizes Jim Melius.

16 **DR. MELIUS:** I'd like to offer a --

17 **DR. ZIEMER:** Get -- get closer to the mike,  
18 Jim.

19 **DR. MELIUS:** Yeah, I will. Can you hear me  
20 now?

21 **DR. ZIEMER:** Yes.

22 **DR. MELIUS:** Yeah. I'd like to offer a general  
23 motion that would cover two separate steps.  
24 The first was I believe that, based on the  
25 reports we received and the discussions we had

1 earlier, Mark's presentation, the SCA reports  
2 and so forth, that we should move forward  
3 approving a Special Exposure Cohort for the  
4 people exposed to neutrons or who should have  
5 been monitored for neutrons from 1952 through  
6 1958; that --  
7 Number two, that we need further review on  
8 three particular issues that, again, were  
9 discussed this morning and which would be  
10 requesting that NIOSH come back to us with  
11 further information; that we -- also that we  
12 work with our contractor, SC&A, to evaluate  
13 three separate issues. One is the neutron  
14 exposure from 1959 to '70. Second I believe is  
15 the exposures in I believe it's Building 81.  
16 And then third is this issue of thorium  
17 exposures and some related nuclides that -- in  
18 -- in some areas of the facility. All those  
19 are where there -- involve where there's some  
20 monitoring data, but we really haven't had an  
21 adequate evaluation of whether that data is  
22 sufficient for use for individual dose  
23 reconstruction.  
24 I would propose that we -- for the latter three  
25 that we try to move that along as quickly as

1 possible. I understand the timeliness issues.  
2 And that, if possible -- and I -- this may be a  
3 question for NIOSH to consider -- is that --  
4 try to get that work done and that we, at our  
5 next Board meeting, would be I believe  
6 scheduled for June 12th, that we have that  
7 meeting to -- a person -- in-person meeting  
8 rather than a telephone meeting, to consider  
9 those three issues.

10 **DR. ZIEMER:** You've heard the motion. Is there  
11 a second?

12 **MR. CLAWSON:** (Off microphone) (Unintelligible)

13 **DR. ZIEMER:** There is a second, Brad Clawson.  
14 Let me ask for a clarification. The first part  
15 of your statement you referred only to  
16 individuals exposed to neutrons. I assume that  
17 we're talking about all individuals who were  
18 monitored or should have been monitored --

19 **DR. MELIUS:** Yeah, I should have --

20 **DR. ZIEMER:** -- in that period --

21 **DR. MELIUS:** Yeah.

22 **DR. ZIEMER:** -- not just those exposed --

23 **DR. MELIUS:** Right, right --

24 **DR. ZIEMER:** -- to neutrons.

25 **DR. MELIUS:** -- yeah, yeah, yeah.

1           **DR. ZIEMER:** Okay. Let me also add that,  
2           should this motion carry, I'm going -- I will  
3           ask that the mover re-- reconstitute the motion  
4           to put it in the usual form that would make it  
5           useful to send forth to the Secretary, which  
6           specifies that -- for example, that the  
7           Chairman take certain actions within 30 days  
8           and -- and we have some sort of standard,  
9           boilerplate language that has to go forward, so  
10          we -- I would ask for a formal rewording of  
11          that, but this gives at least the intent of  
12          what the motion would be.

13          **DR. MELIUS:** Correct, and I would propose that  
14          we do that -- the second part, should this  
15          Board agree on this, that we would do that  
16          tomorrow morning and we would work on -- this  
17          afternoon and tonight work on a specific letter  
18          with the justifications and the format that's  
19          required.

20          **DR. ZIEMER:** Okay. Now should -- should this  
21          motion pass, my understanding is that we would  
22          proceed to make the recommendation for the  
23          Special Exposure Cohort status for the early  
24          group immediately; that the other group time  
25          frames -- and actually I think you've only

1 spoken to addressing issues dur-- for the time  
2 frame up to '70, you haven't said anything be--  
3 beyond '70, but that would, by implication,  
4 have to be addressed, as well.

5 **DR. MELIUS:** Yeah.

6 **DR. ZIEMER:** What this would do would be to  
7 postpone action for approximately one month on  
8 the rest of the time frame until I -- I believe  
9 it would be proof of principle on the dose  
10 reconstructions for the neutrons, or was it for  
11 the thorium?

12 **MR. GRIFFON:** Those three items.

13 **DR. ZIEMER:** Oh, neutrons, thorium and the  
14 other issues, okay.

15 **MR. GRIFFON:** And 881.

16 **DR. ZIEMER:** And 881 -- is it 881?

17 **MR. GRIFFON:** Yeah.

18 **DR. ZIEMER:** Okay. Discussion. Dr. Roessler.

19 **DR. ROESSLER:** I was so concentrating on the  
20 first part, which you now clarified, that I  
21 didn't really get all the points in your second  
22 part. So my question is, with regard to  
23 procedure, are we going to -- before we vote --  
24 see this written so that we can fully  
25 understand it? Or are we going to be required

1           -- if we're going to be required to vote right  
2           now, I need to have Jim go over that second  
3           part again.

4           **DR. ZIEMER:** We'll ask for a rereading of this  
5           in a moment. Other comments?

6           **DR. WADE:** Well, I -- I would like to just get  
7           clarification on the first part of the motion  
8           relative to monitored or should have been  
9           monitored. Are we talking about neutron dose  
10          or what are we talking about?

11          **MR. GRIFFON:** Monitored or should have been  
12          monitored for neutron exposures, yeah.

13          **DR. MELIUS:** Right.

14          **DR. WADE:** Okay, for neutron exposures.

15          **MR. GRIFFON:** Yeah. Was that not what...

16          **DR. ROESSLER:** I'm still not clear on that.  
17          Does that mean then the whole population of  
18          workers during that time period, or is there  
19          some way to determine which workers should have  
20          been monitored for neutrons? I think that's  
21          the big question on that one.

22          **MR. GRIFFON:** Yeah, I -- I guess I was trying  
23          to avoid defining by various buildings, but --  
24          you know, that may be possible, but I was  
25          trying to avoid -- you know, basically not

1 charging the Board with doing that, but having  
2 that be determined by NIOSH. But I don't know,  
3 to the extent we can specify, I guess -- I'm  
4 not sure how we want to go on that.

5 **DR. WADE:** Well, you know, the Board has  
6 adopted its procedures of sort of passing a  
7 motion in principle and then reviewing it that  
8 night and consulting in fact with the  
9 Department of Labor as to how these issues  
10 might be adjudicated. So I think that's  
11 appropriate to do here. I don't know that this  
12 issue's been broached yet with the Department  
13 of Labor.

14 **DR. ZIEMER:** Okay. Wanda Munn.

15 **MS. MUNN:** Unless I'm mistaken, the working  
16 group had general consensus with respect to  
17 this cohort that exists from 1952 to 1959,  
18 although it is not clear that any meaningful  
19 worker exposure could have occurred during  
20 1952. That being the case, then there still is  
21 confusion, from my perspective, with respect to  
22 why we're focusing specifically on neutrons.  
23 It would appear to me that since one of our key  
24 arguments was there were very few actual  
25 records that were available because very few

1 people were monitored for anything during that  
2 early period, why are we specifying neutrons?  
3 My other question is, if we are in fact going  
4 to delay the vote on our post-'58 cohort, and  
5 we're doing so ostensibly to ask for proof of  
6 principle from NIOSH, must we not be very clear  
7 with respect to our directions to NIOSH as to  
8 what we will and will not accept as proof of  
9 principle? Must not that be a basic part of  
10 our motion here?

11 **MR. GRIFFON:** I can respond to that --

12 **DR. ZIEMER:** Yeah.

13 **MR. GRIFFON:** I -- I can respond to the first  
14 part. The -- we're focused on neutrons because  
15 we -- we did not find that there was a  
16 deficiency with regard to bioassay data for  
17 those early time periods, and in fact they do  
18 have gamma data -- penetrating measurements.  
19 That's sort of how they had -- neutron/photon  
20 ratio has to be multiplied by something. It  
21 was the gamma results from those early periods,  
22 so they did have more monitoring, it's just  
23 that they had very little neutron data. That  
24 was the -- so -- so it is targeted on neutrons,  
25 I think limited to neutrons.

1           **DR. ZIEMER:** So as this has been defined, the  
2 special cohort status would be restricted to  
3 individuals, perhaps in certain locations, for  
4 whom neutron monitoring should have been or was  
5 -- or should have been provided, but would not  
6 provide special cohort status for others on the  
7 site during that period if they were not in the  
8 identified areas. Is that the correct  
9 understanding?

10          **MS. MUNN:** So again, aren't we going to have to  
11 be very specific with respect to what those  
12 buildings are and what those areas are when we  
13 make this kind of designation?

14          **MR. GRIFFON:** Well, I -- I guess that's the  
15 question I would -- I would say what Lew says  
16 is that, you know, if we need to be more  
17 specific to allow DOL to adjudicate, then we  
18 can do it. I -- I just didn't -- I didn't have  
19 a -- a complete listing and I didn't want to  
20 miss any buildings, so I said -- the easier way  
21 for me to define it right now, just for our  
22 discussions, was to say "monitored or should  
23 have been monitored". I didn't want to miss  
24 any building or anything, so -- but we can --  
25 you know.

1           **DR. ZIEMER:** But the practical question will --

2           **MR. GRIFFON:** Yeah.

3           **DR. ZIEMER:** -- arise in specific cases as to  
4 how will DOE --

5           **MR. GRIFFON:** Right.

6           **DR. ZIEMER:** -- not DOE, DOL identify whether  
7 or not a worker was or should have been  
8 monitored for neutrons. I suppose that would  
9 fall back on the NIOSH report then, would it  
10 not? Would they iden--

11          **DR. WADE:** I don't want to speak for DOL.  
12 Jeff, do you want to run the risk of standing  
13 before us and talking about this?

14          **DR. ZIEMER:** We'll hear -- hear from DOL, but I  
15 can anticipate that that would be a difficult  
16 question unless we provided some sort of  
17 information on what parts of the site this  
18 covered.

19          **MR. KOTSCH:** Yeah, I'm not certain. I haven't  
20 seen their information if you could put it by  
21 building, but then I don't know how you  
22 determine that people were in that building if  
23 they -- I don't -- is there a lot of bioassay  
24 data for that period of time that would put  
25 people in buildings?

1           **MR. GRIFFON:** They -- they -- they -- well,  
2 they have work history cards -- I mean I'll let  
3 Brant respond to that maybe, behind you, but...

4           **DR. ULSH:** As I understand the status of your  
5 discussions, the part of the NDRP that is under  
6 question has to deal with the methods that were  
7 used to estimate doses from '52 to '58. What  
8 the Neutron Dose Reconstruction Project  
9 provides, aside from that -- from the methods  
10 of estimating neutrons -- is a very fine cohort  
11 in that it included people in the plutonium  
12 buildings who were at risk of neutron exposure.  
13 So all of the buildings where people at Rocky  
14 Flats could have received neutron exposures  
15 were considered explicitly in the NDRP. That  
16 would be --

17           **MR. GRIFFON:** See, that -- that -- I wasn't  
18 ready to take -- that next step was -- I wasn't  
19 sure that NDRP had included every building that  
20 could have had neutron exposures, so I wanted  
21 to at first define it more broadly saying --  
22 and then make sure we get the full list of --

23           **DR. ULSH:** Okay.

24           **MR. GRIFFON:** -- buildings with that potential.  
25 And how we define that I think it -- it's

1           either defined by the Board or --

2           **DR. ULSH:**    Okay.

3           **MR. GRIFFON:**  -- you know.

4           **DR. ULSH:**  Would you be looking for action from  
5           NIOSH on that to provide a list of those  
6           buildings, or -- or --

7           **DR. MELIUS:**  Well, I -- I think we need to have  
8           some discussion, if I can speak to this.  One  
9           is my understanding from our last discussion  
10          with Pete Turcic about this general issue a few  
11          Board meetings ago was that it -- it appeared  
12          to be better that -- to have this "monitored or  
13          should have been monitored" was a more workable  
14          approach in most instances, not all instances,  
15          but in most instances that seemed to be more  
16          workable than -- than a building by building  
17          issue, for some of the reasons that have been  
18          stated.  But I -- I think that we need to sit  
19          down and talk about that a little bit and would  
20          offer something more specific tomorrow for --  
21          for consideration.  I also -- in response to  
22          what -- Wanda's comment, second comment about  
23          the proof in prin-- of principle and the  
24          follow-up.  What I would propose is that we  
25          would offer up a -- a more fleshed-out motion

1           tomorrow that would be more -- as specific as -  
2           - I won't -- well, more specific about what  
3           would be expected back. I -- I -- I think  
4           there's -- hard to be, you know, too precise  
5           about that, but I -- I think we can make  
6           something that's more clearly understandable by  
7           everybody involved so that when we come here --  
8           come back on June 12th to discuss it, that it  
9           can be -- will be addressed by that time,  
10          hopefully.

11          **DR. ZIEMER:** Thank you. Other comments? Okay,  
12          Phil.

13          **MR. SCHOFIELD:** I think we need to leave a  
14          little broader than --

15          **UNIDENTIFIED:** We can't hear you.

16          **DR. ZIEMER:** Use your mike.

17          **MR. SCHOFIELD:** I think we need to leave it a  
18          little broader than just specifying certain  
19          buildings because until we can actually prove  
20          people were not in those buildings, rather than  
21          having each individual -- a lot of these  
22          claimants are doing this for loved ones who  
23          have already passed on, and they're not going  
24          to be able to say well, we know they were in  
25          Building 770 or 881. Rather, we need to leave



1 Dr. Roessler, did you want Dr. Melius to read  
2 that motion again -- or Dr. Melius, are you  
3 prepared to -- to reread the motion or not?

4 **DR. MELIUS:** Yeah, I can. I'll be glad to.

5 The motion would be that we would move ahead  
6 and approve an -- as -- to add to the SEC those  
7 people that worked at the Rocky Flats site from  
8 1952 through 1958 that were monitored, or  
9 should have been monitored, for neutron  
10 exposure.

11 And the latter part of that would need to be --  
12 we need to talk to NIOSH and -- and to DOL,  
13 make sure that that's the right way to  
14 essentially def-- define the class.

15 Then secondly, there are three areas that we  
16 need to get further information from NIOSH,  
17 basically demonstration that areas that they  
18 believe can -- they -- they have adequate  
19 information to do dose reconstruction but have  
20 not demonstrated that adequacy of that data to  
21 us or to our workgroup yet. Those are the 1959  
22 through 1970 for neutron exposure. There's a  
23 building 81 issue and, as I understand it, an  
24 issue with exposures to thorium in certain  
25 areas of the facility. All three of those --

1           there are some monitoring data, but that data  
2           is not -- been evaluated in the sense of -- of  
3           being -- showing that it is adequate for doing  
4           individual dose reconstruction -- asking that  
5           that information be brought back to our next  
6           workgr-- or next Board meeting and for -- for  
7           further consideration, and we'll have to make a  
8           determination whether that data is adequate or,  
9           if it is not adequate, then whether -- adequate  
10          for dose recon-- individual dose  
11          reconstruction, as to whether additional groups  
12          should be added to the Special Exposure Cohort.

13         **DR. ZIEMER:** Dr. Roessler, did that clarify the  
14          points for you or do you still have questions  
15          on --

16         **DR. ROESSLER:** I -- I understand everything  
17          except -- tell me about Building 81.

18         **DR. MELIUS:** Mark, can you help me?

19         **MR. GRIFFON:** Building 81 -- actually what we  
20          found was that workers were not monitored in  
21          the early period, actually up to 1960, so there  
22          was a question about back-extrapolating to  
23          determine -- being able to bound external doses  
24          for that early period. We -- we've also heard  
25          today -- the only -- and this is my -- also

1 reluctance to further define the buildings for  
2 neutron exposures, but we've heard today -- and  
3 which was brought to us before, but we probably  
4 -- may have overlooked it, the use or potential  
5 use of plutonium in that building. So I think  
6 we should also evaluate -- make sure that, you  
7 know, there's not other things going on in that  
8 building that might affect our outcome, as  
9 well.

10 **DR. ZIEMER:** Wanda?

11 **MS. MUNN:** We did however in the workgroup  
12 identify the fact that the first plutonium  
13 arrived in Building 81 in 1983. At some  
14 juncture during our deliberations we defined  
15 that.

16 **MR. GRIFFON:** 198-- I don't recall that, so --  
17 but you know, I just asked that we -- we might  
18 want to consider closing that out. If that's  
19 been closed out, that's -- I accept that, but  
20 it was brought up today so I just wanted to  
21 make sure we --

22 **MS. MUNN:** (Off microphone) (Unintelligible)  
23 '53.

24 **DR. ZIEMER:** Dr. Roessler?

25 **DR. ROESSLER:** Okay, one more clarification. I

1 think your motion indicated that we would meet  
2 face-to-face on June 12th rather than  
3 teleconference. My schedule is kind of  
4 difficult to do that, but I think we should get  
5 a feeling from other people on the Board how  
6 many of us could actually do that.

7 **DR. ZIEMER:** Okay. You -- you all presumably  
8 have blocked some time out for a face-to-face -  
9 - or for a -- at least a phone call meeting --

10 **DR. ROESSLER:** But not traveling.

11 **MR. GRIFFON:** We might -- we might want to look  
12 at potential other dates because I'm just  
13 thinking -- I'd hate to be in the same position  
14 where we have a report one day before, or the  
15 same day, and we're giving it to the  
16 petitioners and all interested parties. We  
17 want to be able to do that in advance, so I  
18 don't want to be in this, you know, position  
19 again. And June 12th -- by the time we get the  
20 workgroup back together and work on these  
21 issues, you know -- comes up kind of quickly.

22 **DR. ZIEMER:** Other comments? Again I remind  
23 the Board that if -- if you pass this motion,  
24 you also are extending the -- the issue  
25 further, but that's -- that is certainly an

1 option that's open. It closes part of it and  
2 keeps part of it open, in effect. And I think,  
3 Mike, that's what you were speaking against at  
4 that point.

5 Other comments? Board members, just -- this is  
6 not on the main motion, but if the motion pass,  
7 how many of you are prepared to meet in person  
8 on June -- is it June 12th?

9 **MS. MUNN:** It was June 12th, but I think that  
10 ought to depend largely on whether or not NIOSH  
11 can get the requested information back, as --  
12 as Mark said.

13 **DR. ZIEMER:** And I don't know if anyone from  
14 NIOSH is prepared to make a commitment on that  
15 today. Brant is sort of moving -- he's -- he's  
16 deliberating with Jim Neton, I think, and --  
17 kind of put -- put them on the spot, as well,  
18 Brant and...

19 **DR. ULSH:** Could -- on the second part of Dr.  
20 Melius's motion about additional clarification  
21 that you would like to see, could we get a  
22 little better feel for what kind of a product  
23 you're asking for from NIOSH on those three  
24 issues -- thorium, Building 81 prior to 1960,  
25 and I believe neutrons after 1958.

1           **MR. GRIFFON:** Yeah, I think we -- should we  
2           flesh that out tonight? I think that -- you  
3           know, I -- generally we're looking for that  
4           proof of principle question, but I think Wanda  
5           has already asked that we might want to be  
6           clear in exactly what we're looking for there,  
7           and maybe just -- you know, just discuss  
8           schedule tomorrow morning or whatever, but --

9           **DR. WADE:** We could leave schedule till  
10          tomorrow morning.

11          **DR. ZIEMER:** Well, unless we know -- unless  
12          NIOSH knows what we're talking about, they  
13          would be very, I think, reluctant to commit to  
14          a timetable, number one. Number two, unless we  
15          spell it out, we've just added uncertainty to  
16          the -- to the system. So I want to press the  
17          Board a little bit. We need to have some  
18          clarity here if -- if this is to be the -- the  
19          case, we need to be very clear on what is to be  
20          expected, what the Board product will be --  
21          again, I don't want to drag this on. I don't  
22          want to come back in a month and say well, we  
23          need another month or whatever it is.

24          **MR. GRIFFON:** Right.

25          **DR. ZIEMER:** I think the -- the timeliness

1 issue is upon us. Mike's point is well taken,  
2 and if -- if we are to delay, we have to have a  
3 good reason with an expected outcome that we  
4 will be able to make a decision then -- within  
5 a few weeks. The Chair certainly can tolerate  
6 that, probably more so than the workers, but --  
7 but we simply need to move ahead on this, so --  
8 **MR. GRIFFON:** I'd just ra-- I'd just rather try  
9 to write something out than try to describe,  
10 you know -- I'd rather put a little thought  
11 into it and write it out and provide it  
12 tomorrow morning, if that's okay, rather than  
13 just trying to do it ad hoc here around a  
14 table.

15 **DR. ZIEMER:** Okay. Now let me now suggest a  
16 strategy then, Board members. You have a  
17 motion. We've had some discussion. We've had  
18 -- the Chair's trying to get a sense of the  
19 level of support for this motion, because if  
20 there's not a lot of support, then we need to  
21 defeat it and move on. If there is some  
22 support, then I'm going to suggest that we  
23 table the motion and get the wording defined  
24 for action tomorrow morning. I think Mike has  
25 spoken against the motion. Phil, do you have a

1 comment?

2 **MR. SCHOFIELD:** Yes, I've got just one comment.  
3 On the timeliness issue, we need to set a  
4 deadline where we give these people either a  
5 yes or no answer instead of dragging this on  
6 and on and on.

7 **DR. ZIEMER:** Okay, precisely my point. Thank  
8 you, Phil.

9 Others? Anyone wish to speak for or against  
10 the motion? I think it would be helpful to get  
11 some idea of the level of support here. That  
12 will help us...

13 **MR. GIBSON:** Dr. Ziemer?

14 **DR. ZIEMER:** Mike, another comment, then Wanda  
15 Munn.

16 **MR. GIBSON:** Yeah, I'd just like to point out,  
17 you know, we're -- looks like we're in a way  
18 marching down a path to ask NIOSH to go back to  
19 the well and -- and do something else, when in  
20 Section 8.0 of their SEC evaluation report  
21 they've said that they have enough information  
22 to determine it is feasible to estimate the  
23 dose with sufficient accuracy for this class.  
24 So if that information is available to them, in  
25 their opinion, you know, why -- why should we

1 give them more time to go back and then try to  
2 come up with some other information?

3 **DR. ZIEMER:** Thank you. Wanda.

4 **MS. MUNN:** Anything that requires a further  
5 postponement of this issue is difficult for  
6 everyone concerned. It's difficult for every  
7 single one of these petitioners, and it's  
8 difficult for everyone sitting at this table.  
9 And I think, from what we have heard today from  
10 Congressional staff, the Senator and from the  
11 Governor, they are quite eager to get on with  
12 this.

13 NIOSH has said that they are capable of doing  
14 these -- these dose reconstructions, and we  
15 have an abundance of evidence that they can and  
16 have in the past done so. I personally would  
17 like to see us make a definitive decision one  
18 way or the other today, if we can possibly do  
19 so. I understand the concern with respect to  
20 establishing precedent and proof of principle,  
21 but the proof of principle with respect to  
22 every other aspect of these dose  
23 reconstructions has been shown to us  
24 repeatedly, especially in the working group, on  
25 more than one occasion. I would prefer to see

1 the vote on the entire SEC request done today,  
2 segmented or not.

3 **DR. ZIEMER:** Thank you. Jim Melius and then  
4 Gen Roessler.

5 **DR. MELIUS:** No, I'll -- I don't have any  
6 comments right now.

7 **DR. ZIEMER:** Okay. Gen?

8 **DR. ROESSLER:** I think as a Board, we have  
9 mostly been able to reach consensus or close to  
10 consensus on many things, and I think at this  
11 point I see the Board fairly divided on this  
12 issue. If we were to vote today on the whole  
13 petition, I think we'd be divided. Plus we're  
14 missing one Board member. I think that this is  
15 a -- I -- I don't like to see the people in  
16 this area put off for a while, but I think we  
17 can reach a fair decision if we do allow a  
18 little more time, so I -- I'm willing to vote  
19 in favor of Jim's motion.

20 **DR. ZIEMER:** Other comments? Mark?

21 **MR. GRIFFON:** Reluctantly. I think -- I just  
22 want to remind fellow Board members that our --  
23 our SEC procedures do ask for this proof of  
24 principle. You know, we -- we say that we will  
25 look at this, so you know, when -- and then

1           there -- there -- there is a -- I guess there's  
2           a difference between do they have the  
3           information -- you know, NIOSH'll probably say,  
4           in the case of the neutron issue, they have the  
5           information, but they haven't necessarily shown  
6           us how they're going to mo-- so we're asking --  
7           well, show us how it's going to work and how  
8           it's going to be bounding. I think their  
9           evaluation report was -- was stating that they  
10          had the information available, but -- you know,  
11          so we -- and that's specifically why we wrote  
12          those procedures that way, because we said  
13          well, you know, that's kind of a -- there's a  
14          lot in the middle there, and we want to sort of  
15          see how this is going to work and -- and give  
16          ourselves assurances that we're going to be  
17          able to bound doses for all members of the  
18          class. So I -- I think we have to remember  
19          that that is in our own procedures and, to that  
20          extent, I think we should, you know, follow our  
21          own procedures.

22          **DR. ZIEMER:** Dr. Lockey.

23          **DR. LOCKEY:** I -- I've -- I think this working  
24          group and Mark in particular have put an  
25          extensive amount of time into the Rocky Flat

1 issue and a very complex exposure situation, no  
2 doubt about it. I think NIOSH has put in an  
3 extensive amount of time, as has our consulting  
4 group. I think that I would support Jim's  
5 motion in that if we can get this done  
6 relatively quickly, within 30 days,  
7 particularly under the direction of Mark and  
8 how knowledgeable he is in this -- in this  
9 particular situation, it's worth that 30 days.  
10 I don't think it's worth any longer than that,  
11 but I think it's worth that 30 days.

12 **DR. ZIEMER:** Okay. Other comments, pro or con,  
13 in support or in -- in opposition to the motion  
14 that's before us?

15 **MS. THOMPSON:** (From the audience and off-  
16 microphone) (Unintelligible)

17 **DR. ZIEMER:** Now since we -- we don't have the  
18 exact wording, you can -- I can ask the Board  
19 if you wish to have what we might call a straw  
20 vote, with the understanding the final wording  
21 would come back for review. Or we can table.

22 **MS. THOMPSON:** (From the audience and off  
23 microphone) (Unintelligible) decide.

24 **DR. ZIEMER:** Do you wish to vote now on the  
25 motion as it's been presented, Board members?

1 (Whereupon, multiple Board members responded  
2 simultaneously.)

3 **DR. ZIEMER:** Okay, we will vote by a show of  
4 hands. Those who favor the motion, raise your  
5 right hand.

6 (Affirmative responses)

7 One, two, three, four, five, six, seven.

8 Opposed, raise your hand?

9 (Negative responses)

10 One, two, three.

11 So the motion carries by a vote of seven to  
12 three. We will have a final wording of that  
13 motion, the refined wording which would be in a  
14 form that could go forward to the Secretary,  
15 tomorrow for a final review. That wording  
16 would specify that the 1952 to '58 period -- it  
17 would recommend that that group become part of  
18 the Special Exposure Cohort; it would recommend  
19 that proof of principle on those identified  
20 items be provided within basically one month by  
21 NIOSH and that we would be committed to voting  
22 up or down on the rest of those time periods  
23 within one month. Okay?

24 Yes, a comment from the petitioner.

25 **MS. THOMPSON:** With all due respect, we came

1 here today wanting a vote on the petition as a  
2 whole. Okay? It is clear that the law is not  
3 being followed. The law states that as the day  
4 we submitted the petition could you or could  
5 you not accurately reconstruct dose. I think  
6 you have proven, by all the changes that have  
7 been made, the new models and everything, that  
8 you could not accurately reconstruct dose, or  
9 NIOSH could not -- excuse me, I'm not blaming  
10 the Board -- NIOSH could not accurately  
11 reconstruct dose at that point in time. This  
12 delay is unacceptable to the people that are  
13 dying, and I will defer to my previous  
14 statement that our workers should not have to  
15 fight with the government when they're fighting  
16 for their lives. The purpose of this  
17 legislation was to grant timely and fair  
18 compensation to our workers. These models are  
19 not tested, they're not proven, they're not  
20 tried, they're not true. It's science and it -  
21 - the question is not at some future day can  
22 NIOSH reconstruct dose, although I'm not sure  
23 they ever can do it accurately. This has gone  
24 on long enough. Please vote.

25 **DR. ZIEMER:** Thank you. The vote has been

1 recorded. We will review the wording tomorrow,  
2 and then we will plan to meet again -- we will  
3 try to make an effort to have that meeting here  
4 in one month, if we can make the arrangements.

5 **UNIDENTIFIED:** (From the audience and off  
6 microphone) (Unintelligible)

7 **DR. ZIEMER:** Thank you very much. We -- we're  
8 going to move on to our next agenda item. I'll  
9 allow -- this is one of the petitioners. We'll  
10 allow an additional comment here.

11 **MR. HARDEN:** Sir, with all due respect, if this  
12 is prolonged, I would ask that the petitioners  
13 have a chance to rebut some of the information  
14 that has occurred this afternoon. For  
15 instance, we haven't had access to this report  
16 that was just revealed today.

17 **DR. ZIEMER:** Right.

18 **MR. HARDEN:** And the other thing I would do is,  
19 in support of Jennifer Thompson, I think this  
20 has developed into some kind of a charade and  
21 that -- that's not a reflection on you as  
22 individuals. It's a collection of information  
23 that we've suffered for two years, and I think  
24 it's long overdue that we put these intellects  
25 in their places and we bring a decision to

1           these folks that have been waiting by the  
2           sidelines all these months and years to have  
3           their claims answered one way or another.

4           **DR. ZIEMER:** Thank you.

5           **MR. HARDEN:** Thank you for the opportunity.

6           **UNIDENTIFIED:** Could I just ask a point of  
7           clarification? Did you just vote against the  
8           majority of the petition or not?

9           **DR. ZIEMER:** No, we --

10          **UNIDENTIFIED:** Or did you just postpone the  
11          majority of the petition?

12          **DR. ZIEMER:** -- we -- the vote was in favor of  
13          the motion. The motion was to grant -- or to  
14          recommend SEC status for the period of 1952 to  
15          '58 and to defer action on the -- the remaining  
16          time periods for one month until we could get  
17          the proof of principle information from NIOSH,  
18          at which time --

19          (Whereupon, multiple audience members spoke  
20          simultaneously.)

21          **DR. ZIEMER:** The rest of those time periods.  
22          The recommendation is to include '52 to '58, to  
23          recommend that time period as part of the  
24          Special Exposure Cohort.

25          **UNIDENTIFIED:** The motion has three specific

1 issues in the second part for the post-1958, so  
2 are you limiting the discussion to those three  
3 specific issues, are you -- and saying  
4 everybody else is out, or not? I don't think  
5 people here understand what you just did.

6 **DR. ZIEMER:** Okay, let -- let me try to  
7 clarify.

8 **UNIDENTIFIED:** For the post-'58, I don't think  
9 they understand whether you've rejected most of  
10 them or you're only going to look at those  
11 three issues, or is the whole post-'58 still  
12 open for discussion?

13 **DR. ZIEMER:** Oh, the whole post-'58 is open,  
14 but those are the issues that the Board needs  
15 closure on. I think we're clo-- we have  
16 closure on the other items. Those are the  
17 issues that the Board has not -- has asked for  
18 additional clarification from, so those other  
19 time periods -- we're not recommending that  
20 they not be included. We're simply saying we -  
21 - we will vote on those in one month. The  
22 first period -- the Board has recommended that  
23 that period be added to the Special Exposure  
24 Cohort.

25 Did -- did -- is that clear, or did I not say

1           that very well?

2           **MR. GRIFFON:** I guess -- I guess to -- out of  
3           tho-- out of those three follow-up items that  
4           we have, the only -- the -- the neutrons extend  
5           from '59 through '70, that issue. The -- the  
6           881 is an early time period issue, pre-1960.  
7           The thorium one would potentially affect the  
8           entire time frame of the site. So I think, to  
9           that extent, the entire time per-- period's  
10          left op-- open, but only really with regard to  
11          thorium in this case. I think that's -- to be  
12          clear, you know.

13          **UNIDENTIFIED:** (From the audience and off  
14          microphone) What about (unintelligible)?

15          **UNIDENTIFIED:** (From the audience and off  
16          microphone) Case by case.

17          **MR. GRIFFON:** I -- I just said post-1970,  
18          thorium still is potentially an exposure  
19          potential, so we have to see proof of principle  
20          on the thorium. We've asked for that, yeah.

21          **UNIDENTIFIED:** (From the audience and off  
22          microphone) (Unintelligible)

23          **DR. ZIEMER:** Okay. Dr. Roessler, a comment?

24          **DR. ROESSLER:** I think we have members of the  
25          press here who will want to meet some deadlines

1           for today and not wait for these details for  
2           tomorrow, and I'm not sure that they're clear  
3           on that first period. I think we said for  
4           those workers who were monitored or should have  
5           been monitored for neutrons, so it could mean  
6           it's not the whole group.

7           **MR. GRIFFON:** That's correct.

8           **UNIDENTIFIED:** (From the audience and off  
9           microphone) (Unintelligible)

10          **UNIDENTIFIED:** (From the audience and off  
11          microphone) (Unintelligible)

12          **UNIDENTIFIED:** I'm from Associated Press and I  
13          would like to know how you decide who should  
14          have been monitored and who was monitored. Can  
15          I simply declare that I worked in building 771  
16          and therefore qualify, or is NIOSH or somebody  
17          else going to decide whether I should have been  
18          monitored or whether I was monitored?

19          **DR. ZIEMER:** Okay. Yeah, Mark, can you clarify  
20          that for us? You can't right now, but --

21          **MR. GRIFFON:** No -- yeah.

22          **DR. ZIEMER:** -- it will be part of what we  
23          provide, because we have to provide that same  
24          information to the Department of Labor to  
25          administer this. So the likelihood is it will

1 relate to building locations, is my  
2 understanding.

3 A question here.

4 **UNIDENTIFIED:** I'm from the *Rocky Mountain*  
5 *News*. I'd like to clarify whether the thorium  
6 issue can apply to everyone or just certain  
7 people who worked with thorium.

8 **MR. GRIFFON:** Just -- just certain people who  
9 worked with thorium, and that's correct, yeah.

10 **UNIDENTIFIED:** (From the audience and off  
11 microphone) (Unintelligible)

12 **MR. GRIFFON:** Just the individuals who have  
13 worked with thorium, yeah.

14 **UNIDENTIFIED:** So the effect of this vote is  
15 you've excluded almost everyone. Is that  
16 right?

17 **UNIDENTIFIED:** (From the audience and off  
18 microphone) You can't prove (unintelligible).

19 **UNIDENTIFIED:** I think they want to know the  
20 answer to that question --

21 **UNIDENTIFIED:** (From the audience and off  
22 microphone) (Unintelligible)

23 **UNIDENTIFIED:** -- on how you voted.

24 **MR. GRIFFON:** Well --

25 **DR. ZIEMER:** Well, right now the periods from

1 '59 onward are not acted upon. They are  
2 deferred till the next meeting. The issues  
3 will be individuals who were exposed -- or were  
4 monitored or should have been monitored for  
5 neutrons, so that's a -- probably a large  
6 number of people, individuals exposed to  
7 thorium, and then the -- the building 81 issue,  
8 so --

9 **MR. GRIFFON:** Yeah.

10 **UNIDENTIFIED:** (From the audience and off  
11 microphone) How are you going to  
12 (unintelligible) the contractors are  
13 (unintelligible) documentation (unintelligible)  
14 prove you were out there?

15 **UNIDENTIFIED:** (From the audience and off  
16 microphone) (Unintelligible)

17 **UNIDENTIFIED:** (From the audience and off  
18 microphone) (Unintelligible) report.

19 **DR. ZIEMER:** I'm -- a question --

20 **UNIDENTIFIED:** (Unintelligible) the steel  
21 workers signed the cards, they kept records for  
22 the steel workers. You have numerous vendors,  
23 contractors, people that moved in and out of  
24 those buildings prior to '59. How you going to  
25 prove who it was that came and gone? How --

1           how you going to prove it? A lot of them are  
2           probably not even around anymore.

3           **DR. ZIEMER:** Thank you. Gen, did you have an  
4           additional comment, or -- okay.

5           Members of the press, do you have any  
6           additional questions that you need clarified?  
7           Okay.

8           Dr. Lockey has a comment.

9           **DR. LOCKEY:** This comment is -- is more generic  
10          in nature, and it has to do with when the  
11          EEOICPA law was passed, it was a laudable  
12          effort initially to recognize and provide at  
13          least some compensation for people who were  
14          injured in the nuclear production industry. It  
15          was a patched-together law -- I think Jim would  
16          probably support that -- trying to get it  
17          passed through a very difficult political  
18          situation.

19          Over the ensuing years, as NIOSH and SC&A and  
20          this Board have tried to work -- and  
21          petitioners, particularly petitioners -- have  
22          tried to work with this law, there are parts of  
23          it that don't work. It's created conflict and  
24          it's created frustration and it's been very  
25          time-consuming. And there's no -- there's no

1 question about that. So there's parts of this  
2 law that need to be streamlined and fixed --  
3 fixed.

4 Now you know, we go to St. Louis and we pass  
5 Mallinckrodt, and the Congressional delegation  
6 is there, like they are here today, supporting  
7 their constituency. They get their SCE (sic).  
8 But you know, I'm not -- it's not clear to me  
9 that, other than representing their state,  
10 we're representing everybody in the United  
11 States. This is a bipartisan issue --  
12 Republican, Democrat -- 'cause these plants  
13 were spread throughout the United States. The  
14 law needs to be updated, streamlined and made  
15 more user-friendly.

16 If I was in your situation and I got a 48  
17 percent PC, and my neighbor that I worked with  
18 for 30 years got a 52 percent PC, then I would  
19 be just beside myself. That's understandable.  
20 That is clearly understandable, and that type  
21 of conflict needs to be eliminated. There's  
22 ways to do it and Dr. Melius has suggested ways  
23 in the past.

24 It's really your Congressional people who need  
25 to step forward and not just represent you here

1 in Colorado, but represent the rest of the  
2 workers in this industry throughout the United  
3 States to streamline this law and update it to  
4 make it more user-friendly. It's their duty.  
5 We're trying to work within the law, and we  
6 have good people in NIOSH who are -- who are  
7 public servants, who are preventive health,  
8 public health oriented. They're doing their  
9 damndest to get the work done, and SC&A's the  
10 same way, and people on this Board are the same  
11 way. But we were constrained by a law that has  
12 a catch-22 -- 180 days to reconstruct radiation  
13 doses, generate new science that takes -- that  
14 can take years? That's what the law is -- it  
15 put us into conflict, and it needs to be  
16 changed. It needs to be updated. It needs to  
17 be streamlined, and the conflict needs to be  
18 taken out of it. Thank you.

19 **DR. ZIEMER:** Okay. Thank you very much.

20 **MS. FRANK:** I'm Laura Frank from the *Rocky*  
21 *Mountain News*. So the press just wants to be  
22 clear for what we report next. The petition  
23 before you includes everyone who ever worked at  
24 Rocky Flats. You have carved out, if I'm  
25 clear, a 1952 to 1958 piece of people who were

1 exposed -- potentially, who -- which should  
2 have been monitored or were monitored for  
3 neutron dose. Does that mean the rest of the  
4 potential class is still before you, or only  
5 those people who fall into the three categories  
6 that you're continuing to look at for next  
7 month?

8 **DR. ZIEMER:** Only th-- only those other  
9 categories that we're looking forward to.

10 **MS. FRANK:** So everyone else is out.

11 **DR. ZIEMER:** Yes.

12 **UNIDENTIFIED:** (From the audience and off  
13 microphone) (Unintelligible)

14 **DR. ZIEMER:** That's right.

15 **UNIDENTIFIED:** (From the audience and off  
16 microphone) (Unintelligible)

17 **DR. ZIEMER:** No, no, next month we would be  
18 looking at the other time periods.

19 **UNIDENTIFIED:** (From the audience and off  
20 microphone) (Unintelligible)

21 **DR. ZIEMER:** Right --

22 **MR. GRIFFON:** Only three categories.

23 **DR. ZIEMER:** -- right.

24 **UNIDENTIFIED:** (From the audience and off  
25 microphone) (Unintelligible)

1           **DR. ZIEMER:** That's correct. That's correct,  
2           that's correct.

3           Okay. Let's take a brief ten-minute break. I  
4           know the press folks may have additional  
5           questions. We'll -- we'll catch our breath  
6           here and then we'll resume. Thank you.

7           (Whereupon, a recess was taken from 2:20 p.m.  
8           to 3:00 p.m.)

9           **DR. ZIEMER:** Okay, let's -- I'd like to ask you  
10          to be seated and we'll come back to order.

11          It's -- it's very clear to the Chairman that  
12          there's been a lot of confusion on what action  
13          was taken and -- and what was covered and what  
14          wasn't. Let -- let me try to clarify and I --  
15          I'm aware that sometimes clarifications make  
16          things even more confusing.

17          The action that the Board has taken will  
18          recommend to the Secretary the addition of  
19          special cohort status to a group of individuals  
20          from the '52 to '58 time frame who were  
21          monitored, or should have been monitored, for  
22          neutrons. So it's a subset of the total group  
23          in that time period.

24          We have not taken specific action on the rest  
25          of the time periods, including '59 to '64,

1           which was segmented out; '65 to '68; '69 to  
2           '70; or '70 and onward.

3           Now there was some question as to -- since the  
4           neutron, the -- and thorium in Building 81  
5           issues tend to focus on those three middle  
6           groups, did that automatically exclude '70 and  
7           beyond. It's the Chair's ruling that the '70  
8           and beyond is still an open question for two  
9           reasons. Number one, the thorium issue could  
10          indeed extend beyond '70; we don't know that.  
11          Number two, it would be my intent that the  
12          Board specifically go on record with '70 and  
13          beyond period, to either vote it up or vote it  
14          down, so it's very clear where the Board stands  
15          on that; that it not simply be -- fall by the  
16          wayside simply by exclusion. So it would --  
17          it's the Chair's intent that at our next  
18          meeting we take specific action on all of the  
19          remaining time periods so that everybody knows  
20          what the recommendation is on all of those and  
21          what groups are specifically covered.

22          So what is -- what has transpired is the  
23          recommendation to add one subset to the Special  
24          Exposure Cohort, and the possibility then is  
25          open to add additional subsets from the

1 remaining time periods. So I hope that is a  
2 little more clear than it apparently was at the  
3 time of the break. And we're --

4 **UNIDENTIFIED:** (From the audience and off  
5 microphone) (Unintelligible)

6 **DR. ZIEMER:** -- we're not -- we're not sure  
7 whether the media will make it more or less  
8 clear as they attempt to explain this, because  
9 they've talked to different folks and I think  
10 have gotten different versions of what Board  
11 members thought they were voting on, and so --  
12 and that's unfortunate, and I'm -- I'm sorry if  
13 that occurred. But we -- we -- we hope that  
14 that adds some clarity.

15 Yes, I'll allow a question here.

16 **UNIDENTIFIED:** May I ask a question?

17 **DR. ZIEMER:** Yes.

18 **UNIDENTIFIED:** Okay, you say you're going to  
19 vote on people prior to '59 on for thorium and  
20 -- 'cause the neutron -- photon thing -- photon  
21 thing. How you going to prove from '59 on up  
22 for everybody else that might have been exposed  
23 to thorium?

24 **DR. ZIEMER:** Well, I think that remains to --  
25 for the Board when we get our material next

1           time. I can't predict what the Board might do  
2           at that point, but at least those time periods  
3           are still open before us, so that will be the  
4           main order, and basically the only order of  
5           business as we return, hopefully in a month,  
6           and -- and try to pin down the final answer on  
7           those.

BETHLEHEM STEEL SEC PETITION  
DR. SAM GLOVER, NIOSH, OCAS  
PETITIONER

1           **DR. ZIEMER:** Now we have a -- another SEC  
2           petition. It's Bethlehem Steel. Is Sam here?  
3           We're going to have a presentation from Sam  
4           Glover of NIOSH, and then we'll hear from the  
5           petitioner on this one. Sam Glover.

6           **DR. GLOVER:** Sorry for the unannounced change  
7           in the schedule. Some of the people calling in  
8           from the east coast -- Ed Walker -- I think  
9           this helps with some of the -- just timeliness.  
10          So this is a -- something that's been worked on  
11          for a long time with the Board and SC&A. I  
12          started work with NIOSH January -- let's see,  
13          over two -- a little over two years ago. When  
14          I came in the door, Bethlehem Steel was the  
15          topic that I was handed to begin work on.  
16          So what today we'd like to talk about is the  
17          SEC petition 56 concerning Bethlehem Steel.  
18          I'm going to -- I have a lot of slides.  
19          There's about 48. Some of them, however, are  
20          going to go fairly quickly. Some of this is to  
21          put some of this in background and perspective.  
22          Most of the Board was present during this time  
23          frame, but I thought we'd go ahead and take a  
24          little bit of time and -- we've spent a lot of

1           time on these issues and so I thought -- as  
2           Larry said, take as much time as necessary, so  
3           I thought I'd make them -- all the issues  
4           clear.

5           A large -- Bethlehem Steel is a large  
6           manufacturing facility located in Lackawanna,  
7           New York. Bethlehem Steel Corporation  
8           purchased the facility in 1922, and by the end  
9           of World War II there were over 20,000  
10          employees at Lackawanna.

11          Now I want to make clear that Bethlehem Steel  
12          is a large corporation, whereas this is the  
13          Bethlehem Steel Corporation at Lackawanna, New  
14          York.

15          The facility in question -- I'm trying to see  
16          if we have a laser pointer -- is a state-of-  
17          the-art continuous rolling mill that was added  
18          in 1947. It's called the ten-inch bar mill.

19          And I apologize for the lack of clarity.

20          There's not a lot of pictures available for  
21          Lackawanna facility, but there's actually a  
22          book called *Fire and Ice*, and they document the  
23          changes with time. Here you can see just the  
24          general size. It's the only real purpose that  
25          I added for this. The scale is -- for every

1           little increment of measurement, we have about  
2           500 feet. This is a large plant with many  
3           facilities, and of which -- this is a 1930 --  
4           of which in 1947 they added the ten-inch bar  
5           mill.

6           Mr. Walker provided this very nice picture of  
7           the ten-inch bar mill, showing one of the  
8           fastest and most up-to-date mills in the  
9           country in this time frame. It was actually an  
10          18-stand rolling mill, of which the last six --  
11          which were later renumbered one through six, if  
12          you actually look at the records -- were used  
13          to roll uranium. So here you see the long  
14          string of stands that would just continuously  
15          crush the ur-- the metal rods into the shape  
16          that was desired.

17          So a little bit about the time frame. In this  
18          time, there was a need by Hanford to have  
19          metallic uranium, which -- in billet form,  
20          rolled into rods which could be put into the  
21          reactor for plutonium production. These are --  
22          essentially came from Mallinckrodt, a subject  
23          which you guys have spent a lot of time on, in  
24          four and a half inch diameter by 12 to 20-inch  
25          length materials. They were rough-rolled -- or

1           actually the first phase was Hanford actually  
2           extruded them. From 1944 to 1947 they would  
3           make a one and a half inch rod 12 to 14 feet  
4           long. These rods were straightened, cut,  
5           machined into eight-inch slugs which then were  
6           packaged for irradiation to make plutonium.  
7           At that time frame, though, they began having a  
8           lot of problems with the plugging of the tubes  
9           in the reactors. And so because of that, what  
10          they noticed was that there was a metallic  
11          phase -- a very detailed, metallurgical problem  
12          -- that it would cause expansion if it was in  
13          the wrong form. And so they thought well, if  
14          we roll the material, we're not seeing those  
15          same problems. So they went from an extrusion  
16          process to a rolling process.  
17          Also, another change occurred in 1947. The New  
18          York Operations Office took control of the  
19          uranium supply, so this also changed some of  
20          the politics and -- and how things were  
21          occurring in the country, so that would have  
22          been when AEC took control of the -- of the  
23          entire program.  
24          So 1948 Hanford switched to an off-site rolling  
25          program that reduced the cost and had better

1 metallurgical properties versus the extrusion  
2 process. These off-site rolling programs were  
3 expected to be a short-term solution.

4 Two other sites which you guys are probably  
5 taking up, or at least discussed, were Josylin  
6 Manufacturing, and also Simonds Saw and Steel.  
7 These two facilities provided much of the  
8 rolled material from the late 1940s to the  
9 early 1950s.

10 So detailed health -- let's see. The Health  
11 and Safety Laboratory of New York Operations  
12 Office, later called HASL; the Environmental  
13 Measurements Laboratory -- or actually its  
14 correct name in 1946 would have been the Health  
15 and Safety Division of the AEC -- was  
16 responsible for the safety aspects of the  
17 uranium programs of the NYOO. The AEC  
18 recognized that long-term off-site rolling  
19 programs was inappropriate. They recognized  
20 that they had overexposure situations. They  
21 documented that in a 1949 status report.

22 In 1952 or thereabouts Fernald was created to -  
23 - to stop this temporary solution, to bring the  
24 Mallinckrodt and these rolling programs into  
25 one facility.

1           So then the AEC contracted with Bethlehem Steel  
2           to improve the rolling pass schedules for a  
3           continuous rolling mill, which is what was  
4           expected Fernald to be. They expected to use a  
5           continuous rolling mill process, and so they  
6           needed to understand how was this process going  
7           to be implemented. Bethlehem Steel had an up-  
8           to-date, modern rolling mill -- continuous  
9           rolling mill, and so they found an opportunity  
10          to do experimental runs to validate the Fernald  
11          pass. So the goals of the Bethlehem Steel  
12          rolling program were to finish roll rough-  
13          rolled bars that came from either Simonds Saw  
14          or Aliquippa on an experimental basis. Not all  
15          of the rods from Simonds Saw, not all the rods  
16          from Aliquippa, but before they came to  
17          Bethlehem Steel they had been rough-rolled into  
18          a smaller diameter.

19          They also wanted to compare lead bath and salt  
20          bath technologies. Before this the material  
21          had just been rolled in a raw form. They had a  
22          lot of oxidation problems associated with that,  
23          so by using a lead bath they found that it  
24          coated the material and provided reduced  
25          oxidation. And they also wanted to test what

1 happens with a salt bath, which was eventually  
2 used at Fernald. That would -- to increase the  
3 product through-put and also increase health  
4 and safety consequences.

5 They also were interested in seeing whether  
6 they heat-treated the rods and billets after  
7 they were rolled, could that induce the same  
8 phase changes that would not cause the problems  
9 of -- in the reactors. They were, again,  
10 having the issue with the material expanding  
11 and plugging up the tubes, which was costing  
12 production.

13 The production of finish-rolled rods from rough  
14 rods, that was the final main purpose.

15 So they started with that and that set the  
16 background a little bit, why was Bethlehem  
17 Steel involved with this, what were some of the  
18 other facilities around them.

19 The SEC submission was submitted on 3/13/2006.  
20 It was qualified on October (sic) 29th, 2006.  
21 It designated as SEC-56, *Federal Register*  
22 notice posted 9/7/2006 and an evaluation report  
23 issued February 21, 2007. The proposed class  
24 was submitted to NIOSH on behalf of a class of  
25 employees consisting of the millwrights,

1 welders, electricians, brick layers,  
2 carpenters, all maintenance, testers, rollers,  
3 supervisors, crane operators, hookers, clean-up  
4 crews and grinders who worked in the 10-inch  
5 bar mill and Blooming Mill from the years '49  
6 to '52. This is a 10-inch bar mill, and the  
7 blooming mill is a roughing area, for a rough-  
8 rolling area.

9 NIOSH evaluated the following class: All  
10 Atomic Weapons Employer personnel at the  
11 Bethlehem Steel Corporation who were monitored,  
12 or should have been monitored, for exposure to  
13 uranium during uranium-rolling activities at  
14 the Bethlehem Steel, Lackawanna, New York  
15 facility from January 1, 1949 through December  
16 31st, 1952.

17 So we removed those exclusions. We -- all  
18 employees at the facility.

19 Sources that were evaluated for this included  
20 the site profile documents, and these were --  
21 as you know, you were involved with a great  
22 deal of changes that went on. SC&A and NIOSH  
23 did a lot of work and were -- ingestion and a  
24 lot of different -- how -- what models were  
25 used to interpret -- and triangular

1 distribution versus a lognormal -- how did all  
2 these things affect the probability of  
3 causation, so a great deal of input and  
4 workload of the Board was done. We had the  
5 first Technical Basis Document, which was done  
6 at the very beginning of the program, Technical  
7 Basis 1, Rev. 0, issued March 31, 2003;  
8 superseded later by a June 29th, 2004 document.  
9 And that was most recently supervi-- superseded  
10 by Rev. 1 of -- it should actually be Rev. 0  
11 because we actually -- that became a NIOSH  
12 document. That should be OCAS Technical Basis  
13 003 Rev. 0 issued July 21, 2006.  
14 Another site profile document that's referenced  
15 is a Simonds Saw and Steel document which we'll  
16 discuss.  
17 Technical Information Bulletins included the X-  
18 ray procedures and the maximum plausible dose  
19 to workers of Atomic Weapons Employers.  
20 A lot of outreach efforts were conducted -- May  
21 4th, 2004; July 1st, 2004. On January 12th,  
22 2004 there was a town hall meeting. On June  
23 26th, 2006 there was a very detailed worker  
24 outreach meeting that was conducted to get  
25 worker input. Had extensive discussions with

1 the Board, with Mr. Walker, with individuals  
2 from this class. During the site profile  
3 evaluations we also conducted some -- an  
4 interview with a former employer on October --  
5 employee on October 26th, 2006 to get  
6 additional information.

7 A hundred and forty-one documents were  
8 evaluated as -- in our SR -- site research  
9 database. These contain information on the  
10 background, process information, trip reports,  
11 air sampling datasheets, Formerly Utilized Site  
12 Remedial Action Program reports and residual  
13 contamination surveys; documentation and  
14 affidavits provided the submissioner (sic)  
15 included 69 affidavits. The Wayne Range  
16 letter, which we also had previously, was also  
17 submitted. This has been included in our  
18 Technical Basis Document.

19 So as I discussed, the site -- the Bethlehem  
20 Steel site profile was the subject of an  
21 extensive Board review that has lasted at least  
22 a year and a half. It had two separate reviews  
23 by SC&A, numerous Board working group meetings  
24 at which Bethlehem Steel profile was discussed.  
25 At the end, we believe that all open items were

1 closed and that a new -- prior to the issuance  
2 of a new site profile in July of 2006.  
3 The NIOSH Claims Tracking System -- now this  
4 was as the time the pro-- that this was  
5 submitted, my boss, Larry Elliott, had probably  
6 the most up-to-date statistics of which  
7 Bethlehem Steel would have been evaluated, but  
8 this record -- I just left this as the document  
9 was -- was written -- 732 cases which matched  
10 the class definition; 634 for which dose  
11 reconstruction has been completed. We do not  
12 have internal dosimetry information, no  
13 bioassay. We don't have external dosimetry  
14 information directly on these individuals. We  
15 do have air monitoring data that was conducted  
16 at Bethlehem Steel. We also have Computer-  
17 Assisted Telephone Interview information from  
18 workers and their surviving spouses -- the  
19 survivors.  
20 So the -- I'm going to read an extensive  
21 petition basis, parts that were included in the  
22 petition. These included that information from  
23 Simonds Saw and Steel was not a valid  
24 comparison to Bethlehem Steel. They also  
25 (unintelligible) that other buildings were

1           involved in the uranium work, including the  
2           blooming mill, that we did not consid-- NIOSH  
3           did not consider the sub-basement under the  
4           cooling bed, nor the cooling bed above; that  
5           there were no records for the time period from  
6           '49 to 1950. The workers were not supplied  
7           with personal protective equipment. Thirteen  
8           tons of radioactive materials were left at  
9           Bethlehem Steel site. The amount of uranium  
10          rolling that was listed could not have been  
11          done in a 10-hour day. The work at Bethlehem  
12          Steel involved more manual labor than Simonds  
13          Saw and Steel -- this was discussed in the site  
14          profile document as a part of it, about why  
15          Simonds Saw would be a bounding -- and we can -  
16          - we'll discuss that briefly; that the  
17          government admitted to destroying records. The  
18          work areas could not have been cleaned in one  
19          day.

20          NIOSH -- that -- further, NIOSH initially  
21          stated that the highest dust levels were at the  
22          rollers and then later that NIOSH stated that  
23          the highest exposures were somewhere else; that  
24          grinding had not been initially recognized or  
25          incorporated into the Bethlehem Steel Technical

1           Basis Document. The workers ate and drank in  
2           dusty areas and could have ingested uranium;  
3           that workers wore contaminated clothing.  
4           So let's discuss some of the radiological  
5           operations.  
6           Uranium billets were prepared by Mallinckrodt.  
7           It's documented that they were rough-rolled at  
8           Simonds Saw, and after that at Aliquippa Forge.  
9           They were shipped to Lackawanna on freight cars  
10          for finish rolling. Based on numerous  
11          documents, the work was involved only at the  
12          10-inch bar mill.  
13          The rollings typically occurred on the weekend  
14          because of production needs of the mill during  
15          the work week. Documents interviews report  
16          strict accountability practices regarding the  
17          collection of scale, residues, fines and  
18          cropped ends. We actually have a document that  
19          -- from the Tonawanda sub-office that actually  
20          reports that -- how many bundles of cobbled  
21          rods and the number of drums of scrap material  
22          that were shipped from Bethlehem Steel, so --  
23          and that went to Lake Ontario Ordnance Works,  
24          and that was November, 1951.

25

1 We're actually investigating trying to see if  
2 we can find further documents, but this is 50  
3 years ago so we don't have a full accounting.  
4 Department of Labor originally established the  
5 period from 1948 to 1949. NIOSH obtained  
6 documents showing that the rollings occurred --  
7 we found that the rollings occurred from '51 to  
8 '52 and DOL extended the time period. The  
9 first documented rolling occurred in April of  
10 1951. In addition to the documented rolling  
11 days, NIOSH assumed one rolling day per month  
12 beginning in January, 1948 and ending in  
13 December of 1952, has continued to evaluate the  
14 '49 -- actually should be January of 1949 to  
15 December of 1952 -- the '49 to '50 time period  
16 as if one rolling occurred per month to ensure  
17 claimant favorability. I apologize for that  
18 error on the slide.

19 No bioassay or external dosimetry data is  
20 available for Lackawanna. As Larry pointed out  
21 yesterday, this is a modeled analysis.

22 The Health and Safety Laboratory, and later  
23 National Lead -- Fernald -- conducted air and  
24 surface radioactivity monitoring during the  
25 various rolling activities. Data are evaluated

1 with the rolling (sic) collected at Simonds Saw  
2 and Steel for rollings conducted in the '49 to  
3 '50 time period. I'll discuss that in the next  
4 slides. We assumed a heavy worker model to  
5 evaluate intakes.

6 Why is Simo-- why -- why Simonds Saw and Steel?  
7 Simonds Saw and Steel was one of the largest  
8 suppliers of rolled uranium for Hanford. In  
9 October of 1948 -- October 27th, to be specific  
10 -- the -- Simonds Saw had not implemented the  
11 recommended changes by the Health and Safety  
12 Laboratory. We have air monitoring data that  
13 occurred before they made changes to the  
14 facility, which included additions of ducts and  
15 addition of grading and other materials which  
16 makes the exposures higher than later on, so we  
17 only used data from that one day, that 19--  
18 that October 27th, 1948 rolling.

19 The uranium was not coated with lead or salt  
20 during this time period. Furthermore, samples  
21 were collected for extremely short periods of  
22 time during the periods of the highest  
23 concentration. That data, those very short  
24 spikes in the air concentration, was what was  
25 used for the entire 10-hour day, and you'll see

1           what those numbers -- the highest exposed  
2           worker by the Health and Safety Laboratory was  
3           -- was calculated to be about 190 MAC at  
4           Simonds Saw and Steel. One MAC, or Maximum  
5           Acceptable Concentration, is 70 dpm of natural  
6           uranium.

7           This -- sorry, this -- this graph shows 95th  
8           percentile, the 553 MAC, which is used to  
9           evaluate the workers at Bethlehem Steel from  
10          the Simonds Saw and Steel data. Unfortunately  
11          I don't have a laser pointer, but you can see  
12          we use -- in this -- again, part of an  
13          extensive discussion, but the 95th percentile  
14          is used to evaluate those entire -- that entire  
15          period. Originally a triangular distribution  
16          was used. Eventually this was the updated  
17          Technical Basis Document. You see only one  
18          datapo-- that's two datapoints collected that  
19          entire day, exceed that number, and those --  
20          what drives most of this is the rolling mill.  
21          The rolling process is what drives this 95th  
22          percentile.

23          Data collected at Bethlehem Steel from 1951 to  
24          1952 during various rollings. Data consists of  
25          204 measurements, one of which was considered

1 illegible. We actually went and got the  
2 original documents from the DOE, looked at the  
3 legibility, verified what the numbers actually  
4 said, got the best information that we could  
5 and one of them still couldn't be read.  
6 They're paper -- they're onionskin records,  
7 five of which were QC, so that left us with 198  
8 measurements at various locations in the mill.  
9 They were evaluating salt and lead bath  
10 technologies, so these were at -- measured  
11 during various times; when those technologies  
12 were used what was the efficacy of the salt  
13 bath.  
14 The fraction of breathing zone samples was not  
15 as large at Simonds Saw and so a -- what they  
16 call a supplemented dataset wa-- using  
17 surrogate breathing zone samples was evaluated,  
18 or was actually used. So we said all right,  
19 well, here are the general air samples at  
20 Simonds Saw; here's the breathing zone samples,  
21 what kind of a ratio do we see, so we could get  
22 a larger breathing zone set. Those  
23 measurements actually drive the upper end of  
24 our -- of the distribution that you're going to  
25 see.

1           In addition to the breathing zone and general  
2           air samples, we also supplemented this with  
3           process samples, and I apologize for getting  
4           into the detail, but of those measurements --  
5           process samples are things right over top of  
6           the -- of a process, where a worker would not  
7           be expected to be, right over -- you know, so  
8           this -- these are not -- by HASL definition,  
9           were not supposed to be used, that they were  
10          not appropriate for worker exposures, that they  
11          would be -- it's not an area where a worker  
12          would -- would be able to be.

13          This graph shows -- these are the actual air  
14          monitoring results during the various time  
15          frames. You can see that in the very  
16          beginning, 1951 -- of -- of May, or actually  
17          that's that April rolling, you see a pretty  
18          good spread. And the 225 MAC is what the TBD  
19          now is eval-- how it's being used to evaluate  
20          workers during this time frame. We had a 225  
21          MAC and later 70 MAC, which 400 -- 4,900 dpm  
22          per meter cubed. This is the actual  
23          measurements. You see only one measurement  
24          point exceeded that 225 MAC.

25          These are the actual -- do we have a laser?

1 Ah, see what happens with a little bit of  
2 training? It's not big, but there we have --  
3 so here we have actual and augmented data for  
4 Bethlehem Steel. This is where the general air  
5 samples were taken using the factor determined  
6 at Simonds Saw and Steel from the -- the ratio  
7 of general air to breathing zone samples, and  
8 we basically created additional breathing zone  
9 samples, which really drive these data up here  
10 -- actually, I'm sorry, this data here is  
11 driven by these created samples. You can see  
12 here the 95th percentile of the actual data is  
13 87 MAC. When we supplement the dataset, the  
14 95th percentile becomes 225 MAC, so a  
15 significant increase by using this data. Some  
16 of that was driven by the lack of information  
17 on the sheets. They did not include whether it  
18 was a process or general air sample, and so  
19 therefore, even though they were very high,  
20 they were assumed to be GA samples and this  
21 factor was applied to them. Again, a lot of  
22 that upper end data is because of that.  
23 This summarizes the rollings that are  
24 documented. Here's the April 26th, the 27th,  
25 1951. This is designated experiment number one,

1           26 billets were rolled, both lead and salt were  
2           evaluated. We have air monitoring data. I'm  
3           not going to belabor this slide, but you can  
4           see in the very beginning they had both lead  
5           and salt bath. That was that initial period  
6           why we have that 225 MAC, and then they went to  
7           only salt rollings. The first five rollings  
8           were designated experimental, and then they  
9           began some production runs.

10          This was driven because Fernald was not ready.  
11          Savannah River needed uranium, and so these  
12          production runs were essentially to support the  
13          Savannah River start-up. So you can see the  
14          number of billets that were rolled, and we have  
15          air monitoring data in this time frame, as  
16          well.

17          I don't want to get too detailed. You have  
18          this -- and I apologize if the size is not good  
19          for a slide, but we have the general -- how we  
20          do dosimetry at Bethlehem Steel in these  
21          various time frames. From '49 to '50 in the  
22          10-inch bar mill, although no documentation or  
23          records have been found to substantiate the  
24          rolling operations were actually performed,  
25          uranium rolling is assumed to have been

1 performed. Simonds Saw and Steel is used as a  
2 surrogate, assuming no protective coatings or  
3 ventilation was applied.

4 So I want to make it clear that the data  
5 includes the roughing operation. Simonds Saw  
6 roughed the rolls and then finish-rolled them,  
7 so in the data that we used for that October  
8 27th rolling, roughing is included in that as  
9 part of the assessment.

10 All workers are assumed to be affected at the  
11 95th percentile value of the maximum dose  
12 potential dataset. We have added a cobble-  
13 cutting dose model. We've added a number of  
14 particular issues which were also discussed,  
15 including ingestion and contaminated workers --  
16 contaminated clothing.

17 From January '51 to September of '51 both lead  
18 and salt bath technologies were being utilized.  
19 Mostly GA samples were being performed, and we  
20 talked about the breathing zones and GA ratios  
21 and the surrogate data that was used. Again,  
22 all workers are assumed to be affected at the  
23 95th percentile. Again we've also included  
24 cobble-cutting dose model for people who may  
25 have been cobble cutters.

1 From September of '51 through the end of '52  
2 the salt bath technology only was utilized.  
3 This resulted in an extremely large decrease in  
4 air concentration at the rolling mill. So  
5 other potential technologies and processes  
6 became potentially limiting. One sample, a  
7 grinding operation, a process sample was used  
8 which had a 4,900 dpm per meter cubed for the  
9 entire period as a bounding air sample, so the  
10 se-- that 70 MAC air, that's where that number  
11 comes from. It is a process sample for -- and  
12 that is in line with other grinding samples  
13 that were taken at other facilities, and that  
14 is used as the bounding number as treating  
15 everybody basically as a grinder.  
16 Now these various -- the original TBD -- some  
17 of the different discussions that occur in the  
18 petition -- use a triangular distribution over  
19 the entire time frame. This period we've done  
20 quite a bit more with effective -- of time and  
21 -- and so because of that, time becomes more  
22 important potentially on how worker -- the  
23 doses are actually calculated because if you  
24 worked in a later frame you see that there's a  
25 significant reduction, from 553 MAC to 225 MAC

1           to 70 MAC during those various time frames.  
2           An area we spent a great deal of time on was  
3           cobble cutters. A cobble is -- I like what --  
4           is -- is a train wreck, is what we've been  
5           describ-- basically these rolling mills had to  
6           operate in sync, and if they -- if something  
7           got out of sequence, a little bit of a bend in  
8           the bar, a cobble would occur and that bar  
9           coul-- it couldn't pass through the rolling  
10          mill. That material had to be removed. Work--  
11          worker discussions included -- you know, they  
12          would cut out what they could, but they want to  
13          keep the bar mill operating. The -- they have  
14          a crane appli-- a crane would actually take  
15          this material, remove it to a fac-- another  
16          area and someone would cut that up to a  
17          manageable unit.  
18          We evaluated the frequency of the cobble --  
19          these are things they were concerned about.  
20          They want to know how often these different  
21          pass technologies would create a cobble, and so  
22          they actually record, in the day we have air  
23          sample data, in the rolling reports how many  
24          cobbles they had. So we used that information,  
25          worker interviews assisted with the location

1 and nature and time of the cobble-cutting. The  
2 Tonawanda reports clearly show repeat (sic) of  
3 both drum residue and bundles of cobbled rods  
4 from Bethlehem Steel as part of the scrap  
5 program.

6 There was some discussion at one time about  
7 cutting up into very small pieces and put them  
8 all in drums. We've seen actually where  
9 material had been -- rods had been removed from  
10 the Tonawanda facility for various applications  
11 at Hanford, who was interested in what the  
12 metallurgical properties were, and also based  
13 on the Tonawanda reports -- so cobbles were  
14 essentially taken off-line using crane  
15 necessary cutting allow the rolling to  
16 continue.

17 Based on interviews, the cobbles were cut up by  
18 one employee. We evaluate the intake rate,  
19 time required and particle size during a  
20 cutting, and essentially about two hours per  
21 day the cobble cutter is assigned 600 MAC at .5  
22 micrometers. That's based on data that was  
23 developed for high temperature operation  
24 cutting operations. Eight hours a day they're  
25 evaluated at 70 MAC exposure using a 5 micron

1           particle size, 'cause if you were a cobble  
2           cutter you weren't also going to be a roller,  
3           not on a continual basis. Rollers could  
4           potentially help remove the cobble from the  
5           line.

6           Employees ate and drank in the areas, so this  
7           was something that the Board and SC&A -- we  
8           worked on to include ingestion in the Bethlehem  
9           Steel models. This is assumed to occur both  
10          during the rolling days and between the rolling  
11          days. Air concentration was used to determine  
12          the surface loading, and a dilution model --  
13          because five out of the seven days they were  
14          using this -- actually 29 out of the 30 days of  
15          the month they were rolling steel.

16          So this graph kind of gives you an idea of the  
17          surface contamination versus the air  
18          concentration data. This is a compilation of  
19          data from both Simonds Saw and Bethlehem Steel.  
20          Rolling data was used to determine the rolling  
21          day surface contamination values, and general  
22          air samples were used to determine non-rolling  
23          day data.

24          Mr. Walker should have been an artist. He  
25          provided us a very nice sketch -- to SC&A and

1           to NIOSH -- as part of this process. This is  
2           the sub-basement area below the cooling beds,  
3           and you see a very large 70-foot wide basement  
4           area with various machinery down here. This is  
5           obviously one of the areas they're concerned  
6           about. Uranium would fall through the grating,  
7           as would steel, and occasionally this material  
8           would have to be cleaned out. This basement  
9           area was specifically evaluated to ensure that  
10          we included the basement area. It required  
11          occasional cleanup. Worker interviews indicate  
12          intermittent occupancy. Somebody was not  
13          always down in this facility.  
14          Source term data, if you're at the rolling mill  
15          as a roller, that will bound your inhalation  
16          exposure. We also -- that steel and uranium  
17          will mix to dilute the source term as a  
18          function of time during the month.  
19          External sources of exposure include uranium  
20          dust, which if you look at the TBD, this is a  
21          very low dose. Direct contact with uranium,  
22          primarily a shallow dose but it also has a deep  
23          dose component. Residual contamination, reuse  
24          of contaminated clothing, workers could work up  
25          to two weeks without washing the clothing. And

1           also occupational medical dose.  
2           So direct contact dose with the billets was ev-  
3           - was evaluated using a triangular distribution  
4           to look at the shallow dose and the beta  
5           particles. Minimum was calculated using -- a  
6           worker was one meter from the uranium source  
7           for one hour per day for -- he had a 10-hour  
8           shift, which evaluates to 90 millirem per  
9           rolling day. The mode of that was set as the  
10          survey data from Simonds Saw and Steel, which  
11          is determined to be about 150 millirem per  
12          rolling day. The maximum was calculated to be  
13          six hours at one foot from the extended uranium  
14          source, which is 150 millirad per hour, and  
15          four hours at one meter from the source at 90  
16          millirads per hour. Each of these was  
17          multiplied by the number of rolling days that  
18          occurred, and also the deep dose was evaluated  
19          also on a triangular basis.  
20          Residual contamination, the Simonds Saw and  
21          Steel, which rolled many, many, many tons more  
22          than Bethlehem Steel did, was used as a  
23          bounding situation. We assumed that 1.25 times  
24          ten to the seventh dpm per meter squared were  
25          on the surfaces at all times for the entire

1 four-year operations. These are the annual  
2 doses to the skin, which is the largest dose  
3 from this, bone surfaces, and other organs --  
4 primarily the skin, at 1.7 rem per year is the  
5 major source -- or major dose.

6 Contaminated clothing was -- based on worker  
7 interviews, was assumed to be worn for two  
8 weeks after the rolling. Mallinckrodt  
9 clothing, from their laundry experience where  
10 they had lots of radium and other contaminants,  
11 was used to calculate the bounding dose.  
12 Assigned 1.5 millirem per hour to the skin at  
13 ten hours per day. This results in 1.8 rem per  
14 year shallow dose.

15 As you're familiar with, occupational medical  
16 dose -- the AEC did require at several  
17 facilities. There is no real documentation at  
18 Bethlehem Steel if this was required, but we do  
19 assume a pre-employment and periodic annual X-  
20 ray in keeping with AEC practices at larger AWE  
21 facilities.

22 We did -- actually the Bethlehem Steel site has  
23 been a part of probably a number of the Board's  
24 reviews and dose reconstruction processes. We  
25 did six dose reconstruction examples just to

1 provide some flavor of how the thing changed  
2 with -- with time. Some of the original ones,  
3 again, were done with triangular distribution,  
4 and now we have this changing exposure models  
5 as a function of when you may have begun  
6 employment. We looked at several cancers,  
7 employment periods, and also cobble-cutting  
8 activities. And this period was also part of a  
9 large Program Evaluation Report which Larry  
10 discussed yesterday.

11 Lung cancer -- obvi-- you're not going to see  
12 97 percent POCs in our reports because we would  
13 stop after you get to 52 -- 50 percent. But  
14 just to give you some feeling for -- if from  
15 the '49 to '52 time frame, if you had a cancer  
16 sometime later, former smoker, the POC, 97  
17 percent. If you were a cobble cutter, again,  
18 the result -- a cobble cutter would not get  
19 that high rolling dose during the Simonds Saw  
20 time frame. They would get two hours at 600  
21 MAC and 70 MAC for the rest of the day, so it  
22 actually would reduce your overall exposure for  
23 your lung cancer.

24 Kidney dose, or kidney cancer, not a smoker,  
25 not applicable; cobble cutter, no; worked from

1 '49 to '52, a POC of 47.9 percent. Obviously  
2 this is getting in area where you start -- it's  
3 -- you know, that it's close to compensable.  
4 Colon cancer, if you worked from 10/51 to '52,  
5 (unintelligible) the entire time frame, the  
6 POC's only 2.39 percent -- just showing the  
7 difference in a non-metabolic organ for uranium  
8 versus -- and also of course the incidence of  
9 cancer from -- or its radiogenic -- based on  
10 the radiogenic models in IREP.  
11 If you worked only part of the time, still lung  
12 cancer is paid, whether you're a cobble cutter  
13 or not a cobble cutter, this was not -- this is  
14 a hypothetical situation. Some people had  
15 cancers only a few years after their exposure,  
16 in which case this would not hold true, but  
17 these are just some examples to show what kind  
18 of probability of causations are -- are  
19 calculated, and I know you guys have looked at  
20 a lot of these different issues. But still,  
21 lung cancers are going to be paid at Bethlehem  
22 Steel what -- no matter what period you would  
23 have started working in, depending on the  
24 scenario.  
25 So as the evaluation report, NIOSH evaluated

1 the petition using the guidelines of 83 -- 42  
2 CFR 83.13, submitted an evaluation finding and  
3 petition evaluation report to the Advisory  
4 Board and to the petitioners. This was issued  
5 on February 21st, 2007. NIOSH found that  
6 available monitoring records, process  
7 descriptions and source term data were adequate  
8 to complete dose reconstructions with ade--  
9 with sufficient accuracy for the proposed class  
10 of employees, and thus a health endangerment  
11 determination is not required.

12 So a summary of our feasibility, that uranium,  
13 beta/gamma and occupational medical X-rays are  
14 all inclu-- as being -- dose reconstruction is  
15 feasible.

16 You can find additional documentation regarding  
17 this in the document review \ AB document  
18 review \ Bethlehem Steel subfolder.

19 So with that, I'd take any questions from the  
20 Board.

21 **DR. ZIEMER:** Thank you, Sam. Of course we've  
22 had Bethlehem Steel on and off our -- our scope  
23 for a long time. I think almost all the cases  
24 from Bethlehem Steel have been previously  
25 reconstructed anyway, as -- as I recall, so I

1           guess the -- the remaining issue was the issue  
2           of using the Simonds Saw's model, as it were,  
3           for this facility, and it seemed to be a  
4           continual concern. But the recommendation then  
5           that comes from NIOSH is that you can  
6           reconstruct dose, that's the bottom line.

7           **DR. GLOVER:** Yes, sir.

8           **DR. ZIEMER:** Now let's open the floor for  
9           questions. Jim Melius, yeah.

10          **DR. MELIUS:** I wasn't here -- can you hear me  
11          okay or do I need to get a little closer?  
12          I wasn't here yesterday, but I noticed in  
13          Larry's presentation the -- he has a  
14          distribution of probability of causation for  
15          Bethlehem Steel and it's the -- a very odd  
16          distribution, at least in comparison to most  
17          other sites. It's a bifurcated distribution.  
18          I don't know if he commented on that yester--

19          **DR. ZIEMER:** Yes, indeed, he did. Larry, you  
20          may want to repeat that comment, but it is due  
21          in part to the fact that the -- the model is  
22          applied I think to all workers at this site,  
23          and that makes a big difference, versus --  
24          well, here's Jim.

25          **DR. NETON:** I'm not Larry Elliott, but I think

1 I might be able to address the question. That  
2 odd distribution is -- is an artifact of the  
3 fact that it is a model that's applied to all -  
4 - all workers, one size fits all, and that as -  
5 - as Sam pointed out in his slide, that the  
6 respiratory tract cancers are virtually 100  
7 percent compensated at this site, in addition  
8 to a number of the skin cancers because the  
9 skin cancer doses are -- the skin doses are  
10 also very large. And then, save the skin  
11 cancers and the lung cancer models, the rest of  
12 the organs that don't concentrate uranium  
13 internally receive a very low dose. Same  
14 showed one example for the colon that had I  
15 think a two-point-something percent probability  
16 of causation. You would see very similar  
17 probability of causation calculations for  
18 organs that don't concentrate uranium, such as  
19 the prostate or the bladder or any other organ  
20 that doesn't -- doesn't concentrate those  
21 radionuclides, so you do have that real  
22 bifurcated distribution at Bethlehem Steel  
23 that's unusual compared to other sites.

24 **DR. MELIUS:** Yeah, I -- I would just point out  
25 probably as an observation, yeah -- and I think

1 I mentioned this before, this model's basically  
2 -- just takes into account the number of days  
3 that you worked there, or time period, and your  
4 -- and the organ site, and is -- actually is  
5 the SEC model that the Board rejected when  
6 NIOSH first appro-- in terms of the model  
7 approach for all SECs. Remember that first set  
8 of regulations that you presented to us was  
9 sort of an organ-specific one and we --

10 **DR. NETON:** But this is not organ-specific.  
11 This is --

12 **DR. MELIUS:** Well --

13 **DR. NETON:** -- individual calculation is done  
14 for each organ, and where the numbers fall,  
15 they fall.

16 **DR. MELIUS:** Yeah.

17 **DR. NETON:** Now the end result may be it  
18 appears to be somewhat organ-specific, but --

19 **DR. MELIUS:** In -- in effect.

20 **DR. NETON:** -- your point's taken.

21 **DR. MELIUS:** In -- in effect it is.

22 **DR. NETON:** One thing I might add, though, this  
23 is not the only site that we have a one size  
24 fits all model. Many of the AWEs are -- are  
25 done this way.



1           thank you again for letting me (unintelligible)  
2           the meeting, I really appreciate it. And I do  
3           have (unintelligible) try to keep it down  
4           (unintelligible) kept it down (unintelligible).  
5           I'm very, very disappointed (unintelligible)  
6           program rationale and they did (unintelligible)  
7           expert workers (unintelligible) technical  
8           (unintelligible) months before anyone talked  
9           (unintelligible) not including (unintelligible)  
10          I don't believe (unintelligible) --

11         **DR. ZIEMER:** Ed, let me interrupt you a minute.  
12         We're having a great deal of difficulty  
13         understanding you. Are you on a speaker phone  
14         or --

15         **MR. WALKER:** (Unintelligible) phone  
16         (unintelligible).

17         **DR. ZIEMER:** Are you on a --

18         **MR. WALKER:** Is that better?

19         **DR. WADE:** Yes.

20         **DR. ZIEMER:** Much better.

21         **MR. WALKER:** Is that better?

22         **DR. ZIEMER:** Yes.

23         **MR. WALKER:** Can you hear me better now?

24         **DR. ZIEMER:** Yes, that's much more plain.  
25         Could you proceed again?

1           **MR. WALKER:** Sure. And one of the most  
2           important things was that site expert workers'  
3           input was (unintelligible) part of the  
4           (unintelligible), and here our -- our technical  
5           base (sic) document was 16 months old before  
6           (unintelligible) during a period it was  
7           (unintelligible) their conversation. So  
8           (unintelligible) it was never looked into, it  
9           is my understanding. I had a call prior to the  
10          technical base (sic) document where I asked a  
11          question and (unintelligible) the building was  
12          still there, which tells me (unintelligible) at  
13          all 16 months after the technical base (sic)  
14          document (unintelligible), and at that point I  
15          (unintelligible) asked (unintelligible) to come  
16          up and meet with the claimants (unintelligible)  
17          the site with the claimants -- come up and to  
18          listen to some of the (unintelligible). We  
19          take (unintelligible) NIOSH (unintelligible)  
20          come up at all and this is 16 months after  
21          (unintelligible) I was (unintelligible) I  
22          watched (unintelligible) work there. I worked  
23          there for 40 years and I know the conditions in  
24          the plant. And I know from what I heard in  
25          that (unintelligible) years, it's

1 (unintelligible) people at NIOSH, they do not  
2 realize what those workers went through and the  
3 dirt and the (unintelligible) many times  
4 (unintelligible). So I know, I was there. I  
5 (unintelligible) to get some information  
6 (unintelligible) talked to some  
7 (unintelligible) experts and (unintelligible)  
8 to talk to our people (unintelligible)  
9 researched (unintelligible) with NIOSH on  
10 (unintelligible) the people that  
11 (unintelligible) and make sure they were people  
12 that (unintelligible) at the plant and really  
13 worked there (unintelligible) I was very  
14 careful. I didn't want to (unintelligible)  
15 NIOSH (unintelligible) come out and tell the  
16 truth, so I'm very disappointed the way they  
17 approached that, the claimant input, and I  
18 think (unintelligible) after we had that  
19 (unintelligible) months after (unintelligible)  
20 I was told that you used surrogate information.  
21 I have to be (unintelligible) from Simonds Saw,  
22 it would be very reasonable to understand  
23 (unintelligible) Simonds Saw (unintelligible).  
24 When I inquired about it, Simonds Saw  
25 (unintelligible) hadn't even been completed, so

1 (unintelligible) months after you were  
2 (unintelligible) information from  
3 (unintelligible) that didn't even  
4 (unintelligible) and a question about surrogate  
5 information (unintelligible). I couldn't hear  
6 very well, but I think that Dr. Melius  
7 (unintelligible) there was some question and  
8 (unintelligible).

9 **DR. ZIEMER:** Thank you, Ed.

10 **MR. WALKER:** (Unintelligible) talking about our  
11 people (unintelligible).

12 **DR. ZIEMER:** Thank you very much, Ed, for your  
13 comments.

14 Board members, do you have comments, questions,  
15 either of Ed or of -- of NIOSH staff?

16 (No responses)

17 I want to ask Dr. Melius, you raised an -- a  
18 question regarding -- I -- I think you used the  
19 term legality of the use of the other  
20 facility's data -- am I quoting that right?  
21 Were -- were you suggesting a particular action  
22 or just -- I -- I assume it was more than a  
23 rhetorical question.

24 **DR. MELIUS:** Well, it's more than a rhetorical  
25 question. It's been raised by a number of the

1 Congressional representatives --

2 **DR. ZIEMER:** Yeah, I understand that.

3 **DR. MELIUS:** -- about that and -- and I guess  
4 my personal view was I was not ready to take  
5 any action on this particular petition since  
6 it's -- the actual dose reconstruction is so  
7 dependent on the use of data from Simonds Saw  
8 and, to a lesser extent, from Mallinckrodt that  
9 -- until I've had a chance to hear some  
10 presentation from NIOSH regarding this issue.  
11 We had asked that it be put on the agenda and  
12 it's on the agenda tomorrow.

13 **DR. ZIEMER:** Well, I guess -- that was the  
14 question, are we going to hear from counsel on  
15 -- or -- yeah.

16 **DR. WADE:** Yes, we're all right. Tomorrow it's  
17 scheduled at 10:00 o'clock.

18 **DR. MELIUS:** Yeah.

19 **DR. ZIEMER:** Yeah, so the issue will arise. We  
20 don't need to take any action today --

21 **DR. MELIUS:** Yeah.

22 **DR. ZIEMER:** -- so then we can continue. Let's  
23 see where we are here -- I think we can go  
24 ahead --

25 **MR. BROEHM:** Actually, Dr. Ziemer, I just

1           wanted to read into the record a letter that  
2           was received --

3           **DR. ZIEMER:** Oh, this --

4           **MR. BROEHM:** -- by the Board from the New York  
5           delegation.

6           **DR. ZIEMER:** -- right, and this is from the New  
7           York delegation --

8           **MR. BROEHM:** Yeah.

9           **DR. ZIEMER:** -- and it's pertinent, so Jason,  
10          if you would read that into the record we'd  
11          appreciate it.

12          **MR. BROEHM:** Okay. This is a letter from  
13          Senators Hillary Rodham Clinton, Charles  
14          Schumer, and then Representatives Brian  
15          Higgins, Thomas Reynolds and Louise Slaughter.  
16          (Reading) Dear Dr. Ziemer: We urge you to  
17          recommend approval of the petition to create a  
18          Special Exposure Cohort for former Bethlehem  
19          Steel employees who worked at the plant from  
20          January 1st, 1949 through December 31st, 1952.  
21          We believe this petition should be promptly  
22          approved so as to give the necessary relief to  
23          former workers and their families who have  
24          struggled for decades because of dangerous  
25          exposure to radiation and other particulates.

1           The former Bethlehem Steel plant in Lackawanna,  
2           New York played a crucial part in the Cold War,  
3           and was a linchpin in western New York's  
4           industrial economy for over a century.  
5           Thousands worked long hours and under very  
6           difficult conditions to create modern machines,  
7           weapons and devices that were the technological  
8           innovations of their time. Work intensified  
9           throughout the first years of the Cold War as  
10          our country's demand for modern weapons and  
11          machines increased.  
12          Work at the Bethlehem Steel plant was  
13          hazardous, but at the time workers had no idea  
14          of the immense health risks associated with the  
15          uranium rolling. Specifically, during weekend  
16          shifts workers would process upwards of 350  
17          tons of uranium metal -- material, unknowingly  
18          ingesting radioactive dust during the process.  
19          Decades later, only after hundreds of former  
20          workers developed cancer, did the federal  
21          government take responsibility for this  
22          travesty. Passage of the Energy Employees  
23          Occupational Illness Compensation Program Act  
24          in 2000 was meant to provide compensation and  
25          relief to workers like those at Bethlehem Steel

1           who developed debilitating or fatal diseases  
2           due to work-related exposure to radioactive  
3           material in service to our nation. The law  
4           directed the Department of Labor to establish a  
5           process known as Special Exposure Cohort to  
6           decide groups of claims for facilities where a  
7           lack of data prevented dose reconstructions  
8           from being completed with sufficient accuracy.  
9           Bethlehem Steel workers did not wear individual  
10          radiation exposure monitors when uranium  
11          rolling occurred. The few ambient air samples  
12          from between January 1st, 1949 and December  
13          31st, 1952 were taken at monitors that were far  
14          removed from the rollers where exposure was the  
15          greatest. Yet in spite of this complete lack  
16          of data about uranium exposure at Bethlehem  
17          Steel, NIOSH has used data from other  
18          facilities to reconstruct individual radiation  
19          doses for Bethlehem Steel claimants. In  
20          addition, NIOSH completed its initial profile  
21          of conditions at Bethlehem Steel, the document  
22          that is the basis for dose reconstruction,  
23          without even interviewing surviving workers.  
24          Former workers then came forward with  
25          information that demonstrated major flaws in

1 the site profile.

2 While NIOSH has made some improvements to their  
3 site profile, the data needed to accurately  
4 reconstruct dose exposure for Bethlehem Steel  
5 workers does not exist. Under these  
6 circumstances, EEOICPA requires that Bethlehem  
7 Steel be placed in a special cohort.

8 Finally, the denials are not based on records  
9 from the Bethlehem Steel plant, but from  
10 calculated reconstructions based on sampling  
11 from similar plants. Simply stated, it is  
12 wrong to deny the former employees at Bethlehem  
13 Steel the compensation which, through their  
14 hard labor and sacrifice, they have so  
15 obviously earned. They served our nation in  
16 her time of need. They suffered as a result of  
17 this service, though no fault of their own.  
18 And now they deserve justice in the form of  
19 compensation from the very system that was  
20 established to aid those in exactly this  
21 situation.

22 There are 717 cases arising from the exposure  
23 to nuclear materials at the Bethlehem Steel  
24 plant. According to NIOSH, as of March 20th,  
25 2007 less than half of those claims have

1           resulted in compensation. We believe that this  
2           record is unacceptable, and that the proposed  
3           SEC petition would present a much more  
4           equitable and fair result for these families.  
5           Therefore, we respectfully request the Board to  
6           recommend approval of the petition so that this  
7           terrible situation can be laid to rest, and the  
8           many families who have been wrought with so  
9           many tragedies can finally have peace of mind.  
10          Sincerely, Senator Hillary Rodham Clinton,  
11          Senator Charles E. Schumer, Representative  
12          Brian Higgins, Representative Thomas Reynolds,  
13          and Representative Louise Slaughter.

14          **DR. ZIEMER:** Okay. Thank you very much, Jason.  
15          Then let's proceed to the Los Alamos SEC  
16          petition, and Dr. Greg Macievic is here today -  
17          - I think Greg's here -- there he is.

18          **MR. BROEHM:** Actually, I'm sorry, one more --

19          **DR. ZIEMER:** Oh, we've got one more. Greg,  
20          hold up -- hold up a moment.

21          **MR. BROEHM:** I've been told by Representative  
22          Shimkus's staff that he is calling in right now  
23          --

24          **DR. ZIEMER:** Oh, okay.

25          **MR. BROEHM:** -- and would like to make comments

1 on the Dow petition, so --

2 **DR. ZIEMER:** Yes, we -- we will waive -- or  
3 insert that here, even though we're not on the  
4 Dow topic, to fit his schedule. Are we -- are  
5 we on the line yet?

6 (No responses)

7 (Pause)

8 **DR. WADE:** (Off microphone) (Unintelligible)

9 **DR. ZIEMER:** Okay. Are we on the line yet?

10 (No responses)

11 **UNIDENTIFIED:** (Unintelligible)

12 **DR. WADE:** Representative Shimkus, are you on  
13 the line?

14 (No responses)

15 **DR. ZIEMER:** Representative Shimkus?

16 (No responses)

17 Okay, we'll hold just a moment.

18 (Pause)

19 **UNIDENTIFIED:** (Unintelligible)

20 **DR. ZIEMER:** What'd she say?

21 **DR. WADE:** He's dialing now.

22 **DR. ZIEMER:** Oh, dialing now. Thank you.

23 (Pause)

24 **DR. WADE:** Representative Shimkus, are you on  
25 the line?

1           **REPRESENTATIVE SHIMKUS:** Hello?

2           **DR. ZIEMER:** Hello, Representative Shimkus?

3           **REPRESENTATIVE SHIMKUS:** Yes, sir.

4           **DR. ZIEMER:** Yes, fine, we're pleased to have  
5 you address the Board here. The podium is  
6 yours.

7           **REPRESENTATIVE SHIMKUS:** Thank you. First let  
8 me introduce myself. I am Congressman John  
9 Shimkus of the 19th District of Illinois. My  
10 District does not include where the Dow plant  
11 sat in Madison, but many of the workers from  
12 Dow live in my District. I have been involved  
13 with many of these claims for six years. I  
14 want to thank Dr. Ziemer and members of the  
15 Board for allowing me the opportunity to  
16 address you by phone today. I'm at the airport  
17 actually, trying to catch a plane, but votes in  
18 Washington prohibited me from being there  
19 personally. But my District Director, Deb  
20 Detmer, is there representing me. She also  
21 represented me at a meeting in Cincinnati and  
22 previous meetings in St. Louis.  
23 I'm not going to take much of the Board's time,  
24 but do have two issues I would like to raise.  
25 One, I realize there has been some discussion

1           internally regarding the validity and  
2           credibility of the workers' affidavits. I want  
3           to stress strongly to the Board that these  
4           affidavits should be taken at face value. I  
5           have personally met with several of these  
6           workers who provided the Board an affidavit. I  
7           know their stories. To suggest that these  
8           stories are anything less than credible is an  
9           affront to these men.

10          Second, I want to stress my very strong opinion  
11          that the residual period for uranium should be  
12          covered under the SEC through 1998. Many of  
13          these workers have been waiting for dose  
14          reconstructions and for their cases to be heard  
15          for years. The Board has the authority and the  
16          power to add the residual period into the SEC,  
17          and I strongly urge you to consider that  
18          option.

19          I want to thank you for your service on this  
20          Board. Thank you for taking time to listen to  
21          me, and in closing urge you to give my requests  
22          every consideration.

23          **DR. ZIEMER:** Thank you very much,  
24          Representative Shimkus. We appreciate your  
25          taking the time. We hope you catch your plane.

1           **REPRESENTATIVE SHIMKUS:** I think I will. Thank  
2           you very much.

**LOS ALAMOS NATIONAL LABORATORY SEC PETITION**  
**DR. GREG MACIEVIC, NIOSH, OCAS**  
**PETITIONER COMMENTS**

3           **DR. ZIEMER:** Now we'll proceed to the Los  
4           Alamos presentation, and Greg -- there you are  
5           -- please take the podium.

6           **DR. MACIEVIC:** Slowly making my way up here.  
7           My name's Greg Macievic and I'm a health  
8           physicist with the Office of Compensation  
9           Analysis and Support, and I'm here to present  
10          the SEC petition evaluation report for the Los  
11          Alamos National Labs.  
12          Los Alamos -- the petition was submitted to  
13          NIOSH on behalf of a class of employees. The  
14          initial class definition that all workers of  
15          LANL working in all technical areas from 1943  
16          to 1979 was developed and submitted. The  
17          number of claims submitted for energy employees  
18          who potentially meet the proposed class  
19          definition criteria is 657.  
20          The evaluation is a two-pronged process  
21          established by EEOICPA and incorporated into 42  
22          CFR 83.13(c)(1) and 42 CFR 83.13(c)(3). And  
23          one, is it feasible to estimate the level of  
24          radiation doses of individual members of the

1 class with sufficient accuracy; and two, is  
2 there a reasonable likelihood that such  
3 radiation dose may have endangered health of  
4 the members of that class.

5 Los Alamos is a unique site in that you have  
6 areas that are essentially production-like and  
7 also areas that are highly labor-- laboratory-  
8 like and do research and special types of  
9 projects. There are over 80 -- 75 technical  
10 areas, and the prim-- they are primarily  
11 concerned with nuclear weapons development,  
12 testing and related activities. There is  
13 biomedical -- there are biomedical studies of  
14 tritium and plutonium, experimental application  
15 of mesons to medical therapy, fission products  
16 studies, dynamic testing of uranium, neutron  
17 cross-section measurements, source development,  
18 criticality studies, reactor developments and  
19 controlled fusion studies.

20 The covered employment period begins in 1943  
21 when the site opened, and continues to the  
22 present for any dose reconstruction.

23 LANL can essentially be broken down into  
24 several functional areas of activity that are  
25 relevant to this class. We have weapons

1           development and testing, critical assemblies  
2           and reactors, reactor development,  
3           accelerators, X-ray equipment, radiography  
4           sources, biomedical research, Project Sherwood  
5           -- which is a fusion research and also other  
6           fusion research activities, waste treatment and  
7           disposal, and residual contamination from the  
8           RaLa project due to strontium-90 post-July  
9           1963.

10          And as you can see from this slide, there are  
11          several radionuclides of concern, and since  
12          LANL itself, Los Alamos, dealt with pretty much  
13          everything under the sun. The alpha radiation  
14          that we looked at is major concern are  
15          americium-241, curium, protactinium, plu--  
16          polonium; plutoniums-238, 239 and 40; radium-  
17          226 and its progeny; thorium-230, thorium-232  
18          and its progeny; uranium-234, 35, 38 and 33.  
19          Beta/gamma hazards came from actinium-227,  
20          carbon-14, cobalt-60, cesium-137, tritium,  
21          iodine-131, phosphorus-32, plutonium-241,  
22          radium-226 and its progeny, sulfur-35,  
23          strontium-90, yttrium-90, thorium-32 and its  
24          progeny; U-235 and its progeny, essentially  
25          thorium-231; U-238 and its progeny with

1 thorium-234 and protactinium-234m.

2 There also is neutron radiation that was quite  
3 prevalent at Los Alamos, and we have sources  
4 from plutonium production, operating reactors,  
5 accelerators, criticality experiments,  
6 chemistry and metallurgy, and other neutron  
7 sources.

8 I'd like to give now a summary of the  
9 information that we have available for dose  
10 reconstruction at the site. External  
11 dosimetry, or external radiation exposures, are  
12 based on routine monitoring to the employees.  
13 They started out with pocket ionization  
14 chambers for neutrons and photons, worked up to  
15 film in the -- 1944/45 time period, then later  
16 on into the SEC period TLDs were used. Now the  
17 thing is is that relevant data are not  
18 available from which an estimate of all the  
19 radionuclides source terms can be developed.  
20 And we have for environmental exposures for  
21 internal and external, for the internal  
22 exposures to environmental radiation, there is  
23 -- no data were provided for the years prior to  
24 1970. 1970 to '75, there's data, but no  
25 developed methodology exists yet for that --

1           that data. For external dosimetry, area film  
2           badge monitoring started post-1965.  
3           Now the things that we can do or feel we have  
4           sufficient information to feasibly reconstruct  
5           some dose is on internal exposures to  
6           plutonium, uranium, tritium and polonium. And  
7           this is straight from Table 7-10 of the -- or  
8           to see Table 7-10 of the ER, and later on in  
9           the slides I have the actual table so you can  
10          see what we're talking about.  
11          And we believe we can do these dose  
12          reconstructions for these particular  
13          radionuclides because we do have bioassay  
14          monitoring, urinalysis data, for a majority of  
15          the time period for the proposed class. We  
16          have in vivo monitoring beginning in 1970.  
17          There is some screening data for Humco devices,  
18          which were sodium iodide detectors that  
19          measured for strontium-90 and cesium-137 that  
20          go back into the '50s, but they are just  
21          screening methodologies. And we also have  
22          coworker data that we can develop for these  
23          particular people with these radionuclides.  
24          Now this is the list -- a summary of the  
25          deficiencies in the data that we have for LANL

1 by period. As you can see, 1943 to 1949, we  
2 don't have data for tritium. It essentially  
3 starts in 1950 for tritium. No mixed fission  
4 product or activation product data. We can't  
5 do -- we're not -- no dose reconstruction for  
6 americium-241 if we don't have any plutonium  
7 data that we can associate it with, or we have  
8 some new bioassay data that we're looking at  
9 that has to be validated, but otherwise it  
10 can't be done.

11 1950 to 1969 we have mixed fission products  
12 and, again, the mixed activation products, and  
13 we need validation on some newly-identified air  
14 sampling data that's come in. Americium-241 in  
15 the 1950s, they had pure americium-241 that  
16 they used in making sources like  
17 americium/beryllium sources, and you also had  
18 the americium associated again with the  
19 plutonium. And if you don't have that data  
20 associated with it, you can't do anything with  
21 the americium-241. And again the thoriums,  
22 actinium, protactinium, neptunium and curium.  
23 1970 to '75, the same players are in there  
24 again with the mixed fission products,  
25 americium-241, the thoriums, neptunium and

1 curium and protactinium. So these are playing  
2 all through the period, and that's the key, is  
3 that during the analysis of the data LANL  
4 health physics and radiation safety basically  
5 concentrated on the majority -- or on the  
6 activities that were of the -- that gave the  
7 largest hazard at the time, which was the  
8 plutonium, polonium and so on. But there are  
9 periods throughout the history where these  
10 other radionuclides make a presence where they  
11 do become hazards, and there's really no  
12 monitoring method that was there available for  
13 us to go back and look and make some kind of  
14 reasonable estimate of a maximum dose for an  
15 individual person.

16 Air sampling data is not available for all  
17 years of operation, and is deficient for  
18 fission products and some of the exotic  
19 radionuclides like I've just shown on the other  
20 slide. We have new data, but it's intermittent  
21 and non-inclusive for all areas.

22 For the medical exposure due to chest X-rays,  
23 we do have information that goes back and can  
24 reconstruct medical doses. They were on an  
25 annual basis, the X-ray -- medical X-ray, so

1           that we do have information and also, using  
2           other Technical Basis Documents, we can -- feel  
3           we can reconstruct the dose there.  
4           Now from the petitioner's side, the petitioner  
5           provided information and affidavit statements  
6           in support of the petitioner's belief that  
7           accurate dose reconstruction over time is  
8           impossible for all workers of LANL working in  
9           all tech areas from 1943 to '75. And this was  
10          based on insufficient data, records do not  
11          exist, and lack of bioassay data. The petition  
12          was qualified by NIOSH on August 7th, 2006.  
13          So we come to the conclusion of what is  
14          feasible to do dose reconstructions for, and in  
15          this table, this is the table straight out of  
16          the ER, where for -- source of exposure for  
17          internal, we have tritium where we can do dose  
18          reconstructions from '50 to -- 1950 to '75, but  
19          the early years we don't have because there is  
20          no information essentially on tritium or any  
21          urinalysis until 1950, so 1943 to 1949 would  
22          not be feasible to do dose reconstructions.  
23          Polonium, 1944 we believe we can reconstruct  
24          from 1944 to 1956. Those -- that's -- those  
25          are the years when the polonium was actually

1 present on-site, so that covers that span.

2 That's why 1943's not there; it wasn't present  
3 in '43.

4 For plutonium, 1944 to 1975. 1943 is left out  
5 because basically there was only milligram  
6 quantities of plutonium at Los Alamos in 1943.

7 Uranium, we feel we can cover the entire period  
8 from 1943 to '75. But now all those other

9 players of actinium, curium, neptunium,

10 thorium, strontium, various isotopes of

11 concern, other things that we had that were on

12 that list, and mixed fission products and

13 activation products, the data does not support

14 reconstruction of dose.

15 On the external dosimetry side we have gamma

16 dose reconstruction, believe it's feasible from

17 1946 to '75, but not from '43 through '45. In

18 the early years -- they only first monitored

19 for just gamma in the early years, but there is

20 data in the records for individual persons, but

21 when a review was done of all the claimants for

22 LANL, they could not find dosimetry information

23 previous to -- from '43 to '45 there was

24 nothing in the files for that.

25 Beta radiation, shallow dose, skin dose, was --

1           can be reconstructed from '49 to '75. In the  
2           earlier years the concern was not on shallow  
3           exposures or skin dose and beta dose. It was  
4           shifted more to penetrating dose with gamma and  
5           also in the neutrons.

6           And neutron dosimetry, we could -- we feel we  
7           can reconstruct feasibly the dose from 1946 to  
8           1975, but from 1943 to 1945 it's the same thing  
9           with lack of data in records that -- before --  
10          the individuals for the claimants, and the data  
11          itself being more sparse.

12          Occupational medical X-rays, we feel we can do  
13          that for the entire period, 1943 to 1975.

14          So as far as health endangerment, there is  
15          concern. NIOSH has determined that members of  
16          the class were not exposed to radiation during  
17          a discrete incident likely to have involved  
18          levels of exposure similarly high to those  
19          occurring during nuclear criticality accidents,  
20          it wasn't a common experience, but we do  
21          believe -- that is, evidence indicates that  
22          some workers in the class may have accumulated  
23          chronic exposures sufficient to endanger their  
24          health.

25          So, after discussions that occurred yesterday,

1           the -- and re-looking at the class definition,  
2           we've determined that all employees of the DOE,  
3           its predecessor agencies or DOE contractors or  
4           subcontractors, who were monitored or should  
5           have been monitored for radiological exposures  
6           while working in operational Technical Areas  
7           with a history of radioactive material use at  
8           the Los Alamos National Lab for an aggregate of  
9           at least 250 workdays during the period from  
10          March 15th, 1943 through December 31st, 1975,  
11          or in combination with workdays within the  
12          parameters established for one or more of the  
13          other classes of employees in the SEC. And the  
14          reason we had excluded several Technical Areas  
15          and NIOSH determined that in all our other  
16          proposals or SEC petitions where we did make a  
17          statement of the -- in the class definitions,  
18          we never put in areas or buildings that were  
19          excluded from the class. It was always what  
20          was in the class, so we felt that should not be  
21          in there. Those were removed, and an addendum  
22          was made where we lay out all the Technical  
23          Areas that are included in the class, which  
24          means any Technical Area that is not in that  
25          addendum could potentially be solicited to be

1 looked at for further study to see if it should  
2 be included in some other class or some other  
3 proposal to see if SEC is required.

4 So, for the recommendation, for the period  
5 March 15th, 1943 through December 31st, 1975,  
6 NIOSH finds that it cannot reconstruct doses  
7 for members of the proposed class with  
8 sufficient accuracy, so the feasibility of  
9 doing it is no, and health endangerment is yes  
10 for that class.

11 Issues that need to be resolve, and we're doing  
12 further study with data as some information  
13 comes, and re-looking at data that we have and  
14 making some other determinations, we're looking  
15 at mixed fission products -- and this will all  
16 be resolved, these issues, by the time of the  
17 update of the site profile, which is sometime  
18 in June. We're looking at mixed fission  
19 products and mixed activation products, data  
20 that we have -- some extra data that has come  
21 up in there and looking at validation.

22 Determination of processes associated with the  
23 americium I talked about and its relationship  
24 with plutonium handling. And then a further  
25 review of some new information on air and other

1 data for -- and methodologies for actinium,  
2 curium, neptunium, thor-- thorium and  
3 protactinium.

4 So this -- we recommended this class and  
5 petition time frame to be added now to the SEC  
6 rather than delay while we're looking -- we did  
7 not want to drag on the period while we're  
8 looking at other data, so we're proclaiming the  
9 1943 to '75 as the -- as the SEC. So NIOSH can  
10 reopen a petition or present an 83.14 if  
11 further evaluation warrants.

12 And with that, I thank you.

13 **DR. ZIEMER:** Thank you, and an added comment  
14 from Larry Elliott here and then we'll hear  
15 from the petitioners.

16 **MR. ELLIOTT:** I just want to make it clear for  
17 the record -- and thank you, Greg. We sprung  
18 this on Greg when he walked off the plane  
19 today. We worked with the petitioner, Mrs.  
20 Ruiz, and with Andrew and with Michele Ortiz to  
21 refine the definition that you've been given  
22 now. It is different than the definition that  
23 exists in the evaluation report that you've  
24 been provided. We took out the --

25 **DR. ZIEMER:** We have an addendum page, however,

1           that --

2           **MR. ELLIOTT:** Okay, so you have that.

3           **DR. ZIEMER:** Yes.

4           **MR. ELLIOTT:** We're going to provide a revised  
5           evaluation report. This will be the addendum  
6           to that, so I just want to make that clear for  
7           the record.

8           **DR. ZIEMER:** Thank you very much, Larry, and  
9           thank you, Greg. We're going to hear -- give  
10          Michele Ortiz, who's --

11          **DR. WADE:** (Off microphone) (Unintelligible)

12          **DR. ZIEMER:** Oh, I'm sorry, okay. First -- oh,  
13          Eleanor, okay -- yeah. I'm sorry, I -- I --  
14          yeah. I'm -- I'm getting ahead of myself.  
15          We'll hear from the petitioner, then we'll hear  
16          from Michele. Thank you.

17          **MS. RUIZ:** Good afternoon, Board members, and  
18          thank you for the opportunity to speak to you  
19          today. My name is Harriet Ruiz and I am a  
20          petitioner. I would like to thank you and  
21          NIOSH for getting us to this point, and all the  
22          hard work that you do and NIOSH also does on --  
23          on behalf of all the SEC petitioners. It  
24          really is appreciated.

25          Let's see, I would now like to read a letter

1 from the Honorable Ben Lujan, who's the Speaker  
2 of the House and who is also a petitioner with  
3 me on this petition. I -- I also believe that  
4 you have a pass-out of that letter. This  
5 letter was written to Laurie Breyer because  
6 she's the one that -- she's been the one that's  
7 contacting him.

8 So this is (reading) Dear Ms. Breyer: I  
9 appreciate the recent correspondence informing  
10 me of the meeting and discussion on the LANL  
11 SEC petition evaluation report of (sic) May 3rd  
12 in Denver, Colorado. I regret that my schedule  
13 will not allow me to attend the scheduled  
14 meeting. It is my continued hope and prayer  
15 that the petition is acted upon favorably, and  
16 that the DOE will finally take the  
17 responsibility for the illness for (sic) which  
18 these workers suffer. Many continue to suffer  
19 and die spiritually and physically and will  
20 never see justice rendered.

21 It is imperative that the facts contained in  
22 the petition be addressed and that the brave  
23 and courageous men and women who worked at LANL  
24 in the early years and were exposed to  
25 radiological substances be given the attentions

1           they so deserve. The consistent disregard for  
2           the occupational safety and health at LANL has  
3           notoriously become a classic example of  
4           injustice to the people who, through their  
5           sacrifice, were essentially in winning World  
6           War II and especially -- I believe -- and I'm  
7           adding "especially" -- the Cold War.  
8           It is my hope that NIOSH will do what Congress  
9           intended them to do -- lift the burden of proof  
10          off the shoulders of the workers and accept  
11          that responsibility. Current Governor Bill  
12          Richardson, when he was Secretary of Energy,  
13          said "We are not going to make workers find  
14          past records because in many cases the workers  
15          were not told the truth. The burden of proof  
16          is on the government and not the worker. The  
17          biggest change in policy is that the government  
18          will not contest many of the claims and workers  
19          would receive the benefit of the doubt when  
20          plant medical records are missing or flawed."  
21          Thank you all -- thank you for all your efforts  
22          on behalf of the workers. I pray that there  
23          will be a favor-- favorable action and the  
24          treatment of these workers will restore public  
25          confidence in the process that has not been

1 favorable that have led many (sic) to say "If  
2 the exposure does not kill you, the process we  
3 are subjected to will." Sincerely, Ben Lujan,  
4 Representative, Speaker of the House.

5 Thank you. And with that I am going to be very  
6 short today and I'm going to present Andrew  
7 Evaskovich and he's going to give you a  
8 Powerpoint presentation.

9 **DR. ZIEMER:** Thank you. Andrew, we'd be  
10 pleased to hear from you now.

11 **MR. EVASKOVICH:** Good afternoon. My name is  
12 Andrew Evaskovich. I'm a guard at Los Alamos  
13 and I'm a representative from the International  
14 Guards Union of America, Local No. 69. To  
15 begin I'd like to thank Larry Elliott and his  
16 team for working with us today on the class  
17 definition and actually putting this together.  
18 We found it to be very beneficial and we  
19 appreciate what he has done for us. Thank you,  
20 Larry.

21 Let me begin. It is the question that drives  
22 us. We would not be where we are today if not  
23 for our inquisitiveness. Archimedes, Newton,  
24 Rutherford and many others had questions. The  
25 answers to their questions often led to more

1 questions.

2 Let me be more specific. The National Research  
3 Council report radiation dose reconstruction  
4 for epidemiological uses states the criteria  
5 for the design of a dose reconstruction project  
6 must be expressed in terms of specific  
7 questions.

8 The question before us today is this: Can  
9 NIOSH estimate radiation doses with sufficient  
10 accuracy for LANL employees in the years 1943  
11 to 1975? NIOSH finds that it cannot  
12 reconstruct doses for members of the proposed  
13 class with sufficient ac-- accuracy.  
14 However, certain Technical Areas needed to be  
15 evaluated to be included into this petition --  
16 in-- into the class. I'm going to talk about  
17 reason why I believe that NIOSH should evaluate  
18 these areas and why I think they should be  
19 included. I will show you several photographs  
20 and maps, and I will also discuss technical  
21 reports that say radiation -- radionuclides  
22 were in these Technical Areas.

23 To begin, we have LANL and surrounding areas.  
24 If you look at the map on display, in the blue  
25 there is Los Alamos National Laboratory as it

1 exists now. You see the city of Los Alamos and  
2 the bedroom community of White Rock. To the  
3 southeast is Santa Fe and Espanola, and it is  
4 surrounded by Santa Fe National Forest and  
5 (unintelligible) National Monument.  
6 This is State Road 502 looking west to the  
7 (unintelligible) Plateau where Los Alamos is  
8 located. You see the mountains there. Those  
9 are the Jemez Mountains, and the brown there is  
10 the plateau, and on this plateau is where the  
11 Los Alamos National Laboratory is located.  
12 This is an aerial view of Los Alamos National  
13 Laboratory. You see the main Technical Area 3  
14 here where most of the administrative offices  
15 and many of the labs are located. The airport  
16 is located here and the Neutron Science Center  
17 is located here. S Site is in this area here  
18 where a lot of the original explosive testing  
19 was conducted. The residential areas are over  
20 here, and Biocanyon GHN\* is located here.  
21 This is Ashley Pond and Fuller Lodge. Fuller  
22 Lodge was the first headquarters of the  
23 laboratory in 1943. That's where they  
24 initially set up. Fuller -- Ashley Pond is a  
25 prominent feature on the Technical Area 1 map

1           that I'll be showing you later, but in the  
2           background there, that's Fuller Lodge. It's a  
3           historical building that they preserved and  
4           they've got some -- a partial museum in there.  
5           And another view of Ashley Pond. Here's the  
6           Los Alamos Inn, and this is a building in  
7           Technical Area 0. It's a current building that  
8           Los Alamos occupies, the laboratory does. Now  
9           this area in here was the formal Technical Area  
10          1 or the main Technical Area.  
11          This is the current map of Los Alamos National  
12          Laboratory and the various Technical Areas. As  
13          you can see, it's a large area, and there are  
14          many Technical Areas which are displayed here.  
15          This is the Los Alamos Scientific Laboratory,  
16          and this is taken from the DOE final  
17          environmental impact statement number 18.  
18          There are 30 Technical areas on this map, and  
19          the numbers and locations are different from  
20          the map that we just saw.  
21          NIOSH needs to evaluate these following areas  
22          in TA1Z which I will discuss later: TA-17,  
23          which is highlighter there by the laser, is  
24          listed as canceled in the annex, or the table  
25          in the SEC report. Currently it is TA-37 on

1           the -- on the current map that's TA-37.  
2           According to the SEC evaluation and to the  
3           Technical Basis Document site description, TA-  
4           37 is a magazine area and has depleted uranium  
5           stored there.  
6           TA-19, which you'll see on this map, is located  
7           right here. In the evaluation report it's  
8           listed as the East Gate Laboratory and it was  
9           deactivated by the AEC, I believe. The East  
10          Gate Laboratory contained a 300 curie cobalt-60  
11          source. In addition, Emilio Segré, one of the  
12          original physicists that was at the Lab,  
13          conducted spontaneous fission experiments  
14          there. The source for that information would  
15          be Los Alamos document LA-UR-92-810.  
16          Additionally, Richard Rhodes, in his book, *The*  
17          *Making of the Atomic Bomb*, referred to Emilio  
18          Segré and the spontaneous fission experiments  
19          at the East Gate Laboratory. And the East Gate  
20          Laboratory would be located approximately in  
21          this area here, and the reason they moved it  
22          over there is because of the radiation from  
23          Technical Area 1, or the main Technical Area,  
24          was interfering with the instrumentation that  
25          he needed to observe the spontaneous fission.

1 TA-28, which is located here, is shown as 13 on  
2 this map, but you'll see it over here on this  
3 map. Let me -- let me clarify. That's TA-28  
4 on this map. On the current Los Alamos  
5 Technical Area map, it's TA-13. Currently TA-  
6 28 is a magazine area. Page 36 of the SEC  
7 evaluation report states that TA-28 has  
8 depleted uranium. Additionally, page 14 of the  
9 Technical Basis Document site description  
10 states that TA-28 has depleted uranium. So two  
11 documents that NIOSH prepared states that  
12 depleted uranium in in those areas.

13 I'd like to continue and refer back to the RaLa  
14 petition and the SEC that was approved. I'd  
15 like to point out that the advisory committee  
16 on the human radiation experiments prepared a  
17 report that had a quote from H. L. Shipman\*,  
18 health division leader. He said about the RaLa  
19 shots very significant levels of activity can  
20 be deposited on the ground at least within a  
21 radius of three miles. I've included this  
22 report information on the disks I've provided  
23 to NIOSH, as well as the Board. The report has  
24 a table of the 254 RaLa shots, including wind  
25 direction and monitored activity of the clouds

1           that were produced from those shots, and I've  
2           included other reports on Technical Area 10  
3           concerning radioactive contamination in those  
4           areas.

5           This petition we're now discussing is a second  
6           chance to address the issues that have come up  
7           from the RaLa shots, just to ensure that people  
8           are covered in the class. That's my concern  
9           and why I bring that up.

10          If we refer to your handouts now, this should  
11          have been issued to everybody, the maps of Los  
12          Alamos -- I'm sorry, only the Board members  
13          have these. If you look at the map, it  
14          displays New Mexico and it displays Los Alamos.  
15          If you look at the map where it says Santa Fe  
16          National Forest and Los Alamos, those areas  
17          were the original laboratory. They acquired  
18          all that land in order to be the laboratory,  
19          and it shrank down to become what is currently  
20          the laboratory now.

21          This is Los Alamos site in 1943. It's known as  
22          Site Y of the Manhattan Engineering District.  
23          Right there is the main Technical Area or TA-1.  
24          The Anchor Ranch Proving Ground, which is  
25          currently considered S Site now, or TA-16 area.

1 This is Area A, Area B, Area C, Area D and Area  
2 E. As you can see, the map is different from  
3 the map that was prepared for the Los Alamos  
4 Scientific Laboratory.

5 Major expansion of the laboratory occurred in  
6 1951 to 1953 with the addition and construction  
7 of 14 Technical Areas. As you can see going  
8 backwards, there have been many changes to the  
9 Los Alamos area and the laboratory.

10 This is Technical Area 1 as it was -- existed  
11 at the time of -- when the laboratory was first  
12 initiated. Building G contained uranium and  
13 22-- uranium and radium-226. Building M  
14 contained enriched uranium-235, and metallurgy  
15 and recovery was conducted there. You can see  
16 here is Building Z and the proximity of the  
17 buildings to each other is very close. There  
18 is Ashley Pond as I referred to earlier, a  
19 prominent feature on this map.

20 This is a historical photo of Technical Area 1.  
21 The buildings were put up in a hurry because of  
22 the wartime construction. The material used in  
23 the construction of the building was the same  
24 as Army barracks. The exteriors were drop  
25 siding or asbestos cement shingles, pitched

1 roofs with asphalt roofs -- pitched roofs  
2 covered with asphalt shingles, and the  
3 interiors were gypsum-board walls, so they were  
4 not the (unintelligible) construction that we  
5 have now in buildings containing radioactive --  
6 or radionuclides. And if you'll look at the  
7 photograph, notice the closeness of the  
8 buildings. In Technical Area 1 they had  
9 several buildings that were in approximately a  
10 25-acre area.

11 This is TA-1 Building Z. If you look again at  
12 the construction, the roof, the walls, and this  
13 is where the Cockroft-Walton accelerator was  
14 stored. According to the December 1977 report  
15 LA-6887, radiological survey and  
16 decontamination of the form-- former main  
17 Technical Area TA-1 at Los Alamos, New Mexico,  
18 it states in Appendix B of that report that  
19 tritium was used in the building.

20 This is a photograph of the Cockroft-Walton  
21 accelerator. The Technical Basis Document site  
22 description, page 29, states that workers were  
23 exposed to gamma and neutron radiation from  
24 this device.

25 We need to discuss cross-section. The

1 experiments that were conducted with the  
2 Cockroft-Walton accelerator were cross-section  
3 studies. A cross-section is a measure of the  
4 probability that a collision will occur between  
5 a beam of radiation and a particular particle,  
6 expressed as the effective area presented by  
7 the particle in that particular process. It is  
8 measured in square meters or barns, and the  
9 terminology of barns came about from hitting  
10 the broad side of a barn.

11 Cross-section is also broken down into the  
12 elastic cross-section, which amounts for all  
13 elastic scattering in which the radiation loses  
14 no energy to the particle and the inelastic  
15 cross-section accounts for all other  
16 collisions. It is subdivided as to account for  
17 specific interactions such as the absorption  
18 cross-section, fission cross-section and  
19 ionization cross-section. I believe those  
20 terms are self-explanatory.

21 The cross-section reports. These were repaired  
22 after they did their experiments, LANS777,  
23 preliminary results of cross-section, fission  
24 cross-section of uranium-238, September 8,  
25 1948. Obviously they did an experiment with

1 uranium. LA-1258, the neutron-induced fission  
2 cross-section of U-236 as a function of energy,  
3 May 26, 1951. LA-1279, total cross-sections  
4 for 14 million electron volt electrons, July  
5 16, 1951; tritium was used in that experiment.  
6 LA-1480, cross-sections for the  
7 D(DN)HE3ND(DP)H3 reactions from 14 to 110 kilo  
8 electrovolts, October 1952, and tritium was  
9 used in that experiment. LA-1483, cross-  
10 sections of tritium, hydrogen and helium for  
11 fast neutrons, October 1952. And LA-1681,  
12 fission cross-section measurements, June 1954,  
13 uranium-238.

14 I've included these reports as well in PDF  
15 format on the disk that's available.

16 This is Building U of Technical Area 1. It was  
17 part of the RaLa petition and SEC. In the  
18 building -- Building U held tritium, uranium-  
19 235, uranium-238, carbon-14 and radium-226, and  
20 Building U was adjacent to Building Z.

21 Slide 18, this is Building T, adjacent to  
22 Building Z. This was the division offices, and  
23 this is just to demonstrate the proximity of  
24 the buildings and the laboratory.

25 This is Building D. This is the plutonium

1 building. The Centers for Disease Control, Los  
2 Alamos Historical Document Retrieval and  
3 Assessment, lodger\* report, states that the  
4 airborne effluents through the rooftop vents  
5 were unfiltered and unmonitored. And this is  
6 an issue because the winds are from the south  
7 and southwest consistently in Los Alamos.  
8 Building D is located here; Building Z is here.  
9 So the winds would be blowing in this direction  
10 or in this direction, so the effluents would be  
11 going towards Building Z. And the source of  
12 this information is the most recent site-wide  
13 environmental impact statement that was  
14 prepared for Los Alamos.  
15 Storm Runoff. There's several major canyons in  
16 the Los Alamos area. Contaminants have been  
17 discharged into the canyons as waste, and storm  
18 runoff has carried those down and these will  
19 affect other Technical Areas from which they  
20 originated. Sediments containing high  
21 concentrations of radionuclides have been found  
22 in Pueblo Canyon, which is located around here;  
23 Los Alamos, Whartondad (sic) and Ancho Canyon  
24 discharge. LANL has discharged liquid  
25 radioactive waste, including tritium, cesium-

1           137, plutonium-238 and americium-241 into  
2           Pueblo Canyon -- located here. Americium-241,  
3           cesium-137, plutonium-239 and 240 are  
4           consistently found in sediments in Mortondad  
5           Canyon, located here. Elevated levels of  
6           radioactive americium-241, plutonium-238,  
7           plutonium-239 and 240 have been detected in  
8           Pajarito Canyon. I've included documentation  
9           on the waste streams in this -- on the disk, as  
10          well -- and Pajarito Canyon.  
11          Historically TA-45 waste treatment discharged  
12          into the Pueblo Canyon drainage system, which  
13          flows through portions of Technical Area-74.  
14          Detectable levels of plutonium have been found  
15          also, and discharges from TA-10 Biocanyon could  
16          have impacted TA-74. LA -- and this is from  
17          document LA-UR-92-810 again.  
18          In conclusion, I've shown you several  
19          illustrations and spoken about reasons why  
20          Technical Areas should not be excluded from the  
21          class definition or in fact included, since we  
22          have changed the definition. I have about 35  
23          documents included on the disk to support what  
24          I've said. With the time constraints on  
25          speaking, that's the reason why the documents

1           are there. This would take several hours if I  
2           were to refer to everything and all the  
3           information that's in there.

4           Please forgive me, I know you guys have a lot  
5           of stuff to read, as well as NIOSH people have  
6           a lot of work to do, but it's important in  
7           order to get this right. I realize that the  
8           LANL SEC petition looks complex, but once you  
9           get past the issues of the Technical Areas and  
10          the source terms, at the center it is simple.  
11          Ask yourself this question. What is claimant  
12          favorable?

13          I'm going to finish with a quote from Victor  
14          Franco. Victor Franco was a World War II Nazi  
15          concentration camp survivor. He wrote a book  
16          about his experience called *Man's Search for*  
17          *Meaning*. He said we needed to stop asking  
18          about the meaning of life and instead to think  
19          of ourselves as those who are being questioned  
20          by life daily and hourly. Our answer must  
21          consist not in talk and meditation, but in  
22          right action and in right conduct. Life  
23          ultimately means taking the responsibility to  
24          find the right answer to its problems and to  
25          fulfill the tasks for which it sets for each

1 individual.

2 I'd like to thank you for listening to me and  
3 watching my presentation.

4 **DR. ZIEMER:** Thank you, Andrew. Now we'll hear  
5 from Michele Ortiz. Michele?

6 **MR. GRIFFON:** I -- I was just going to ask,  
7 while she's coming to the mike, are -- are  
8 those handouts on the disk you talked about?

9 **DR. ZIEMER:** We have disk -- we have a copy of  
10 the disk he talked about.

11 **MR. EVASKOVICH:** There's a disk and all the  
12 documents are on there as well as the  
13 Powerpoint --

14 **DR. ZIEMER:** And I think NIOSH has a copy of  
15 the disk now, as well.

16 **MR. EVASKOVICH:** Yes, I provided one, as well.

17 **DR. ZIEMER:** Oh, Jason.

18 **MR. BROEHM:** I think the first thing  
19 (unintelligible) --

20 **DR. ZIEMER:** Yeah, I'm sorry, I -- I took the  
21 order wrong. Jonathan Epstein is from Senator  
22 Bingaman's office. He's on the phone, so  
23 Jonathan, are you there?

24 **MR. EPSTEIN:** Yeah.

25 **DR. ZIEMER:** Yeah, please.

1           **MR. EPSTEIN:** (Unintelligible)

2           **DR. ZIEMER:** Yeah, thank you. We hear you loud  
3 and clear so please go ahead.

4           **MR. EPSTEIN:** Okay. Well, I -- I just want to  
5 thank you for the -- the time to hear me. It's  
6 going to be fairly brief. I -- I want to thank  
7 NIOSH for the excellent technical work they  
8 did. It's (unintelligible) and it looks quite  
9 of high quality. I won't get into the details  
10 and the presentation before looks like it was  
11 fairly in-depth, but I think the committee  
12 needs to keep in mind the big picture here of  
13 what Los Alamos did (unintelligible). It's  
14 been a laboratory where they produced very  
15 unique experiments, one-of-a-kind experiments,  
16 in many cases, by scientists that were then  
17 later replicated at production plants. That  
18 being the case, having come from a laboratory,  
19 when you do a unique experiment you don't work  
20 out the safety and health protocols in detail  
21 as you would today. They tend to be one-of-a-  
22 kind with one-of-a-kind unexpected results and  
23 with (unintelligible) materials and things left  
24 over over longer periods of time. So that  
25 being said, I'd just ask the Advisory Board to

1 take that into account as to the wide variety  
2 and the fact that this all started in the 19  
3 what, 40 -- 42 time frame, that -- that many of  
4 the inhalation dose equipment just wasn't  
5 around and I think NIOSH folks got it right.  
6 So with that, I'll -- I'll -- I'll thank you  
7 for the time and I know Senator Bingaman did  
8 call in in April to you all to express that  
9 similar support for the petition itself. Thank  
10 you.

11 **DR. ZIEMER:** Yes, thank you very much,  
12 Jonathan. Now we'll hear from Michele, and  
13 she's with Representative Tom Udall's office.  
14 Michele?

15 **MS. JACQUEZ-ORTIZ:** Thank you, Chairman Ziemer.  
16 My boss had intended to call in a little  
17 earlier, and the way that the -- the day  
18 unfolded, I'm here to read a statement on his  
19 behalf.

20 (Reading) Chairman Ziemer and members of the  
21 Advisory Board, I want to express my thanks to  
22 NIOSH for the revised class definition  
23 presented to you today that addresses concerns  
24 raised by Harriet Ruiz and the Los Alamos  
25 National Laboratory claimants, on whose behalf

1           this Special Exposure Cohort was filed.  
2           I have expressed concern that claimants who  
3           lack detailed work history that shows precisely  
4           where they worked at LANL in the period between  
5           1943 and 1975 would have been unfairly excluded  
6           from eligibility for compensation as members of  
7           a more narrow SEC class. It is clear that  
8           NIOSH shares my concern that a more narrow  
9           class definition could delay the processing of  
10          deserving LANL claims. I support the proposed  
11          class definition presented to you today, and I  
12          respectfully request that the Advisory Board  
13          approve the Ruiz SEC so that it may be  
14          forwarded to Secretary Leavitt and Congress in  
15          an expeditious manner.  
16          Thank you for allowing my statement for the  
17          record, and for approving this SEC on behalf of  
18          the many sick Cold War workers who are my  
19          constituents and who are dying while awaiting a  
20          determination on their claims.  
21          And thank you for the time to listen to all of  
22          us during this presentation, and all of the  
23          good work that went on behind the scenes  
24          preceding this presentation by NIOSH. It's  
25          really important that we acknowledge that.

1           **DR. ZIEMER:** Thank you, Michele. I think we  
2 may have another one of the petitioners on the  
3 line. Ms. Wallace, are you on the line?

4           **MS. WALLACE:** Yes, I am on the line. Thank  
5 you, I -- I have lived in Los Alamos since '58.  
6 I served six years as our -- as a  
7 representative on our county council in the  
8 '80s and I have been a state representative for  
9 this area since 1991. I have been to  
10 Washington with -- with Harriet to talk to all  
11 of our Congressional delegation, and I can only  
12 endorse what I keep hearing. Our folks are  
13 dying. The relatives are frustrated and angry,  
14 and we need to move forward. New Mexico  
15 (unintelligible) as has obviously some of the  
16 other states, also, in the whole endeavor, and  
17 I would urge us to try to move forward and get  
18 this resolved. And I -- and I really  
19 appreciate the fact that you're willing to do  
20 the conference calls so that we can all  
21 participate. I -- I -- I feel the frustration  
22 of all my constituents. I know that NIOSH will  
23 be up here to talk more (unintelligible) on  
24 next Tuesday and Wednesday, I think, about some  
25 of these issues that they have problems with.

1           And I -- I think we can (unintelligible) change  
2           the results. I am also frustrated about where  
3           the Department of Labor and NIOSH tend to  
4           overlap and which one is in charge of what, and  
5           I think we all feel that frustration and I --  
6           and I would like to get that sorted out, also.  
7           With that, I -- I will say I urge you to  
8           continue to move forward. Thank you.

9           **DR. ZIEMER:** Thank you very much, Ms. Wallace.  
10          Now I'm going to open the floor to the Board  
11          for questions -- oh, who had another comment?  
12          Yes, please -- yeah, sorry.

13          **MS. RUIZ:** That's all right. Thank you for  
14          allowing me this last comment. I would again  
15          like to thank the Board members. I know -- I  
16          really know how hard you work. Sitting here  
17          listening to testimony is very difficult.  
18          I'd also like to express, along with Michele  
19          and Andrew, our deep appreciation for the work  
20          that we did behind the scenes with NIOSH and  
21          Larry Elliott. It was really appreciated.  
22          I'd also like to say that Jeannette Wallace --  
23          I did serve with her. She's one of the most  
24          senior members of the House of Representatives.  
25          Her constituency is Los Alamos. And Jeannette,

1 if you're still listening, thank you for  
2 calling in.

3 I would like to end with one last thing, and  
4 it's -- it's just what I say, hope. Hope is  
5 the kind of belief that things -- people,  
6 conditions, whatever -- can get better. And  
7 with that, thank you again. I appreciate all  
8 your time.

9 **DR. ZIEMER:** And thank you again. Now Lew,  
10 comments here?

11 **DR. WADE:** Briefly for the record, we do have  
12 two Board members who are conflicted on LANL --  
13 Phillip, who's in the front row, and Dr.  
14 Poston, who is not with us, is also conflicted.

15 **DR. ZIEMER:** Okay. We can open the floor for  
16 questions for either the -- for NIOSH or for  
17 the petitioners -- Board members? I -- I think  
18 -- okay, Mark had a question and it turns out  
19 it was the same question I had, so I think  
20 we'll ask Greg, if you'll just come to the  
21 mike, we need a clarification. And I think  
22 this clarification has to do with the chart. Go  
23 ahead, Mark.

24 **MR. GRIFFON:** Well, yeah, I'm -- I'm comparing  
25 your -- my mike's on anyway? -- comparing your

1 table 7-10 slide --

2 **DR. MACIEVIC:** Uh-huh.

3 **MR. GRIFFON:** -- to your sort of final  
4 conclusion slide, and you know, it -- it says  
5 in the final conclusion that -- cannot  
6 reconstruct doses for that entire time period  
7 for all radiological exposures, I think is the  
8 way it's phrased. But in here in this chart,  
9 in the detail, it looks like you're saying that  
10 you can estimate doses for certain  
11 radionuclides, so I just want to understand --  
12 understand --

13 **DR. MACIEVIC:** Let me --

14 **MR. GRIFFON:** -- understand what's -- you know,  
15 which is correct or...

16 **DR. MACIEVIC:** As far as the site, there are  
17 certain things we can -- we feel we do have  
18 information enough to reconstruct the doses on.  
19 It's not for all radionuclides that we don't  
20 have enough information. It's for essentially  
21 those outlier group, the -- the thorium, the  
22 actinium and that, which are -- there is  
23 information, but there's sporadic information  
24 and in order to do the dose reconstruction we  
25 would have to make some very exorbitant

1 estimates on the maximum dose. And the -- we  
2 don't really -- I mean --

3 **DR. ZIEMER:** I think we understand that, Greg.  
4 I think the question is perhaps -- if we  
5 parallel it with -- with the Rocky Flats case  
6 where we defined the class in terms of the  
7 doses that could not be reconstructed --

8 **DR. MACIEVIC:** Ah, yes.

9 **DR. ZIEMER:** -- whereas here it appears that  
10 we're saying that although some can be  
11 reconstructed and some can't, we're defining  
12 the class to cover everyone. That's what I  
13 think we need a little help on. Are you saying  
14 that you can't distinguish in this case those  
15 who have one or the other --

16 **DR. MACIEVIC:** Yes.

17 **DR. ZIEMER:** -- whereas in -- in the case here  
18 at Rocky, the claim is that we can distinguish  
19 between those that, for example, had -- or  
20 didn't have neutron exposures and they -- yes.

21 **MR. RUTHERFORD:** Pretty much what you answered  
22 is correct. What we determined was, one, that  
23 -- that the exposures and the radionuclides  
24 were over so many different areas, and -- and  
25 the time periods were -- you know, bounced

1           around, that we had to include everything,  
2           so...

3           **DR. ZIEMER:** So a given worker, you -- you  
4           can't say well, this one had tritium only.

5           **MR. RUTHERFORD:** Exactly.

6           **DR. MACIEVIC:** That's right.

7           **DR. ZIEMER:** Although it may be in an  
8           individual case that might turn out -- if  
9           someone didn't meet the SEC qualification for  
10          cancer --

11          **DR. MACIEVIC:** That's exactly right.

12          **DR. ZIEMER:** -- they might go back and say  
13          well, reconstruct on the basis of  
14          (unintelligible) tritium or --

15          **DR. MACIEVIC:** If you can show that a worker  
16          was only with a particular thing and have  
17          evidence of that, you can say yes, we can  
18          reconstruct it. But otherwise, because of the  
19          nature like --

20          **MR. RUTHERFORD:** Not exactly, no. Let me --  
21          let me correct Greg on that. What he -- what  
22          we're saying is right, for certain things,  
23          individual cases, there -- there are things  
24          that we can reconstruct. However, in total, we  
25          cannot reconstruct the complete dose for

1 individuals in all areas.

2 **DR. ZIEMER:** Yes, that clarifies it for me, I  
3 think. Mark, does it for you?

4 **MR. RUTHERFORD:** Okay.

5 **DR. ZIEMER:** Thank you.

6 **MR. RUTHERFORD:** Sorry, Greg.

7 **DR. ZIEMER:** Other que-- Jim.

8 **DR. MELIUS:** (Off microphone) (Unintelligible)

9 --

10 **DR. ZIEMER:** Use a -- get closer to the mike.

11 **DR. WADE:** LaVon, I think they're looking at  
12 you.

13 **DR. MELIUS:** Don't go away so quickly. I have  
14 sort of a similar question -- well, first a  
15 general question, why the cutoff at 1975?

16 **MR. RUTHERFORD:** Well, that's -- that's an  
17 excellent question. Go ahead, you've got  
18 something else on top of that?

19 **DR. MELIUS:** Well, do -- answer that one and  
20 maybe --

21 **DR. ZIEMER:** While he thinks about an excellent  
22 answer.

23 **MR. RUTHERFORD:** No, it's an excellent question  
24 and I think Greg tried to answer it, but I'm  
25 not sure he completely answered. If you look

1 at the petition, the petition was submitted to  
2 us up to 1975. There's still issues on the  
3 table after 1975, and we recognize those.  
4 However, for timeliness and -- we wanted to go  
5 ahead and -- and complete Ms. Ruiz's petition  
6 up for the time period that she had requested.  
7 So we have left it open and we -- we have  
8 committed to -- that we will evaluate those --  
9 those issues, and if we can -- if we determine  
10 it's feasible to do dose reconstruction, we'll  
11 put the -- we'll identify that in the site  
12 profile. However, if we determine it's not  
13 feasible, we will do an 83.14 to add additional  
14 years onto that.

15 **DR. MELIUS:** Okay. So -- so -- so I'm clear,  
16 the issues to be resolved in the revised site  
17 profile, there's a slide that was shown --

18 **MR. RUTHERFORD:** Yes.

19 **DR. MELIUS:** -- those are post-'75?

20 **MR. RUTHERFORD:** Yes.

21 **DR. MELIUS:** Okay.

22 **MR. RUTHERFORD:** Well, they continue beyond  
23 '75. We have data on mixed fission products  
24 that starts in the '70 to '75 period. However,  
25 when we went through the process, we were not

1 clear and we could not come up with a  
2 reasonable conclusion that we had enough data  
3 that -- that would support that the end of '75,  
4 yes, definitely, that's it, we're ready to --  
5 we can do dose reconstruction beyond that. So  
6 we committed that we would continue on the  
7 evaluation of the mixed fission products and a  
8 few of the other issues past '75 period to  
9 determine if we need to add additional years.

10 **DR. MELIUS:** Then I -- I have another question,  
11 and again, I might have missed part of the  
12 presentation -- this is Table 7.8, I'm not sure  
13 who -- the (unintelligible) is -- but you --  
14 you have sort of reserved -- you have things  
15 that you can't reconstruct, but then you say --  
16 then you have reserved, you know, sort of  
17 conditional on that -- there's americium-241,  
18 if no plutonium data or whatev-- I mean pending  
19 verification of newly-identified bioassay data  
20 and I -- I guess I'm trying --

21 **MR. RUTHERFORD:** Sure.

22 **DR. MELIUS:** -- trying to figure out how this -  
23 -

24 **MR. RUTHERFORD:** What --

25 **DR. MELIUS:** -- (unintelligible) defined --

1           **MR. RUTHERFORD:** -- what we will do in the  
2           updated site profile -- this is more for the  
3           non-presumptive cancers and the cancers that --  
4           that we will -- you know, what -- what we will  
5           do is we will further clarify that in the  
6           updated site profile. However, we have  
7           recognized that through the entire period up to  
8           '75 in total, we cannot reconstruct the whole  
9           dose for individuals in those Technical Areas.

10          **DR. MELIUS:** Okay. Okay. So -- so the --  
11          those would not affect the definition of the --

12          **MR. RUTHERFORD:** No, they would not.

13          **DR. MELIUS:** -- class that might -- of those --  
14          that clarification or changes --

15          **MR. RUTHERFORD:** Right.

16          **DR. MELIUS:** -- would affect your ability if  
17          you -- you --

18          **MR. RUTHERFORD:** Were not presumptive.

19          **DR. MELIUS:** -- things that you wouldn't be  
20          able to do.

21          **MR. RUTHERFORD:** Yes.

22          **DR. MELIUS:** Okay.

23          **DR. WADE:** A partial dose reconstruction.

24          **DR. MELIUS:** Okay.

25          **MR. RUTHERFORD:** Exactly. Exactly.



1           **MR. PRESLEY:** Or do you got a question?

2           **MR. GRIFFON:** I -- just -- just to -- and --  
3           and I think I've got the answer and I think I --  
4           - I accept -- I think I'm (unintelligible) on  
5           this, but just to clarif-- just to make sure  
6           this definition -- you know, we're -- it would  
7           include all workers and -- and the reason we're  
8           noting we can reconstruct for these other  
9           nuclides is that if they had a non-presumptive  
10          cancer, then you can go back and do a partial --  
11          - I mean it -- it -- we're not, by default,  
12          excluding certain TA areas because they only  
13          had like uranium or plutonium or something like  
14          that. I mean I -- I just don't want to do  
15          something --

16          **DR. ZIEMER:** It says all --

17          **MR. GRIFFON:** -- that I'm not --

18          **DR. ZIEMER:** -- it says all Technical Areas.

19          **MR. RUTHERFORD:** It says all Technical Areas.

20          **MR. GRIFFON:** All Technical Areas, right.

21          **MR. RUTHERFORD:** Now, we'll -- we said all  
22          Technical Areas --

23          **MR. GRIFFON:** I forgot it was reworded, yeah.

24          **MR. RUTHERFORD:** -- for (unintelligible), and I  
25          don't have the definition in front of me --

1 where radioactive materials -- in fact --

2 **MR. GRIFFON:** Yeah.

3 **DR. ZIEMER:** It's pretty inclusive.

4 **MR. GRIFFON:** I -- I just want to make sure,  
5 you know...

6 **MR. RUTHERFORD:** But we said all Technical  
7 Areas that -- moni-- or employees who should  
8 have been -- who were monitored, or should have  
9 been monitored, for (unintelligible) exposures  
10 while working in operational Technical Areas  
11 with a history of radioactive material. The  
12 question that we worked with the petitioner  
13 over the last couple of days, we originally had  
14 excluded some areas in the class definition.

15 **MR. GRIFFON:** Yeah.

16 **MR. RUTHERFORD:** One, as Greg had pointed out,  
17 that we -- we have never excluded areas before,  
18 and the reason why we don't exclude areas -- we  
19 identify areas where they -- the issues are --  
20 where -- the issues where it's not feasible, we  
21 know it's in these given areas. We never  
22 exclude areas, and that's because that would  
23 force us to -- you know, at a future date we  
24 may have to go against that if we get new  
25 information. So what we've said, right now

1 we've got a class definition. In our report we  
2 identify Technical Areas that we believe  
3 radioactive material was there. However, a  
4 petition is going to provide us additional  
5 information that, in our support to Department  
6 of Labor or -- in identifying these Technical  
7 Areas with radioactive material, we may  
8 determine that those additional areas need to  
9 be included.

10 **DR. ZIEMER:** Good. Thank you. Jim, did you  
11 have another comment or --

12 **DR. MELIUS:** No.

13 **DR. ZIEMER:** Oh, okay. I believe Mr. Presley  
14 had a --

15 **MR. PRESLEY:** Ready to make a -- ready?  
16 I'd like to make a motion that we accept this  
17 petition as written.

18 **DR. ZIEMER:** Okay, the -- the motion -- and the  
19 Chair will reinterpret a little bit -- is that  
20 we will recommend the approval -- or recommend  
21 that the -- to the Secretary that a class be  
22 added to the SEC, as described in this petition  
23 and evaluation report then, and if that motion  
24 --

25 **MR. CLAWSON:** (Off microphone) (Unintelligible)

1           **DR. ZIEMER:** -- it's seconded -- if it is -- if  
2           it is passed, we will ask that it be -- we'll  
3           get one of these straw votes again, which I  
4           hope doesn't cause confusion, but we will then  
5           get it reworded for final submission to the  
6           Secretary tomorrow.

7           Is there additional input, comments, questions  
8           on this motion? Basically a motion to  
9           recommend approval of the SEC at Los Alamos for  
10          the period specified in the Technical Areas.

11          **DR. MELIUS:** I'll second it.

12          **DR. ZIEMER:** It's been seconded. Are -- are  
13          you ready to vote? Does everybody know in this  
14          case what we're voting on?

15          **MS. MUNN:** Yes.

16          **DR. ZIEMER:** It's a little more clear? Little  
17          more clear.

18          All in favor, say aye? Well, we'll take a show  
19          of hands. Raise your right hand.

20                                (Affirmative responses)

21          It appears to be unanimous.

22          **DR. WADE:** It is unanimous.

23          **DR. ZIEMER:** And I'll -- for the record, are  
24          there any no votes?

25                                (No responses)

1 Any abstentions?

2 (No responses)

3 If not, the motion carries and we will have the  
4 revised wording tomorrow so that we have it in  
5 final form to send forward to the Secretary.

6 Los -- New Mexico delegation can certainly  
7 report this back to your constituents.

8 **MR. PRESLEY:** I understand that Dr. Melius will  
9 do the rewording on this?

10 **DR. MELIUS:** Yeah, I'm --

11 **DR. ZIEMER:** I believe Dr. --

12 **DR. MELIUS:** -- pretty close.

13 **DR. ZIEMER:** Dr. Melius has the template in his  
14 laptop.

15 **DR. MELIUS:** No, I actually have most of the  
16 (unintelligible) --

17 **UNIDENTIFIED:** Thank you, thank you, thank you.  
18 Bless you. Thank you.

**WR GRACE SEC PETITION**

**MR. LAVON RUTHERFORD, NIOSH, OCAS**

19 **DR. WADE:** Thank you. I think now maybe we'll  
20 go to W.R. Grace.

21 **DR. ZIEMER:** Okay, we're going to squeeze a  
22 little more in here, if we can. We'll move to  
23 the W. R. Grace petition, so...

24 **DR. WADE:** While -- while LaVon is getting

1 ready, let me read you an announcement.  
2 Friday's meeting will take place in Stanley  
3 One. Please take all your personal belongings  
4 with you at the conclusion of today's meeting.  
5 The Stanley One room is located towards the  
6 front lobby desk, down the long hallway, all  
7 the way at the end of the hall. So we're  
8 moving rooms, so if you would bring your  
9 personal belongings to your room and then to  
10 Stanley One in the morning.  
11 For -- for people's scheduling, I would propose  
12 we begin tomorrow with the Dow Madison  
13 petition, and then the Chapman Valve petition  
14 and then back on our agenda. We do this  
15 because there are people who want to call in  
16 for those activities and we want to give them  
17 at least a target for their activity.  
18 **MR. RUTHERFORD:** All right. Thank you, Dr.  
19 Ziemer, Board. I'm LaVon Rutherford. I'm the  
20 Special Exposure Cohort health physics team  
21 leader. I'm here to talk about the W. R. Grace  
22 SEC petition evaluation report.  
23 The W. R. Grace SEC petition was submitted  
24 under 83.14 to NIOSH by a petitioner whose dose  
25 reconstruction could not be reconstructed by

1 NIOSH. Our petition evaluation considered a  
2 class of workers very similar to the individual  
3 we determined that we could not reconstruct  
4 their dose.

5 I think you've seen this a few times, through  
6 Greg and a few others. We have a two-pronged  
7 test for the evaluation process. Our first  
8 test is is it feasible to estimate the level of  
9 radiation dose of individual members of the  
10 class with sufficient accuracy. If we answer  
11 yes to that question, we do not go to number  
12 two. However, if we answer no, then we -- is  
13 there a reasonable likelihood that such  
14 radiation doses may have endangered the health  
15 of members of the class.

16 A little background on W. R. Grace site. The  
17 Davison Chemical Company, a division of W. R.  
18 Grace, began processing radioactive materials  
19 in the late 1950s at the site of the current  
20 Nuclear Fuel Services. W. R. Grace is located  
21 in Erwin, Tennessee. It was a contractor for  
22 the Atomic Energy Commission from 1958 to 1970.  
23 W. R. Grace was contracted by the AEC to  
24 recover enriched uranium from uranium scrap.  
25 The AEC was the regulatory authority for this

1 site from 1958 to 1974. After 1974 the Nuclear  
2 Regulatory Commission, NRC, became the  
3 regulatory authority in 1975.

4 Radiological process relative to the class. W.  
5 R. Grace began operations by everything -- data  
6 -- or documents that we've reviewed, they began  
7 operations with the radioactive material in the  
8 latter part of 1957. Their principal  
9 operations included the conversion of high- and  
10 low-enriched uranium from UF-6 to a usable form  
11 to manufacture nuclear fuel. They also  
12 produced fuel consisting of uranium oxide mixed  
13 with thorium oxide and zirconium oxide. In  
14 addition, they produced fuel consisting of  
15 uranium oxide mixed with plutonium oxide and  
16 zirconium oxide. The scrap recovery  
17 operations, they had uranium -- that they did  
18 in support of the AEC were uranium scrap  
19 recovery operations.

20 Our sources relevant to the class. They had  
21 high- and low-enriched uranium from fuel  
22 fabrication and scrap recovery; thorium and  
23 plutonium oxide from fuel fabrication; and then  
24 we had thorium from uranium scrap recovery  
25 operations. We actually have -- we know that -

1           - here's a good -- the example, the urania-  
2           thoria scrap generated by the Elk River Reactor  
3           pellet fabrication, and we -- we -- I'll  
4           provide a little evidence of this later in the  
5           presentation.

6           And -- and the pro-- initially we would develop  
7           a site profile for these sites, and the site  
8           profiles would be used for dose reconstruction.  
9           In our development process of the site profile,  
10          we attempted to capture data at a number of  
11          sources. We had a formal -- formal request to  
12          the current operator, Nuclear Fuel Services;  
13          the State of Tennessee Division of Radiological  
14          Health; the Nuclear Regulatory Commission, we  
15          reviewed records there; we -- we data captures  
16          at DOE Germantown, National Archives; we  
17          performed worker outreach and interviews. And  
18          the worker outreach -- well, especially the  
19          interviews, continued through the SEC  
20          evaluation process.

21          From these -- from these data captures and  
22          reviews, through the site profile development,  
23          and through the SEC evaluation, we determined  
24          internal monitoring data. We have uranium  
25          bioassay data starting in 1964. We have AEC

1 reports in 1959 and 1961 containing detailed  
2 air monitoring. We have urine bioassay data  
3 for plutonium for the entire years of plutonium  
4 operations, which -- from the AEC period -- was  
5 roughly 1964 to 1970.

6 We have no thorium bioassay monitoring data  
7 during the class period. There is thorium  
8 bioassay monitoring data actually in 1980s, but  
9 -- but that is after the actual AEC -- or the  
10 covered period up to 1970.

11 We have one single air sample, and it was  
12 actually from a health and safety bulletin.  
13 The '59 and '61 reports that I'd identified  
14 earlier, air sample reports, are strictly from  
15 the high-enriched U and the low-enriched U  
16 operations. We have one thorium air sample  
17 that's identified, a 50 percent MAC in a scrap  
18 recovery building. That's how we determined  
19 clearly that there was thorium op-- operations  
20 in the scrap recovery.

21 External monitoring data. We have external  
22 monitoring data from beginning of AEC  
23 operations all the way through the covered  
24 period. We have -- also have dosi-- we have  
25 extremity dos-- extremity dosimetry for the

1 operational period.

2 There is no neutron monitoring data for the

3 covered period -- and I will address that.

4 All right, a little overview of the petition.

5 From our reviews and our look -- our searches

6 for data, we determined that dose

7 reconstruction was not feasible for an existing

8 claim. On January 16th, 2007 a claimant was

9 notified that dose reconstruction could not be

10 completed, and was provided with a copy of the

11 Special Exposure Cohort Form A. The petition

12 was submitted to NIOSH on January 22nd, 2007.

13 Our conclusions were NIOSH lacks monitoring,

14 process or source information sufficient to

15 estimate the internal radiation doses from

16 thorium exposures to W. R. Grace employees for

17 the period of January 1, 1958 through December

18 31, 1970 -- which is the entire covered period.

19 NIOSH believes it has sufficient information to

20 estimate the internal dose from uranium and

21 plutonium, and occupational external exposures,

22 including medical exposures, for that period.

23 We believe that we can reconstruct the external

24 -- the neutron by using a neutron-to-photon

25 ratio for the -- for the material. We actually

1           have a draft site profile that will -- that  
2           will use that -- that method.

3           Again, I'd already mentioned that we have ex--  
4           the other external monitoring data to support  
5           the rest of the external exposure. The  
6           internal exposure, we have the uranium  
7           bioassay, as mentioned, as well as we have  
8           developed a -- an intake using the air sample  
9           data to cover the early years of uranium  
10          operations. And the plutonium operations, as  
11          mentioned, we have plutonium bioassay through  
12          the covered period to cover that.

13          Our conclusion, NIOSH determined that it is not  
14          feasible to estimate the -- with sufficient  
15          accuracy internal radiation doses, and the  
16          health of the covered employees may have been  
17          endangered.

18          The evidence indicates that workers in the  
19          class may have accumulated intakes of thorium  
20          during the covered period.

21          Our -- our proposed class definition is all  
22          Atomic Weapons Employees who were monitored, or  
23          should have been monitored, for potential  
24          exposures to thorium while working in any of  
25          the 100 series buildings or buildings 220, 230,

1           233, 234, 301 or 310 at W. R. Grace site at  
2           Erwin, Tennessee for a number of workdays  
3           aggregating at least 250 days from January 1,  
4           1958 through December 31, 1970, or in  
5           combination with workdays within the parameters  
6           established for one or more other class of  
7           employees in the SEC.

8           We made our determination of the buildings  
9           through interviews and document reviews -- the  
10          affected buildings for this class. What we had  
11          -- we know from documentation that we do have  
12          that the thorium operations from -- thorium  
13          production operations were conducted in the  
14          same building as the uranium operations. We  
15          also in-- interviewed a health and safety  
16          manager working in the period that indicated  
17          that all 100 series buildings should be assumed  
18          to have stored or produced or activities  
19          occurred with uranium and thorium in those  
20          buildings. Therefore, we included all 100  
21          series buildings in our class definition.  
22          Building 220, 230 and 233 were included based  
23          on a 1962 health and safety bulletin. I  
24          mentioned that bulletin earlier. That bulletin  
25          contained the air sample -- the thorium air

1 sample, and it was identified for building 233,  
2 which is scrap recovery. We noted that 220 and  
3 230 -- 220 and 230 were added because those  
4 buildings are adjacent -- are under the same  
5 roof at 233, and are associated with the same  
6 operations, so we included those buildings.  
7 Building 234 was included because of the U-233  
8 operations. As I'd mentioned earlier, the  
9 mixed oxide fuels that were produced, one of  
10 them was with U-233 and with thorium.

11 Conclusion, our recommendation for the period  
12 January 1, 1958 through December 31, 1970,  
13 NIOSH finds the radiation dose estimates cannot  
14 be reconstructed for compensation purposes, and  
15 feasibility's no; health endangerment, yes.

16 **DR. ZIEMER:** Thank you, LaVon. Let's open the  
17 floor for questions or comments. Gen Roessler.

18 **DR. ROESSLER:** On your -- on your definition of  
19 the class, does that -- if you could put that  
20 slide back up again --

21 **MR. RUTHERFORD:** Yes.

22 **DR. ROESSLER:** -- you talk about all workers  
23 who were monitored, or should have been  
24 monitored, for thorium, and then list a bunch  
25 of buildings. So does that include all of the

1 workers in those buildings, or only the ones  
2 who had the potential for being exposed to  
3 thorium?

4 **MR. RUTHERFORD:** That would be all workers in  
5 those buildings.

6 **DR. ROESSLER:** Then I -- I don't know that your  
7 wording is quite right, but I guess Legal would  
8 know better, or somebody who's better at --  
9 because it sounds to me that it's similar to  
10 the other one we discussed before, that here  
11 you're only looking at those who had the  
12 potential for being exposed to thorium.

13 **MR. RUTHERFORD:** Well, I can --

14 **DR. ZIEMER:** And the chart turns out to be a  
15 different. I -- and maybe this is just  
16 internal discrepancy, but the last chart we  
17 looked at showed what could be reconstructed --

18 **MR. RUTHERFORD:** Right.

19 **DR. ZIEMER:** -- 'cause we need that  
20 information, I think, if we proceed on this --  
21 for the partials --

22 **MR. RUTHERFORD:** Right.

23 **DR. ZIEMER:** -- although what you're saying is  
24 it still covers everybody --

25 **MR. RUTHERFORD:** Yes.

1           **DR. ZIEMER:** -- because anyone --

2           **MR. RUTHERFORD:** Yes.

3           **DR. ZIEMER:** -- in there had potential for the  
4           thorium.

5           **MR. RUTHERFORD:** Yes.

6           **DR. ZIEMER:** And I think that's Gen's question,  
7           so would you then say it would be analogous  
8           with Los Alamos, anyone who was monitored, or  
9           should have been monitored, for radiation  
10          exposure -- or do you ex-- do you see the --  
11          the point we made? I --

12          **MR. RUTHERFORD:** Yes, I understand what you're  
13          saying.

14          **DR. ZIEMER:** -- maybe ask even NIOSH. We seem  
15          to have the same situation, but it's couched  
16          somewhat differently. We understand what  
17          you're saying.

18          **MR. RUTHERFORD:** Right.

19          **DR. ZIEMER:** I think I'm just looking for sort  
20          of parallel structure here. Also I -- I'm not  
21          sure you said anything about medical -- did  
22          these people have medical --

23          **MR. RUTHERFORD:** Yes, they -- and then -- and  
24          we --

25          **DR. ZIEMER:** And medical could be

1 reconstructed.

2 **MR. RUTHERFORD:** -- we can reconstruct -- yes.

3 **DR. ZIEMER:** Okay.

4 **MR. RUTHERFORD:** All external exposures can be  
5 reconstructed.

6 **DR. ZIEMER:** So I guess if -- if this -- if we  
7 act positively on this, we may want some  
8 clarity -- clarity on the wording here. Wanda?

9 **MS. MUNN:** But is there any pressing reason why  
10 we can't use phraseology that clarifies it in  
11 this -- have we established such a template of  
12 language that we can't stray from what we've  
13 done in the past?

14 **DR. ZIEMER:** No, I think Dr. Roessler's  
15 question is why are we just using the thorium  
16 here when, in the similar situation for --

17 **MR. RUTHERFORD:** Well, I think if you look at -  
18 - at especially Los Alamos, there are things we  
19 can do and can't do over different periods of  
20 time, and structuring that class definition was  
21 -- in fact, believe me, we -- we looked at that  
22 at first and it was impossible. And so we  
23 recognized that the overlaps were -- and in  
24 this situation, we know thorium is our -- our  
25 issue. All right? Now --

1           **DR. ZIEMER:** So thorium will cover it, so  
2           that's -- that's --

3           **MR. RUTHERFORD:** Right, and -- and the  
4           Department of Labor -- you know, I guess -- you  
5           know, I don't -- I don't want to speak for the  
6           Department of Labor, but you know, I think that  
7           we've -- we have passed this definition on to  
8           them and I -- I think they felt they could  
9           implement it.

10          **DR. ZIEMER:** Okay. Well, I think he's saying  
11          it will -- it will take care of it, so that's  
12          fine.

13          If there are no questions or comments, the  
14          floor is open for a motion.

15          **MS. MUNN:** Yes, I move that we recommend to the  
16          Secretary that he accept the proposed class  
17          definition for the Atomic Weapons Employees at  
18          W. R. Grace as stated in the presentation to us  
19          today.

20          **MR. PRESLEY:** Second.

21          **DR. ZIEMER:** And seconded? Again, if the  
22          motion passes -- we have a second here. If the  
23          motion passes, we will ask for the refined  
24          official wording for our consideration  
25          tomorrow.

1           Comments first.

2           **MR. GRIFFON:** Just a -- a clarification on the  
3           -- just, again, looking in terms of consistency  
4           here, but --

5           **MR. RUTHERFORD:** Sure.

6           **MR. GRIFFON:** -- the question on the thorium  
7           use, to what -- what were the thorium  
8           operations --

9           **MR. RUTHERFORD:** Okay --

10          **MR. GRIFFON:** -- to what extent -- how do you  
11          know it -- I mean in --

12          **MR. RUTHERFORD:** Yeah. In fact -- and I'll go  
13          into a little detail. When we first developed  
14          this site -- when we developed the site  
15          profile, we looked at the uranium -- if we  
16          could take the uranium metal production or  
17          operations and actually use the data from that  
18          operation and develop a ratio to bound the  
19          thorium. The problem with that was we could  
20          not verify -- we had no -- we had no real  
21          process information on the thorium that we  
22          could verify that the production equipment and  
23          the -- the sizes of the equipment were similar  
24          or that they used the same equipment. And the  
25          only thing we did know, we knew that the

1           furnaces were definitely different because we  
2           had one report that identifies a furnace as a  
3           thorium furnace, and then other furnaces  
4           separate. So we had a pretty good indication  
5           the thorium furnaces were separate, and we also  
6           knew that, because of the chemical processes  
7           involved, that there would definitely be other  
8           equipment that wouldn't be associated. As well  
9           as we also were looking at the issues of the  
10          energy imparted in the process through  
11          temperature and reactions, can we be for sure  
12          that those reactions and the temperatures and  
13          so on, that they wouldn't be higher and  
14          subsequently increase the mass release from --  
15          from -- from a given component. In addition,  
16          we had no indication of batch sizes that were  
17          used for the thorium. So -- so we looked at  
18          that -- all -- all of that was one big problem.  
19          Then the other problem we had was that we had  
20          the mixed oxide fuel that we were looking at,  
21          which was -- one was the  
22          uranium/thorium/zirconium mixed oxide fuel had  
23          99 percent thorium to -- with it. We had very  
24          -- we actually have some air data, not from the  
25          W. R. Grace site but for another site that was

1 producing the same thing, but very little of  
2 that, you know, to actually use to develop a  
3 ratio to -- to possibly bound that. In  
4 addition, I mentioned the uranium scrap  
5 recovery operations. We had the air sample  
6 that we knew that they were -- they were  
7 actually -- that there was thorium involved in  
8 that uranium scrap recovery, and we had that  
9 one air sample, and we have absolutely no  
10 uranium data for that -- that little operation,  
11 so...

12 **MR. GRIFFON:** And -- and you -- you mentioned  
13 thorium urinalysis samples but not till in the  
14 '80s.

15 **MR. RUTHERFORD:** In the '80s.

16 **MR. GRIFFON:** So were -- were those --

17 **MR. RUTHERFORD:** They were not associated with  
18 the same operations.

19 **MR. GRIFFON:** They weren't associated with the  
20 --

21 **MR. RUTHERFORD:** No, not at all.

22 **MR. GRIFFON:** Okay. That was the question.

23 **DR. ZIEMER:** Wanda, do you have additional  
24 comment?

25 **MS. MUNN:** A question. How si-- how large is



1 And any opposed?

2 (No responses)

3 Any abstentions?

4 (No responses)

5 Motion carries.

6 **DR. WADE:** The vote was unanimous.

7 **DR. ZIEMER:** Tomorrow we are going to look at  
8 the -- as was indicated, we'll -- we'll pick up  
9 Chapman Valve at -- well, we'll pick up Dow  
10 first, and then Chapman. And I think we'll be  
11 able to cover our other materials efficiently.  
12 We're shooting toward, if we can, a noon  
13 completion -- at least the Chair is. We'll see  
14 how it goes.

15 **DR. WADE:** We might forsake global science  
16 issues. We will not forsake the use of data  
17 from other sites.

18 **DR. ZIEMER:** Now, we -- we reconvene back here  
19 this evening at 7:30, so we need a supper break  
20 here -- give you time to get something to eat  
21 and come back. We have a number of people that  
22 have signed up for comment this evening. I  
23 don't know how many there will be, but we do  
24 have some who have signed up. So we'll see you  
25 at 7:30.

1           **PUBLIC COMMENT**

2           **DR. ZIEMER:** Good evening, everyone. We're  
3 going to go ahead and start the public comment  
4 session of the Advisory Board on Radiation and  
5 Worker Health. I have a list of individuals  
6 that have indicated they wished to speak to the  
7 assembly this evening and we'll just take the  
8 list in the order given.

9 I do want to -- many of you were here last  
10 night, and I will repeat a couple of things in  
11 case you weren't here, and that is that this  
12 Board is an advisory board. We're not a board  
13 that makes the final decisions on anything.  
14 That's sometimes good and sometimes bad.  
15 Sometimes we wish we could, but the fact of the  
16 matter is we simply give advice. We're -- we  
17 do not adjudicate the cases. We evaluate the  
18 program, really is what it amounts to. That is  
19 the dose reconstruction program.

20 We do have a -- we do have a responsibility to  
21 provide an opinion on Special Exposure Cohort  
22 petitions. We have -- before the Board at this  
23 meeting there are five petitions that are being  
24 examined, one of which is Rocky Flats. And as  
25 many of you know, we had an extensive

1 discussion, a public comment on that last  
2 night. The Board had that action before it  
3 earlier today. And if you weren't here for  
4 that, you may not know that the Board  
5 recommended approval of a portion of the time  
6 frame for the Rocky Flats for the neutron  
7 workers. There are some other portions of that  
8 petition that will be finalized in -- at our  
9 next meeting, next month, which we hope will be  
10 back here so that those of you from Rocky Flats  
11 can be present.

12 There are several folks -- well, I -- I also  
13 want to mention, because it's sometimes  
14 confusing for folks, and that is that the folks  
15 you see here -- we do not work for NIOSH or for  
16 Department of Labor. We are just an  
17 independent board. I often introduce the  
18 individuals. A number of these, like -- like  
19 me, I'm a retired educator, and we have a mix  
20 of people on this Board, some of whom are  
21 retired, some of whom are still working; some  
22 of whom have technical backgrounds, some who  
23 are in the medical field, some who are  
24 individuals who are union workers. So we have  
25 a cross-section of folks here on this Board.

1 We are not part of NIOSH. We are not part of  
2 Department of Labor. So we're -- our job is to  
3 give kind of an independent look at things.  
4 We have to struggle, as it were, with a lot of  
5 viewpoints -- the viewpoints of the  
6 petitioners, the viewpoints of the agencies,  
7 and we even have our own contractor that we  
8 hire to help us evaluate the various issues.  
9 So it -- it's a job that this Board does, not  
10 only here at the Rocky Flats, but dealing with  
11 sites all over the country.  
12 We will be hearing from individuals from some  
13 of those -- representing some of those other  
14 sites in fact tonight, but I notice here there  
15 are still a few Rocky Flats folks and I'll just  
16 take them in the order that they are. We have  
17 imposed now a ten-minute time limit on people.  
18 That's something new, but in order to provide  
19 time for everyone to -- to give their remarks,  
20 we ask you to -- to stick with the ten-minute  
21 time limit. Also, as I mentioned last night,  
22 the ten-minute is not a goal to be achieved but  
23 is an upper limit. So if your remarks are less  
24 than that, that's quite fine.  
25 Jack Weaver, who identifies himself as a

1           retired Rocky Flats worker. Jack? Is Jack  
2           here?

3           **DR. WADE:** Jack has left.

4           **DR. ZIEMER:** Signed up earlier today but  
5           perhaps couldn't make it.  
6           Cliff DelForge? That's Cliff, you've got the  
7           first mike here.

8           **MR. DELFORGE:** My name is Cliff DelForge --  
9           Clifford DelForge. I worked at Rocky Flats for  
10          35 years, primarily in the areas of  
11          radiological safety. I'm not here on my behalf  
12          'cause I'm not sick. I -- primarily involved  
13          in here because of my [Identifying Information  
14          Redacted]. He worked at Rocky Flats for 24  
15          years and he is ill, and he is -- his illness  
16          was -- I think I was able to prove pretty  
17          significantly that it was caused at Rocky Flats  
18          -- by his work at Rocky Flats.  
19          I'm not here to talk about [Name Redacted]  
20          either. I'm just going to make some general  
21          comments, if I may.  
22          You've heard a lot of testimony from people.  
23          Some of it -- a fair amount of it was not  
24          probably technically appropriate for dose  
25          reconstruction, but all of it was morally,

1           ethically and emotionally valid for the SEC.  
2           I think we've kind of missed the boat on some  
3           of this stuff.  Otherwi-- some of the people  
4           who got up here and talked were talking about  
5           specific instances where they were showing  
6           that, because of the work that they were doing  
7           and the places that they were, that they should  
8           have had a -- some dose on their dosimeters,  
9           should have had some dose, and that in most  
10          cases it came back either as a zero dose or as  
11          no current data available.  
12          I got -- that got me thinking about my own  
13          personal situation, and there are a couple of  
14          things that I'll discuss here shortly on my own  
15          personal experience regarding the validity of  
16          our dosimetry program.  And that's fairly  
17          important 'cause you're talking about making a  
18          recommendation on whether or not to approve  
19          Rocky Flats for the SEC status.  
20          The last time I went out to the Rocky Flats  
21          plant -- I retired in 1995, and the last time I  
22          actually went out to the plant proper was as  
23          part of one of the many programs that I was  
24          involved with -- the uranium study, the  
25          plutonium study, the americi-- I mean the

1           beryllium study and the chemical study. And  
2           while I was out there I was talking to a  
3           gentleman and he was explaining to me that they  
4           had just started a new program where they were  
5           bringing back the film badges from the Denver  
6           Tech Center and they were going to reread these  
7           badges and then they were going to compare that  
8           data with the data that they had on the  
9           existing documentation. And the very first  
10          batch of badges they brought back, one  
11          gentleman, they reread his badge; his  
12          documentation showed zero, his bad (sic) was  
13          reading 1,000 millirem. They were off by a  
14          factor of 1,000 on that one individual.  
15          I don't know how far they went with this. I --  
16          I would be willing to bet that they did not  
17          read every badge and bring every badge back,  
18          'cause they're talking about a lot of badges  
19          over many, many years. But that one instance  
20          should have indicated at least that they should  
21          have probably done that.  
22          The reason that -- if I understand it  
23          correctly, the reason that there were so many  
24          no current data available on the documentation  
25          was because they didn't read the badges. They

1           didn't have the time. It was just physically  
2           impossible to read all the badges, so they just  
3           put down no current data available.

4           I'm personally aware of three unauthorized  
5           experiments that were done to determine the  
6           validity of our dosimetry program. Now  
7           americium salts are the highest level of  
8           radiation that I've ever seen at Rocky Flats,  
9           and that was my job as a radiation monitor when  
10          I first got into radiological safety. I had a  
11          reading off of a fiber pack of the beryllium  
12          salts that read 22,000 millirem, which is  
13          extremely high, especially for Rocky Flats. A  
14          gentleman was -- I don't know if he was coerced  
15          into it or anything, but he -- several -- a  
16          couple of the RCTs or the radiation monitors  
17          said we ought to test this program, so they had  
18          him put his badge in a can of americium salts  
19          for 30 minutes. I don't know what the reading  
20          on that particular can was, but it had to be  
21          fairly high and there had to be some exposure  
22          to that badge. And his results came back zero.  
23          Another guy -- a different period of time --  
24          put his badge in a glove on the americium line,  
25          which was the highest gamma radiation line at

1           the -- in 771 building, and he left it in there  
2           for the majority of his shift and he sent it  
3           in, and there had to be significant radiation  
4           exposure to that badge. It came back zero.  
5           I personally -- I was assigned to a special  
6           project as a radiation monitor. We had to have  
7           special badges because the material we were  
8           working with had a very robust gamma associated  
9           with it. I must have been in a union frame of  
10          mind at the time because I decided I was going  
11          to do my own test. All the other people who  
12          had the special badges wore their badges on the  
13          inside of their lead aprons and they were  
14          required to wear lead aprons the entire time  
15          they worked with the material. I set my badge  
16          on the outside, looking for some -- there had  
17          to be some difference between my badge and  
18          everybody else's -- and it came back zero.  
19          There was no difference.  
20          In my son's case, doing some investigation, I  
21          found two instances where they'd found a small  
22          amount of -- of exposure on a badge on two of  
23          his different badge, and they said well, you  
24          know, this -- this can't be real. It's not --  
25          it's bogus, so we're just going to knock

1 everything back to zero.

2 I firmly believe that their standard operating  
3 procedure was whenever there was any kind of an  
4 anomaly with their program, if they had a high  
5 reading here or something like that, they  
6 simply said well, this can't be right, it can't  
7 be true so we'll just forget it and knock it  
8 down to zero. I mean if they were doing  
9 anything else, they would have come and  
10 investigated. And in my case if there was -- I  
11 had a high exposure on my badge, somebody  
12 should have come down and said, you know,  
13 what's -- what's the problem here, at which  
14 case I probably would have been in a little bit  
15 of trouble because I did this in an  
16 unauthorized manner.

17 I think -- and I think we missed the boat  
18 because, with the people that talked about  
19 their specific situations and my own  
20 experiences, we should have gotten together  
21 with all the people that -- from Rocky Flats,  
22 all the people work in the back areas, and sat  
23 down and interviewed them and said what  
24 personal experiences do you have that would  
25 show that the documentation of the dosimetry

1 program was not up to snuff, it wasn't doing  
2 what it was designed to do. I think we could  
3 have provided you with a very large document.  
4 I think everybody -- 'cause everybody that I  
5 talk to just casually said yeah, yeah, I know  
6 this situation. This happened in my case, and  
7 everything else.

8 It's kind of disheartening to sit and listen to  
9 Mark say, you know, that he -- he's perfectly  
10 comfortable that there was no credible  
11 evidence, I guess, to -- that there was any  
12 problems with the dosimetry program. I don't  
13 believe that. I believe that there were some  
14 problems with it. I think that the -- with the  
15 numbers of no current data available, I don't  
16 know how you can possibly extrapolate -- and  
17 that's another thing.

18 If you're talking about well, we're going to  
19 extrapolate here, we're going to calculate  
20 here, we're going to -- you know, you -- just  
21 making up numbers, is all you're going to do is  
22 make up numbers, and I don't think you can do  
23 it accurately. I don't think there's enough  
24 information that you really need to have to do  
25 that.

1           The -- you can't use situations with other  
2           plants with regard to Rocky Flats. We had --  
3           we had unique materials, we had unique  
4           mixtures, we had unique processes. You can't  
5           say well, what happened over here -- we're  
6           going to say well, we can say that the same  
7           thing happened over here.

8           You can't use common denominators. You look at  
9           people as individuals, and you don't know if a  
10          person got a exposure in a -- in an hour, or in  
11          a week or in a month if his badge was on a  
12          monthly basis and he got a total over that  
13          period of time, or if he was in a back area one  
14          hour and got that -- that exposure. You don't  
15          have that kind of information to know who was  
16          working what lines and how long they were there  
17          and anything else. There's just so much  
18          information out there that's -- that you need  
19          to have in order to do a valid thing -- at  
20          least in my opinion.

21          It's kind of funny, it's -- it's almost like  
22          this program, this compensation program, was  
23          like a fresh zebra kill. And the top predator,  
24          the Department of Energy, got in there ripping  
25          off huge chunks of flesh, to the tune of \$90

1 million in paperwork that went in their  
2 pockets. And isn't it amazing that the two  
3 people that were involved in that program  
4 resigned shortly after that came to light --  
5 not because of that. No, it didn't have  
6 anything to do with that. They were going to  
7 retire anyhow. And -- and now the vultures and  
8 the jackals are picking at the -- the bones of  
9 this thing. And they've apparently done a  
10 pretty good job, at least on one leg of the  
11 beast.

12 I saw this article in the paper today, *Rocky*  
13 *Mountain News*, and it says here that the  
14 government is about to run out of money to  
15 complete dose reconstruction. They're about to  
16 run out of money. So the vultures have picked  
17 that leg clean, pretty close to it.

18 And now I ask you, what are we going to do now?  
19 Are we going to -- when it runs out of money  
20 are we just going to say well, we're just going  
21 to put it on hold until we get some more money  
22 and start doing our job again? I got a good  
23 idea. Maybe what we can do is do a kind of a  
24 pool and see how many more Rocky Flats  
25 employees are going to die in the interim.

1 We need to have some processes done -- we need  
2 them done now. We need to have -- I think the  
3 things that you've heard -- what they do to me.  
4 Obviously I have an agenda of my own. I've got  
5 a son who's ill. I've got friends who are ill.  
6 I would ask you right now -- I would ask that  
7 you all unanimously recommend to whoever is in  
8 charge that any further dose reconstruction  
9 should be discontinued immediately. It's a  
10 waste of time and a waste of money. And I'd  
11 also recommend that you unanimously recommend  
12 that Rocky Flats be given the SEC status. I  
13 don't ask you to do this because you feel  
14 compassion for the people who are ill. I don't  
15 ask you to do this because you may be angry at  
16 some of the way that some of the people were  
17 treated. I ask you to do this because it's  
18 scientifically appropriate to do it. Thank  
19 you.

20 **DR. ZIEMER:** Thank you, Cliff. Then [Name  
21 Redacted] -- is [Name Redacted] with us?

22 (No response)

23 Okay, we'll come back and check. [Name  
24 Redacted] I think is the last name. I'm trying  
25 to read the first name. Is there a [Name

1 Redacted] here? Rocky Flats retired person --  
2 [Name Redacted]?

3 **UNIDENTIFIED:** (From the audience and off  
4 microphone) What was it? I can't hear you very  
5 well. The sound system is very muffled.

6 **DR. ZIEMER:** [Name Redacted] is --

7 **UNIDENTIFIED:** No, I'm sorry.

8 **DR. ZIEMER:** Not [Name Redacted]? Okay. Next  
9 is Dr. Dan McKeel, and I believe Dr. McKeel's  
10 representing the Dow Madison petition.

11 **DR. MCKEEL:** Good evening, Dr. Ziemer and the  
12 Board. Actually tonight I want to talk about  
13 our other site, General Steel. I do have --

14 **DR. ZIEMER:** I think tomorrow you'll have an  
15 opportunity then I believe as the petitioner to  
16 --

17 **DR. MCKEEL:** Yes.

18 **DR. ZIEMER:** -- talk about the Dow site, yes.

19 **DR. MCKEEL:** Dr. Ziemer was kind enough to  
20 allow me -- I had a rather complex comment  
21 tonight, so I made that in writing, appropriate  
22 to what the Board has just decided, and I'll  
23 try to keep this short for you. The remarks I  
24 want to make tonight are for my colleague,  
25 [name redacted], who you all know. And I have

1            basically two brief remarks.

2            The first one is about the Battelle task order

3            16 contract, and as you heard yesterday, Larry

4            Elliott announced that due to fund shortages at

5            NIOSH, this contract would soon be terminating,

6            at the end of this month, with no further work

7            done and all monies spent. This is an

8            important contract to us because both the Dow

9            site and the General -- General Steel

10            Industries sites are under this contract.

11            As you know, the original contract was to have

12            been for 12 months and was to have ended last

13            October, and has been extended. There were, as

14            far as I'm aware, three dose reconstruction

15            guidance documents that have been produced,

16            TIBs 5000, 6000, 6001. I heard Larry yesterday

17            say that there were 16 site-specific appendices

18            to cover the 256 sites that were charged to

19            Battelle to review. General Steel is

20            apparently one of those 16 appendices. We

21            don't know when that appendix will materialize,

22            although I was very encouraged to see that the

23            first four appendices were posted on the -- on

24            the OCAS web site today.

25            Mr. Elliott also told us -- told our group that

1 Dow, which is another site, will not have a  
2 site-specific appendix and Dow also has no site  
3 profile. The original intent, and the reason  
4 I'm bringing this up tonight, was to generate  
5 appendices for all 256 sites. And I derived  
6 that idea because the OCAS web site right now  
7 says the following about Battelle TIB-6000.  
8 Quote, Following the main body of this document  
9 is a collection of appendices, with one  
10 appendix for each AWE site that performed  
11 metal-working operations, and the TIB is about  
12 uranium and thorium -- end quote.  
13 Only 308 of the more than 1,400 claims, or  
14 about 22 percent of the total, have been  
15 completed dose reconstructions at Battelle. An  
16 unstated number of 83.14 SECs may be  
17 forthcoming, and added work remains for other  
18 branches of NIOSH to complete undone tasks.  
19 My comment is that this doesn't really seem  
20 like very satisfactory overall performance on  
21 this contract, given the significant time  
22 extension. And the comment for the whole  
23 EEOICPA program is that in a time like this of  
24 constrained funding for NIOSH operations is --  
25 was the Battelle task order -- was it a wise

1 investment, considering basically the low  
2 overall productivity on all the major goals.  
3 The second comment tonight is -- in a -- in a  
4 way I apologize, but I came to you tonight,  
5 again, about the General -- I mean the Granite  
6 City Steel naming issue because, although we  
7 have brought that up repeatedly to the Board,  
8 that problem still persists today, and I want  
9 to give you a -- a very practical reason why  
10 it's important.

11 [name redacted] and I have jointly written in  
12 our written comments a detailed recounting of  
13 two claims, and both of those together show the  
14 Department of Energy, Department of Labor and  
15 NIOSH have really not dealt adequately with  
16 this Granite City Steel naming error and the  
17 description of the facility at DOE.

18 Claim number one [Identifying Information  
19 Redacted] filed EEOICPA claims in 2004. He  
20 went through the entire dose reconstruction  
21 process, was assigned a probability of  
22 causation of 36.23 percent, and then he was  
23 denied in April of 2005.

24 The problem is that Granite City Steel did no  
25 AEC uranium work, and was a different site at a

1 different location from Gra-- General Steel  
2 Industries, which was the real covered site.  
3 GSI did perform Betatron non-destructive  
4 testing on Mallinckrodt uranium ingots from  
5 1953 to 1966. In contrast, Granite City Steel  
6 didn't have any Betatrons.  
7 We had obtained the redacted version of this  
8 claim from NIOSH by the FOIA process, and we  
9 got that because this was one of the four dose  
10 reconstructions that have been performed for  
11 Granite City Steel -- or correctly named,  
12 General Steel Industries.  
13 We then located the worker's children, one of  
14 whom verified that it -- one of her -- that her  
15 claim was one of the ones that was dose  
16 reconstructed. She verified her father always  
17 [Identifying Information Redacted] from Granite  
18 City Steel, always [Identifying Information  
19 Redacted] work, and never set foot at GSI, even  
20 after Granite City Steel bought the GSI grounds  
21 and property in 1974.  
22 Well, we were interested in that because, as I  
23 say, there've been a very low production of  
24 completed dose reconstructions. [name  
25 redacted] and I believe in fact that probably

1 all four DRs that have been attributed to  
2 General Steel Industries may have actually been  
3 done on Granite City Steel workers in error.  
4 In our written comment we provide indisputable  
5 documentation that the original facility  
6 misidentification occurred at the Department of  
7 Energy, and went unrecognized by Labor and  
8 NIOSH during the dose reconstruction process,  
9 including assignment of a POC of 36.23 percent.  
10 The second claim highlighted in our written  
11 comment is that of an authentic [Identifying  
12 Information Redacted] GSI employee who was a  
13 [Identifying Information Redacted]. He was told  
14 by a Department of Labor supervisor and by  
15 Social Security that he really worked at  
16 National Roll Company in Pennsylvania, and that  
17 GSI was not a covered site. It took multiple  
18 calls and a FAXed newspaper story to convince  
19 Labor that claimant number two worked at GSI,  
20 that GSI was a real covered site, and that his  
21 claim would be processed. And -- and that was  
22 effective, but he still awaits his dose  
23 reconstruction, along with 208 other people  
24 with claims at NIOSH from General Steel  
25 Industries.

1           In light of these two claims that I think are  
2           well documented, we therefore are requesting  
3           that the Department of Labor re-examine all of  
4           the 305 denied Granite City Steel and GSI  
5           claims with respect to the site employment  
6           issue. After this meeting is over we will work  
7           with the Illinois Congressional delegation to  
8           request a remedy in a formal way. Therefore,  
9           we will assist the agencies with the -- this  
10          effort if -- if they ask us to do so.  
11          We think that several hundreds of claimants  
12          could have been affected. There are now 819  
13          Part B and E ostensible GSI claims, and 546  
14          ostensible GSI cases. We need to know for sure  
15          how many claims were denied (a), from people  
16          who never worked at GSI, and (b), from workers  
17          who worked at GSI but were denied in the early  
18          years because both Department of Labor and  
19          Energy misconstrued the name and location of  
20          GSI as the authentic covered facility, thinking  
21          it was Granite City Steel.  
22          The DOE facilities list database and the DOL  
23          statistics by state web sites have only been  
24          partly corrected in this regard.  
25          And -- and the final comment is that [name

1 redacted]and I at least hope one day that the  
2 children claimants of claim number one worker  
3 will get an apology, and I think it needs to be  
4 a special apology from all three of those  
5 agencies. Thank you very much.

6 **DR. ZIEMER:** Thank you, Dan. And I have the --  
7 the more extensive copy. I think we can get  
8 this onto the web site perhaps and I'll ask the  
9 -- NIOSH to do that.

10 **DR. MCKEEL:** (Off microphone) (Unintelligible)

11 **DR. ZIEMER:** Also, Dan, I believe you have been  
12 in contact with Pete Turic (sic), have you,  
13 from Labor? I --

14 **DR. WADE:** Turcic.

15 **DR. ZIEMER:** -- or Turcic. We want to make  
16 sure that you're not relying on our --

17 **DR. MCKEEL:** No, sir.

18 **DR. ZIEMER:** -- our --

19 **DR. MCKEEL:** Right, that's what I meant to say.  
20 I --

21 **DR. ZIEMER:** -- proceedings to see that this  
22 gets --

23 **DR. MCKEEL:** -- obviously this has to be taken  
24 up with all three --

25 **DR. ZIEMER:** Yeah.



1           **MR. BEITSCHER:** The sound is very --

2           **DR. ZIEMER:** -- whatev-- whatever you prefer.

3           **MR. BEITSCHER:** It may be my ears. The sound  
4 is very muffled.

5           **DR. ZIEMER:** Okay, you can try that one, if you  
6 prefer.

7           **MR. BEITSCHER:** My name is Stan Beitscher. I  
8 worked at Rocky Flats from 1963 to 1993. I  
9 came there when I was 30 years old. I left  
10 when I was 60 years old, with a number of  
11 medical conditions. I look very healthy from  
12 the outside, but I have a number of situations  
13 internally that are not apparent. But my first  
14 comments have to do with the special cohort  
15 program, and I'd like to add to Mr. DelForge's  
16 comments from a slightly different perspective.  
17 Let me tell you what my background is. I was a  
18 research scientist at Rocky Flats in the area  
19 of metallurgical engineering. I graduated from  
20 the Colorado School of Mines with a degree in  
21 metallurgical engineering, with a minor in  
22 minerals beneficiation. I went to Rensselaer  
23 Polytechnic Institute and received a master's  
24 degree in metallurgical engineering with a  
25 minor in nuclear engineering. I then went back

1 to the Colorado School of Mines, received a PhD  
2 in metallurgical engineering with a minor in  
3 physics.

4 So I can't really claim that I did not know  
5 that radiation and toxic material exposure is  
6 dangerous. I was very well schooled in these  
7 areas. I'm not a world expert in these areas,  
8 but I have read thousands upon thousands of  
9 pages concerning the effects of radiation and  
10 toxic material exposure in my lifetime. I've  
11 written hundreds of research papers dealing  
12 with material science.

13 And I can tell you, first of all, that the  
14 emphasis at Rocky Flats was production first;  
15 safety, yes, but came second. Nothing would  
16 take -- would stand in the way of meeting  
17 production schedules. And although there was  
18 concern for safety, safety was second.

19 Furthermore, the implication that working --  
20 for working at Rocky Flats was that largely  
21 radiation effects on biological systems is  
22 largely unknown. This is a very crude science.  
23 In 1963 very little was known about the limits  
24 of -- of dangerous exposure, not only to  
25 radiation but to the host of other extremely

1 dangerous materials that were handled at Rocky  
2 Flats. The list is staggering and almost  
3 amazing. Every -- virtually every toxic,  
4 dangerous material was at one time or another  
5 present in my work area in my -- in the  
6 research building of Building 79 where I spent  
7 about 28 of the 30 years. The other year and a  
8 half was spent in Building 771, which is  
9 acknowledged as the most dangerous building in  
10 the United States.

11 So to limit compensation based on perhaps the  
12 absence of some information or some material is  
13 preposterous. The radiation was widespread and  
14 the exposure to other toxic material was  
15 extremely widespread at Rocky Flats.

16 Furthermore, you cannot predict biological  
17 effects based purely on some sort of  
18 reconstructed dosage effects. Large amounts of  
19 radiation can-- cannot -- and in some cases,  
20 not cause biological effects. Small amounts of  
21 radiation in other species can cause enormous  
22 effects. And to limit -- to limit compensation  
23 for horrible conditions for some imaginary  
24 limit of -- of exposure is preposterous. And I  
25 stand behind what Mr. DelForge said.

1 First of all, I'd like to add just one other  
2 comment on that. Dosimetry, and that's a  
3 subject that I followed very closely in my  
4 career because I was subject to dosimetry. I  
5 worked in a hot area. I worked in a glovebox.  
6 I worked in a very high radiation area.  
7 Dosimetry is -- is not an exact science, and it  
8 is impossible -- I think, and from my opinion --  
9 -- to reconstruct dosage at Rocky Flats. I -- I  
10 don't know what else I can tell you, and that's  
11 the reason that I feel fairly strongly that the  
12 cohort program should be approved at Rocky  
13 Flats. The dosimeter program at Rocky Flats  
14 was run probably you might say to the best of  
15 the ability of the people running it, but that  
16 doesn't mean it was run very well. There were  
17 a great deal of unknowns.  
18 And dosimetry -- dosimeters are not accurate.  
19 The placement of dosimeters are not always at  
20 the right location. People didn't always wear  
21 their badges. They were not read correctly.  
22 And furthermore, the science of dosimetry is --  
23 is -- is work -- is a work in -- a work in  
24 progress. It is not an exact science.  
25 Okay. Let me just switch gears a little bit,

1           if I may, and talk about the compensation  
2           program. I've studied this compensation  
3           program for five years. I still don't  
4           understand it. And let me explain why.  
5           I have a -- I have a claim in for a number of  
6           illnesses that are not cancers. I don't  
7           believe they're cancers yet. To -- without  
8           being really specific or explicit, I have  
9           respiratory problems. I also have a very large  
10          particular gland that causes me tremendous  
11          discomfort and I have respiratory problems and  
12          I have a hearing defect, and I feel that all of  
13          these were at least greatly caused by my  
14          employment at Rocky Flats.  
15          Part B -- as I understand the compensation  
16          program, Part B covers 22 cancers, beryllium  
17          disease, silicosis and beryllium sensitivity.  
18          Part E, on the other hand, covers other things,  
19          but will only compensate you for loss of  
20          income.  
21          Now there is no way I can -- I can just-- I can  
22          understand this. In other words, if you don't  
23          have these -- one of these 22 cancers,  
24          berylliosis or silicosis, you're not subject to  
25          compensation. If you don't have these cancers

1           and you have other conditions, you're only  
2           compensated if you have -- if you can prove a  
3           loss of wages. Well, I'm retired. I -- I  
4           can't prove a loss of wages. But yet I have  
5           what I consider to be extremely serious medical  
6           conditions -- perhaps not as serious as some,  
7           but fairly serious. When I wake up in the  
8           middle of the night gasping for breath, I think  
9           it's fairly serious, although it's not cancer.  
10          I don't understand. I mean I think -- I think  
11          some reasonable effort was -- was made to make  
12          the program fair, but there's a great big hole  
13          in it. And for the life of me, I don't  
14          understand -- I don't understand why I'm not  
15          covered for compensation because -- simply  
16          because I don't have one of these 22 cancers  
17          yet, or berylliosis or silicosis.  
18          There are very serious health effects that are  
19          not cancer, and let me just name three that I  
20          can think of. There may be a number of others,  
21          and I just can't think of these others. Non-  
22          cancerous tumors are not cancers, but tumors  
23          are very serious medical effects. They're not  
24          covered by Part B. They may be covered by Part  
25          E, but my experience is Part E is not very



1 Is it [Name Redacted]?

2 **DR. WADE:** Yeah.

3 **DR. ZIEMER:** [Name Redacted], are you on the  
4 line?

5 (No response)

6 Okay, perhaps not. Let me check back again on  
7 the other names -- [name redacted]? [Name  
8 Redacted]? Mr. [Name Redacted]? Mr. Weaver --  
9 Jack Weaver?

10 (No responses)

11 **UNIDENTIFIED:** (Unintelligible)

12 **DR. ZIEMER:** Is this [Name Redacted]?

13 **MR. EARLEY:** No, Lynn Earley.

14 **DR. WADE:** Say again, please?

15 **MR. EARLEY:** Lynn Earley.

16 **DR. ZIEMER:** Would you like to speak?

17 **MR. EARLEY:** Yes, I would.

18 **DR. ZIEMER:** Please proceed. Tell us your name  
19 again, Lynn --

20 **MR. EARLEY:** Lynn (unintelligible) Early --

21 **DR. ZIEMER:** E-a-r-l--

22 **MR. EARLEY:** -- (unintelligible) analyst,  
23 organic (unintelligible).

24 **DR. ZIEMER:** Okay, thank you.

25 **MR. EARLEY:** And I am also chair of the

1 International Science Oversight  
2 (unintelligible), newly-formed (unintelligible)  
3 to analyze (unintelligible) government agencies  
4 (unintelligible). I have (unintelligible) that  
5 I would like to go over. I don't know how much  
6 time you have, but I have some (unintelligible)  
7 that I --

8 **DR. ZIEMER:** You have a ten -- you have a ten-  
9 minute limit, sir.

10 **MR. EARLEY:** -- would like (unintelligible) I  
11 have to get (unintelligible) to get those so  
12 I'll (unintelligible) 20 seconds.

13 **MS. MUNN:** I don't think he heard you.

14 **DR. ZIEMER:** He's switching phones, I --

15 **DR. WADE:** Putting the dog out.

16 (Pause)

17 **MR. EARLEY:** (Unintelligible) serious question  
18 relative to the whole question of low dose  
19 exposure. These exposures have been analyzed  
20 by independent scientists down through the  
21 years and have been underestimated by many of  
22 the international bodies, including IAEA and  
23 the International Commission on Radiological  
24 Risks. I would hope that this advisory  
25 committee would take (unintelligible) some of

1           these low dose issues. There is a book that  
2           recently was published that is entitled  
3           *Chernobyl, 20 Years (unintelligible)*. It  
4           documents a whole host of non-cancer effects  
5           from these Chernobyl exposures, many of which  
6           were quite low doses. But the Japanese A-bomb  
7           studies did not document -- in fact, they only  
8           looked at the mortality (unintelligible) from  
9           (unintelligible) bomb blast and they were  
10          looking at cancer mortality exclusively. This  
11          book, which just came out last year, documents  
12          a whole host, a whole range of issues  
13          (unintelligible) anybody on the internet  
14          (unintelligible) by the European Committee on  
15          Radiation Risk -- a simple Google for ECRR will  
16          come to that text -- and interestingly, the  
17          IAEA, the World Health Organization, the ICRP  
18          had these Russian studies in hand but never  
19          translated them. Consequently, they have  
20          ignored many non-cancer risks. And I listened  
21          to the testimony quite carefully last night and  
22          was shocked to find that -- and some of the  
23          testimony today indicates that there are  
24          several -- and of course the last speaker  
25          alluded to other non-cancer risks.

1           Now this of course is something that is being  
2           overlooked, disregarded and the scientific  
3           literature has been underestimated because the  
4           scientists that are doing this work have been  
5           uniformly almost shunned in the scientific  
6           community. Give you a classic example. The  
7           BEIR VII committee, which was organized to take  
8           cognizance of the latest updated information on  
9           low dose risk. Unfortunately there were  
10          members of the (unintelligible) community that  
11          -- and I was doing freelance and still do  
12          freelance medical writing -- there were many  
13          organizations in the public interest community  
14          that nominated several members to BEIR VII.  
15          These members were independent scientists, well  
16          qualified to analyze the effects of low dose.  
17          There were about a dozen of them. None of them  
18          were appointed to the BEIR VII committee, and  
19          obviously many of the people -- and I've been  
20          doing conflict of interest studies -- many of  
21          them had conflicts. In fact, right on the  
22          Advisory Board that I'm addressing right now  
23          there are three members that I can recognize  
24          quickly who are in the Health Physics Society,  
25          two with official positions. Health Physics

1 Society has a position statement, and I quote,  
2 Below five to ten rem, and which includes  
3 occupational and environmental exposures, risk  
4 of health effects are either too small to be  
5 (unintelligible) or are non-existent. This is  
6 a (unintelligible) unscientific and completely  
7 unethical statement.

8 The -- there was a paper put out by  
9 (unintelligible) National Academy of Sciences,  
10 November 25th, 2003, and the -- there are 15  
11 cancer experts on this study. Cancer is  
12 attributable to low doses of ionizing  
13 radiation, assessing what we really know.  
14 You'll recognize those in the field. Their  
15 names (unintelligible) Richard (unintelligible)  
16 Goodhead, Charles Land of the NCI, John  
17 (unintelligible) of Harvard, Dale  
18 (unintelligible), President, Elaine  
19 (unintelligible), National Cancer  
20 (unintelligible), Jonathan (unintelligible),  
21 Richard (unintelligible) and this study that  
22 they did indicated that there is good evidence  
23 existing in epidemiological data that suggests  
24 ten to 50 millisievert exposure an acute dose  
25 and 50 to 100 millisievert for a protracted

1 exposure, but the scientists will not accept --  
2 and this of course refers directly to the  
3 exposures at our weapons labs -- that  
4 protracted exposure of small doses of any  
5 radioactive elements over time have a greater  
6 effect than the same acute dose that is given -  
7 - one exposure. Now you will find that most of  
8 the so-called experts in the field reject this  
9 theory completely, and yet there's sufficient  
10 evidence to show otherwise.  
11 So there are numerous studies in the low dose  
12 field to absolutely question the  
13 recommendations that ICRP has put out,  
14 primarily because it's based upon the A-bomb  
15 study, as much of the literature is.  
16 Consequently, what they're not looking at is  
17 internal emitters, the alpha emitters.  
18 Certainly the A-bomb study did not, and all of  
19 the subsequent studies of course do not take  
20 recognition of these internal emitters, which  
21 are at least 20 times more serious than  
22 external emitters, and this has been documented  
23 again in the literature.  
24 I've been studying radiation health effects for  
25 35 years. I'm a retired consumer economics

1           teacher. (Unintelligible) testimony as vice  
2           president of consumer (unintelligible) Michigan  
3           in the 1970s, became an early opponent of  
4           nuclear power because of what I was reading  
5           about radiation and health effects. What  
6           nobody has alluded to is the fact that when  
7           these weapon labs were first organized, the  
8           Atomic Energy Commission and all of the other  
9           governmental agencies were given the power to  
10          put a (unintelligible) label on all radiation  
11          research, and that meant restricted data and it  
12          was only available to a few limited persons.  
13          That of course took place all through the Cold  
14          War. The (unintelligible) atomic audit by  
15          Brookings Institution documented how the United  
16          States (unintelligible) \$5.8 billion on these  
17          atomic weapons development, and it is a wealth  
18          of information that is contained in that book  
19          certainly attest to the fact that the secrecy  
20          that took place (unintelligible) us a  
21          tremendous amount of (unintelligible) and a  
22          lack of information in dissemination of  
23          information, at least up until 1982 -- 1992  
24          when President Clinton of course put out the  
25          order -- Executive Order to declassify many of

1           these studies (unintelligible) --

2           **DR. ZIEMER:** Mr. Earley, we'd ask you to --

3           **MR. EARLEY:** -- (unintelligible) --

4           **DR. ZIEMER:** Mr. Earley, I'm going to ask you  
5           to try to wrap up. You're at your ten-minute  
6           limit, so if you could wrap up quickly, thank  
7           you.

8           **MR. EARLEY:** All right. I would certainly  
9           conclude by stating that the dose  
10          reconstruction program, which not only affects  
11          these workers in our labs but also applies to  
12          the atomic veterans, some 400,000 or more  
13          atomic veterans who were at -- in Japan and in  
14          the Pacific Theater during the atmospheric  
15          tests. This process of utilizing dose  
16          reconstruction is unscientific, has no basis in  
17          fact. Indeed, much of that information in many  
18          of the early years was either destroyed, was  
19          never taken accurately and for anyone to think  
20          that this is an accurate measure is completely  
21          preposterous, as has been alluded to by many of  
22          the speakers. I would say that the speakers I  
23          heard last night, all of them, certainly  
24          deserve a honorary degree because they could  
25          run circles around many of the experts, many of

1           whom I've interviewed as I was doing medical  
2           writing, so I commend those persons who have  
3           taken a stand and come out with their testimony  
4           and I hope that it will bear upon decisions  
5           that are made, not only by the advisory  
6           committee but by the agencies themselves that  
7           will of course make the final determination.  
8           So again, thanks again for the tremendous work  
9           that you people have done, who are the workers  
10          at the labs, and I certainly appreciate and am  
11          looking forward to working with you because  
12          we'll be developing some of the issues in the  
13          future and our (unintelligible) oversight for  
14          will certainly take cognizance of your  
15          testimony. Thank you for your work.

16          **DR. ZIEMER:** Thank you very much, Mr. Earley.  
17          Let me open the floor, if there's any others  
18          that didn't sign up but do wish to make a  
19          comment tonight, we've completed the list here.  
20          Are there any others who wish to make comment?  
21          Yes, and give us your name for the record here.

22          **MS. BAYES:** Certainly. My name is LeeAnn  
23          Bayes. My [Identifying Information Redacted]  
24          was [Name Redacted] was the [Identifying  
25          Information Redacted] at Rocky Flats for a

1           number of years. He worked at Rocky Flats from  
2           1971 until September 12th of 1988. That was  
3           the morning he died.

4           I consider my [Identifying Information Redacted]  
5           very fortunate because he had the opportunity  
6           to have excellent medical care for the duration  
7           of his illness. And I think it is  
8           reprehensible that our government has denied  
9           that same coverage to these people who have  
10          given so much to grant us our civil liberties  
11          and to guarantee us our Constitutional rights.  
12          I know nothing about dosimetry. I know my  
13          [Identifying Information Redacted] didn't get to  
14          see me graduate from high school, college,  
15          graduate school, get married or have children.  
16          And I don't think that it's fair that you  
17          should deny these people the opportunity to  
18          have every chance at surviving their illnesses  
19          or bearing through them with some degree of  
20          comfort and especially dignity.

21          I don't have a scientific background, but I do  
22          know what it's like to be an orphan of the Cold  
23          War. And that needs to be taken into  
24          consideration. Thank you.

25          **DR. ZIEMER:** Thank you very much. Well, let me

1           thank all of you again for coming out this  
2           evening. Been a long day for many. We -- the  
3           Board will reconvene tomorrow morning. We will  
4           be taking up the SEC petition from Dow Chemical  
5           and the SEC Petition from Chapman Valve. So  
6           some interesting additional activities. You're  
7           all welcome to join us at that time. We begin  
8           tomorrow at basically 8:15. The agenda says  
9           8:00 to 8:15 is the, quote, welcome. That  
10          means a chance to get here and have a cup of  
11          coffee and say hello, and then we'll get  
12          underway at 8:15.

13          We will be meeting in a different room  
14          tomorrow. I understand it's the Sherman Room?

15          **DR. ROESSLER:** (Off microphone)

16          (Unintelligible)

17          **DR. ZIEMER:** Savannah Room.

18          **DR. WADE:** No, Stanley -- Stanley --

19          **DR. ZIEMER:** Close enough for an old guy --  
20          begins with an S. Let me get it straight,  
21          Stanley 1, somewhere down the hall, I  
22          understand. We'll try to find each other.  
23          Thank you. Good night.

24          (Whereupon, the meeting was concluded at 8:35  
25          p.m.)

1  
2  
3  
4  
5  
6

**CERTIFICATE OF COURT REPORTER**

**STATE OF GEORGIA**

**COUNTY OF FULTON**

I, Steven Ray Green, Certified Merit Court Reporter, do hereby certify that I reported the above and foregoing on the day of May 3, 2007; and it is a true and accurate transcript of the testimony captioned herein.

I further certify that I am neither kin nor counsel to any of the parties herein, nor have any interest in the cause named herein.

WITNESS my hand and official seal this the 15th day of July, 2007.

---

**STEVEN RAY GREEN, CCR**

**CERTIFIED MERIT COURT REPORTER**

**CERTIFICATE NUMBER: A-2102**