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DEFENSE NUCLEAR FACILITIES SAFETY BOARD
Public Hearing and Meeting on Los Alamos National
Laboratory at Santa Fe, New Mexico
Thursday, November 17, 2011
Session I
1:00 p.m.
Santa Fe Convention Center
201 W. Marcy Street
Santa Fe, New Mexico 87501

1 BOARD:

2 Dr. Peter S. Winokur, Chairman
3 Ms. Jessie H. Roberson, Vice Chairman
4 Dr. John E. Mansfield, Board Member
5 Mr. Joseph F. Bader, Board Member
6
7 Mr. Timothy J. Dwyer, Technical Director
8 Mr. Richard A. Azzaro, General Counsel
9 Mr. Brett P. Broderick, Board Technical Staff
10 Mr. Richard T. Davis, Board Technical Staff
11 Mr. John A. Pasko, Board Technical Staff

12 ALSO PRESENT:

13 Dr. Donald L. Cook, Deputy Administrator for
14 Defense Programs, National Nuclear
15 Security Administration
16 Dr. Charles F. McMillan, Director, Los Alamos
17 National Laboratory.
18 Mr. Kevin W. Smith, Site Office Manager, Los
19 Alamos Site Office
20 Dr. Charles Keilers, Assistant Manager,
21 Safety Operations, Los Alamos Site
22 Office
23 Dr. Carl Beard, Principal Associate Director
24 for Operations and Business, Los Alamos
25 National Laboratory
26 Mr. Derek Gordon, Chief Engineer for
27 Plutonium Facilities, Los Alamos
28 National Laboratory
29 Mr. Lawrence Goen, Program Manager for
30 Seismic Hazard and Engineering, Los
31 Alamos National Laboratory
32 Mr. Bill Gentile, Emergency Management
33 Program Manager, Los Alamos Site Office
34 Mr. Charles Anderson, Acting Associate
35 Director for Nuclear and High Hazard
36 Operations, Los Alamos National
37 Laboratory
38 Mr. Tony Stanford, Emergency Operations
39 Division Leader, Los Alamos National
40 Laboratory

41

42

43

1 I N D E X

2	Chairman's Opening Remarks	5
3	Statement by NNSA	14
4	Statement by LANL	20
5	Statement by Mr. Brett Broderick, Board Technical Staff	29
6		
7	Statement by Mr. Kevin W. Smith, Site Office Manager, Los Alamos Site Office	40
8	Questions by Board for Panel	44
9	Statement by Mr. John A. Pasko, Board Technical Staff	106
10		
11	Statement by Mr. Kevin W. Smith, Site Office Manager, Los Alamos Site Office	114
12	Questions by Board for Panel	116
13	Public Statements:	
14	Greg Mello, Los Alamos Study Group	158
15	Sharon Stover, Los Alamos County Council Chair	163
16	Statement by David McCoy, Citizen Action New Mexico	170
17		
18	Peter Neils, Los Alamos Study Group	174
19	Joni Arends, Concerned Citizens for Nuclear Safety	176
20	Elana Sue St. Pierre	179
21	Susan Rodriguez	183
22	Basia Miller	186
23	David Bacon	188
24	Jon Block	190
25	Charles Dickerman	195

1 I N D E X (Continued)

2 Michelle Delon 195

3 Willem Malten, Los Alamos Study Group 201

4 Adjournment 205

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1 CHAIRMAN: Good afternoon. My name is Peter
2 Winokur. And I am the chairman of the Defense Nuclear
3 Facilities Safety Board. I will preside over this
4 public meeting and hearing. I would like to introduce
5 my colleagues on the Safety Board.

6 To my immediate right is Ms. Jessie Roberson,
7 the Board's Vice Chairman. To my immediate left is
8 Dr. John Mansfield. Next to him is Mr. Joseph Bader.
9 We four constitute the Board.

10 The Board's General Counsel, Mr. Richard
11 Azzaro, is seated to my far left. The Board's
12 Technical Director, Mr. Timothy Dwyer, is seated to my
13 far right. Several members of the Board's staff
14 closely involved with oversight of the Department of
15 Energy's defense nuclear facilities are also here.

16 Today's meeting and hearing was publicly
17 noticed in the Federal Register on October 4, 2011.
18 The meeting and hearing are held open to the public
19 per the provisions of the Government in the Sunshine
20 Act.

21 In order to provide timely and accurate
22 information concerning the Board's public and worker
23 health and safety missions throughout the Department
24 of Energy's defense nuclear facilities, the Board is
25 recording this proceeding through a verbatim

1 transcript, video recording, and live video streaming.

2 The transcript, associated documents, public
3 notice, and video recording will be available for
4 viewing in our public reading room in Washington, D.C.
5 In addition, an archived copy of the video recording
6 will be available through our public web site for at
7 least 60 days.

8 Per the Board's practice and as stated in the
9 Federal Register notice, we will welcome comments from
10 interested members of the public at the conclusion of
11 testimony, approximately 4:45 p.m. this afternoon for
12 Session I and approximately 8:30 p.m. this evening for
13 Session II.

14 A list of those speakers who have contacted
15 the Board is posted at the entrance to this room. We
16 have generally listed the speakers in the order in
17 which they contacted us or, if possible, when they
18 wished to speak. I will call the speakers in this
19 order and ask that speakers state their name and title
20 at the beginning of their presentation.

21 There is also a table at the entrance to this
22 room with a sign-up sheet for members of the public
23 who wish to make a presentation but did not have an
24 opportunity to notify us ahead of time. They will
25 follow those who have already registered with us in

1 the order in which they have signed up.

2 To give everyone speaking -- wishing to speak
3 an equal opportunity, we ask speakers to limit their
4 original presentations to five minutes. The Chair
5 will then give consideration for additional comments
6 should time permit.

7 Presentations should be limited to comments,
8 technical information, or data concerning the subjects
9 of this public meeting and hearing. The Board Members
10 may question anyone making a presentation to the
11 extent deemed appropriate.

12 The record of this proceeding will remain
13 open until December 19, 2011.

14 I would like to reiterate that the Board
15 reserves its right to further schedule and regulate
16 the course of this meeting and hearing, to recess,
17 reconvene, postpone, or adjourn this meeting and
18 hearing, and to otherwise exercise its authority under
19 the Atomic Energy Act of 1954 as amended.

20 I would now like to discuss why the Board
21 chose to hold a public hearing concerning the Los
22 Alamos National Laboratory. First the Board intends
23 to hold more public meetings in communities near
24 defense nuclear facilities. Many of the Board's
25 public hearings are held in Washington, D.C., a great

1 distance from those members of the public who have a
2 vested interest in the sites.

3 Second, Los Alamos' role in the nuclear
4 weapons complex is unparalleled. It is one of the
5 oldest sites in the complex and arguably the most
6 challenging site for NNSA [National Nuclear Security
7 Administration] to safely manage.

8 Los Alamos' defense nuclear facilities
9 perform work as varied as nuclear component
10 fabrication, basic and applied scientific research and
11 development, and environmental restoration.

12 To support these wide-ranging missions, Los
13 Alamos National Laboratory nuclear facilities house
14 significant quantities of plutonium, uranium, tritium,
15 and transuranic waste. A number of these facilities
16 have been in service for many decades and are slated
17 to be replaced by new, robust facilities that meet
18 more stringent, modern safety requirements.

19 It is also important to note that many of the
20 site's defense nuclear facilities are located close to
21 surrounding communities.

22 The Board has identified three topics for
23 today's meeting and hearing that are high priorities
24 due to their safety implications. The first topic is
25 seismic safety at the Plutonium Facility. The second

1 topic is emergency preparedness.

2 Finally the Board will consider the safe
3 operation and safety strategy for existing and planned
4 Los Alamos National Laboratory defense nuclear
5 facilities. Let me provide some additional remarks on
6 each of these topics.

7 The National Nuclear Security Administration
8 has designated the Los Alamos Plutonium Facility, also
9 known as PF-4 [Plutonium Facility 4], to be the
10 nation's sole enduring facility to perform national
11 security work involving plutonium processing,
12 purification, and manufacturing. As a result this
13 facility has a defined mission that will involve large
14 quantities of plutonium for many decades.

15 In 2008 the Los Alamos Site Office approved a
16 new safety analysis indicating that the Plutonium
17 Facility lacked safety systems to mitigate the dose
18 consequences to the public that could result from a
19 large earthquake followed by a fire.

20 In response to this information, the Board
21 issued Recommendation 2009-2, Seismic Safety at the
22 Los Alamos National Laboratory Plutonium Facility. In
23 this recommendation the Board was concerned that NNSA
24 had approved a Documented Safety Analysis for its
25 Plutonium Facility with extremely high mitigated

1 offsite dose consequences to the public.

2 The mitigated dose to the public was more
3 than two orders of magnitude higher than what's termed
4 the Evaluation Guideline, a dose of 25 rem that
5 determines the need for safety-class controls to
6 protect the public; and three orders of magnitude
7 higher than doses typically believed necessary to
8 ensure adequate protection of the public.

9 It was apparent that the amount and physical
10 state of the material-at-risk assumed in the
11 calculation of mitigated offsite dose was unrealistic,
12 which quickly led to a more refined estimate for
13 offsite dose that was lower but still exceeded the
14 Evaluation Guideline by an order of magnitude.

15 The Board was troubled by DOE's [Department
16 of Energy] interpretation of its Nuclear Safety
17 Management Rule 10 CFR, that's Code of Federal
18 Regulations, Part 830, and associated standard DOE
19 Standard 3009 [Preparation Guide for U.S. DOE
20 Nonreactor Nuclear Facility Documented Safety
21 Analyses] which the Board viewed as the underpinning
22 for ensuring adequate protection of the public at
23 DOE's defense nuclear facilities.

24 At this hearing the Board will seek to
25 understand DOE's criteria and requirements for

1 adequate protection and their application to its
2 defense nuclear facilities including PF-4.

3 Recommendation 2009-2 prompted the National
4 Nuclear Security Administration and the laboratory to
5 take immediate steps to reduce potential consequences
6 to the public of a large seismic event and to develop
7 a strategy for longer term safety system upgrades.

8 In the last 18 months, NNSA has made
9 significant progress to address the Board's concerns
10 by identifying and implementing controls to reduce
11 dose consequences to the public below the Evaluation
12 Guideline. The Board notes NNSA's commitment to
13 provide seismically-qualified fire suppression and
14 active confinement ventilation systems but is
15 concerned the latter upgrade is being delayed until
16 2020.

17 As these efforts were underway, however, the
18 laboratory completed new structural analyses using
19 updated information about the likelihood of large
20 earthquakes near Los Alamos. The new analysis showed
21 that the Plutonium Facility could suffer greater
22 structural damage than previously believed, including
23 the possibility of the facility collapse and loss of
24 building confinement.

25 To address this vulnerability, the laboratory

1 has already begun to repair and reinforce the
2 facility's structure, but much work remains to be
3 done. For example, it has not been demonstrated that
4 the Plutonium Facility can meet structural
5 requirements that ensure confinement following a large
6 earthquake.

7 Today the Board seeks to continue the scope
8 and schedule of activities needed to properly identify
9 and address all seismic vulnerabilities as well as
10 what is being done to ensure adequate protection of
11 public and the workers in the interim.

12 Today's second topic, Emergency Preparedness,
13 is a crucial part of any site's overall safety
14 posture. The oil rig disaster in the Gulf of Mexico
15 and the tsunami in Japan have shown the world that
16 catastrophic accidents can happen anywhere.

17 This summer's Las Conchas fire, the largest
18 in New Mexico history, served as a potent reminder of
19 Los Alamos' susceptibility to large wildland fires.

20 Emergency preparedness at Los Alamos is
21 complicated by the need to respond to multiple
22 facilities and failures of site infrastructure
23 following a natural phenomena event, which can include
24 the extended loss of power, damage to roads and
25 bridges, and the loss of water supply.

1 Today the Board will examine areas where site
2 emergency preparedness can be improved to better
3 respond to both natural and man-made disasters.

4 Finally we will discuss the continued safe
5 operations and the safety strategy of the defense
6 nuclear facilities at the laboratory. Because of the
7 laboratory's historical role and its evolution over
8 time, nuclear operations were conducted for many years
9 in an expert-based manner that employed few formal
10 rules and standards to govern work execution and
11 safety practices.

12 In recent years Los Alamos has worked to
13 attain the more disciplined approach to nuclear
14 operations, engineering, and maintenance as required
15 by the National Nuclear Security Administration. In
16 addition, the laboratory has encountered many
17 challenges as it has sought to establish and maintain
18 up-to-date nuclear facility safety analyses termed
19 safety bases that adequately characterize and control
20 the hazards from nuclear operations.

21 This is complicated by the fact that some of
22 these facilities are well beyond their design life and
23 are being called upon to continue to operate safely
24 for a decade or more while robust replacement
25 facilities are designed and constructed.

1 Today the Board will examine the laboratory's
2 efforts to improve formality of operations,
3 effectively update safety bases, and mitigate risks
4 associated with the continued operation of several
5 aging nuclear facilities.

6 This concludes my opening remarks. I will
7 now turn to the Board Members for their opening
8 remarks. Ms. Roberson.

9 VICE CHAIRMAN: Not at this time,
10 Mr. Chairman.

11 CHAIRMAN: Dr. Mansfield.

12 DR. MANSFIELD: Nothing at this time.

13 CHAIRMAN: Mr. Bader.

14 MR. BADER: Nothing at this time.

15 CHAIRMAN: This concludes the Board's opening
16 remarks.

17 At this time I would like to introduce
18 Dr. Donald Cook, Deputy Administrator for Defense
19 Programs at the National Nuclear Security
20 Administration, and Dr. Charles F. McMillan, Director
21 of the Los Alamos National Laboratory, and ask them to
22 provide their opening statements. We'll accept their
23 full written statements, full written testimony for
24 the record, and ask them to summarize these written
25 statements in ten minutes or less.

1 Welcome, Dr. Cook and Dr. McMillan.

2 DR. COOK: Mr. Chairman, Members of the
3 Board, thank you for this opportunity for National
4 Nuclear Security Administration, NNSA, and Los Alamos
5 National Security, LLC, or LANS [Los Alamos National
6 Security] personnel to meet with you. Today I will
7 provide some brief remarks on the three primary areas
8 being considered in today's public hearing and
9 meeting.

10 These areas include first the seismic safety
11 of the Plutonium Facility, PF-4, at the Los Alamos
12 National Laboratory. Second, NNSA's and LANS's
13 preparations for responding to site emergencies
14 including threats from natural phenomena. And third,
15 NNSA's efforts to mitigate risks to public and worker
16 safety posed by existing Los Alamos nuclear facilities
17 and NNSA's efforts to ensure the integration of safety
18 into the design of new Los Alamos nuclear facilities.

19 So first I would like to speak about the
20 seismic safety of PF-4. At PF-4, like all of our
21 nuclear facilities, NNSA has built a system of
22 redundant physical features and process limits to
23 ensure that there are absolutely minimal public health
24 effects from normal operations and from potential
25 accident conditions.

1 Of the many potential PF-4 accidents that we
2 evaluate, the most significant is a large magnitude
3 earthquake, the kind that seismologists have
4 determined could recur once in thousands of years.

5 Recent increases in the predicted maximum
6 ground motion from an earthquake in the Los Alamos,
7 New Mexico, area have shown that the motion, if it
8 were to occur, could be higher than PF-4 was designed
9 to handle.

10 If the worst-case earthquake that we used for
11 analysis were to happen today, there could be a
12 release of radioactive material from PF-4. However,
13 the largest possible exposure to a member of the
14 public would not result in any direct health effects.

15 As the facility currently exists, the risk to
16 public health from PF-4 from such an earthquake is
17 roughly 10,000 times smaller than the risk to the
18 public from other hazards encountered in daily life.

19 The low likelihood of the earthquake supports
20 a conclusion that the risk to public health and safety
21 is very small. Nevertheless, NNSA has taken prudent
22 actions to reduce the risk of operations at PF-4 to
23 meet our stringent safety goals.

24 The actions we will have completed by the
25 spring of 2012 will bring the facility into full

1 compliance with departmental safety standards,
2 effectively correcting the seismic vulnerabilities and
3 eliminating any substantial risk.

4 We're doing this in three ways. First we are
5 initiating -- initiating physical upgrades on an
6 expedited basis. For example, we recently completed a
7 significant roof upgrade that improves the structural
8 integrity of the building.

9 Second, we have reduced the amount of
10 radioactive material that could be involved in an
11 accident, further minimizing the effects of any
12 release. And third, we have put in place more
13 stringent safety procedures to make the escape of
14 unfiltered air even more likely -- un -- even more
15 unlikely.

16 Now, we expect that these and other actions
17 will have reduced the risk associated with a seismic
18 event even further and will satisfy the Department of
19 Energy Evaluation Guideline of 25 rem for the
20 conservatively calculated accident dose to the public.

21 We plan to complete additional upgrades by
22 2013 that will reduce the risk at PF-4 to a level well
23 below the DOE's Evaluation Guideline. And we plan to
24 complete more extensive upgrades during the next few
25 years that will reduce the risk of operations at PF-4

1 to a very small fraction of the Evaluation Guideline.

2 Together the safety systems and practices we
3 built into our operations provides strong assurance
4 that PF-4 operations are safe, the hazards are well
5 understood, and our safety measures effectively
6 prevent public health effects from our activities.
7 Our plans in the near future will provide additional
8 safety assurance.

9 Next now I'd like to speak briefly on the
10 preparations to respond to site emergencies.
11 Regarding the response to wildland fires, the NNSA,
12 Los Alamos Site Office, and Los Alamos National Lab,
13 with various federal state and local agencies,
14 successfully demonstrated a well-coordinated response
15 to an actual event, the Las Conchas -- the Las Conchas
16 fire that started this past June.

17 Implementation of lessons learned from the
18 Cerro Grande fire in 2000 helped the lab prepare and
19 reduce the impact of the Las Conchas fire on Los
20 Alamos and surrounding communities. Examples include
21 the replacement of the cramped and outdated Emergency
22 Operations Center with a state-of-the-art facility,
23 construction of 186 miles of firebreaks, spending
24 \$24 million on new firefighting equipment, and
25 increasing the number of exercises and drills.

1 The lessons learned from the Las Conchas fire
2 will be used to further improve emergency planning,
3 procedures, preparation, and response for future
4 wildland fires and other potential natural threats.

5 At part of the Department's response to the
6 accidents at the Fukushima Daiichi reactors in Japan,
7 the response of DOE nuclear facilities to severe
8 natural events were reviewed, including those at Los
9 Alamos, to prepare and identify lessons learned and
10 improvements.

11 Also under review is the potential impact to
12 Los Alamos infrastructure and emergency response due
13 to natural events such as major earthquakes. This may
14 result in the need for improvement to emergency
15 response from multiple facility events. Those
16 scenarios are being analyzed.

17 I'd like to emphasize that we are committed
18 to safely conducting operations in all of our existing
19 nuclear facilities including those that have limited
20 as well as enduring missions. For each of these
21 nuclear facilities, we are working to reduce excess
22 radioactive material-at-risk that is no longer needed.

23 For example, at Area G and Tech Area 54 at
24 Los Alamos, a limited life facility, we removed and
25 shipped to the Waste Isolation Pilot Plant 522 cubic

1 meters in 171 shipments of legacy transuranic waste
2 just this past year.

3 We are also committed to replacing our aging
4 nuclear facilities with new nuclear facilities such as
5 the Chemistry and Metallurgy Research Replacement, or
6 CMRR [Chemistry and Metallurgy Research Replacement],
7 nuclear facility project and the new Transuranic Waste
8 Facility that are designed using modern codes,
9 standards, and other requirements.

10 The CMRR nuclear facility project will
11 replace the existing Chemistry and Metallurgy Research
12 Facility with a modern nuclear lab facility that
13 includes, for example, a robust, seismically-qualified
14 structure and fire suppression system.

15 The new Transuranic Waste Facility will
16 include more robust structures as compared to the
17 existing storage in Area G and is being designed to
18 focus on staging material to support shipment offsite
19 rather than long-term storage resulting in
20 significantly reduced radioactive material inventory.

21 Again I want to thank you for this
22 opportunity to speak with you today. Following the
23 opening remarks, I'll be happy to answer any questions
24 that you may have.

25 CHAIRMAN: I thank you, Dr. Cook.

1 Dr. McMillan.

2 DR. McMILLAN: Good afternoon, Mr. Chairman
3 and Board. It's my pleasure to address the Board
4 today and to describe the laboratory's commitment to
5 safety.

6 Since this is my first opportunity to
7 publicly address the Board, let me just take a moment
8 to introduce myself. I was appointed as director in
9 June of this year. Prior to becoming director, I was
10 the principal associate director for the weapons
11 program here at Los Alamos.

12 I began my career at Lawrence Livermore
13 National Lab in 1983. And during the course of my
14 time there, I worked very closely on the advanced
15 super computing program known as ASCI [Advanced School
16 for Computing and Imaging].

17 I was involved in helping to start the
18 stockpile stewardship program. And I have managed
19 significant experimental facilities during the course
20 of that part of my career. My undergraduate degrees
21 are in mathematics and physics. And I have a
22 doctorate in physics from MIT.

23 I'd like to take a few minutes this afternoon
24 to talk about the broad scope of what we've done at
25 the laboratory. And this afternoon my colleagues will

1 talk in quite a bit more detail about the details of
2 the actions that we've taken.

3 But what I really want to make sure I
4 communicate for you is the core values that I have as
5 the leader of the laboratory and the safety of the
6 laboratory and the principles that frame how we
7 approach that safety.

8 To begin let me say unequivocally that safety
9 is our highest priority at the laboratory. It's
10 absolutely necessary for the work that we do and the
11 kind of work that we do. The stakes are high in the
12 work for our workers, they're high for our families,
13 they're high for our communities, and they're high for
14 our nation.

15 Our statistics show a healthy attitude for
16 reporting safety issues. And our goal at the
17 laboratory is to encourage reporting those issues
18 before they become serious. I'm proud of the
19 statistics that we have today. Today our injuries
20 that result in days of lost work are the lowest that
21 they've been in the last five years.

22 But even more important than those statistics
23 are the fact that more of my workers are going home to
24 their families safe every night. My expectation is,
25 as the lab leader, starting with me, we'll model our

1 priority on safety.

2 We also know that one of the best ways to
3 create a culture of safety is to grow it from the
4 ground up, from the employees. Employees often know
5 better than anyone else the hazards of the work that
6 they do and the hazards that are in their workplaces.

7 Today we have many worker safety and security
8 teams that are grass work -- grassroots teams of
9 employees who are empowered to suggest and to enact
10 safety improvements. We teach behavior-based safety
11 and human performance improvement programs that come
12 from the best practices of the nuclear industry and
13 other industries that have learned safety practices.

14 As part of our work, I believe that it is
15 essential for us to look for precursors, things that
16 someday may lead to unsafe conditions very early in
17 the process. History has shown that one of the most
18 important contributors to a safe workplace is an
19 environment where employees feel safe to raise safety
20 concerns.

21 Not only do I expect this environment at Los
22 Alamos, but further I expect us to constantly assess
23 our own safety and to report the results. Dr. Cook
24 mentioned the Las Conchas fire. And I believe that
25 the transparency that the laboratory practiced during

1 that fire is an example of what I expect.

2 One of the reasons that we're here today to
3 have this discussion is because of self-assessments
4 that the laboratory has done on the Plutonium Facility
5 as part of our commitment to safety.

6 Not only did we report the results
7 immediately to the NNSA and the Board, but we stood in
8 front of our community. And we talked about those
9 assessments with our community as well as talking
10 about the actions we would take. We then followed up
11 several months later with the community to report back
12 on those actions.

13 In a place where critical examination of
14 processes and data is a way of life, the laboratory,
15 taking a hard look at ourselves is a good thing. And
16 we do that continually. That is what happened earlier
17 this year when we determined that the seismic risks
18 were relatively greater than previously thought for
19 our Plutonium Facility, PF-4.

20 I must stress that PF-4, even without its
21 recent upgrades, is among the most robust structures
22 in the region, if not the state. And rightly so. It
23 should be.

24 In the event of a major earthquake, as
25 someone who spent over 20 years of my life in the Bay

1 Area which is clearly earthquake country, I can tell
2 you that from a seismic perspective, I would feel
3 safer in PF-4 than I would in my own home. It's a
4 very robust structure.

5 After finding and reporting an issue,
6 follow-through is critical. It's not enough to just
7 admire the problem. Ten of NNSA's commitments to the
8 Board with regard to our Plutonium Facility are
9 complete. The latest commitment as Dr. Cook mentioned
10 will be complete in early 2012.

11 We -- five of the seven additional safety
12 upgrades that we've put in place are complete. For
13 example, we have upgraded our fire suppression system,
14 we've significantly improved the roof structure, and
15 we've upgraded key connections of beams to columns
16 inside the building. We expect the remaining two
17 actions on this list to be completed by April.

18 As important as the facility work is, we must
19 also focus on people and behavior. The responsibility
20 rests on my organization's leadership to establish
21 priorities to make the commitment to safety real and
22 to create a climate in which such a commitment can
23 flourish. That starts with me.

24 When we first reported our seismic data at
25 the Plutonium Facility, I spent a day with our

1 seismologists trying to understand the issues. Some
2 of them will be here to discuss the details with you.

3 I went to PF-4 and saw for myself the
4 gloveboxes, the structural columns, and the mezzanines
5 that were in question. I have kept close tabs on the
6 upgrades as they have occurred. And we have kept the
7 Board informed as we did when you were here for your
8 last visit.

9 I have said to my leadership team many times
10 the day that our safety rests on a mountain of
11 paperwork is the day I don't sleep well at night. The
12 paperwork is our formal way of thinking about the
13 problem. But thinking about the problem and taking
14 action on it are the essential characteristics.

15 I live in Los Alamos. I breathe the air, I
16 drink the water. So do thousands of the laboratory's
17 employees. I'm proud of our safety record and our
18 accomplishments. And I can say with complete
19 certainty that it remains our highest priority.

20 We have shown that we can deliver on our
21 commitments to the nation and do it safely, while
22 protecting our workers, the public, and the
23 environment.

24 Mr. Chairman, members of the Board, the
25 American taxpayer expects me to provide assurances

1 that we are executing our missions as safely as
2 possible across the laboratory. I'm here to do just
3 that. I'm confident in the continuing safety of our
4 facilities and our operations.

5 Thank you for the opportunity to speak to you
6 early this afternoon. As Chairman Winokur knows, I
7 have a high-level guest arriving at the laboratory
8 right now. And so I very much appreciate you being
9 willing to help me almost be in two places at once
10 this afternoon. So with that I'm prepared to address
11 questions.

12 CHAIRMAN: I want to thank you very much for
13 taking the time to be with us here today. I know you
14 do have important meetings back at the lab that you
15 need to get to. I think most of the questions and
16 follow-ups will take place in the panel. And we're
17 very pleased Dr. Cook will be with us.

18 But one thing that I heard you say and that
19 I've heard other people say -- I don't need you to
20 answer this question right now. You could -- you
21 could, if you want to, or you could take it for the
22 record.

23 I've heard a lot of people say that, in a
24 large earthquake, they would like to be in that
25 Plutonium Facility. And to be very frank with you, I

1 would like to understand more about that --

2 DR. McMILLAN: Sure.

3 CHAIRMAN: -- because the truth is we're very
4 concerned on the Board about the fact that if there's
5 a large earthquake, the offsite dose consequences from
6 that Plutonium Facility to the public can range from
7 hundreds of thousands of rem. So I can imagine inside
8 the facility what the implications would be.

9 So I'm just trying to get -- understand the
10 difference between whether or not we're just saying
11 that seismically, in terms of collapse and things like
12 that, you would be more comfortable; but I think there
13 are concerns about the workers. And like I say during
14 the panel we're going to try to get into that a little
15 bit more.

16 DR. McMILLAN: Let me start with an answer.

17 CHAIRMAN: Okay.

18 DR. McMILLAN: And then we can maybe explore
19 it further with some of my colleagues who also, you
20 know, are very intimate with the details.

21 In the case of my home, it's a relatively new
22 home. But I can tell you, from having looked at the
23 plans and then looking at what's there, that they
24 don't all match up. And we have a much better
25 understanding of the pedigree of PF-4 as well as the

1 strength of that building in a seismic event.

2 Most of the buildings, my home included,
3 weren't built to withstand quakes that are anything
4 like what we're working to ensure that PF-4 is able to
5 withstand. And so based both on the pedigree and on
6 the strength of the structures, I'm very comfortable
7 with what I said, that from a seismic perspective, I
8 think PF-4 is a much safer place to be than even my
9 home.

10 CHAIRMAN: All right. I want to thank you
11 for your testimonies today. Thank you, Dr. Cook, for
12 the time being. And at this time we're going to move
13 on -- thank you both -- with testimony from the
14 Board's staff.

15 I'd like to introduce Mr. Brett Broderick who
16 will provide that staff testimony. I'm going to
17 accept his full written statement for the record but
18 at this time ask him to summate -- summarize that
19 written statement in ten minutes or less.

20 Mr. Broderick.

21 MR. BRODERICK: Thank you, Mr. Chairman and
22 Members of the Board. For the record my name is Brett
23 Broderick. I'm one of the Board's site
24 representatives responsible for overseeing nuclear
25 facilities and operations at the Los Alamos National

1 Laboratory.

2 In this session of the public meeting, the
3 Board is considering seismic safety at the LANL [Los
4 Alamos National Laboratory] Plutonium Facility. In
5 this opening statement, I will provide an overview of
6 the risks posed by seismic events at the Plutonium
7 Facility and how the understanding of these risks has
8 evolved over time.

9 I'll also discuss the Plutonium Facility's
10 current safety strategy for dealing with seismic
11 hazards, the shortcomings of this strategy, and the
12 actions taken by the Board and NNSA to improve seismic
13 safety at the Plutonium Facility.

14 Finally I'll discuss the seismic safety
15 problems at the Plutonium Facility in the broader
16 context of NNSA's regulatory framework and how that
17 framework addresses the fundamental concept of
18 ensuring adequate protection of the public, workers,
19 and the environment.

20 The LANL Plutonium Facility plays a unique
21 role in supporting NNSA's mission. This facility has
22 been chosen to perform all long-term NNSA plutonium
23 processing, purification, and component manufacturing
24 operations.

25 Because of this central role, the Plutonium

1 Facility requires a large inventory of plutonium and
2 other hazardous materials. Without proper safety
3 controls, this large inventory of plutonium has the
4 potential to cause significant offsite impacts to the
5 nearby public.

6 On the spectrum of accidents that could
7 affect the Plutonium Facility, earthquakes are a
8 particular concern because they have the potential to
9 impact all of the material in the building and cause
10 large amounts of plutonium to be released. As a
11 result seismic safety has been an important
12 consideration for the Plutonium Facility throughout
13 its operating life.

14 Site personnel designed and constructed the
15 building in the 1970s by applying the best seismic
16 hazard information that was available at the time.
17 However, the nature and magnitude of the seismic
18 hazard used to design and evaluate LANL nuclear
19 facilities has evolved over time as the scientific
20 understanding of the fault system in the Los Alamos
21 region has improved.

22 In 2007 the contractor published a study that
23 incorporated recently discovered information about the
24 structure and seismic history of the nearby Pajarito
25 fault system. This study concluded that large

1 earthquakes in the Los Alamos area are more likely
2 than previously believed.

3 Based on this 2007 study, we now know that
4 some aspects of the seismic hazard, such as the
5 potential for strong ground motions in the vertical
6 direction, are more severe than the Plutonium
7 Facility's original designers believed.

8 In response to this new information, NNSA and
9 the contractor initiated a multiyear project that went
10 by the acronym SAFER [Seismic Analysis of Facilities
11 and Evaluation of Risk] to evaluate the impacts of the
12 increased seismic hazard on LANL nuclear facilities.

13 In 2008, while SAFER project analysts
14 continued their work, NNSA approved the first major
15 revision to the Plutonium Facility's Documented Safety
16 Analysis or DSA [Documented Safety Analysis] in more
17 than a decade. A DSA is essentially the operating
18 license for an NNSA nuclear facility.

19 The DSA defines the scope of authorized
20 operations, analyzes a facility's worst-case
21 accidents, and identifies the safety controls that are
22 needed to protect the public and the workers.

23 Because DSAs analyze worst-case accidents,
24 they use very conservative assumptions and input
25 parameters to calculate bounding offsite dose

1 consequences. These calculations are an important
2 tool to assess the potential for offsite impacts from
3 nuclear facility accidents.

4 However, because of the very conservative
5 nature of these calculations, they are not intended to
6 represent the most likely or most realistic offsite
7 effects from an accident. In practice DSA consequence
8 calculations are used to determine where safety
9 controls need to be added or improved.

10 This is done by comparing consequence values
11 to NNSA's Evaluation Guideline of 25 rem. If offsite
12 consequences from an analyzed accident exceed the
13 Evaluation Guideline, then additional or improved
14 safety controls are needed to protect the public. The
15 more an analyzed accident consequence exceeds the
16 Evaluation Guideline, the more urgency and priority is
17 needed to improve the safety controls.

18 When NNSA approved the new Plutonium Facility
19 DSA in 2008, the accident with the highest offsite
20 consequence was a severe earthquake that triggered a
21 large facility fire. The 2008 DSA concluded that the
22 Plutonium Facility's building structure would survive
23 the large earthquake, but the facility's other key
24 safety systems would fail.

25 Without the protection provided by safety

1 systems like the confinement ventilation and fire
2 suppression systems, the DSA concluded that the
3 offsite consequences for this seismic accident would
4 exceed the NNSA Evaluation Guideline by a factor of
5 100.

6 A calculated dose this far above the
7 Evaluation Guideline calls for a great deal of urgency
8 in improving the facility's safety controls. In
9 response to this urgent need, the Board issued
10 Recommendation 2009-2, Los Alamos National Laboratory
11 Plutonium Facility Seismic Safety.

12 This recommendation called for NNSA to
13 implement near-term compensatory measures and
14 effective -- and an effective longer-term safety
15 strategy to reduce the consequences of seismic events
16 at the Plutonium Facility.

17 Following the recommendation NNSA and the
18 contractor took a series of positive near-term steps
19 to reduce these risks. As NNSA and the contractor
20 worked to define the longer-term seismic safety
21 strategy, SAFER project personnel finished their
22 analysis using the site's increased seismic hazard
23 profile.

24 SAFER results finalized in May 2011 show that
25 important structural elements of the Plutonium

1 Facility would fail if subjected to the new larger
2 earthquake motions. These structural failures create
3 the potential for a new class of seismic accidents
4 that are more severe than those previously analyzed.

5 In the worst of these new seismic accidents,
6 a structural failure involving the facility's roof
7 could cause the entire building to collapse. To
8 account for this new information, NNSA approved a
9 supplemental safety basis called a Justification for
10 Continued Operation or JCO [Justification for
11 Continued Operation] that authorizes continued
12 operations for a limited time.

13 The JCO analyzed the new seismic accidents
14 using a refined set of assumptions and input
15 parameters that would typically tend to reduce
16 consequences. However, offsite doses calculated in
17 the approved and implemented JCO remained about 100
18 times greater than the Evaluation Guideline because of
19 the severe nature of the seismic collapse accident.

20 In response to this situation, NNSA and the
21 contractor imposed immediate compensatory measures,
22 where possible, and initiated an aggressive program to
23 repair or upgrade all of the known structural
24 vulnerabilities. Since May NNSA and the contractor
25 have made impressive progress on completing structural

1 upgrades.

2 Roughly half of the known vulnerabilities
3 have been fixed to date. Chief among these is the
4 installation of a large strengthening member on the
5 Plutonium Facility roof to prevent facility collapse.
6 Structural upgrades to fix the other known
7 vulnerabilities are currently scheduled to be complete
8 by the middle of 2012.

9 In parallel with the structural upgrades,
10 contractor personnel are performing additional
11 analyses to better understand the building seismic
12 response in several areas where independent peer
13 reviewers and the Board's staff have questioned the
14 adequacy of the original structural modeling used by
15 the SAFER project.

16 This analysis has the potential to identify
17 new structural vulnerabilities including new
18 vulnerabilities that could result in the collapse of
19 the facility or a loss of the facility's confinement
20 integrity. The discovery of any new vulnerability is
21 likely to require additional fixes and prolong public
22 and worker risks from a severe seismic accident at the
23 Plutonium Facility.

24 Looking ahead, once all structural
25 vulnerabilities have been fixed, the temporary JCO

1 will be deactivated. When this occurs, Plutonium
2 Facility seismic safety will be governed by a new DSA
3 that was approved by NNSA in October 2011.

4 This new DSA uses refined accident analysis
5 assumptions to conclude that offsite consequences from
6 a seismic event would fall just below the NNSA
7 Evaluation Guideline.

8 Looking to the longer term, NNSA and the
9 contractor recently submitted their seismic safety
10 improvement strategy for Recommendation 2009-2. This
11 strategy commits to upgrade both the confinement
12 ventilation system and fire suppression system to
13 protect the public in the event of a large earthquake.

14 These future upgrades will dramatically
15 improve the safety posture of the Plutonium Facility
16 and reduce offsite consequences from a large seismic
17 event to a small fraction of the Evaluation Guideline.
18 However, the Board is concerned the key upgrades to
19 the ventilation system are not scheduled to be in
20 place until 2020.

21 Fundamentally NNSA must ensure that the
22 Plutonium Facility provides adequate protection of the
23 public and workers. However, at this time the Board
24 is unclear about how adequate protection is defined
25 and implemented in NNSA's current regulatory

1 framework.

2 As a practical example, the Plutonium
3 Facility has been operating since 2008 with bounding
4 safety basis consequences for seismic events that
5 exceed the Evaluation Guideline by a factor of 100.
6 This is a very large bounding accident consequence
7 that raises concerns about adequate protection.

8 However, under NNSA's current regulatory
9 framework, the process for making determinations about
10 adequate protection is not well defined for situations
11 where calculated offsite consequences significantly
12 exceed the Evaluation Guideline.

13 NNSA does have a nuclear safety policy that
14 includes some quantitative safety objectives for
15 protecting the public. But these criteria are
16 described as aiming points, not requirements.

17 In closing I'll reiterate that improving the
18 seismic safety of the Plutonium Facility is
19 imperative. To make these necessary improvements,
20 NNSA and the contractor must continue to aggressively
21 pursue an adequate understanding of the building
22 seismic response, complete structural upgrades to
23 ensure the building survives a large earthquake, and
24 implement planned improvements to the ventilation and
25 fire suppression systems.

1 In addition, the Board will continue to work
2 with NNSA to strengthen its regulatory framework for
3 ensuring adequate protection of public and worker
4 safety. This concludes my prepared testimony. I
5 would be happy to answer any questions from the Board.

6 CHAIRMAN: Thank you, Mr. Broderick. Do the
7 Board Members have any questions for Mr. Broderick?
8 Seeing none, thank you, Mr. Broderick.

9 At this time I would like to invite the panel
10 of witnesses from DOE and its contractor organizations
11 for the topic of Plutonium Facility Seismic Safety to
12 take their seats. Additionally, I would like to
13 introduce them.

14 Dr. Donald Cook is the Deputy Administrator
15 for Defense Programs at the National Nuclear Security
16 Administration. Mr. Kevin Smith is the Los Alamos
17 Site Office Manager. Dr. Charles Keilers is the
18 Assistant Manager for Safety Operations at the site
19 office.

20 Dr. Carl Beard is the Principal Associate
21 Director for Operations and Business at the Los Alamos
22 National Laboratory. Mr. Derek Gordon is the Chief
23 Engineer for Plutonium Facilities. And Mr. Lawrence
24 Goen is the Program Manager for Seismic Hazard and
25 Engineering.

1 The Board requests that initially panelists
2 alone answer questions that are directed to them to
3 the best of their ability. After that initial answer,
4 other panelists may seek recognition by the Chair to
5 supplement the answer as necessary. Also if panelists
6 would like to take a question for the record, the
7 answer to that question will be entered into the
8 record of this hearing at a later time.

9 Does any member of the panel wish to submit
10 written testimony at this time? With that we will
11 continue with an opening statement by Mr. Smith.

12 Mr. Smith, I will ask that you keep your
13 opening statement to a length of ten minutes or less.
14 And I will accept into testimony your written summary.

15 MR. SMITH: Thank you. Good afternoon,
16 Mr. Chairman, Dr. Winokur, and Board Members. Good to
17 be here. Thank you for the opportunity to speak
18 today. I have been here as the Los Alamos Site Office
19 Manager now for just over a year. And it has been an
20 exciting time. I'll go ahead with my statement.

21 During the last four years, the National
22 Nuclear Security Administration, or NNSA, and the Los
23 Alamos National Security, LLC, LANS, have dramatically
24 improved our understanding of the factors affecting
25 the safety of the laboratory's operations. And we

1 have made great strides in improving nuclear --
2 nuclear safety, particularly in the Plutonium
3 Facility, PF-4.

4 In 2007 the sup -- the site updated its
5 site-wide seismic hazard analysis, the first such
6 update since 1995. Trenching and other studies during
7 the period of a decade determined that the local
8 Pajarito fault system was more interrelated and may
9 have one -- have had one or two more seismic events in
10 the last 11,000 years than previously thought.

11 As a result the site became -- began to
12 evaluate the structural performance of all of its key
13 facilities for high seismic motions including PF-4 to
14 ensure that we maintain a highly conservative nuclear
15 safety posture.

16 In December 2008 the site updated the PF-4
17 safety basis or DSA. This is the analysis that
18 determines that safety procedures and engineered
19 systems depended upon most -- excuse me. Sorry.
20 Safety procedures and engineered systems depended upon
21 most to protect the public, the workers, and the
22 environment.

23 This was the first such upgrade since 1986.
24 As a result the site became -- began a broad range of
25 nuclear safety improvements in this key facility. I'm

1 coming off a cold. Sorry.

2 Considerable effort since then has focused on
3 repackaging plutonium in more robust containers, and
4 many of your Board staff has helped with those
5 regards. Disposal of plutonium that is no longer
6 required, reducing combustible inventories by tons,
7 eliminating potential ignition sources, improving fire
8 barriers, and improving the fire protection systems.

9 While the 2008 safety basis improved our
10 understanding of the defenses for more than two dozen
11 postulated accidents, it did not fully address some
12 postulated aspects of a large magnitude earthquake
13 that also results in a fire, deferring that for a
14 future update.

15 The evaluation basis earthquake is one that
16 could occur once in several thousand years. As
17 mentioned the post-seismic fire scenario was the focus
18 of the Board's Recommendation 2009-2, which was issued
19 in October of 2009.

20 In July of 2010, NNSA provided the Board an
21 implementation plan for this recommendation. Since
22 July 2010 the site has completed ten of the 11
23 commitments in that plan. The remaining component
24 involves starting upgrades into glovebox support
25 stands and is expected to be complete by the first of

1 April 2012.

2 In May 2011 the completion of one of the
3 commitments led to follow-on concerns that were shared
4 with the Board, NNSA, and LANS. Specifically
5 structural analysis identified new seismic hazards
6 that could affect the building confinement
7 capabilities and could result in unfiltered releases.

8 The site promptly evaluated the new
9 information and put in place the smartest compensatory
10 measures and initiated seven structural upgrade
11 projects to address the vulnerabilities. And as
12 Dr. McMillan mentioned, he's pleased to say five of
13 these have been completed already. The remaining two
14 are expected to be complete in early 2012.

15 Furthermore, and in consultation with the
16 Board's staff and with nationally recognized outside
17 experts, the site is conducting additional structural
18 analysis to ensure the high confidence of PF-4's
19 seismic structural adequacy.

20 The laboratory has used its science,
21 technology, and engineering context to engage the
22 best. And the University of California's partner,
23 Bechtel, has sourced its entire bench strength to help
24 wherever they could provide value added in this
25 effort.

1 At this time it remains possible that ongoing
2 and follow-on analysis will identify the need for some
3 further modifications. However, the work done to date
4 supports the conclusions that operations at PF-4 are
5 safe, upgrades that currently are underway or in their
6 final planning will make it safer, and that the public
7 health and safety is adequately assured for normal
8 operations with the compensation measures in place and
9 potential accidents at PF-4.

10 In my view the construction of PF-4 is
11 probably the best I've seen in the four sites I've
12 been stationed at. It's the fastest, best planned,
13 most effectively executed, and with a sense of urgency
14 I haven't seen inside an MAA [Material Access Area]
15 area in any place I've been.

16 As of Monday I walked the facility down again
17 and to monitor how things were going. And it is still
18 going very well. The current PSI [per square inch]
19 strength of the roof pour significantly exceeds the
20 minimum that we had hoped for and that it will lend to
21 an even stronger repair.

22 To answer your question, Dr. Winokur, about
23 being safer in PF-4 than your own house in Los Alamos,
24 mine is on the edge of a cliff. And as Dr. Terry
25 Wallace likes to remind me, is that the biggest fault

1 is only 150 feet behind my house. So I -- I tend to
2 think with Dr. McMillan, I think I'd have to be a
3 little bit safer in PF-4. That concludes my initial
4 remarks. And thank you for letting me present them to
5 you today. Thank you.

6 CHAIRMAN: Thank you, Dr. Smith. With that
7 we will continue with questions from the Board Members
8 to the full panel. Ms. Roberson will begin the
9 questioning.

10 VICE CHAIRMAN: Good morning or afternoon.
11 Dr. Beard, one question that I would have asked
12 Dr. McMillan, although we certainly respect the
13 schedule, so I'll direct it to you. I assume -- it's
14 fair for me to assume you agree with most of what he
15 said?

16 DR. BEARD: Yes, ma'am.

17 VICE CHAIRMAN: Okay. He expressed some
18 concern about an abundance of paperwork getting
19 confused with focus on action. Can you elaborate, is
20 that the analysis for this purpose?

21 DR. BEARD: Yeah, let me -- I'll clarify his
22 point. So he was -- he was referring to the analysis.
23 But he in no way was dismissing the analysis. The
24 analysis is a very critical part of our process to
25 identify the areas of concern, to identify the focus

1 areas.

2 But what Dr. McMillan was trying to stress
3 was that we need to be proactive in our actions. That
4 we don't need to spend a lot of time trying to analyze
5 away problems as opposed to actually making real
6 safety improvements and fixes in the facility.

7 And this was especially evident as we came to
8 the end of the SAFER project, where we were conducting
9 very complicated and complex facility analysis that
10 can always be refined. But at some point, you know,
11 we need to make the decision that we just need to
12 improve the facility.

13 And that's what we did there. Even though
14 we're continuing those analyses, a very important
15 effort that we're undergoing to see if additional work
16 still needs to be done. But really what Dr. McMillan
17 wanted to get the point across is our number one focus
18 is to actually improve the real safety posture of the
19 facility and all of our facilities. And while we use
20 the analysis to support that, the analysis is not our
21 end goal.

22 VICE CHAIRMAN: Okay. Thank you. And my
23 next question is for you, Dr. Beard, as well too.
24 What was the new information gained in the SAFER
25 project that caused the site seismic hazard curves to

1 increase so significantly?

2 DR. BEARD: So you have to go back a little
3 bit in history to understand the full evolution of the
4 seismic hazard in Los Alamos. The Plutonium Facility
5 was constructed in the late 1970s. In that time it
6 was really a more deterministic analysis where the
7 seismic hazard -- the data used to evaluate what the
8 seismic hazard was was really the historical record of
9 the region, which really consisted only of a couple
10 hundred years.

11 The way seismic analyses were conducted
12 changed quite a bit between the 1970s and the 1990s
13 and a much more robust probabilistic methodology was
14 developed. So a new seismic analysis was conducted in
15 the 1994 time frame.

16 And at that point, using these new
17 techniques, they actually realized that there was
18 somewhat a deficiency of data regarding around what
19 the seismic hazard was. You know, could we find
20 additional information that would go beyond just the
21 historical record, really look into the geology of the
22 region to understand how frequent large magnitude
23 earthquakes could happen.

24 So post-1994 a number of geologic studies
25 were conducted, a number of core samplings were taken

1 throughout the region, and mappings of the faults of
2 the region performed.

3 Then the seismic hazard was then updated
4 again using the more modern methodology in the 2004 to
5 2007 time frame. And that's what actually resulted in
6 a larger -- the larger earthquakes would happen at a
7 more frequent time periodicity as well as the ground
8 motion associated with those earthquakes could be
9 higher than what was originally thought historically.

10 So it was really that geologic data plus the
11 enhanced understanding of modeling seismic events that
12 led to the larger hazard.

13 VICE CHAIRMAN: Can you elaborate a little
14 bit more on the ground motion, what was the change?

15 DR. BEARD: The ultimate change resulted in
16 about a one and a half times greater horizontal ground
17 motion, about a two times greater vertical ground
18 motion. And that actually translates into
19 accelerations that the structure sees, which is what
20 we ultimately get concerned of, of I believe it's
21 about three to five -- three to five times -- three in
22 the horizontal, five in the vertical.

23 VICE CHAIRMAN: Okay.

24 CHAIRMAN: Dr. Mansfield.

25 DR. MANSFIELD: Thank you. Thank you,

1 Mr. Chairman. Dr. Beard, as I understand it, your
2 current justification for continuing operations is --
3 concludes that based on the new seismic threat, there
4 is a risk of roughly three in 10,000 years of an
5 earthquake that would threaten the integrity of the
6 building? Is that --

7 DR. BEARD: That's correct.

8 DR. MANSFIELD: Okay. I just want to put
9 that on a scale for the audience. That frequency is
10 about equal to one and a half percent in the 50-year
11 life of the facility. This is what drives our
12 urgency, to make sure that any and all repairs are
13 made to make the building survive, because it has to
14 last for 50 years and you can't tell when that thing
15 is coming.

16 First of all I want to -- also for the
17 audience I want to go -- identify four calculations
18 and ask you if I've got these right. Before the new
19 seismic threat, you had a good finite element
20 calculation, SASSI [System for Analysis of
21 Soil-Structure Interaction] or whatever, that showed
22 that the building would have no failures in a design
23 basis earthquake.

24 Then with the new seismic hazard adjustment,
25 without the drag strut, the building as is, you found

1 multiple potential failures in the roof. You designed
2 a drag strut. You did calculations with the drag
3 strut. You found that the drag strut resulted in
4 having no failures at the roof, but that potential
5 failures at the hinges at the cold joint at the
6 service chase end and the potential failure of the
7 columns, the corridor columns in a pushover you could
8 not address with that calculation.

9 Finally you've promised to do a fourth
10 calculation which is to be finished in April of 2012
11 considering all these calculations -- or all these
12 issues which will stand as your best analysis of how
13 the building will survive the new design basis
14 earthquake. Have I got all that right?

15 DR. BEARD: Roughly. I would just say that
16 in terms of the analysis that was performed on the
17 roof, so we still believe that the approach that we
18 took, analyzing it as a single member, was adequate
19 and that the drag strut very likely fixes that
20 vulnerability.

21 However, we acknowledge the questions that
22 the Board staff and experts have raised and, in fact,
23 welcome that kind of review of our calculation
24 methodology and as you know -- as you accurately
25 stated are then revising our methodology to

1 accommodate variations in the roof structure that the
2 Board has questioned of whether it was analyzed
3 correctly to make sure that we come to an absolute
4 agreement on the satisfactory modification or, if we
5 do identify additional vulnerabilities that must be
6 addressed, that we can, you know, quickly address
7 those as well.

8 DR. MANSFIELD: So you agree that you can't
9 let -- leave this hanging?

10 DR. BEARD: Absolutely.

11 DR. MANSFIELD: You have to identify any
12 potential problems and solve them?

13 DR. BEARD: Absolutely.

14 DR. MANSFIELD: Okay.

15 DR. BEARD: And, in fact, I would say even
16 beyond the April time frame, when the next suite of
17 analyses is due to be completed. Of course, our duty
18 doesn't stop there. We will have to continue to
19 understand the facility response to whatever hazard we
20 might postulate well into the future and bring the
21 technical tools that are modern at that point to bear
22 on that.

23 DR. MANSFIELD: And part of the threat is the
24 mezzanines. Do you intend to remove the mezzanines or
25 just not put any plutonium under them?

1 DR. BEARD: We're actually in the process of
2 reinforcing the mezzanines.

3 DR. MANSFIELD: Reinforcing.

4 DR. BEARD: So we took out of service all the
5 gloveboxes that were beneath the vulnerable
6 mezzanines. As you know we have eight mezzanines in
7 the facility, six of which were deemed to be -- have
8 an unsatisfactory response to a seismic event. We
9 have seismically reinforced the most vulnerable
10 mezzanines. That is now complete.

11 The second one is being worked even as we
12 speak. And I had hoped to be able to tell you that
13 was complete. But as of yesterday it was not quite
14 complete. But it will be completed in the next few
15 days. And we expect to have the other four
16 seismically reinforced by early next calendar year.

17 DR. MANSFIELD: I would like to --
18 Mr. Chairman, I would like to stress for the audience
19 that this program in response to the new seismic
20 hazard assessment has been a high intensity crash
21 program in my view very well executed. Our only
22 question is do we know everything about it yet. You
23 consider the issue solved. I consider it the Scotch
24 verdict; not proven. And we'll wait for the further
25 calculations. Thank you, Mr. Chairman.

1 CHAIRMAN: Well, before we move on, let me
2 ask Mr. Goen a question, because I always want to get
3 every panelist involved. And you're the seismic
4 expert here more than anybody else.

5 At times I hear the site -- the contractors
6 say that they're pretty confident that the drag strut,
7 this roof strut modification we've heard about,
8 certainly has removed a very important seismic
9 vulnerability but hopefully will remove all potential
10 vulnerabilities leading to roof collapse and loss of
11 containment through that.

12 The Board, of course, as Jack has mentioned,
13 Dr. Mansfield, that when we've looked at the modeling,
14 maybe some independent people, we're concerned about
15 other opportunities that could lead to roof collapse.

16 There is something called service chase
17 region, where the rebar is a little bit thinner.
18 We're worried whether, when the roof is pushed up,
19 whether there will be a hinging there. And we're also
20 worried about the service columns.

21 I know you're are also very worried and
22 working these things too. What's your sense of the
23 potential for future modeling to indicate very serious
24 vulnerabilities to that roof structure?

25 MR. GOEN: The way we look at it today, the

1 analysis that we are -- are currently doing we need to
2 do. I look at them as confirmatory in that it
3 assumes -- it confirms the assumptions that we made in
4 our original analysis.

5 As we move forward with that and as we work
6 with your staff, we'll refine that model to the point
7 where we are in agreement of how that model works.
8 And as we go through and actually run the analyses,
9 we'll take the appropriate actions on any deficiencies
10 that we find out of that.

11 So there's two different analyses I think
12 principally that we're working on. One is modeling
13 refinements that address this service chase issue that
14 you identified. And that's ongoing. We expect to
15 have some preliminary results by the end of this
16 month. And we'll have that calculation wrapped up in
17 the January time frame.

18 The other calculation or analysis that we are
19 working on has to do with doing a nonlinear pushover
20 analysis. And that's really trying to understand what
21 the ultimate capacity of the building is and how the
22 building would react to beyond design basis events.

23 That will -- we're going to do that in a
24 manner that would define at what point confinement is
25 maintained or we start to lose confinement. And then

1 we'll push it to the point where we define at what
2 point building collapse is possible.

3 CHAIRMAN: I'm a little confused about the
4 use of the word confirmatory. I mean normally, when I
5 think of the word confirmatory, it means that you've
6 already established a postulate, something that's, you
7 know, in your mind well-defined, you have the
8 scientific evidence and data to back it up; and then
9 confirmatory calculations are done to just prove that
10 what you had originally assumed and proved was true.

11 But my perspective on this, and you can help
12 me again, is the modeling needs to be refined. And
13 there are whole new opportunities, whole new
14 vulnerabilities here that need to be ruled out. Do
15 you have a lot of confidence that your initial
16 modeling has ruled those out so this new work is
17 simply confirmatory?

18 MR. GOEN: The way I would characterize it is
19 when we did the analysis -- and it is a large model,
20 it's fairly complicated -- we assumed that particular
21 joint to be a continuous joint. That being said,
22 that -- those members that are continuous, because
23 they are the flat slab of the roof, are relatively
24 less stiff than the other elements.

25 So in our analysis, while we assumed that

1 they're continuous, again they're relatively less
2 stiff than the rest of the analysis. What we're doing
3 with our modeling refinement is we're taking out even
4 more stiffness out of that element. So that as you
5 make things less stiff, they attract less load, not
6 add more load to it.

7 So in my mind we made an assumption based on
8 the overall structure that this was a relatively
9 flexible portion of the building. We're making it
10 more flexible. And we are confirming that our
11 analysis before provided us adequate results at that
12 time.

13 What we are doing is we are refining that.
14 And we'll have a more accurate model of what's there.
15 But in my mind I'm not expecting major changes to the
16 results.

17 CHAIRMAN: You are not expecting. Okay.

18 MR. GOEN: No, sir.

19 CHAIRMAN: That's your belief. Okay. Thank
20 you. Do you have any other questions, Dr. Mansfield?

21 DR. MANSFIELD: No, not at this time.

22 CHAIRMAN: Ms. Roberson.

23 VICE CHAIRMAN: No.

24 CHAIRMAN: Joe? I don't know if we're going
25 to get into this right now or not. But I think we

1 have a situation where you've described with these
2 vulnerabilities that we have a Documented Safety
3 Analysis from 2011. And that Documented Safety
4 Analyses was recently approved.

5 There was a gap between 2008 and 2011. But
6 there's a new Documented Safety Analysis that, when
7 implemented, will reduce the offsite dose consequences
8 to below the Evaluation Guideline.

9 But that now that this new seismic
10 vulnerability has been identified, that we have kind
11 of -- we've instituted a JCO or you have instituted a
12 JCO because these vulnerabilities need to be addressed
13 before we can go back to the 2011 DSA being the
14 governing safety basis or document for the facility.
15 Is that accurate, Mr. Smith? It is. You're
16 indicating yes, it is.

17 So let's assume that this new JCO
18 indicates -- the new analysis indicates additional
19 vulnerabilities. How long are you prepared to -- and
20 I'll ask you this, Mr. Smith. How long are you
21 prepared to continue to maintain the JCO for the
22 facility under these conditions before you can return
23 to the 2011 DSA?

24 MR. SMITH: Thank you, Mr. Chairman. The
25 question really is it's going to be situation

1 dependent. And we're going to need to know the facts
2 at the time. And the J -- we should have a new JCO
3 relatively shortly that picks up for where this
4 current one is that's currently being evaluated.

5 But it depends on where we stand, if there
6 are more vulnerabilities in that -- that -- at that
7 point would have to be evaluated to see how long it
8 would be appropriate to continue there or to take
9 another look at a different process of the DSA.

10 So it's -- without having -- knowing what we
11 have, if there is additional findings, it's very
12 difficult to give you a more definitive answer other
13 than it would have to be clearly evaluated at that
14 time and take the most prudent action.

15 CHAIRMAN: Okay. So there does come a point
16 where the -- where, if the JCO can't be resolved, the
17 vulnerabilities you're concerned about, that would
18 have to eventually be rolled into an annual update of
19 the Documented Safety Analysis. And instead of being
20 below the Evaluation Guideline, you would have to look
21 at a different -- different conclusion at that point?

22 MR. SMITH: That's absolutely true. We'd
23 have to really take a look at it and -- to see how to
24 proceed forward. We have a very good bench strength
25 to make -- to help make an informed decision in that

1 regard. But I would have to evaluate the issues and
2 the -- at that time relative to where we are with --
3 and what we would have to do.

4 CHAIRMAN: Okay. Thank you. Mr. Bader.

5 MR. BADER: I'd like to go a little bit
6 further along those lines. The presumption you're
7 making is that your analysis is correct. Is that a
8 valid statement?

9 MR. SMITH: From me, Mr. Bader, it's -- we --
10 the facts as we know them, yes.

11 MR. BADER: And wouldn't it be a more
12 conservative approach to assume that that is still an
13 open question that needs to be verified in terms of
14 the model and the calculations?

15 MR. SMITH: We should be skeptical of the
16 results and be conservative in our path forward. But
17 we are getting data that doesn't necessarily conflict
18 with that at this time. So it's too early to make a
19 conclusion. But there is not enough indication that
20 we should take a different posture than the one we
21 have currently at the moment. Now we -- as soon as we
22 have more data, that may change.

23 MR. BADER: I have no more questions on
24 that -- on that subject.

25 MR. SMITH: Thank you.

1 CHAIRMAN: You don't have any more on that
2 subject?

3 MR. BADER: On that.

4 CHAIRMAN: On that subject.

5 MR. BADER: On that subject.

6 CHAIRMAN: Okay. Ms. Roberson.

7 VICE CHAIRMAN: I'd like to follow up on
8 Dr. Winokur's questions. It took about three years to
9 implement the 2008 DSA. Do you have a sense of how
10 long it would take to implement the new DSA?

11 MR. SMITH: Ms. Roberson, if it's okay with
12 the Chairman, I'd like to let Mr. Beard -- or
13 Dr. Beard start this one and then I'll follow up with
14 you, because I think, having his experience in the
15 facility, he could give you a more enlightened answer.

16 DR. BEARD: Ms. Roberson, we currently -- our
17 schedule would allow us to implement that new DSA by
18 May 2012.

19 VICE CHAIRMAN: So the additional analysis,
20 the modeling, using the new model, the JCO, and the
21 DSA would all converge about the same period of time?

22 DR. BEARD: Yes. So let me make a
23 distinction. So I was speaking specifically about the
24 new Documented Safety Analysis that was approved by
25 NNSA in October of 2011. We certainly hope to be out

1 of the JCO and have resolved all the seismic issues.

2 But as we said before, we're continuing the
3 analysis to assure ourselves that the issues that the
4 Board staff has brought to our attention are
5 satisfactorily resolved to all of our satisfaction.
6 And, therefore, should we identify additional issues
7 that must be addressed, that could affect the May time
8 frame.

9 But in terms of the controls, the additional
10 controls that we've put in place and have proposed as
11 part of the DSA that was just approved, we expect
12 those to be implemented by May.

13 VICE CHAIRMAN: Okay.

14 CHAIRMAN: Let me ask one question. Would
15 the sound folks continue to work on the sound up here.
16 We're seeing -- at this time right now we're hearing
17 an echo from the panelists. I don't know if you can
18 do anything to work on that.

19 Dr. Mansfield.

20 DR. MANSFIELD: In your implementation plan
21 for the Board's Recommendation 2009-2, you committed
22 to some long-term improvements, in particular a
23 safety-class fire system and a fire control system and
24 safety-class ventilation. Are -- will -- can we
25 expect that those will eventually be accomplished and

1 when?

2 DR. BEARD: Yes. So our current schedule has
3 us completing upgrades. And we have safety-class fire
4 suppression except in a seismic event now. We expect
5 to be able to complete the seismic upgrades to make
6 that safety class even in a seismic event by 2013.

7 And then we want -- we intend to proceed
8 additional upgrades to introduce an active portion of
9 our ventilation system to keep it operating following
10 a seismic event. And our current schedule has that
11 being completed around the year 2020.

12 DR. MANSFIELD: Okay. So the fire in 2013.

13 CHAIRMAN: Jack.

14 DR. MANSFIELD: Yes.

15 CHAIRMAN: Let me pause right now for
16 Mr. Bader. I want him to be able to ask a couple a
17 questions here. Thank you.

18 MR. BADER: If you look at that 2020
19 completion, how do you consider that going forward?
20 Is that a firm commitment on your part in your mind?

21 DR. BEARD: So the commitment I can give you
22 as part of the contractor is that we're dedicated to
23 that improvement to the facility. We think it's the
24 right thing to do. It is a big and large effort and
25 requires Congressionally allocated funding. So, of

1 course, I cannot speak on the behalf of the government
2 or the Congress. But it is certainly in our baseline
3 plans to put in those upgrades.

4 MR. BADER: Well, that leads me to the next
5 piece of my question which I direct to Dr. Cook.
6 Dr. Cook, is that consistent with your understanding,
7 that this is a firm commitment?

8 DR. COOK: That is consistent with my
9 understanding. The 2020 date has been part of a past
10 commitment that we made. We're on the course of that.
11 I think we all realize that what's going on in the
12 country is severe cost constraint. I'm not going to
13 fool around on that issue.

14 As Dr. Beard said, he couldn't commit for
15 either the administration or Congress. Certainly I
16 cannot commit for the Congress. But I can say that we
17 remain on the plan. And that has not been delayed
18 from what we stated in the past.

19 I would pass on any further details to the --
20 to Kevin Smith at the site office. But I think that's
21 the best way we can answer the question.

22 MR. BADER: Let me -- let me go one step
23 further. One thing that I think you certainly can do
24 with regard to that, and this is something that I
25 think should be seriously considered obviously, is

1 that this should be a priority event in your funding
2 requests.

3 And I would assume that given your previous
4 answer, that you are committed to this type of a
5 priority for this particular requirement at PF-4. Is
6 that a good assumption?

7 DR. COOK: I think that what I've said
8 stands; that is, we are on a path to do this, we
9 remain on a path to do this. But I cannot make a
10 commitment for what the Congress will actually
11 appropriate.

12 Will we continue to pursue this, will it
13 still be an interest of the administration? Speaking
14 on behalf of the administration and as a program
15 secretarial officer, my answer is yes. But we'll have
16 to see what conditions shape up in the nation. And it
17 is, after all, the gift of the Congress to appropriate
18 funds and to authorize them before that.

19 CHAIRMAN: Let me make a comment here right
20 now because it's something people don't always
21 understand. You must provide adequate protection of
22 the public and workers. It's not a matter of cost.

23 The Department of Energy and the Secretary
24 must do that. So as we talk about repairs and we talk
25 about what's necessary for this Plutonium Facility,

1 the nation's Plutonium Facility, this is not an
2 issue -- I mean this under the law has to be done,
3 that this protection must be -- must be provided.

4 Now, the Secretary, of course, can go to
5 Congress and make that claim. But I don't want cost
6 to be considered a variable in terms of the repairs
7 that need to be made to this facility. These -- these
8 repairs in my mind -- and you may comment -- would
9 simply need to be made.

10 DR. COOK: Mr. Chairman, I have no
11 disagreement with you on adequate protection or the
12 fact that it is our requirement to assure that.

13 CHAIRMAN: Thank you.

14 MR. BADER: Peter, one more.

15 CHAIRMAN: Yeah, Joe. And we're going to
16 turn back to you, please.

17 MR. BADER: If we get to this point
18 successfully, the funding is done, you have an active
19 confinement ventilation system which meets seismic
20 criteria and performance criteria three, safety
21 significant, does that in your mind succeed in taking
22 you to a small fraction of the Evaluation Guideline?
23 Mr. Smith.

24 MR. SMITH: Thank you, Mr. Bader. Hopefully
25 we will be able to continue a series of improvements

1 in this facility. And it will achieve it even before
2 we get there. We are not resting on just one aspect.

3 The Congress was kind enough to let us go
4 ahead after an eight-month delay and to start the
5 TRP [Technical Area 55 Reinvestment Project] II
6 facility upgrades. There are some major facility
7 upgrades, major activities. We're looking for
8 innovative ways to approach the facility.

9 But maintaining this facility is a broad
10 suite of activities. And we don't plan to slow down
11 in the meantime. And if we're methodical and
12 effective, hopefully we can achieve it sooner. And
13 even after we achieve it and even after confinement
14 ventilation is in place, we're still going to need to
15 do -- and there will be more modern, more capable,
16 more upgrades in the facility as it ages.

17 So if you would -- I can give you a more
18 defined time table if you would like Mr. -- Dr.
19 Keilers to answer. But the answer is we would like to
20 get there sooner. We don't plan to stop.

21 MR. BADER: What point do you think you've
22 achieved a small fraction of the Evaluation Guideline
23 then?

24 MR. SMITH: If you would -- and let me turn
25 that over to Dr. Keilers. I have my estimate, but

1 he's a little bit more accurate than I am.

2 DR. KEILERS: So our path forward on this is
3 basically to complete the actions, the structural
4 upgrades by the April time frame. That will get us to
5 below the Evaluation Guidelines. And that will set up
6 conditions that protect assumptions and the safety
7 basis that were just approved. And so that will get
8 us to just below the Evaluation Guidelines.

9 When we complete the fire protection system
10 seismic upgrades in FY13, now we expect based on our
11 current analysis that we'll be in the range of seven
12 rem calculated. So at that point, you know, we're
13 roughly a third of the Evaluation Guidelines.

14 So when we complete the confinement
15 ventilation upgrades, you know, if you have active
16 confinement for this type of accident, the release is
17 very, very small, to the point where it's more than
18 likely that if you look at the broad range of accident
19 scenarios that we analyzed in the facility, that other
20 scenarios would be more dominant than this one.

21 So, you know, at that point -- I mean this
22 one is just so small that, you know, it would probably
23 not be the major consideration. We would have other
24 accident scenarios that are below the Evaluation
25 Guidelines that we would be working on, because our

1 approach is basically to pursue a broad range of
2 nuclear safety improvements in this facility. And so
3 that's what we're focused on.

4 MR. BADER: I don't understand that.

5 CHAIRMAN: Well, you know, one of the things
6 I would point out is that the Board wrote a
7 recommendation on active confinement ventilation. And
8 we have certainly been encouraging you to use active
9 confinement ventilation at this facility for a very
10 long period of time. We were never really able to get
11 the full attention of the Secretary or the
12 Administrator on this issue.

13 But I do agree with you very strongly that
14 for a facility of this nature, with all the plutonium
15 in it, that in the end, once you get that seismically
16 qualified active confinement ventilation system,
17 you've gone a long way towards not only providing very
18 significant protection of the public and workers; but
19 also given your mission, your space to get this
20 important job you're doing done, I mean the scope of
21 plutonium operations you could perform would be very
22 wide at that point.

23 DR. KEILERS: So, Mr. Chairman, I mean our
24 focus here is basically I think along the lines of
25 what you just described. It is essentially we're

1 driving the modifications and improvements that we're
2 making to this facility to the point where we will not
3 have to worry about this accident scenario.

4 And in the same -- in the same manner, when
5 we make these type of improvements and the
6 improvements that Mr. Smith described under the TA-55
7 reinvestment project, you know, we're executing a
8 broad range of improvements in the facility that
9 improve its overall nuclear safety posture. And so
10 these are the sort of things that we need to do, you
11 know, for this facility.

12 CHAIRMAN: Okay. Let me ask you a question,
13 Mr. Beard. And we went from the 2008 DSA that I
14 mentioned in my testimony that the Department had
15 done -- the contractor and the Department had done
16 quite a bit to improve the facility. So now we're at
17 a 2011 DSA where we're under the Evaluation Guideline
18 once the JCO is addressed, right?

19 MR. BEARD: That is correct.

20 CHAIRMAN: What did you do to get from where
21 you were in 2008 to 2011, what were the -- were there
22 significant facility upgrades or, you know, just
23 basically how did you go about doing that?

24 DR. BEARD: It was -- it was a combination.
25 It was a combination of upgrading things like our fire

1 suppression system, our risers in the fire suppression
2 to get better flow. It was things like putting much
3 more robust controls over combustible materials in the
4 facility.

5 In the 2008 DSA, because of the manner in
6 which we conducted work, we couldn't protect
7 assumptions around how far a fire could spread.
8 Therefore, we were forced to assume that we -- we had
9 a facility-wide fire. As you are aware, we re --
10 previously we removed over 20 tons of combustible
11 materials at a facility and put very stringent
12 combustible controls in all the rooms to make sure we
13 really minimized the opportunity to propagate a fire.

14 We then also did facility upgrades to seal
15 penetrations in fire barriers, firewalls, that had
16 been made over the years once again to minimize the
17 opportunity to propagate a fire. And, therefore, by
18 the time we got to 2011, we were able to defend a much
19 smaller fire as opposed to what we were able to do in
20 2008.

21 And so it's really a combination of the
22 facility modifications, controlling ignition sources.
23 Another one is introducing seismic switches that cut
24 off electrical power in the facility, to nonsafety
25 systems in a seismic event that precludes the

1 possibility of electrically induced fires in the
2 facility, and a combination of actually how we conduct
3 our work, minimizing the combustible materials, better
4 controlling heat generating devices, possible ignition
5 sources, and all of that coming together to really
6 lower the impact of that kind of accident scenario.

7 CHAIRMAN: Thank you. And a lot of the -- a
8 lot of the analysis, when you first published the DSA
9 in 2008, was really as I said unrealistic. I mean you
10 were really saying everything was molten plutonium and
11 you really weren't appropriately identifying the forms
12 of plutonium and the amount of material that really
13 needed to be on the floor and so on and so forth.

14 You, I think, looked at airborne release
15 fractions, respirable fractions, and you made
16 adjustments to all of those which I sense were
17 appropriate. Those were things you did, correct?

18 DR. BEARD: Yes, absolutely. And many of
19 those were driven on the fact that we as the
20 contractor have the burden to actually protect all the
21 assumptions that go into our analyses and rightly so.

22 And one of the difficulties that we had
23 during that time frame is we really didn't have the
24 mechanisms to protect those assumptions. So, for
25 instance, how much material -- material-at-risk that

1 could be present.

2 The only thing that we had available and
3 using at that time was our criticality program. And,
4 therefore, we ended up having to assume that all of
5 our locations were located -- or were loaded up to
6 those full limits, which, of course, is never the
7 case.

8 However, since then we have instituted a
9 better material control in terms of our operational
10 posture, what we call our MAR tracker, to be able to
11 control both the material type, form, and quantities.

12 And so really it was us developing the
13 systems and processes to fulfill our burden to protect
14 the input assumptions to the analysis that allowed us
15 to move off of those really excessively conservative
16 assumptions. But honestly we just weren't in an
17 operating posture to be able to defend anything else
18 at the time.

19 CHAIRMAN: So let's go -- and that's great.
20 Thank you. And that was my understanding. So let's
21 go to the JCO now for a second. I just want to double
22 back to that.

23 In the JCO have those assumptions been
24 corrected when you're doing the analysis under the
25 JCO? In other words, are you looking at the

1 appropriate forms of plutonium, are you looking at the
2 right airborne release fractions and respirable
3 fractions? I mean has everything you learned from the
4 2008 DSA at least been appropriately applied to your
5 analysis under the justification for continuing
6 operations?

7 DR. BEARD: Well, we still have some very
8 conservative assumptions built into the JCO. So it
9 does result in high offsite consequences. Remember,
10 we have not fully implemented the 2011 DSA. So even
11 though we have the systems in place, we have to
12 validate that they perform adequately.

13 And then, because of the emerging need and
14 the preparation of the JCO and really our desire to
15 move quickly into fixing some of the deficiencies, it
16 was just quite frankly quicker to go to conservative
17 assumptions in the JCO and then move on with the
18 physical modifications as opposed to a more robust
19 interaction regarding the analysis assumptions.

20 So the JCO does have some elements in it
21 that, if you look at it in detail, are clearly
22 conservative, not necessarily 100 percent realistic.
23 But it is bounding as it is required to be. It
24 certainly gives us an idea of the hazards.

25 And it enabled us to move quickly into --

1 this isn't an urgent area. We need to go make these
2 structural modifications, make these fixes, and make
3 sure we satisfy the broader stakeholder community that
4 PF-4 is a seismically robust facility.

5 CHAIRMAN: Do you have a question?
6 Dr. Mansfield? Okay. Dr. Mansfield.

7 DR. MANSFIELD: In the approval process of
8 the current JCO, the -- I'm going to quote from the
9 NNSA safety evaluation report that approved that JCO.
10 "The JCO meets the safety goal, dot, dot, dot, dot,
11 dot, for the public the annualized risks from all
12 accident conditions from the seismic event are on the
13 order of one rem per year." Could you explain what
14 you mean by an annualized -- annualized risk.

15 MR. SMITH: If we may, I'd like to have
16 Dr. Keilers answer.

17 DR. MANSFIELD: Yes. I'm sorry. It was
18 directed to you.

19 DR. KEILERS: All right. So the nuclear
20 safety policy that was discussed earlier, it has a
21 metric and aiming point, you know, for risk to the
22 public and also now discussion as far as safety of the
23 worker. So for annualized risk, we're essentially
24 looking at how we're doing against that aiming point.

25 So in the case of the JCO, before we made the

1 roof drag strut modification, made that improvement,
2 we were calculating events -- we calculated an
3 accident scenario that gave us, you know, low order
4 thousands of rem at a periodicity of thousands of
5 years. So you divide one number by the other and you
6 get annualized risk of about a rem per year.

7 DR. MANSFIELD: Okay. Now, that's what I
8 need to bring up. Do you think that's any measure of
9 any member of the public's judgment whether he's safe
10 or not? I mean there's one small chance that he'll
11 get 2,000 rem. But one rem a year, it doesn't sound
12 so bad.

13 DR. KEILERS: So this is a metric. This is
14 an exercise. It's a calculated number that
15 essentially gave us perspective that as a site we need
16 to move forward quickly and address the issues.

17 So in the case of the JCO, we went forward
18 quickly. The laboratory within the last month
19 essentially completed the roof drag strut modification
20 that reinforced the roof that addresses what we know
21 now as far as the roof problem.

22 So now we're looking at the next level of
23 problem which is one related to the mezzanine failure
24 mode, which essentially gives a calculated dose on the
25 order of low hundreds of rem with a periodicity of

1 thousands of years.

2 And so from that perspective we can only
3 speak in relative sense, not an absolute sense. But
4 from that perspective the risk is an order of
5 magnitude lower than it was before we made that
6 modification.

7 DR. MANSFIELD: So you're just using it as a
8 method of comparing risks under different assumptions,
9 but not for a calculation that demonstrates whether
10 you've satisfied the Secretary's commitment to the
11 public to expose no member of the public to any more
12 than one-tenth of 1 percent of the risk of latent
13 cancers for plutonium inhalation?

14 DR. KEILERS: If your question is do we
15 calculate latent cancers in an absolute sense, we do
16 not do that. No. These calculations are very
17 conservative. The JCO calculation that we were
18 referring to is essentially something that evolved
19 from the 2008 safety basis, which is very, very
20 conservative.

21 And it assumed -- in the case of the JCO, it
22 assumed three sequential events. Multiple tons of
23 plutonium is basically spilt from gloveboxes that
24 seismically failed during the event. We assume that
25 occurs first. Next we assume that that plutonium --

1 it's powder. We assume that it's impacted by falling
2 debris consistent with a roof collapse.

3 Then we assume that that material is metal.
4 So it's transitioned from powder to metal. And it's
5 exposed to a fire. So as you can tell from looking at
6 these assumptions, I mean this is a very conservative
7 sequence. It's not realistic, it's not physical. But
8 it is definitely bounding, which is what we're after
9 in these type calculations.

10 So this is not something that one would use
11 basically to project doses for emergency response
12 purposes. This is something that you would use
13 strictly to compare apples to apples. And the key
14 thing about it is is it motivates the site, it
15 motivated NNSA to move forward quickly with the
16 modifications.

17 CHAIRMAN: All right. I think -- I think
18 Dr. Mansfield is getting maybe a tad ahead of the
19 game. So I want to come back to him to ask some more
20 questions.

21 But since we're discussing the topic of
22 adequate protection of the public and workers, I would
23 kind of like to pull back a little bit, introduce the
24 topic, and then I think we can get into a little more
25 detailed questioning about things.

1 The Board -- the Secretary of Energy has
2 responsibilities under the Atomic Energy Act to
3 protect the public and the workers. And so does the
4 Board in its oversight role under its statute to do
5 the same thing too.

6 And in 2010 the Board wrote the Secretary of
7 Energy a recommendation on the issue of adequate
8 protection. And the reason the Board wrote the
9 Secretary about adequate protection was because of
10 this Plutonium Facility.

11 And what happened, and I think we've said it
12 in our testimonies, was that the Department of Energy,
13 NNSA more specifically, had approved the Documented
14 Safety Analysis with an offsite dose consequence of
15 greater than 2,500 rem.

16 And this was surprising to the Board, because
17 the Board historically felt the interpretation of the
18 Secretary's -- the nuclear -- the Department's nuclear
19 safety rule and its safe harbor basically said that
20 you feel real comfortable about adequate protection
21 when you get to less -- to a small fraction of the
22 Evaluation Guideline which is 25 rem. So that's one
23 rem.

24 So here we are at the Board historically
25 thinking we want to be less than one rem for adequate

1 protection and the Department approving a Documented
2 Safety Analysis with an offsite dose consequence to
3 the public of greater than 2,500 rem.

4 But I said it was unrealistic, the numbers
5 were unrealistic. And very quickly that number went
6 from greater than 2,500 down to 300. We were more
7 comfortable with that. There's no question that the
8 contractor and the Department has made commitments to
9 fix this facility. And those things took place.

10 But then what happened on the JCO is that a
11 JCO was approved in July of 2011. And it also had an
12 offsite dose consequence of greater than 2,000 rem.
13 And so what the Board is trying to understand here
14 today, and we have had this dialogue going on with
15 you, is what constitutes adequate protection of public
16 and worker safety to the Department of Energy.

17 And so I'm going to begin with just some
18 really basic questions on that. And I think I'll
19 begin with Dr. Cook who we've had some discussions
20 with and just ask the question, for existing Hazard
21 Category 2 nuclear facilities like the Plutonium
22 Facility, how does NNSA define adequate protection of
23 public and the workers?

24 DR. COOK: Mr. Chairman, I think that's a
25 good place to start. And so I'll answer the question

1 directly. NNSA's overriding objective first and
2 foremost is to ensure safety and security of our
3 workers, the public, and the environment, while
4 fulfilling its national security mission. That's
5 something on which we all agree.

6 A conclusion that a facility is safe to start
7 up or to continue operations considers all factors
8 that are associated with the operations and considers
9 all the measures that the Department has established
10 to ensure safety.

11 These measures include compliance with our
12 nuclear safety requirements, they include the
13 effective implementation of our safety management
14 programs, and they include the actions taken to
15 minimize the hazard.

16 NNSA also considers the magnitude of that
17 hazard. We consider the rigor and the quality of the
18 hazard analysis and the necessity of the work to be
19 done, the potential impact of an accident, the
20 physical and administrative measures that we put in
21 place to prevent or mitigate that impact, and the
22 availability of other measures that could be
23 implemented.

24 That given, after considering all of these
25 factors, the delegated NNSA approval authority

1 determines whether NNSA has done all that can
2 reasonably be done to ensure the safety and security
3 of the workers, of the public, and of the environment,
4 because our overriding objective is to ensure their
5 safety and security to state it very simply.

6 These decisions are made in consultation with
7 headquarters and with site experts as I believe you
8 can see. And the decision process has historically
9 been closely monitored by the DNFSB [Defense Nuclear
10 Facilities Safety Board] staff. When responsible line
11 management concludes that this objective is met, then
12 adequate protection has been achieved.

13 CHAIRMAN: Please help me. I don't
14 understand, for the Plutonium Facility, based on those
15 words, how you concluded you had adequate protection
16 of public and worker safety.

17 DR. COOK: Let me run just a bit further then
18 and then suggest again we turn to some further
19 expertise. So the basis for concluding that we have
20 adequate protection are some of the following key
21 points. First a conservative estimate right now is at
22 risk to the public associated with PF-4 seismic events
23 is on the order of one in 10,000 of the risk from all
24 other sources.

25 I'll digress only a minute before I finish

1 the answer to say that the definition of risk I also
2 believe we would all agree is that it is the
3 combination of the probability of something occurring
4 and the consequence of what it is that happens.

5 So when we use the term annualized risk, that
6 states explicitly that that takes into account the
7 probability both of the initiating event and of things
8 that might follow and of the consequence. And it's
9 very important that we take conservative measures when
10 we're trying to estimate, for example, a bounding
11 case.

12 Let me finish now with some of the key
13 points. NNSA and LANS have the available compensatory
14 measures in place. And we've significantly reduced
15 the risk by upgrading the roof structure. That's
16 done. Those are in place. Additional modifications
17 are underway that will further reduce the risk.

18 Finally we need to protect the workers
19 handling the material. And we consider their risk.
20 Packaging and shipping PF-4's plutonium, if we chose
21 to move it out of the building, would increase their
22 radiation exposure immediately. And that would be
23 certain if we went down that path.

24 The radiation they would receive would be
25 real and it would be immediate. While the dose

1 numbers we calculate and postulated, accident analyses
2 are hypothetical and bounding, sometimes by orders of
3 magnitude for low probability events like the
4 postulated PF-4 post seismic fire.

5 The public is adequately protected in the
6 interim until these modifications and additional
7 confirmatory structural analyses are completed in the
8 next few months given that the probability of the
9 postulated accident scenario is once in several
10 thousand years.

11 And so if I could state a view simply and in
12 a way that might be accepted by the public or
13 understood, the changes that we're making have a time
14 scale of a few months and a good deal of them have
15 already been finished. The return frequency for the
16 very severe earthquake we're considering is once in
17 several thousand years.

18 CHAIRMAN: What I'm asking you is -- and it
19 says right in your JCO here that you met the -- you
20 meet -- you meet your safety goal. And I think what
21 I'm hearing you say now based upon new analysis that
22 you're at one-tenth of your safety goal. And let me
23 try to explain that so people in the room can
24 understand and then you will help me.

25 DR. COOK: Okay. I'm going to ask once again

1 that Dr. Keilers go through that.

2 CHAIRMAN: And I'm going to -- and I'll
3 appreciate that and I'll look at -- and I'll direct it
4 to Dr. Keilers.

5 DR. COOK: All right.

6 CHAIRMAN: Basically you have a safety goal
7 which says that the additional risk to the public
8 cannot be more than one-tenth of 1 percent for latent
9 cancer fatalities. And then one-tenth of 1 percent,
10 since 1 percent is one in 100, is 1,000, correct?
11 Would you agree with that?

12 And that's basically what you're saying.
13 What your written testimony says, Dr. Cook, is that
14 you're at 10 percent of that which is the number --
15 where the number 10,000 comes from. So it's one in
16 10,000 of the additional risk to the public for latent
17 cancer fatalities.

18 My understanding is that that calculation was
19 done at a dose of 200 rem, assuming that the drag
20 strut has removed the vulnerability for collapse. So
21 what I want to do is I want to roll the clock back
22 before the drag strut was in place, where you -- where
23 you accepted the JCO. And at that point it would seem
24 to me you were, with no uncertainties in the
25 situation, just at the safety goal. Would you say

1 that's true?

2 DR. KEILERS: Yes, sir.

3 CHAIRMAN: So you're just at the safety goal.

4 But it's not considering all the accidents, it's only

5 considering one accident. And being at the safety

6 goal wouldn't really to me seem adequate because you

7 would certainly want some margin. Would you think

8 that's true?

9 DR. KEILERS: Yes, sir. But as I already

10 outlined, there's an extensive amount of conservatism

11 in these analyses. The other thing is that, you know,

12 in the case of PF-4, you know, we basically analyzed

13 more than two dozen accidents. And we -- we

14 essentially -- when you look at the risk spectrum of

15 the facility, we don't make the assumption that they

16 all occur at once.

17 CHAIRMAN: I know. But you have by your

18 directives -- they're not our directives. By the

19 Department's directives, you have to consider the

20 cumulative effect of all of those accidents in order

21 to meet your safety goal. Is that true or not?

22 DR. KEILERS: I -- at this point I do not

23 believe that the Department has got a methodology that

24 racks out in detail how to apply the aiming points

25 that were referred to in the nuclear safety policy. I

1 know that sounds -- that's a lot of words.

2 Essentially this is -- the end points in how
3 one looks at this or how I look at this is, you know,
4 this is an order of magnitude thing. If you look at
5 these calculations, they're very conservative.

6 And if you look at the case of what we had
7 before the drag strut mod was put in place, we had an
8 accident scenario that calculated thousands of rem at
9 a return period or frequency of occurrence of once in
10 thousands of years.

11 And so from that standpoint, we're on that
12 order of -- if you look at the dose risk from cancer
13 and you compare that to the latent background of
14 cancers, we're at the order -- we were at the order of
15 0.1 percent, which is what's in the nuclear safety
16 policy.

17 So now we have a scenario that's in the low
18 hundreds with a chance of occurring once in thousands
19 of years. And so we are -- basically we've reduced
20 the risk by an order of magnitude.

21 The key thing about this -- and I actually
22 was thinking that perhaps of mentioning it earlier --
23 is that one can put their efforts into taking action
24 to address the issues or one can put their efforts
25 into refining these analyses.

1 And in the case of the current JCO and also
2 this risk perspective, our focus has been on
3 expediting to -- expediting the structural
4 modifications and basically addressing the issues.

5 CHAIRMAN: But do you understand our problem?
6 And then I'm going to turn to you, Jack. We have
7 responsibility under the law that you are ensuring --
8 you are providing adequate protection of the public.
9 And you're approving SERs, safety evaluation reports,
10 and JCOs at doses greater than 2,000 rads. 2,000 rem,
11 excuse me.

12 Is there any dose in your mind at which you
13 would not have adequate protection? Because 2,000
14 sounds like a pretty high number to me right now. Are
15 there any numbers -- if I said 10,000 to you, would
16 you think that adequate protection of public and
17 worker safety, 10,000 rem?

18 MR. SMITH: May I answer that, Dr. Winokur.

19 CHAIRMAN: Please.

20 MR. SMITH: Thank you. The 2,100 rem number
21 is a -- as you well know is a -- is a planning
22 variable. It is a planning factor. And so it's an
23 indicator as we had talked about before of an issue.
24 And I'll answer your question in a second.

25 CHAIRMAN: Sure.

1 MR. SMITH: And it -- when we look at trying
2 to analyze this, Dr. Keilers gave you -- actually he
3 reiterated almost verbatim the conversation he and I
4 had at the very start, when we analyzed the JCO,
5 almost word for word.

6 And when we looked at the conservatisms that
7 go with that in this particular case, we could make
8 the conclusion that yes, we could meet the safety
9 guideline -- the policy guidelines sufficiently, and
10 we'd document it in the JCO, to be able to -- and say
11 in this particular case we could go forward with
12 adequate protection.

13 If -- the number that we would have to look
14 at and the scenario and the consequence is on a
15 case-by-case basis. Clearly there's a position or a
16 level that we would say no. And that would be in
17 consultation and great analysis with the experts here
18 on the panel, the experts that we reach back to
19 headquarters, the outside peer reviews, the help we
20 got from other institutions.

21 It was a very methodical, a very measured
22 path forward. So to answer your question, yeah, there
23 is -- there is going to be some level that we're going
24 to say that doesn't meet the guideline, doesn't
25 meet -- doesn't make the appropriate level. Now, I

1 would be remiss if I just put a number on it. But we
2 very methodically worked this one.

3 CHAIRMAN: All right. Dr. Mansfield.

4 DR. MANSFIELD: I have to disagree. If -- it
5 seems to me and to a lot of other people, people that
6 are used to solving -- making decisions based on risk,
7 such as the Nuclear Regulatory Commission and such, is
8 that the only measure of public safety is what's the
9 probability in the life of the facility that someone
10 will be exposed. And if that person is exposed, will
11 it be one-tenth of 1 percent of the risk of other
12 cancers.

13 The goal is to have 100 percent certainty
14 that you're not exposing people to more than the
15 one-tenth of 1 percent. And that's not what you're
16 doing. You're using an annualized risk. You're not
17 considering what the -- what the -- you have to
18 consider what the probability of the accident is if
19 you're not going to do it the way I just described.

20 I have another issue. I'm really concerned
21 that everybody at this table is using fairly sloppy
22 language about what is meant by the Policy 35-91
23 [Secretary of Energy Notice, SEN-35-91, Nuclear Safety
24 Policy] of the Secretary of Energy. I'm going to
25 state what it is. And it's not what was in Dr. Cook's

1 testimony.

2 Dr. Cook said, "However, the largest possible
3 exposure to a member of the public would not result in
4 any direct health effects." This was a plutonium
5 accident. It was never expected to have any direct
6 positive effects -- direct effects. 35-91 says in
7 that case you use -- you use the long-term exposure
8 from inhaled plutonium. That was misstated.

9 Furthermore, it says that the risk to public
10 health for -- is 10,000 times smaller than the risk to
11 the public from other hazards. 35-91 doesn't say that
12 at all. It says that both of those facilities, prompt
13 facilities -- prompt exposure and delayed exposure are
14 less than one-tenth of 1 percent of all cancer
15 fatalities.

16 There's differences in this. And it doesn't
17 give me confidence that you know what you're talking
18 about and it should be tightened up.

19 CHAIRMAN: Mr. Bader.

20 MR. BADER: I'd like to address a question to
21 Dr. Cook on the definition of risk. In Area G we have
22 accidents with drum handling where people are exposed.
23 These are high probability accidents with low
24 consequence.

25 Yet, if I look at the combination of high --

1 high probability, low consequence, I get the same
2 indicator in many cases as if I were looking at very
3 low probability, very high consequence. Do you feel
4 that it's fair to give those adequate weight as a
5 definition of risk?

6 DR. COOK: My --- see, I'm not going to try
7 to beat around the question. I'm going to try to come
8 to the public definition of risk, if I can, since this
9 is a public meeting. Risk is the probability times
10 the consequence. That's how -- that's how risk is
11 generally defined. You may individually take a
12 different view.

13 If we try to evaluate apart from probability
14 just the consequence, then that's a different thing.
15 I'm trying to say in simple terms that that is not how
16 I'm using the term risk nor is it the public
17 definition. Let me try to give you an example.

18 I grew up in an era where cars didn't have
19 seatbelts. More than 50,000 people were killed every
20 year. The probability of that happening to a person
21 of the public was fairly high. Yet people still made
22 the decision to drive.

23 Over the course of time, because people were
24 killed or injured, there were improvements made. And
25 we still drive cars. People are still injured. But

1 it's been driven down by controls.

2 My intent of using the word risk as a
3 combination of probability and consequence was just to
4 get to a point that people in the public could
5 understand what we're talking about. If one said the
6 certainty would be that tomorrow there was going to be
7 an earthquake of this magnitude, then what would we
8 do, that's a different question.

9 And we might well -- I mean if we absolutely
10 knew it was going to occur, then it's different. In
11 that case we're assigning a probability of unity to
12 risk and we imagine the consequence times that.

13 That is not what we're talking about nor is
14 it what shows up in the term annualized -- the
15 annualized consequence and the risk. I mean I'm
16 trying to answer the question as directly as I can.

17 CHAIRMAN: Yeah, and I appreciate that. I
18 appreciate it. Let me -- let me give you a
19 different -- I think what is the most appropriate
20 perspective from the Board's point of view and I think
21 from your point of view too.

22 What we're interested in this whole thing is
23 what the goal is, the nuclear safety goal, which the
24 Board would like to see as a requirement, which really
25 comes down to latent cancer fatalities. We don't want

1 the public to experience more than one-tenth of 1
2 percent additional latent cancer fatalities.

3 And all this discussion of risk kind of gets
4 us off that topic. The bottom line is that an
5 accident that results in 2,000 rem and that only
6 occurs once every 2,000 years has a lot more latent
7 cancer fatalities than an accident that occurs with a
8 probability of once a year and is at one rem.

9 I mean that's -- that -- that is a fact about
10 the calculations and how they do them, because it's
11 very different to the individual the dose of radiation
12 they receive at a given time in terms of the
13 biological factors. And these things I think are
14 fairly well-known.

15 And I'll let you comment, Dr. Keilers, on
16 that. But annualized dose is a concept. But it
17 doesn't in my opinion really get to what you want to
18 know and what we want to know, and that is what is the
19 risk to the public in terms of latent cancer
20 fatalities.

21 So I would encourage you and I want you to
22 comment please to really -- you know, this discussion
23 of risk gets very complicated and very hard to
24 understand. To just in the end be able to understand
25 that I think your safety goal kind of has the right

1 ideas in it, because it comes down to real things that
2 the public and people care about, like latent cancer
3 fatalities. Do you have -- I don't know if
4 Dr. Keilers or Mr. Smith want to comment.

5 MR. SMITH: May I start it and then I'll pass
6 to Dr. Keilers.

7 CHAIRMAN: Please, yeah.

8 MR. SMITH: Okay. Just so you know, when we
9 sat down with this analysis with this particular case,
10 we opened up everything from the previous brain study,
11 cancer studies from Los Alamos, the historic numbers
12 of Los Alamos, the legacy numbers of nuclear workers,
13 the current cancer rates in Los Alamos County.

14 We bounced it against the high altitude, high
15 density cancer rates. We have matched it against the
16 higher rated dose and stuff in Los Alamos County. And
17 we matched all of that up. And that gave us a
18 different number than somebody living at sea level
19 versus another location. And so we really did bang
20 this up against to -- and measure it. It really did
21 hit the 0.1.

22 CHAIRMAN: Would you share that with us.

23 MR. SMITH: I can -- we can go back and try
24 to reconstitute all of that. But we -- we really did
25 due diligence in trying to analyze this. And I know

1 this is your field of expertise. But we did that kind
2 of comparison. And I'll -- if it's okay, I'll turn it
3 over to Dr. Keilers for the rest of the piece.

4 CHAIRMAN: Okay. And let me let him answer.
5 And then we'll go to you, Jack. Okay.

6 DR. KEILERS: Sir, I interpret your question
7 as more a policy one than one on -- that would involve
8 implementation, how do we implement something like
9 this at the site, particularly when you refer to the
10 nuclear safety policy as a requirement, because the
11 nuclear safety policy, if you look at that level, it
12 basically drives the DOE -- the development of the DOE
13 standards, guides, and manuals which is what we
14 implement at the sites.

15 In the case of PF-4, when we evaluated this
16 for the JCO, I mean we looked at all the elements that
17 were identified in the nuclear safety policy. We
18 looked at, you know, essentially does PF-4 meet the
19 established nuclear safety requirements that define
20 parameters for safe operation and concluded it did,
21 except for the specific issues that are addressed in
22 the JCO.

23 And we looked at whether PF-4 meets DOE's
24 nuclear safety policy -- nuclear safety management
25 policy concerning the core functions and principles of

1 integrated safety management. And in particular we
2 looked at whether line management was actively engaged
3 in balancing priorities to ensure PF-4 safe
4 operations.

5 And by line management, that's the site
6 office manager and the contractor management. And
7 essentially that's what we did. That's what's
8 required under the policy, and that's what we did. We
9 looked at it from a balanced priority standpoint.

10 We looked at the PF-4 safety basis including
11 the approved JCO and whether it established
12 appropriate hazard controls. And we concluded it did,
13 because we limited material-at-risk, we used
14 defense-in-depth approaches, we applied appropriate
15 comp measures.

16 Essentially anything that we could consider
17 that could be used as a compensatory measure we took
18 advantage of. If there was something else out there,
19 we would have used it.

20 And then the last element -- there are five
21 elements in the nuclear safety policy -- discusses the
22 nuclear safety goals for both the public and the
23 worker. And so for the workers we controlled their
24 risk in accordance with the policy by basically
25 restricting access to the most vulnerable mezzanine

1 until that was corrected.

2 And then we estimated the risk to the public.
3 There's no standard approach for doing that. And so
4 we developed it working -- we developed a thought
5 process working with headquarters more or less to get
6 this order of magnitude perspective on how does the
7 risk of PF-4 measure against all the other risks that
8 the public is normally exposed to.

9 And that's the -- that's the aiming point
10 that is specified in the policy. So if you look at
11 that in total, I believe we've met the intent of the
12 nuclear safety policy.

13 CHAIRMAN: All right. Ms. Roberson.

14 VICE CHAIRMAN: I guess probably my question
15 is to you, Dr. Keilers, my first question. The -- you
16 have made a point of making it clear how conservative
17 these calculations are, right?

18 DR. KEILERS: That is correct.

19 VICE CHAIRMAN: But aren't they conservative
20 by design? Because -- go ahead.

21 DR. KEILERS: That is correct. I mean the
22 key thing about these calculations, which you use not
23 to calculate risk but to compare against the
24 Evaluation Guidelines. The key thing about these
25 calculations is you do them consistently from -- for

1 one accident scenario to the next accident scenario
2 and from one facility to the next facility.

3 And thereby you develop perspective on, you
4 know, is a facility -- does it present a level of
5 hazard that requires more effort as far as engineered
6 safety systems or controls.

7 VICE CHAIRMAN: And so when you look at, in
8 DOE's own directives, 25 rem exposure to the public,
9 that's not to indicate that that satisfies protection
10 of the public, that's an indicator that additional
11 action has to be taken; is that right?

12 DR. KEILERS: I would agree with that, yes.

13 VICE CHAIRMAN: Okay. Then the other
14 question I wanted to ask, and I probably -- I think
15 I'll ask this question of Dr. Cook. I was listening
16 to the discussion about amortizing risk. And one of
17 the questions I had was -- really what I got out of
18 that is that was something done that you considered --
19 I'm not quite sure how it was used.

20 But really what I heard you say is that you
21 made the decision because you would be in this
22 position for a short period of time, that based on
23 your analysis the odds were pretty good that you were
24 safe until you could get the roof strut repair done;
25 is that right?

1 DR. COOK: See, if I -- if I were to restate
2 where we were, we used a bounding case and what I
3 would say are very conservative assumptions. The
4 principal reason for doing that is it guides
5 management actions; now you can come and compare to
6 the Evaluation Guideline.

7 When we see that even conservative
8 assumptions drive us to getting a conclusion that, for
9 example, was thousands of rems in thousands of years
10 and after the roof drag strut is in, and it is now
11 completely in, it goes down as Dr. Keilers has said to
12 hundreds of rems in thousands of years. And we still
13 use that to guide our action.

14 So judgment, as required and in determination
15 of adequate safety, does inherently take into account
16 probability. And it has -- my view is it has to for
17 the same reason I was having a discussion about cars.
18 We can see where we are. We're making very rapid
19 progress. And so did we take that into account, the
20 answer is yes.

21 MR. SMITH: May I add to it, please.

22 CHAIRMAN: Mr. Smith.

23 VICE CHAIRMAN: And then I have one more
24 question.

25 CHAIRMAN: Yeah.

1 MR. SMITH: When I approved the JCO, the fact
2 that it was a -- the length of time made it
3 appropriate to use a JCO. I did not use the length of
4 time of the repairs as a consideration.

5 VICE CHAIRMAN: Oh. Okay. Okay. I
6 misunderstood. I thought --

7 MR. SMITH: Well, whether a J -- well,
8 there's a difference between whether a JCO is
9 appropriate and whether it was a consideration and
10 if's an approval. I'm sure it was in the back of my
11 head. But it was not one of the factors I considered
12 for the JCO.

13 CHAIRMAN: Okay. Ms. Roberson.

14 VICE CHAIRMAN: He actually just answered my
15 question. I was going to ask for a clarification.

16 CHAIRMAN: Okay. And I'm going to go to
17 Dr. Mansfield. And then I'm going to try to summarize
18 this so we can move on.

19 DR. MANSFIELD: Okay. Pretend my house has a
20 fire probability of -- a fire return probability of
21 one in 3,000 per year. That's not a number that's far
22 out. And I have kids that sleep in that house. But
23 the frequency is only one in 3,000 per year. So I can
24 take my time making my house fireproof. I don't buy
25 that.

1 Let me give you -- I'll use some numbers
2 we've talked about today. A 50-year risk of the
3 earthquake that could cause collapse, without your
4 doing your improvements, is about 1.5 percent in the
5 life of the facility.

6 If I use your argument, Dr. Cook, the proper
7 thing to do is multiply that by 3,200 rem or whatever
8 the risk is from 3,200 rem. The risk of 3,200 rem, if
9 I use the usual number of about 1.7 with a 0.4
10 standard deviation times ten to the minus four deaths
11 per rem for inhaled plutonium from Mayak and other
12 places, is that the day -- the probable dose,
13 probability times consequence is 48 rem.

14 But that results in 8.4 times ten to the
15 minus five fatalities. Now, is that misleading or
16 not? Every member of the public is going to say,
17 well, that's nothing to worry about. Now you can't
18 throw away -- throw around probability times
19 consequences without letting people know what the big
20 consequence is.

21 CHAIRMAN: All right. I think we've made
22 this point. If you want to respond to that, fine.
23 And if not, I think we're going to move on to an
24 additional question before I summarize. Please.

25 DR. COOK: No. My point, and I think we're

1 finished, is that one must consider both the
2 consequence of an initiating event, the consequence of
3 the way a fault tree goes, and the probability to get
4 to what we determine in a normal human condition is
5 considered risk. That's all I was trying to say.

6 CHAIRMAN: Okay. I appreciate that. And
7 Mr. Dwyer, a question.

8 MR. DWYER: Yes. Just a couple of
9 clarifications. Dr. Keilers, I believe you said that
10 when you were considering the dose of thousands of rem
11 on the order of thousands of years, you did not sum or
12 make a cumulative approximation, you just considered
13 this one scenario?

14 DR. KEILERS: Yeah. I did not attempt to do
15 that exercise.

16 MR. DWYER: Okay. And I believe you said the
17 reason you didn't is there's no guidance that says you
18 have to; is that correct?

19 DR. KEILERS: I am not aware of any guidance
20 that says that. It also -- you know, from the
21 standpoint -- if you look at all the accidents, I mean
22 you would not expect all the accidents to occur
23 simultaneously.

24 MR. DWYER: Oh. I understand. I just wanted
25 to make sure that was the case. And, Mr. Goen, the

1 evaluation that includes treating the roof as three
2 separate pieces, has that started?

3 MR. GOEN: Yes, it has. But we -- we're in
4 the process of this -- the model modifications that
5 your staff has asked for. And we are expecting
6 preliminary results by the end of this month.

7 MR. DWYER: Okay. A little more definition,
8 please. So they're still modifying the model or the
9 modifications are done and they're actually doing the
10 runs? I'm just trying to get a little more --

11 MR. GOEN: We are at the point where we are
12 actually doing the runs.

13 MR. DWYER: So the runs have been initiated?

14 MR. GOEN: Yes, sir.

15 MR. DWYER: Okay. Thank you very much.

16 CHAIRMAN: So let me just kind of summarize
17 this. We're going to move on to the next panel. And
18 I want to thank you all very much.

19 I stated that the Board wrote the Secretary a
20 recommendation. We felt most comfortable being at a
21 small fraction of this Evaluation Guideline. And when
22 the Secretary wrote the Board back, and he's the
23 Secretary of Energy, he said that he knew he had some
24 facilities that exceeded 25 rem, which is where you
25 determine whether you need safety-class controls.

1 But his words were that there were other
2 means and controls to assure safety when offsite
3 exposures are not reduced below 25 rem. And we've had
4 some of that dialogue today.

5 We would benefit -- it would still benefit
6 the Board, you know, and eventually decide what kind
7 of advice to give to the Secretary to understand some
8 of these very large doses that you're seeing at this
9 facility, which you immediately address, I know that.

10 But still the situation is you need to assure
11 adequate protection of every moment of the day. And,
12 you know, during these periods of time, do you have
13 adequate protection.

14 And we're having this dialogue. We've had it
15 back in Washington, we'll continue to have it here.
16 And I think you can tell that we're a little
17 frustrated. And we -- we -- we have not really heard
18 anything from our point of view that's compelling yet.

19 But we're going to continue to work with you
20 on this. And once again, you know, finish up the
21 discussion by acknowledging that you are taking this
22 facility very seriously and you are doing and making
23 the repairs you need to make. I mean in some cases of
24 the modeling, we may want to go a little faster.

25 But still we have acknowledged in our

1 testimony your commitment to getting this facility
2 under control and getting these doses down. And I
3 know Dr. Cook has even expressed the opinion the
4 long-term goal is to get it to a very small fraction
5 of the Evaluation Guideline, which is where -- you
6 know, we'll certainly sleep at night when that
7 happens.

8 Are there any other comments on the part of
9 the Board?

10 If not I want to thank this panel. Dr. Cook,
11 thank you very much, Mr. Smith, Dr. Keilers,
12 Dr. Beard. We asked you no questions, Mr. Gordon, but
13 we still have to want to thank you. And maybe we'll
14 come back for a hearing just for you. (Laughter.)
15 And Mr. Goen. Thank you very much.

16 So with that we're going to move to our next
17 panel. And our next panel is on the issue of
18 emergency preparedness. And at this time we want to
19 introduce Mr. John Pasko from the Board staff who will
20 provide testimony.

21 I'm taking his full written statement into
22 the record. And I would ask him to summarize that
23 written statement in ten minutes or less. Excuse me.
24 We will need to take a five-minute recess right now.
25 We do have a couple of items to tidy up.

1 So let's reconvene somewhere in five to ten
2 minutes. But I'm going to start the meeting fairly
3 quickly when we reconvene. Thank you.

4 (Recess.)

5 CHAIRMAN: Would everyone please take their
6 seats. Let me make a statement as we begin to take
7 our seats here now so we can begin testimony from
8 Mr. Pasko.

9 We will begin comments from the public at
10 4:45 no matter where we are in this discussion. Okay.
11 I want people who have come here to provide testimony
12 to the Board to know that that is what will happen.

13 So with that I want to once again introduce
14 for the emergency preparedness session today Mr. John
15 Pasko. He will provide the Board staff's testimony.
16 I've said I will accept his full written statement
17 into the record. And I've asked him to summarize his
18 comments in ten minutes or less. Mr. Pasko.

19 MR. PASKO: Good afternoon, Mr. Chairman and
20 Members of the Board. For the record my name is John
21 Pasko. I'm a member of the Board's technical staff
22 and am responsible for coordinating the Board's
23 oversight of defense nuclear facilities and operations
24 at the Los Alamos National Laboratory.

25 In this session of the public hearing, the

1 Board is considering the emergency preparedness and
2 response capabilities of the laboratory. The Board
3 will focus on laboratory plans and capabilities to
4 respond to site emergencies including natural
5 phenomenon events such as earthquakes and wildland
6 fires. These may simultaneously threaten multiple
7 nuclear facilities as well as the surrounding
8 population centers.

9 The Board will also explore lessons learned
10 from the two most recent wildland fires, the Cerro
11 Grande prescribed fire that occurred in May 2000 and
12 the Las Conchas fire that occurred this past summer.
13 Finally the Board is interested in lessons learned
14 from the review of the events that occurred at the
15 Fukushima Daiichi nuclear complex in March 2011 and
16 what future plans exist to consider beyond design
17 basis events or, in other words, severe accidents at
18 Los Alamos.

19 Los Alamos National Laboratory is the oldest
20 and second largest site in the National Nuclear
21 Security Administration, NNSA's, complex. It consists
22 of eight nuclear facilities; ten non-nuclear
23 facilities, which contain hazardous materials; more
24 than 139 miles of high voltage transmission lines;
25 58 miles of natural gas piping; and many metric tons

1 of nuclear material.

2 It's situated on 36 square miles in Northern
3 New Mexico. The site employs 11,000 workers, and
4 18,000 people live within a ten-mile radius. The area
5 has been subjected to several major wildland fires
6 since the laboratory's inception in 1943.

7 The 1954 Water Canyon fire was started by a
8 resident burning trash. It consumed more than 6,000
9 acres and was the first to require evacuation of Los
10 Alamos. In 1977 the La Mesa fire destroyed
11 15,000 acres and damaged portions of the laboratory.

12 And more recently there was the 2000 Cerro
13 Grande fire which originated from a prescribed burn
14 that managed to become uncontrollable. It consumed
15 45,000 acres, destroyed more than 400 homes in Los
16 Alamos, and burned within a few hundred yards of the
17 Plutonium Facility.

18 This summer's Las Conchas fire set the record
19 as New Mexico's largest wildland fire after it
20 destroyed more than 150,000 acres. These last two
21 fires required the evacuation of the city of Los
22 Alamos.

23 Subsequent to the 2000 Cerro Grande fire and
24 in response to lessons learned, NNSA invested \$100
25 million in the laboratory. NNSA constructed a new

1 \$20 million Emergency Operations Center.

2 NNSA also procured approximately \$25 million
3 worth of firefighting equipment. This equipment was
4 purchased in one block. A plan must be developed and
5 funded for vehicle management and a phased replacement
6 of this one-time purchase.

7 The Los Alamos National Laboratory also
8 invested \$20 million to establish a site-wide wildland
9 fire management program, which included fuel
10 mitigation efforts. Tree and brush thinning must be
11 repeated every five to seven years to combat regrowth.

12 The Board's staff is concerned about the
13 sustainability of these post-Cerro Grande fire
14 improvements. Funding for tree thinning and fire road
15 maintenance was cut in 2005 as priorities shifted to
16 other operational concerns.

17 Funding to prevent and reduce the severity of
18 these wildland fire events must continue to be
19 provided on the priority basis. And the funding
20 should be protected to preclude any temptation to use
21 this money elsewhere should future laboratory funding
22 levels drop.

23 The threat of wildland fire is real. A fire
24 in the vicinity of Los Alamos is a certainty. Its
25 severity depends primarily on topography, weather

1 conditions, and fuel loading. Clearly adequate
2 resources must be devoted to controlling the amount of
3 combustible material in the vicinity of the
4 laboratory.

5 The Board's staff recently reviewed emergency
6 preparedness and readiness at the Los Alamos National
7 Laboratory. Following a highly critical Department of
8 Energy, Office of Health, Safety and Security, review
9 of the laboratory's programs that occurred in 2007,
10 significant efforts were undertaken to upgrade the
11 emergency preparedness and response program.

12 The staff's recent review has identified
13 concerns about the ability of the laboratory to
14 respond to and combat accidents that affect several
15 facilities simultaneously. The staff is also
16 concerned about connected events, such as an
17 earthquake that causes a natural gas explosion or
18 wildland fire, threatening the entire site.

19 Following the events at Fukushima Daiichi
20 reactor complex, the Secretary of Energy published
21 Safety Bulletin 2011-01, which tasked the nuclear
22 weapons complex with reviewing how severe accidents
23 have been considered or analyzed, to assess the
24 ability to manage a total loss of power, and to
25 confirm that safety systems are being maintained in

1 operable condition.

2 The laboratory conducted tabletop discussions
3 that focused on the sustained loss of site power.
4 These discussions were described by the Los Alamos
5 Site Office to be informative and productive.

6 Site office personnel indicated that these
7 tabletop discussions should continue and discussed the
8 need to develop an execution plan to formally identify
9 expectations and schedule future topics and
10 deliverables. The Board's staff strongly encourages
11 this effort to institutionalize this process.

12 In the laboratory's response to the
13 Secretary's tasking, they reported, and I quote,
14 Opportunities for improvement are numerous for seismic
15 preparation in response for the laboratory. A
16 significant coordination effort is required to be
17 developed so that effective response from the site,
18 county, state, and federal entities can be achieved to
19 respond to a seismic event at the laboratory, end
20 quote.

21 The Board's staff fully concurs with this
22 assessment. The earthquake scenario is of concern, as
23 are other scenarios that could involve multiple
24 facilities and/or the surrounding town sites.

25 Both the Cerro Grande and Las Conchas fires

1 resulted in evacuation of Los Alamos. Fortunately
2 both occurred when the laboratory was closed. On the
3 other hand, if the laboratory had been open, how would
4 evacuation of the laboratory and surrounding towns
5 would be coordinated with the need to allow access to
6 emergency responders.

7 Los Alamos is isolated with essentially two
8 roads for traffic. The back side route travels over
9 the mountain and through the forest that is
10 threatened, held at risk, by a wildland fire.

11 The front side roads bottleneck where State
12 Road 4 and New Mexico 502 merge. These front side
13 roads are susceptible to earthquake damage which could
14 conceivably make them impassable.

15 Los Alamos National Laboratory's limited
16 ingress and egress options coupled with the presence
17 of significant hazards, the threat of both fire and
18 earthquakes, and the close proximity of the public
19 make it a unique challenge in the National Nuclear
20 Security Administration complex.

21 Further analysis and planning for severe
22 accidents is certainly warranted across the weapons
23 complex. But it is most certainly needed at the Los
24 Alamos National Laboratory.

25 While the actual event cannot be accurately

1 predicted, preparation and planning to respond to
2 these multifacility events exercises the capabilities
3 that will be called upon to respond. Planning and
4 preparation improves readiness. This is particularly
5 true at Los Alamos.

6 This completes my prepared testimony. I
7 would be happy to answer any questions from the Board
8 at this time.

9 CHAIRMAN: Do the Board Members have any
10 questions of Mr. Pasko? Hearing none, thank you,
11 Mr. Pasko.

12 I would now like to invite the panel of
13 witnesses from DOE and its contractor for the topic of
14 emergency preparedness to take their seats as I
15 introduce them. Mr. Kevin Smith is the Los Alamos
16 Site Office Manager. Dr. Charles Keilers is the
17 Assistant Manager for Safety Operations at the site
18 office.

19 Mr. Bill Gentile is the Los Alamos Site
20 Office Emergency Management Program Manager. Dr. Carl
21 Beard is the Principal Associate Director for
22 Operations and Business at the Los Alamos National
23 Laboratory.

24 Mr. Charles Anderson is the Acting Associate
25 Director for Nuclear and High Hazard Operations. And

1 Mr. Tony Stanford is the laboratory's Emergency
2 Operations Division Leader.

3 As before the Board will direct questions to
4 the panel or individual panelists who will answer them
5 to the best of their ability. After that initial
6 answer, other panelists may seek recognition by the
7 Chair to supplement the answer as necessary. If the
8 panelist would like to take a question for the record,
9 their answer to that question will be entered into the
10 record of this hearing at a later time.

11 Does any member of the panel, in addition to
12 Mr. Smith, wish to submit testimony? Seeing none,
13 we'll certainly accept Mr. Smith's written testimony
14 into the record and ask him to summarize his comments
15 in ten minutes or less. Mr. Smith.

16 MR. SMITH: Thank you, Mr. Chairman.
17 Mr. Chairman, if it's okay with you, I will not read
18 my prepared remarks to save you a little bit of time.
19 But I would like to make just a couple brief comments.

20 CHAIRMAN: Please.

21 MR. SMITH: First of all emergency management
22 is something I have lived with all my life. I have
23 been in operations. I've been responsible for
24 typhoons, floods, natural disasters, aircraft crashes;
25 I've been in that kind of world for a long time.

1 And before -- my first day on site, before I
2 took over as the site office manager, my very first
3 place of going on the first morning was the Emergency
4 Operations Center to understand what would be my
5 responsibilities the moment I signed on the dotted
6 line as the site office manager. And so I took that
7 very seriously.

8 Dr. McMillan, within his first two weeks on
9 the job, went to the Emergency Operations Center with
10 his staff and with me. And we made sure that
11 everybody understands the roles and responsibilities
12 that is placed upon us and given to us.

13 I will say that I have -- I've read the
14 history. I studied the history of the Cerro Grande
15 fire. And the Las Conchas fire is completely
16 different. My neighbors, people on the street, people
17 that I meet in meetings all approach me and tell me
18 how completely different the response and the
19 capabilities of the Los Alamos site is now versus what
20 it was in Cerro Grande.

21 The results speak for themselves. So does
22 the communication, the transparency, the teamwork.
23 And probably the most important thing is everything we
24 bought, everything we did after Cerro Grande, whether
25 it be the potential to control runoff, the work to do

1 on the removal of vegetation, the acquisition of
2 hardware, training for wildland fires, the integration
3 and activities with the county, the state, everything
4 worked.

5 And so as a taxpayer I think people can be
6 extremely proud that what they paid for made all the
7 difference in the world. Now, I will say that we have
8 some fleas that we still need to work. And there's a
9 couple things that we found that we needed to -- that
10 when something burned up, we've -- on the top of the
11 hill, we found we had to do something with.

12 But I will say that from my experience, and
13 again I have probably as much experience as anybody in
14 this world, it was extremely well done, extremely
15 well-handled. And the things -- in my opinion the
16 decisions made and the timeliness of things that were
17 made saved the town and saved the national laboratory.

18 And with that I will just say that, as we
19 look at how to improve this process, I am very
20 confident in the capabilities that we have today. And
21 I'm very confident of where Dr. McMillan and the
22 laboratory and the site office are charting to go
23 tomorrow. And with that I'll leave -- I will file my
24 remarks for you-all.

25 CHAIRMAN: Thank you. You know, I have the

1 first question. But I would say in general everywhere
2 we go and have hearings now, we've decided that we
3 will have a session on emergency preparedness because
4 these sites are complex. There's a lot of facilities
5 and a lot of things going on. And we'll get into that
6 during the questioning. My first question is to you,
7 Mr. Beard. How are you?

8 DR. BEARD: Fine.

9 CHAIRMAN: And we do have facilities on the
10 base here that do exceed the Evaluation Guideline.
11 The Plutonium Facility, of course, is the one that
12 we're most concerned about. And we will get to that
13 in the third session today.

14 But are there formal emergency response plans
15 for wildland fires in place for these facilities or
16 which facilities are you concerned with for wildland
17 fires and do you have emergency response plans in
18 place for those?

19 DR. BEARD: So we only have one facility that
20 could release a significant amount of material in
21 terms of -- or exceed -- currently in our approved
22 Documented Safety Analysis exceeds the Evaluation
23 Guideline for a wildland fire scenario. That would be
24 our transuranic storage area at Area G at TA-54.

25 I will note for the record we have submitted

1 an updated DSA which is not yet approved, which shows
2 that we actually believe the mitigated dose for that
3 event is now approaching zero based on additional
4 actions we've taken to remove combustible loading,
5 provide separation, and all the other mitigation that
6 we've taken place to protect that area from fire.

7 But that document is not yet approved. So
8 our approved Documented Safety Analysis still does
9 exceed the Evaluation Guideline for a fire situation.

10 In terms of formal emergency plans, we have a
11 formal all emergency plan that covers the site and the
12 various scenarios that can occur. Of course, the real
13 heart of an effective emergency management system is
14 to have an effective and adaptable system that can be
15 adjusted to a variety of scenarios.

16 So clearly, while wildland fire is right at
17 the top of our list because it is a scenario that has
18 played out a couple of times over the last decade, but
19 we have to cover all the auspices that we might face.

20 And so our emergency plan allows us to do
21 that based on national standards and executing through
22 the standard incident management condition -- system
23 as well as going to a broader unified command if the
24 incident warrants additional capabilities and
25 resources that come from the outside.

1 CHAIRMAN: Okay. Let me -- I have a
2 follow-up question for Mr. Anderson. Are emergency
3 response plans in place to protect fiberglass
4 reinforced plywood boxes inside waste storage domes in
5 the event of a wildland fire? I know that's a new --
6 a new thing you're using and going to in the Area G
7 area. Do you have -- do you have the emergency plans
8 in place?

9 MR. ANDERSON: Yes. The plans that Dr. Beard
10 referred to here do cover the fiberglass reinforced
11 boxes. We're taking additional measures in that
12 regard. And we're also -- we're moving those. We are
13 currently remediating those boxes and then shipping
14 the resultant waste to WIPP [Waste Isolation Pilot
15 Plant].

16 So the long-term strategy obviously is to get
17 the transuranic waste out of those, removed from Los
18 Alamos, and placed into WIPP. There's separation.
19 We're take -- there's a fire suppression system in one
20 key dome that is in the process of being upgraded and
21 placed back in service. And we expect that to be
22 completed soon.

23 Boxes from other domes will be moved into
24 this dome. Obviously the number of boxes that are in
25 this condition then will get smaller as we remediate

1 and remove these boxes. These are all legacy items.
2 So we're not creating any new fiberglass reinforced
3 boxes in this regard.

4 CHAIRMAN: Now, during the Las Conchas fire,
5 there was an awful lot of press about Area G. I mean
6 we read it, you read it. We kind of got reports every
7 day. You knew what was happening. Sometimes the
8 press reports indicated serious concerns about Area G.
9 Very often the lab expressed confidence.

10 Did you learn anything and did you think you
11 need more training, emergency response training in
12 Area G since it did seem to be the focal point of what
13 happened?

14 DR. BEARD: Well, I would just say in terms
15 of -- I'm not sure we need any more training at Area
16 G. Of course, the fire never reached Area G. The
17 fire was a number of miles away from Area G.

18 We could speak with confidence at the time
19 because we had a lot of information from the
20 firefighters themselves that, of course, were
21 collocated with us at the Emergency Operations Center.
22 Both on the route the fire would have to take, the
23 weather conditions that affect, and the -- really the
24 barriers to migration of the fire to that area, which
25 included both canyons as well as our man-made fire

1 breaks as well as their ability to access and defend
2 the access points based on the fuel loadings.

3 So during the fire itself, we did have high
4 confidence that Area G was not threatened, which
5 turned out to be correct and was the case. I think
6 the concern was, of course, you know, based on our
7 Documented Safety Analyses, that was the site that we
8 said could be vulnerable to a wildland fire.

9 Now, we think all the actions we have taken
10 prior to Las Conchas and since, you know, really shows
11 that we believe we've demonstrated in our latest
12 submission that that threat is highly mitigated.

13 That doesn't mean we don't take the threat of
14 any fire seriously. It doesn't have to be a wildland
15 fire, we can get other fire incidences. Eliminating
16 more combustibles, better protecting combustible
17 materials until we can remediate them as Mr. Anderson
18 just talked about is a high priority for us.

19 And then training internally to the site of
20 how we respond to smaller events, whether it be fires
21 or other instigating events, is a continuing effort
22 for us in terms of making sure we approve, making sure
23 we have good coordination among all resources, we have
24 good understanding among all of our employee bases,
25 the different response mechanisms, which can include

1 everything from, you know, evacuation to shelter in
2 place to other aspects of our emergency response.

3 So our drill program and our training program
4 is of high interest to us. We do think there are
5 areas to improve there. I would not say that Area G
6 training is a direct lessons learned from Las Conchas.

7 I think it would be more broader training
8 across the site, more broader, you know, lessons
9 learned that, while we had very, very good integration
10 among all the parties, you know, we can just always
11 get better on our communication and allocation of
12 resources.

13 CHAIRMAN: And I would just -- all right.
14 Mr. Smith. And then I want to ask Mr. Stanford a
15 question and move on.

16 MR. SMITH: Certainly, sir. One of the
17 things the public really doesn't know is that during
18 the fire, we let a number of contracts. And we took
19 the brand-new masticators which are a vegetation
20 remover and we just cleaned all the vegetation around
21 Area G. And it was removed.

22 So that we -- as it is anyway, it's more
23 lightly -- a vegetation anyway. But we just removed
24 all of it around it. In addition, we kept a foam
25 barrier, which is a wildland fire foam. And that we

1 had it available -- we actually used it down Los
2 Alamos Canyon, up at the top, by the ski area.

3 But we had the ability and kept the ability
4 as an agreement between the fire chief and myself that
5 we would always maintain the ability to put a ten-foot
6 high, ten-foot wide barrier of foam around the entire
7 Area G area, if needed.

8 So there was a lot more defense-in-depth
9 in -- than met in the press. And I think that we had
10 a lot of levels that aren't even analyzed as part of
11 our safety basis. But I just wanted you to be aware
12 that there was a lot more available that we had to be
13 able to fully guarantee we could protect that area.

14 CHAIRMAN: Now, you spoke to us when we came
15 out in August, didn't you, Mr. Stanford?

16 MR. STANFORD: Yes, sir.

17 CHAIRMAN: Yeah. And we were fascinated to
18 learn all about wildland fires which can happen once
19 every ten years in this area, right? I've noticed
20 they keep eating up more and more acreage. So I'm
21 wondering if there's a plot that I needed to look at
22 and wondering if the next one will be who knows what.

23 But, look, I'm just intuitively asking you
24 this. Can a wildland fire overtake the lab in any
25 way? I mean is it -- I mean these are awesome events,

1 right?

2 MR. STANFORD: Mr. Chairman, a wildland fire
3 event like we just experienced showed very clearly how
4 quickly a wildland fire can overrun the landscape
5 very, very quickly. And if that fire had landed on
6 laboratory property, a much more predominant event, we
7 could have had a lot more damage in acreage on the
8 laboratory property. So the answer is yes, you can
9 have a wildland fire on laboratory property that could
10 go very, very quickly.

11 CHAIRMAN: Yeah. And I don't want to not
12 acknowledge the great job the lab did in terms of the
13 fire. I mean that was -- I know it was outstanding.
14 But it's an awesome event, isn't it?

15 MR. STANFORD: Yes, sir, it is.

16 CHAIRMAN: Okay. I have one more question.
17 And that's I guess kind of same question about just
18 your facilities that are susceptible to seismic events
19 and emergency planning and response for those.
20 Dr. Beard, again with you it's -- those plans I guess
21 are fully in place and exercised?

22 DR. BEARD: Yes. So we do have plans on
23 seismic events on our nuclear facilities. We do try
24 to focus obviously on the ones that are more
25 vulnerable, the old CMR [Chemistry and Metallurgy

1 Research] facility, obviously PF-4, and the WETF
2 [Weapons Engineering Tritium Facility] tritium
3 facility being the three of highest interest.

4 I will say there, you know, we were looking
5 at our drill schedule. So we have drilled and we have
6 drilled seismic events, but not necessarily at every
7 single facility. And so we need to make sure that we
8 have proper rotation of our event selection and event
9 location and make sure it's part of our drill program,
10 that we do cover those eventualities to make sure that
11 all the personnel are prepared to deal with that.

12 CHAIRMAN: Let me segue into my next question
13 and then turn it over to Mr. Bader. One of the things
14 about seismic events is it impacts everything on the
15 site. So I mean you've got the situation where, if a
16 seismic event occurs, CMR will obviously, you know, be
17 potentially the most damaged because it's the most
18 susceptible. But you'll be dealing with several
19 facilities at the same time. What kind of -- what
20 kind of thinking do you do about that in the seismic
21 world?

22 DR. BEARD: Well, obviously, actually like
23 with all emergencies, when we postulate those, we look
24 at the resources available. That's really the heart
25 of the incident command system, to be able to

1 prioritize the allocation of those resources based on
2 the knowledge at the time, the information you get
3 from the ground, make sure you're allocating those in
4 the best possible way to mitigate the impacts, which
5 can be broad.

6 They could be facility impacts, there could
7 be a lot of human impacts, there could be additional
8 logistics challenges. So the thinking that goes in is
9 really a look at the assets and the resources, where
10 they locate. I think we'll get into more discussions
11 later.

12 But that was part of our follow-up to some of
13 the Fukushima events, where we -- we post -- started
14 postulating, well, what if we had multiple issues. So
15 for us not so much power, but maybe access that would
16 limit the access to additional resources that we might
17 otherwise bring to the site. How would we respond to
18 that.

19 So, of course, you know, while we can -- we
20 do plan for specific events, we still have to allow
21 the flexibility to tailor the response to the
22 situation at hand. We have tried to broaden our
23 thinking in a way that will allow us to be better
24 prepared for eventualities that may not have been
25 thought about quite as much in the past.

1 CHAIRMAN: Well, what I'm also thinking about
2 is the fact that you have different facilities with
3 different hazards. So in a seismic event, you've got
4 to decide whether you're sheltering in place, whether
5 you're evacuating, you've got some facilities with
6 tritium. I mean it's -- it's a complicated scenario,
7 isn't it? Isn't it?

8 DR. BEARD: It is a complicated scenario. So
9 we do have hazard plans and do look at the different
10 hazards that each of the facilities present.

11 Obviously part of the decision-making process
12 that would go into the response is is the individual
13 condition reports we get from the facilities
14 indications of whether or not we had material releases
15 or not.

16 That then factors into is it -- you know, is
17 it lower risk for the work force to shelter them in
18 place and keep them in buildings or should we evacuate
19 out, do we have broader structural issues in other
20 buildings.

21 You know, there can be a trade-off between
22 risk of keeping them in a building that might have
23 been damaged because there's an external hazard versus
24 removing them from that building because the building
25 itself might present a residual hazard.

1 So, you know, some of those decisions have to
2 be made in real time. But we can plan for those type
3 of decisions spacing through our drill -- our drill
4 and training program.

5 CHAIRMAN: Do you tabletop these things?

6 DR. BEARD: Yes, we do.

7 CHAIRMAN: You do, you do. Let me turn to
8 you, Joe. Do you have a specific question on that?

9 DR. MANSFIELD: Yes. Just one question.
10 What's the consideration of the --

11 CHAIRMAN: Put the microphone on.

12 DR. MANSFIELD: I'm sorry. What's the
13 consideration of availability of equipment if the fire
14 stations themselves are damaged heavily in an
15 earthquake?

16 DR. BEARD: Well, once again so -- first I
17 should -- I should point out that actually none of our
18 safety bases depend upon fire response as a part of
19 their mitigated dose.

20 Although obviously we really hope that that
21 response is there should we have an event that would
22 initiate fires at our nuclear facilities or at our
23 other facilities, because honestly we're also very
24 concerned about the safety of our broader work force,
25 of course, which the majority don't work at nuclear

1 facilities.

2 And, you know, the real answer honestly is
3 just it depends. Obviously a significant enough event
4 could damage those facilities. Those facilities are
5 older, they're not built to PC3 [Performance Category
6 3] standards. That's not the requirement for fire
7 facilities.

8 And so there is a potential in a large
9 seismic event they could be damaged. If the vehicles
10 were within the buildings, obviously that then gives
11 you the possibility of not being able to access those
12 resources.

13 You know, our first response will be
14 to -- obviously to draw out to other areas both within
15 the Los Alamos community and the broader community,
16 even as we did during Las Conchas. And then we would
17 respond via the incident command system with the
18 resources that we had available.

19 CHAIRMAN: I'm going to turn to Mr. Bader,
20 but I want to ask one follow-up question. Are the
21 facilities like where the fire engines are housed, are
22 they seismically qualified or do they collapse on the
23 fire engines?

24 DR. BEARD: Well, typically -- and honestly I
25 cannot personally speak to the current status of the

1 fire facilities. But I do know typically fire
2 facilities are built to PC2 [Performance Category 2]
3 criteria.

4 CHAIRMAN: Okay. All right.

5 DR. BEARD: So they do have seismic
6 qualifications but not to the degree that we do in
7 terms of our nuclear facilities. And I honestly don't
8 know about the current fire facilities in -- you know,
9 the code of record that they were built to.

10 CHAIRMAN: Yeah. Could you get back to us on
11 that.

12 DR. BEARD: Yes.

13 CHAIRMAN: And Mr. Bader.

14 MR. BADER: Following on this, when you look
15 at what you consider to be credible accidents, design
16 basis events, you generally consider fires inside the
17 facilities. Are there any circumstances where you
18 have looked at or tabletopped a design basis, what you
19 consider a design basis event, where there's external
20 fire with a seismic event?

21 DR. BEARD: Well, wildland fires are
22 considered -- is design basis events in our safety
23 analysis. And anybody correct me if I'm incorrect on
24 this.

25 Now, except for Area G, the other facilities

1 are more redundant to wildland -- or resistant to
2 wildland fires. Now, I will say -- so your question
3 transitioned a little bit there from, you know, do we
4 consider wildland fires as design basis events. And I
5 believe the answer is yes.

6 MR. BADER: No, no. I'm saying with seismic
7 as connected events.

8 DR. BEARD: Okay. And then the second one of
9 a connected seismic plus wildland fires, that's not
10 specifically analyzed in our Documented Safety
11 Analyses. But the general conclusions I don't believe
12 would change in terms of the actual accident
13 consequences.

14 MR. BADER: You do -- in your beyond design
15 basis events, you do consider those as connected
16 events, correct?

17 DR. BEARD: We -- we look at those, yes. As
18 you're aware we don't analyze beyond design basis
19 events to the fidelity that we do design basis events.
20 But we have evaluated in terms of tabletops what we
21 would call a broader suite of combined or concurrent
22 events.

23 MR. BADER: Would you consider that you
24 should reevaluate that situation?

25 DR. BEARD: Well, I think we need to continue

1 to expand on that effort to have a fuller context of
2 postulated responses to, you know, a variety of
3 situations. You can never plan for every possible
4 eventuality or hazard.

5 And once again so I go back to the most
6 effective thing you can do is have an adaptable
7 emergency response capability, that then you can focus
8 on the situation and need.

9 But it clearly is valuable to think in terms
10 of a broader context and look at, you know, a bounded
11 set of what-if scenarios where we would at least break
12 apart the different pieces that could potentially
13 happen, whether or not it is external fire, whether or
14 not it is access issues, broader casualties at the
15 site that could overwhelm medical response
16 capabilities.

17 There's actually a number of concurrent
18 issues that could come up. And trying to think
19 through those things in advance clearly can help you
20 have a better planned response. And then obviously
21 you have to be able to respond adaptively to the
22 situation at hand. So hopefully that answers your
23 question.

24 MR. BADER: It begins to. But what drives my
25 interest in this question is this -- the Las Conchas

1 fire was supposedly created by a tree falling on a
2 power line. And that to me is a kind of event which
3 you could very possibly have in a seismic event. So
4 that was behind my question.

5 MR. SMITH: Mr. Bader, if I might. One of
6 the things that was acquired fairly recently is a sand
7 table. And it has a computer-driven system that we
8 can -- and that Mr. Stanford can articulate further,
9 if he would like.

10 But you can put a fire down on the real
11 estate, you can put wind conditions and so forth, you
12 can predict where the fire is going to go, and then
13 you go out and you can mitigate the vegetation and
14 then recontrol and rerun it.

15 So we have the ability to run multiple fires
16 and multiple scenarios around our nuclear facilities
17 to ensure that we have the best posture possible. And
18 that has been in work for years. And so if you want
19 to see that at the next visit out, we would be glad to
20 show it to you. But it is a very viable tool.

21 MR. BADER: Mr. Stanford, you look like you
22 want to add something.

23 MR. STANFORD: Yeah. Let me just add a
24 couple of points. You talked about beyond design
25 basis. As part of the emergency planning hazard

1 assessment process, we assume the entire building
2 structure is completely gone.

3 So whatever the source material is, be it a
4 chemical or a nuclear material, we assume it's
5 released in its worst possible form. And that's how
6 we establish our protective action guidelines to give
7 to our incident commanders.

8 So they go into a situation assuming the
9 absolute worse. And so that's how we establish our
10 protective actions.

11 When it comes to responding to the seismic
12 event that could cause other things, we are going to
13 plan this year as part of our tabletop exercise to do
14 a seismic event that does cause a wildland fire. And
15 it's going to be an electrical one from a power line
16 falling down. So we are going to practice that with
17 the county this year.

18 MR. BADER: I read -- let me continue along
19 those lines. I read the response to the Secretary to
20 HSS [Health, Safety and Security] Safety Bulletin
21 2011-01, Events Beyond Design Basis Analysis at Los
22 Alamos.

23 And I noted that in a number of the responses
24 which were done facility by facility, they
25 specifically annotated their response by saying that

1 they depended in their response on the full panoply of
2 emergency services being available. Has that been
3 changed? It sounds to me like this has been changed
4 in what you're tabletopping.

5 MR. ANDERSON: Well, clearly on the tabletops
6 we're taking you further. We're saying, okay, what
7 if. We're taking a lot of what-if questions, where we
8 say what if you didn't have that, a lot of things that
9 we've analyzed before.

10 What if we had a natural line -- a natural
11 gas line break. Can we get to it and isolate it. And
12 then we've gone to, you know, improve the routes, make
13 sure we could do that, and analyze -- those -- those
14 kind of things are evaluated, you know, from a
15 tabletop standpoint, things beyond what would be
16 considered reasonable in a lot of these cases.

17 What if the emergency vehicles couldn't get
18 there. So that's where a lot of the tabletop
19 exercises are going at this time.

20 MR. BADER: Well, what I'm hoping I'm hearing
21 is that you're looking at this as an integrated issue
22 and not as individual facilities added together.

23 MR. ANDERSON: Absolutely. Some of these
24 tabletops have been with all of the facility
25 operations directors together. So that we talked

1 about it and what we would do as far as how that would
2 relate to each of the facilities.

3 MR. BADER: I would ask both Mr. Gentile and
4 Mr. Stanford, if you are looking at in addition to
5 evacuation of facilities, use of emergency response
6 equipment, training people in triaging in this
7 situation so they know where to direct those to the
8 most benefit. Mr. Gentile first.

9 MR. GENTILE: Well, yeah. Thank you. Thank
10 you. Now, as we begin to do these exercises and start
11 evaluating the site response to a multiple facility
12 event like that, I'm sure we will come out with a
13 number of corrective actions.

14 But before we guess at the corrective
15 actions, we'll see what these yield and what we need
16 to put in place to better respond to those type of
17 events.

18 MR. BADER: Mr. Stanford, would you like to
19 add to that.

20 MR. STANFORD: Yes. As part of our process,
21 our planning process at our -- each one of our
22 facilities' exercises, we are practicing with people
23 about what it means to shelter in place and what
24 facilities are available for them to shelter in place.

25 As part of this ongoing process of learning

1 more about how the site would integrate into a large
2 seismic event, we have to start looking at key
3 facilities that we feel -- that are relatively new and
4 modern and that they would most likely be the most
5 likely places where we could take people and shelter
6 in place.

7 Some of the older facilities that have been
8 built, you know, in the forties and fifties, we're
9 assuming that they would probably be off the list. We
10 can't use those facilities.

11 And we've been working with engineering to
12 say, okay, how quickly could you get in and help us do
13 an evaluation of that facility or the bridge or some
14 other structure to say is it safe for us to go in
15 there. But it would be kind of a live-time triage
16 type activity that we would have to do in that large
17 event.

18 MR. BADER: Are you considering in these
19 tabletops the demand for services like the fire
20 departments to not only respond to you, but they'll
21 have to be responding to White Rock, to the township
22 of Los Alamos, and to nearby areas?

23 MR. STANFORD: So obviously, if we had a
24 large seismic event that happened at the laboratory,
25 it would not just affect the laboratory, it would

1 affect the town site.

2 So we would find ourselves in a situation
3 where we would have to balance resources with the fire
4 department. And that's why -- the main reason the
5 Emergency Operations Center is there, to try to help
6 coordinate those type of activities.

7 The first and foremost thing the local fire
8 department would be -- do to protect our high hazard
9 nuclear facilities and responding to that. They would
10 quickly be asking for resources off of the hill and
11 asking people from Santa Fe and the valley to come up
12 and help backfill that.

13 And they could help with the town site
14 structural fires, if there were ones that broke out,
15 because they're used to municipal type fires. Our
16 fire department is trained on responding to our unique
17 facilities. So we would want those assets to be in
18 the field in the laboratory and backfill the local
19 community with local firefighters that can handle
20 that.

21 If resources got to the point where we could
22 not handle it, even with some of the local mutual aid
23 agreements that we would have, a request would go to
24 the state. The state would make additional resources
25 available.

1 If that wasn't enough, then the state could
2 request and NNSA could request from the federal
3 government responses. That's exactly what you saw in
4 the Las Conchas fire.

5 There was a couple of local fire departments
6 that tried to respond to that fire initially, when
7 that tree fell and they saw a small puff of smoke.
8 And it was in minutes all of a sudden they're seeing
9 100-foot walls of fire coming off that fire.

10 They knew that they were beyond their
11 capabilities. And they started making those
12 notifications very, very quickly. So that went up the
13 trail very, very quickly. And we got a federal
14 response very, very quickly to that type of response.

15 MR. BADER: Let me ask two other questions.
16 And then I'll recognize Mr. Smith who had something he
17 wanted to add. Do you have concerns with the
18 condition of the fire alarm system on the site as it
19 currently stands?

20 MR. STANFORD: Professionally there are
21 always challenges with a complex fire alarm system
22 like we have at the laboratory. My people are the
23 ones that actually monitor the fire alarms in the
24 Emergency Operations Center 24/7.

25 And they work with fire protection to make

1 sure that those facilities -- those alarms are
2 maintained around the clock. And so you'll always
3 have a challenge with the variety of different types
4 of fire alarm systems we have at the laboratory. But
5 we test them, we maintain them, and they do work.

6 MR. BADER: The other area that I would ask
7 if you have a concern is that -- where you don't have
8 a contract with the fire department but a memorandum
9 of understanding. So they don't have a contractual
10 obligations. Mr. Smith, would you --

11 MR. SMITH: That was what I was going to
12 mention, Mr. Bader. Two points. The Los Alamos Fire
13 Department first has a brand-new fire chief, Mr. Troy
14 Hughes.

15 And in his first -- I believe it was his
16 first days on the job, he and I sat down and went
17 through -- we had the roles, responsibilities, and
18 transition of priorities that, based on us having
19 nuclear facilities, was clearly communicated.

20 The second point is we have a cooperative
21 agreement. And that cooperative agreement is well
22 along the way to being updated into a very specific
23 set of requirements, both for hardware reinvestment
24 and sustainment.

25 And also for a set of -- it's financial

1 accounting and stuff that is -- actually gives me more
2 gray hair than anything else. But then also the roles
3 and responsibilities, level of training, equipment,
4 and so forth.

5 So we're in the process of adding to and
6 updating this cooperative agreement so it's a full-up
7 document that meets every need that we have and
8 clearly defines its expectations. So it's in work.

9 MR. BADER: Are you also planning --
10 continuing to plan to convert that to a contract?

11 MR. SMITH: That hasn't been decided yet. It
12 is -- depends if we can put these pieces in place with
13 a cooperative agreement that we think are needed for
14 clarity, that it benefits the county as well as us to
15 have the fire department with a cooperative agreement.

16 If we can't get there, then there's a
17 possibility we could go the contract route. That is
18 very much in my cross-check. It's in one of my top
19 three things to get resolved.

20 MR. BADER: I think I'm done.

21 CHAIRMAN: For the time being. Okay.
22 Dr. Mansfield.

23 DR. MANSFIELD: Yes. You did a remarkable
24 job since the Cerro Grande fire in adding equipment
25 and I think in mitigation of underbrush and topping

1 and things like that. You undertook a lot of these
2 things.

3 Are you going to have the funds to carry that
4 on in the future, replace equipment, do more
5 mitigation in the woodlands, that sort of things?

6 MR. STANFORD: Yes. We've reestablished the
7 Wildland Fire Risk Mitigation Program in '07. It was
8 stated earlier that some funding for two years was not
9 provided to that effort. But we reestablished that.

10 So over the last six years, we've got a base
11 program that now we have -- we can successfully
12 execute that program of looking at risk at all
13 facilities, not only the high hazard and nuclear, but
14 all of our facilities, and then establishing risk
15 mitigation efforts, like making sure you have wildland
16 fire breaks, reduce the amount of fuel you have there.

17 And then part of it is equipment. We just
18 bought a masticator which Mr. Smith mentioned earlier,
19 which is a very large apparatus, a very expensive
20 apparatus. But we will use that to help mitigate the
21 fuel activities.

22 I know Gentile -- Dr. -- Mr. Gentile has been
23 working with the fire department to come up with a
24 long-range replacement of vehicles. And I'll let him
25 cover that.

1 DR. MANSFIELD: Mr. Gentile.

2 MR. GENTILE: Thank you. The fire department
3 has a wealth of equipment to support us, numerous
4 spares of different engines and different ladder
5 trucks and very expensive vehicles.

6 We've developed a long-term plan that goes
7 out several decades to replace those vehicles as they
8 wear out. That plan is envisioned as a living
9 document that we can -- we'll continually review and
10 reassess and replace vehicles as they come up.

11 We are acting to that plan. We are moving to
12 replace one of the most expensive pieces of equipment
13 on the front line, a ladder truck, right now. We have
14 replaced five of the six ambulances that serve the
15 community. We're making good progress with that.

16 DR. MANSFIELD: These are always the things
17 that come under a lot of pressure in hard budget
18 times.

19 MR. SMITH: Very much so. What I found is
20 that we didn't recap -- didn't have a good plan to
21 recapitalize. And so we've been working on that. And
22 we want to be able to make sure that we smooth-flow
23 the cost of the very predictable amount per year and
24 that we can handle it and that we don't find ourselves
25 shorted. Now, the fire did move up that schedule a

1 little bit because of the heavy use of them. But we
2 do have a plan and I think it's executable.

3 DR. MANSFIELD: How about communications? I
4 know you had cell phone problems.

5 MR. SMITH: That's -- that's an activity that
6 Dr. McMillan has. We want to go -- we don't
7 necessarily want to just replace what we have and
8 control the weaknesses.

9 We want to jump to the next generation
10 capability to make sure that -- not only for fires but
11 whether it be our explosive work or just people out in
12 the valleys, that we have full connectivity. And that
13 is being studied right now by Dr. McMillan's team.

14 MR. BADER: Let me expand a little bit on
15 what Dr. Mansfield asked. And you responded that you
16 have a plan to look at vehicles and to have a
17 staggered replacement as it makes sense. Is that a
18 part of a broader plan that looks at all this
19 equipment you want?

20 MR. SMITH: Yes, sir, it does. Most of the
21 equipment pretty well is easily acquired for -- on the
22 average. I mean it's relatively -- you can buy it in
23 a group. It's a \$50,000 purchase or whatever. It's
24 relatively clean.

25 The hard part is really the hardware, the

1 ambulances. And not only are we recapitalizing, we're
2 standardizing the equipment. We're also templating it
3 so that firefighters can do either piece of equipment
4 or -- and it has the same features.

5 They can be cross-trained at -- the
6 ambulances are the right size, they're fuel efficient.
7 It's a very complete plan. And it includes equipment.
8 Equipment is our piece three of the cooperative
9 agreement. Requirements is piece four. All four
10 pieces are being worked.

11 MR. BADER: The last question I have in this
12 area is I understand from the staff that the budget
13 for clearing wildland has tended to be shall we say
14 considered at the end of the fiscal year and beyond a
15 certain minimum.

16 Do you believe that that -- given the
17 experience with the most recent Las Conchas fire, that
18 that practice should be changed to one of giving
19 priority to clearing of the -- of the wildland --

20 MR. SMITH: If I could start it. And then
21 I'll turn it over to Mr. Stanford to give you a little
22 bit more clear-cut execution. But we are so far ahead
23 based on the multiple contracts and work we did during
24 the fire that it's going to -- that we got several
25 years of jump on it. But let me turn it over to

1 Mr. Stanford to see if there's any change in their
2 budgeting strategy.

3 MR. STANFORD: No. Basically -- basically
4 what I covered earlier was saying we have
5 reestablished the program. We do have base funding,
6 which means every year I can expect the same level of
7 funding.

8 And then towards the middle of the year, I
9 can go back to the program and say I had a special
10 need for a particular device or some other effort.
11 And so we have a good working relationship with the
12 funding source right now.

13 And I know that both LANL and NNSA has made a
14 commitment that this is going to be a long-term
15 funding commitment to our wildland fire management
16 program.

17 MR. BADER: Good. I have no further
18 questions in this area.

19 CHAIRMAN: I'm going to turn it over to
20 Ms. Roberson. But I have one more follow-up question.
21 Maybe fuel mitigation is something you can never get
22 enough of, right? But when this Las Conchas fire
23 started, were you sitting there, Mr. Stanford, going,
24 gee, I wish we had had a little more funding to clean
25 out Los Alamos Canyon or Pajarito Canyon or something?

1 I mean, I'm telling you, did you lose a
2 little sleep over it and hope you had gotten a little
3 more done?

4 MR. STANFORD: I'm in -- I'm in the
5 professional business of worrying about everything all
6 the time.

7 CHAIRMAN: Me too.

8 MR. STANFORD: So of course. When the fire
9 happened and I saw how quickly the fire was going,
10 wouldn't it be nice to have the entire area of the
11 laboratory thinned out to an easy response. Yes, it
12 would be.

13 But we've got very difficult terrain up
14 there. And so what we try to focus our efforts on is
15 protecting the area around the facilities themselves
16 so there's a defensible space. So when the fire
17 department can get in there, they can either foam it
18 or protect the space.

19 We've got a lot of canyons that are very
20 difficult to clear. But we do have an ongoing program
21 that we're looking on the outside of the laboratory
22 property to make sure that we can defend that and we
23 don't cause a fire to go off our property. And then
24 if we do have a fire on our property, we're trying to
25 establish that we can respond to that fire very, very

1 quickly.

2 We'll never get to a point at the laboratory
3 that we'll not ever have a fire. We can always have a
4 lightning event or a power line failure or something
5 like that.

6 So in my business we assume we will have a
7 wildland fire at the laboratory at any time. We could
8 have one next year. We still have a lot of fuel in
9 the area. And we just train and practice and try to
10 work towards preventing any long-term systemic damage
11 from that.

12 CHAIRMAN: Okay. Let me turn to Ms. Roberson
13 now.

14 VICE CHAIRMAN: Just a couple of questions.
15 The Board has had the opportunity to review the
16 lessons learned in the corrective actions following
17 the Cerro Grande fire. Dr. Beard, have those
18 corrective actions been implemented?

19 DR. BEARD: Yes. All of the major corrective
20 actions coming out of the Cerro Grande which included
21 things like our new Emergency Operations Center, our
22 equipment upgrades that came out of that fire, our
23 wildland fuel management program, all of those -- all
24 of those were done after Cerro Grande. And we
25 actually credit those highly with helping us mitigate

1 the impacts of Las Conchas.

2 VICE CHAIRMAN: So there were no planned
3 improvements that have not been implemented?

4 DR. BEARD: Let me turn that to Mr. Stanford.

5 MR. STANFORD: Okay. I was one of the
6 alternate emergency directors during the Cerro Grande
7 fire. And I was responsible for facilities. So I was
8 one of the managers responsible for executing the
9 funds that Congress allocated to us during that.

10 We established a formal project team for that
11 activity, because it was a lot of money and we had a
12 lot of activities to do. And so we went through that
13 from a prioritized basis. There was obviously --
14 right after the initial fire, there was a lot of
15 structural activities that happened at the laboratory.
16 We had a lot of potential flooding.

17 And so we spent a lot of time and effort
18 attacking that first and then the long-term things of
19 replacing burnt facilities, replacing equipment, on
20 down a prioritized list. And I looked at that
21 question earlier. And I think we successfully managed
22 to execute everything on that project plan.

23 VICE CHAIRMAN: Okay. Then can you tell me,
24 what were the new lessons learned or what were the
25 lessons learned from the Las Conchas fire?

1 DR. BEARD: Yes. So there were several major
2 lessons learned, some of which have already been
3 mentioned. Communications -- we did have -- the fire
4 overran one of our major communications towers up on
5 the ski hill. And so we had some interrupted
6 communications.

7 That's really been the impetus, as Mr. Smith
8 talked about us looking at, okay, how can we go to
9 really the next generation of communications. There
10 was also some communications issues down in the
11 canyons even when we had the tower up just because of
12 geography. That became challenging at times. So that
13 was one of the main ones.

14 There were some other issues just a little
15 bit more internal to the Emergency Operations Center
16 in terms of defined roles and how we interface. In
17 general the interfaces were excellent. People did
18 very well. But that doesn't mean we can't do better.

19 And so there were instances where we didn't
20 have very specific defined roles for people who we
21 needed. And we really need to fix that going forward
22 in the future and make sure those people are
23 appropriately included in training plans and drills,
24 et cetera. So those are the two that come to mind.

25 Once again I'll ask Tony, did I miss

1 anything?

2 MR. STANFORD: Okay. The communication one
3 you brought up. And it -- that's one of the things --
4 we need better reliability on that. We had some
5 issues with the cellular phones. But most -- we have
6 a new system with the BlackBerrys. And that worked
7 fantastic. That system was sustainable and it never
8 flickered on that. So it was very good.

9 So we've got several corrective actions
10 coming out of that. Communication system
11 improvements, EOC [Emergency Operations Center]
12 facility-specific improvements. We want a few other
13 things there that help change the ventilation system a
14 little easier for us.

15 And then the emergency accountability of
16 people on site. That was a difficult issue for us
17 because we had so many people coming to the site. We
18 want to keep accountable of those people. So we know
19 who is coming on site, why they're coming on site,
20 where they're going because that's very important.
21 And then just the overall IT [Information Technology]
22 communication improvements.

23 VICE CHAIRMAN: Okay. Thank you,
24 Mr. Chairman.

25 CHAIRMAN: Okay. Let me say a couple of

1 things. Well, I'll start out, I just want to talk to
2 the fire guy here. What really surprised you about
3 this fire?

4 MR. STANFORD: The speed that it went and the
5 ferocity that it went. That fire burned almost as
6 much as the Cerro Grande did over 12 days in one day.
7 And so it exploded. And so it ran down canyons very,
8 very quickly.

9 That -- the intensity of that fire. And when
10 you saw how much acreage it burned such -- in a short
11 period of time was very impressive and scary. And we
12 were very fortunate at the laboratory that, while we
13 had prepared for it and tried to do the best we can to
14 prepare for an activity like that, the wind shifted.
15 And we got very, very lucky.

16 CHAIRMAN: You know, the Board has always
17 been interested in written letters to DOE about
18 emergency response and preparedness. And when we saw
19 what happened in the Gulf of Mexico, it really, you
20 know, drew our attention and we really doubled the
21 focus. And then Fukushima happened.

22 And it just seems to me that you have a
23 phenomenal challenge here. Because as Mr. Bader
24 pointed out, you can have an earthquake that begins
25 the wildland fire. And I'll have anybody answer this

1 question.

2 In the worst-case scenario, would you really
3 have the capacity for the fire department to handle
4 what's going on in the town, what's going on in the
5 site, bridges are down, power is down? I mean -- or
6 does it just come to a point where maybe it's too
7 much? I don't know.

8 MR. SMITH: I think we've faced the worst
9 possible one we just had. Now, I think that there's
10 an opportunity for multiple ones. We did an awful lot
11 in the week prior to that fire.

12 We put -- we made sure every employee knew
13 how to contact if they saw smoke, because we knew we
14 had extreme dry conditions, we knew we had the
15 conditions for a fire, we knew we had the weather
16 conditions.

17 And I will tell you that from the time that
18 the smoke was sighted until the time the EOC was
19 activated until it -- was less than an hour. That
20 means people on scene -- several of us were there
21 within 15 minutes of the smoke being sighted because
22 we just recognized the extreme conditions.

23 As for can you be overwhelmed? Yes, you can.
24 But we have some really good cooperative agreements in
25 place. I think that our town and our community is

1 probably the one that's most sensitized about fire
2 already. We had people self-evacuate. I'm not
3 sticking around, I see that smoke, I'm leaving.

4 So I think that we have a very sensitized
5 community. I think that there is a possibility that
6 we could overwhelm resources. But I think we forged
7 relationships with the state, Homeland Security,
8 National Guard. For example, we had the National
9 Guard activated within an hour of the fire starting.

10 I think that we forged the relationships that
11 gives us the integrated assets to really deal with
12 these kinds of things. And even though we may be
13 overwhelmed for a short duration of time, we're
14 practiced now and we're good at it.

15 CHAIRMAN: Yeah. I would just encourage you
16 to think about the beyond design basis accident. I
17 know the Secretary wrote a bulletin to everyone. But
18 in my way of thinking, this is -- this may be a beyond
19 design basis accident, a seismic event followed by a
20 wildland fire.

21 But in your case it seems a little closer to
22 me than beyond design basis. Because as Mr. Bader
23 pointed out, a tree fell down, you've already pointed
24 out lightning, anything, a storm at the same time,
25 could cause this. So I know you're doing these

1 things, we encourage you to do it, and look at the
2 integrated -- the big picture in terms of things.

3 Sometimes, when we go around the complex, we
4 see a very facility-oriented approach to things. You
5 know, I have my facility's emergency management plan.
6 But many of these sites like this site, like Savannah
7 River, are very complicated. And a lot of different
8 buildings, a lot of different hazards, a lot of
9 different things can happen.

10 And I think your challenges to the Department
11 are huge compared to what most people would have to
12 face in these situations.

13 MR. SMITH: May I.

14 CHAIRMAN: Please.

15 MR. SMITH: I think that's germane advice.
16 What I will say is the federal and contract team, the
17 laboratory and the site office team here is
18 extraordinary in this dimension more than any other.

19 And I think that the combination of
20 recognizing what we need to do, incentivizing it
21 through contract mechanisms, doing the right kinds of
22 things with exercises, doing the right kinds of things
23 with acquiring hardware, training people I think in
24 the last four years -- this is my view looking back at
25 it -- was extraordinarily right.

1 And I think -- so I think that we have
2 learned a few more things like you just mentioned.
3 And I think that's good advice -- good sage advice for
4 us to look forward.

5 CHAIRMAN: Okay. Look, we want to thank you
6 for your efforts. We -- we're going to move on now
7 because we do have a very large number of people from
8 the public who do want to address the Board. So we
9 want to get to that.

10 I want to thank everyone on the panel again.
11 Even though this discussion was short, it's incredibly
12 important. It seems like everything the Board is
13 interested in is incredibly important. But we only
14 come here to discuss with you the things that are at
15 the top of our list, where we're most concerned and we
16 think, you know, attention needs to be focused.

17 And that's why it sounds like every issue
18 seems so critical, and it is, and needs resources.
19 And that's very tough in this budget requirement.

20 But thank you, Mr. Smith, Dr. Keilers,
21 Mr. Gentile, Dr. Beard, Mr. Anderson, and
22 Mr. Stanford. And with that we're going to move on.

23 And at this time, per the Board's practice
24 and as stated in the Federal Register notice, we will
25 welcome comments from interested members of the

1 public. A list of those speakers who have contacted
2 the Board is posted at the entrance to this room.

3 We have generally listed the speakers in the
4 order in which they have contacted us or, if possible,
5 when they wish to speak. I will call the speakers in
6 this order and ask the speakers to state their name
7 and title at the beginning of their presentation.

8 There is also a table at the entrance to the
9 room with a sign-up sheet for members of the public
10 who wish to make a presentation but did not have an
11 opportunity to notify us ahead of time. I think we're
12 done with that process.

13 They will follow those who have already
14 registered with us in the order in which they have
15 signed up. To give everyone wishing to speak or to
16 make a presentation an equal opportunity, we ask that
17 speakers limit their original presentations to five
18 minutes. The Chair will then give consideration for
19 additional comments should time permit.

20 Presentations should be limited to comments,
21 technical information, or data concerning the subject
22 of this public meeting and hearing. The Board Members
23 may question anyone making a presentation to the
24 extent deemed appropriate.

25 And with that we're going to begin. And we

1 want to thank all the members of the public who have
2 come here and been part of this discussion today and
3 who have come here to provide public comment.

4 And the first person on my list is Ms. Sharon
5 Stover. Okay. Ms. Sharon Stover, she's an elected
6 official. And she may have thought we were starting
7 at 4:45. We originally were starting at 4:45. So I'm
8 just going to hold her for a moment. And if and when
9 she comes, we'll try to get her on Board. Mr. Greg
10 Mello.

11 MR. MELLO: Thank you, Dr. Winokur and
12 Members of the Board. I appreciate your having this
13 hearing. The subjects that you've been addressing are
14 very important. And the hearing has been conducted in
15 an exemplary manner.

16 My name is Greg Mello. I'm the Executive
17 Director of the Los Alamos Study Group. I wanted to
18 thank the Safety Board for its continued
19 professionalism, independence, and as I am hearing
20 this afternoon, for remaining part of the fact-based
21 community.

22 I also would like to thank the site office
23 and the M&O [management and operating] contractor for
24 their safety efforts. I don't think that the safety
25 efforts of the NNSA senior management have been

1 adequate. And I don't think I should be thanking
2 them.

3 I don't think the contractor's efforts have
4 been entirely adequate as well, although I think that
5 when the prioritization is there from the NNSA, the
6 contractor will carry out the necessary steps.

7 At the very beginning in your introductory
8 remarks, Mr. Winokur, you mentioned the replacement of
9 CMR building with a safer facility. I don't know for
10 sure that that building will be replaced with a safer
11 facility either because it won't be replaced with a
12 new facility or the new facility may not be safer or
13 may not be operated more safely.

14 This could occur because of budgetary
15 reasons, policy reasons, or in the case of safe
16 operations, due to changes in the society and the
17 ability of the contractor to manage the facility
18 safely.

19 Therefore, we are very interested in
20 near-term and midterm safety improvements that -- at
21 all of Los Alamos' nuclear facilities including the
22 old CMR building. We understand that the CMR
23 building -- at least all wings except Wing 9 have no
24 prospects for safety upgrades. Therefore, we would
25 like for what missions must survive to get out of

1 those wings.

2 And we would like to see the Safety Board as
3 well as the NNSA work on, in essence, a plan B that
4 does not rely upon the proposed CMRR nuclear facility
5 which may or may not ever be built. If I have time,
6 I'll return to that subject a little bit more.

7 I think we've heard today two different
8 strains of safety philosophy. One is or tries to be a
9 kind of fact-based or moderate or scientific approach.
10 There's no truly scientific form of risk assessment.
11 It's kind of a bogus discipline.

12 But one can aspire towards accuracy at least.
13 The other which I think I heard today is what might be
14 called an authority-based safety model, where safety
15 requirements are subservient to and must bend to
16 corporate imperatives. It is power-based and not
17 fact-based.

18 The contest between these two safety
19 parameters may well determine whether this site can be
20 operated safely in the future. I would say that the
21 outcome is in doubt.

22 This is a moment in history when the
23 assumptions of the past may not always apply. And
24 it's difficult for us as human beings to think in any
25 ways other than the ones we're accustomed to.

1 But the NNSA's budget could be cut and it
2 could be cut soon. There could be concatenating
3 problems ramifying through the administration of the
4 NNSA as a result of that. This raises the importance
5 of designing in safety as you are trying to do,
6 because administrative controls and even social
7 conditions may not be the same as we have experienced
8 during our wealthy stable past.

9 Therefore, it's very important to clarify
10 whether the Department of Energy's safety guidelines,
11 the safe harbor guideline, is essentially meaningless
12 as a number or is not.

13 I heard a deep question about this. And it's
14 a very fundamental question in everything that the
15 Board does as I know you recognize. This ambiguity
16 needs to be fixed. The Department of Energy cannot
17 define its own safety criteria as it may feel
18 necessary to do in balance with other corporate
19 objectives as we heard today from Dr. Cook.

20 Also budget priorities have to be clarified.
21 It is not enough to say that we're going to try amidst
22 our other budget priorities to make these facilities
23 safe. It is very far from adequate. The Safety Board
24 needs to go to the White House and to Congress in
25 order to emphasize to these other responsible parties

1 that safety is a transcendent priority at these
2 facilities.

3 We have -- we at the study group have been
4 working with the Department of Energy and the National
5 Nuclear -- National Nuclear Security Administration
6 for many years, more than 20. We do not believe that
7 NNSA is capable by itself of setting sound priorities
8 or presenting them to Congress with integrity.

9 CHAIRMAN: Mr. Mello, hopefully we can finish
10 up pretty soon.

11 MR. MELLO: Okay. Sorry. So, therefore, the
12 DNFSB must be sure that other responsible parties are
13 aware of its concerns. We do not accept that 2020 is
14 good enough date for bringing PF-4 into compliance,
15 full compliance.

16 We think a PC3 ventilation facility --
17 ventilation capability at PF-4 is absolutely essential
18 not just for seismic safety, but for the robust safety
19 envelope that's needed for the facility as a whole.

20 2020 means to us essentially whenever. It
21 means maybe never, because NNSA's deadlines always
22 seem to slip and because of the budget contingencies
23 that we face. I recognize that I may be out of time.
24 If there is more time --

25 CHAIRMAN: Yes. Could you submit any written

1 comments for the record, please.

2 MR. MELLO: I will do so. Thank you.

3 CHAIRMAN: We appreciate that.

4 MR. MELLO: Thank you for your patience and
5 for this excellent hearing.

6 CHAIRMAN: Thank you, Mr. Mello. Right now
7 at this time Ms. Sharon Stover is now here. And --
8 well, could you please state your name and
9 affiliation.

10 MS. STOVER: Good afternoon. My name is
11 Sharon Stover. And I'm currently the Los Alamos
12 County Council Chair. I was the County Council Chair
13 during the recent Las Conchas fire and was Vice Chair
14 of the Council during the Cerro Grande fire in 2000.
15 I've been a resident of White Rock for nearly 30 years
16 and grew up in the nearby Pojoaque Valley.

17 I would like to take a few minutes to discuss
18 the county's lessons learned from the recent Las
19 Conchas fire and the 2000 Cerro Grande fire and the
20 actions our county has taken to incorporate these
21 lessons learned.

22 We believe many of these changes can be
23 implemented at other sites too, especially work to
24 increase communication among DOE, NNSA, the lab,
25 surrounding communities, and our local emergency

1 responders and firefighters.

2 While we learned many technical things about
3 fire and emergency preparedness from the 2000 Cerro
4 Grande fire, I think the most important change has
5 been the increased communication among all parties
6 involved. There was a great difference in emergency
7 response between the Cerro Grande fire of 2000 and the
8 Las Conchas fire of 2011.

9 The biggest differences was one of
10 communication and partnership with LANL and the DOE
11 during the recent fire. Without those partnerships
12 the response to the Las Conchas fire of 2011 would not
13 have been as swift, coordinated, and effective.

14 Los Alamos County is the only county in the
15 country that provides fire and emergency response
16 services to a facility like Los Alamos National
17 Laboratory. This arrangement requires strong
18 communication among all involved parties.

19 After the Cerro Grande fire in 2000, the
20 county, DOE, NNSA, and the lab all recognized the need
21 to improve our communication. Part of the
22 communication improvement was physical.

23 And using mitigation funds from the Cerro
24 Grande Fire Recovery Act, we constructed a new
25 Emergency Operations Center that became the hub of

1 activity during the Las Conchas fire. This was a vast
2 improvement over the facilities that were in many ways
3 inadequate but that we shared out of necessity during
4 the Cerro Grande fire.

5 At the EOC in June 2011, we were able to
6 quickly and effectively talk about issues and concerns
7 in real time during the fire. We could gather
8 together the resources from both sides of the bridge,
9 talk openly and candidly about public safety, possible
10 options and outcomes, and then agree upon next
11 steps -- steps.

12 The fact the evacuation of the town site went
13 so smoothly and that there were no loss of human life
14 or homes during the evacuation and fire is a testimony
15 to the coordination. Having the joint EOC was
16 definitely beneficial.

17 But beyond the physical structure, I would
18 say that there has been a distinct change in our
19 relationship with LANL when it comes to emergency
20 response since 2000. First of all, we took away many
21 valuable lessons learned from the Cerro Grande fire.

22 And we took the time to meet and work on
23 issues in the days that followed. The county began
24 actively participating in joint training and response
25 sessions, providing staff for LANL, emergency

1 management drills, and full-scale exercises.

2 We concentrated on every aspect of response,
3 from management and dispatch of resources in the field
4 to having joint news conferences and information
5 centers, coordinated press releases, and town hall
6 meetings to share with the media and the public.

7 Other improvements that have been made since
8 the Cerro Grande fire include sufficient resources, 35
9 new fire trucks, service vehicles, and piece of heavy
10 equipment; significant tree thinning operations,
11 clearing of ground fields, and construction of fire
12 breaks and roads across the laboratory.

13 A new interagency fire center with a
14 helicopter base and water dip tanks was built. We
15 have improved stormwater runoff and erosion controls,
16 planted more than 10,000 willows, and built structures
17 to help prevent contaminants from flowing down into
18 the canyons.

19 Interagency agreements and training with the
20 U.S. Forest Service, National Park Service, Los Alamos
21 County, and the State of New Mexico have been enacted.

22 If you watched any of the news coverage
23 during the Las Conchas fire, you rarely just saw the
24 county or just LANL in front of the cameras. That was
25 by design, not accident, and was a direct result of

1 our work over the last decade to coordinate our
2 emergency response efforts.

3 How anyone deals with a crisis and making
4 tough decisions in the moment is a little bit about
5 your physical surroundings and a lot about the
6 relationship you already have in place with others
7 involved.

8 In the last ten years, we have started having
9 regular monthly coordination meetings with our
10 counterparts at DOE and LANL. Not just for discussion
11 about emergency response, but on a wide variety of
12 common interests and issues of concern.

13 We have made strengthening our relationship
14 with LANL and DOE part of our county goals. And we
15 commit time to the task and work hard to include them
16 in our plans. Likewise, LANL has instituted a new
17 philosophy that has opened the door to communications.

18 From the top level to the project management
19 staff, they have done a tremendous job of reaching out
20 to include our staff in fire, police, public safety,
21 and public information in their planning efforts.
22 Where there were once surprises, now there is
23 information.

24 When we lack information, we are no longer
25 left wondering who we can talk to in order to find the

1 answer. We know who to call and they know who to
2 call. That is a key difference and probably the most
3 single best improvement since 2000.

4 CHAIRMAN: Ms. Stover, could I ask you to end
5 up fairly soon.

6 MS. STOVER: Yes, sir.

7 CHAIRMAN: Thank you.

8 MS. STOVER: I'll keep to the five-minute
9 time limit. This leads me to another key point. It
10 is essential that the Defense Nuclear Facilities
11 Safety Board communicate with and seek input from
12 local communities and governments when discussing
13 these very important issues.

14 We are a key partner in emergency response
15 planning, safety, and other things that the Defense
16 Board oversees and should be directly informed and
17 included in these types of meetings. We believe that
18 the Defense Board should talk to local governments and
19 communities to understand the impact of emergency
20 planning on communities.

21 I personally found out about this meeting
22 from one of my colleagues at DOE. The county was not
23 invited to participate by the Defense Board. In the
24 future please contact local government leaders when
25 you are discussing these issues. The Board has an

1 important role. And local communities can provide
2 real insights to your oversight.

3 In closing what happens on LANL property
4 ultimately affects the county and vice versa. Were
5 there lessons learned that came out during -- out of
6 the recent wildfire. Yes.

7 We will continue working to balance our
8 foremost responsibility to safeguard, protect our
9 community alongside the lab's needs to carry out their
10 national safety and security mission. Thank you for
11 the opportunity.

12 I also have -- because we found out about
13 this, there's a regional coalition that has
14 representatives from Taos County, the City of Santa
15 Fe, Santa Fe County, the City of Espanola, and the
16 County of Rio Arriba and Los Alamos.

17 This coalition was formed to establish with
18 elected representatives in Northern New Mexico to come
19 together in a unified fashion to support LANL. And I
20 have a letter from this coalition that was signed this
21 morning for the record.

22 CHAIRMAN: Thank you. Would you please
23 submit it all for the record, for the written record,
24 your testimony.

25 MS. STOVER: Thank you.

1 CHAIRMAN: And I appreciate it. Mr. David
2 McCoy.

3 MR. McCOY: Good afternoon. My name is David
4 McCoy. I'm the director for Citizen Action New
5 Mexico. I appreciate the Board being here. Chairman
6 Winokur, I have submitted a written statement to the
7 Board.

8 The question of risk is the overriding
9 question here. Risks can be foreseeable,
10 unforeseeable; consequences can be foreseeable and
11 unforeseeable as well. Given the amount of secrecy
12 that goes on with this type of military establishment,
13 making nuclear weapons, the public can never really
14 know the full number of risks that they're subjected
15 to.

16 By considering only the technical matters for
17 the design and construction of the CMRR and the
18 problems with retrofitting the Plutonium Facility, the
19 larger universe of consequences that are presented
20 becomes ignored.

21 The Department of Energy has learned nothing
22 from the Fukushima disaster. The major lesson of
23 Fukushima is ignored. And that is don't build
24 dangerous facilities in unsafe natural settings.

25 This setting up there -- you know, you've

1 been sitting here listening to, you know, fire
2 problems and earthquake problems. It's on the site of
3 a volcano. You know, you're talking about the
4 collapse of a roof.

5 Look, the risk that the public has been asked
6 to assume here was recognized in 1995, at least by the
7 Safety Board, in memoranda that discuss the Plutonium
8 Facility and the lack of a ventilation system.

9 I've done a study which I've included in my
10 written material of the historical documents that have
11 been going on for the last 15 years. Now we come
12 forward to 2011.

13 The Board makes a report to Congress stating
14 that there are severe safety problems out there. In
15 September of 2011, there's a letter from the NNSA to
16 LANL describing 21 or so different concerns about
17 criticality. Now, criticality, you know, they've had
18 criticality events there where people have lost their
19 lives at Los Alamos National Laboratories.

20 So I don't know why it is that LANL thinks it
21 should be granted some kind of seven-year extension to
22 suddenly bring the Plutonium Facility into compliance
23 with their own regulations and into compliance with
24 what the Board has been telling them for years.

25 Now, they sent a letter to the Board not too

1 long ago that stated that it was going to take another
2 seven years to bring that facility into compliance and
3 somewhere between 40 and \$80 million to accomplish
4 that. Okay. So I think that's just a really
5 unreasonable thing to be asking.

6 And being as how there's violations of
7 federal law involved and there are rules and
8 regulations and your recommendations, I'm going to go
9 directly to my conclusion so I make sure I get it in.

10 And that is the Board should advise the
11 President that the location of the CMRR and the
12 accompanying facilities for plutonium production at
13 LANL present an imminent and severe threat to public
14 health and safety.

15 DNFSB should make a recommendation that the
16 LANL facilities should be shut down and a moratorium
17 placed on any further work for the CMRR. There's no
18 reason why the public should have to keep assuming
19 this extreme risk. We have nothing to gain from this.

20 Now, one after another environmental disaster
21 occurs worldwide and in the United States. And the
22 consequences are downplayed or no longer addressed by
23 the time the next disaster has occurred.

24 Engineers didn't keep the public safe from
25 accidents at Fukushima; Chernobyl; Kyshtym; the

1 Windscale fire; Three-Mile Island; Western Siberia;
2 Rocky Flats; Fernald; Hanford; Maxey Flats, Kentucky;
3 Savannah River Site. They've all poured their
4 radioactive poisons onto the planet and its peoples.
5 And we're tired of it. And if they're not going to
6 operate in a safe way, then they should be shut down.

7 Now, the only reason that they can go forward
8 with the idea of building the CMRR is because what
9 they do is they only make the technical
10 considerations. They -- LANL in its SEIS
11 [Supplemental Environmental Impact Statement] has
12 excluded all the humanitarian considerations.

13 Those considerations that were raised that
14 LANL rejects as beyond the scope of the SEIS and
15 beyond the scope of any kind of reasonable dialogue
16 with the public are, for example, that people are
17 dying of cancer and disease from LANL's past and
18 present operations.

19 CMRR and its facilities are within and
20 threaten a residential area. There's overwhelming
21 public opposition to the CMRR.

22 CHAIRMAN: Mr. McCoy, could you -- could you
23 close up and complete your comments.

24 MR. MCCOY: Yeah. Boy, five minutes sure
25 goes by fast.

1 CHAIRMAN: It does, yeah.

2 MR. McCOY: Well, anyhow in closing I would
3 just like to say that federal law needs to be
4 enforced. And that's what's missing in this country
5 at the current time. And I would hope that the Board
6 would actually engage in some -- I know you can't do
7 enforcement.

8 But you can make recommendations to the
9 President. And that's what we're asking. And the
10 recommendation should be serious, that these people
11 are not complying with the law and they need to.
12 Thank you.

13 CHAIRMAN: Thank you. Mr. Neils. And if
14 there's any written statements you want to provide for
15 the record, please do that. The next is Mr. Peter
16 Neils.

17 MR. NEILS: Okay. I'm ready. Mr. Chairman,
18 Members of the Board, thanks for holding this meeting
19 in Santa Fe. Hopefully it had a greater public
20 participation. And I want to -- first of all I have
21 to disagree with Mr. Smith.

22 I can't imagine I'd rather be in PF-4 than in
23 the house because I just run out in the yard, you
24 know. I don't know. I'm having some trouble there.
25 I also think I disagree with him about having already

1 seen the worst-case scenario. And it's really
2 troubling to hear the director of -- the manager of
3 the lab say that.

4 I was particularly concerned when I heard
5 about the ventilation system not being up to your
6 standards until 2020, because I want to draw a very
7 important distinction. And that's between workers and
8 the public. And the workers choose to expose
9 themselves to these hazards. But kids that live in
10 Los Alamos and White Rock don't.

11 This -- the trades that are performing the
12 structural work in that building are certainly not the
13 same trades that will be doing the ventilation system.
14 And I can't understand why those projects cannot be
15 coordinated so that that system could be brought on
16 line a lot sooner. And I think in the interest of the
17 public's confidence in their safety, that would be an
18 important consideration for the Board to try to look
19 at.

20 I also am really concerned when I hear that
21 the emergency plan reflects a certain degree of
22 confidence in the availability of mutual aid, because
23 there are any number of scenarios I can imagine where
24 a mutual aid would be unavailable. And so that's a
25 concern that I think should be looked at.

1 And, you know, I don't know. That would be
2 something for the Board to get your staff to look at
3 and think about. I appreciate the time. Thank you
4 very much.

5 CHAIRMAN: Thank you very much. And if you
6 have a written statement, please submit it. Ms. Joni
7 Arends, please.

8 MS. ARENDS: Good afternoon, Mr. Chair and
9 Members of the Board. I am the Executive Director of
10 Concerned Citizens for Nuclear Safety. We've met with
11 the Board before when you've been in Santa Fe. And
12 we've been grateful for that time. And also we have
13 met with staff both at Los Alamos and in D.C.

14 This evening I have a special request that
15 Mr. Bob Gilkeson, who has written a number of reports
16 on the seismic hazard at the lab, be provided ten full
17 minutes. He's signed up for five minutes this
18 afternoon and five minutes this evening. And what he
19 would like to do is combine that time together and
20 make one presentation. And we would like to ask the
21 Board's indulgence for that request.

22 CHAIRMAN: Would he be willing to speak at
23 the end, because we do have a very long list of
24 speakers.

25 MS. ARENDS: Yes.

1 CHAIRMAN: I would be -- we would be happy to
2 listen for the ten minutes at the end of the other --
3 the public comments. Okay. Thank you.

4 MS. ARENDS: Yes, he would. Thank you so
5 much, Mr. Chair and Members of the Board. I'll make
6 my comments brief.

7 First of all I want to thank the Board for
8 all of their oversight and all of their work. I want
9 to acknowledge that many of the things that the
10 laboratory took credit for today are the result of
11 recommendations made by the Board, whether it's the
12 removals of cellulose materials in the basement of the
13 CMRR -- or excuse me, of the PF-4, whether it's
14 enhancing the fire suppression system, whether it's
15 comments about the need for enhancing the seismograph
16 system at the laboratory.

17 Those things are things that oversight -- it
18 took oversight to get those things accomplished. And
19 we're grateful. Ultimately -- ultimately right now
20 our concern is about the seismic risk with respect to
21 the proposed nuclear facility and for the storage of
22 six metric tons of plutonium.

23 We believe that the design basis
24 earthquake -- we don't believe. We know from the work
25 that Bob Gilkeson has done as well as his research on

1 LANL reports as well as other reports, it's based on
2 fact, it's not opinion.

3 That the design basis earthquake for the
4 proposed NF [nuclear facility] is greatly
5 underestimated because of the many mistakes and
6 omissions in the three LANL probabilistic seismic
7 hazard reports published over the years 1995 through
8 2009. And there was a lot of discussion earlier today
9 about those reports.

10 The three PSHAs [Probabilistic Seismic Hazard
11 Analysis] do not comply with the detailed
12 characterization requirements in the three American
13 Nuclear Society industry standards that were published
14 on July 31st, 2008. And we note that Board staff as
15 well as DOE staff and LANL staff were part of the
16 committees that established those -- those standards.

17 Our concern now is that the DOE has adopted
18 these standards in this new Standard 1022-2011
19 [Natural Phenomena Hazards Characterization Criteria]
20 and that those got finalized after the NEPA [National
21 Environmental Policy Act] process was completed on the
22 NF.

23 And so we anticipate right now that the cost
24 to meet those standards and the cost for the proposed
25 \$6 billion facility has increased exponentially. But

1 there's no cost estimate because the NEPA process is
2 over and cost estimates are not part of the NEPA. But
3 we don't even have an idea.

4 So we feel like that's a sleight of hand that
5 took place. And we need to understand what the costs
6 are for building a facility in a seismic zone in a --
7 next to a super volcano above our drinking water
8 supply in this area, in a wildfire area. And with
9 that I will conclude my comments. And I again thank
10 you very much for the time for Mr. Gilkeson.

11 CHAIRMAN: Sure. Thank you, Ms. Arends.
12 Ms. Elana Sue St. Pierre.

13 MS. ST. PIERRE: Can you hear me? Can you
14 hear me now? Okay. Thank you. Thank you very much
15 for the wisdom of the questions I have heard here.
16 And my questions are magnified a hundredfold.

17 My name is Elana Sue St. Pierre. I'm an
18 occupational therapist. And I have worked with this
19 community's most medically fragile, babies. And I
20 represent a network of parents with children whose DNA
21 has been affected by who knows what and childhood
22 advocates, healthcare advocates that are asking what's
23 happening in our community. We don't know.

24 This is the ash. And I really, really ask
25 you to touch it. The Las Conchas fire is not over.

1 We have acres and acres and acres above our watershed
2 with this ash. And we've been told it's not safe to
3 play in. And I ask you, when you feel this, don't
4 open any of the bags.

5 This is what our water will be flowing
6 through into the watershed of Santa Fe. It will be
7 going into baby bottles. It's going into the
8 restaurant water that you drink in your glasses.

9 And the early warning system that we're
10 supposed to trust has a 30 to 60-day delay between
11 when they look at the water and test for turbidity,
12 which means it's too cloudy and possibly too
13 contaminated to even try and filter.

14 When they turn that water back on, there is a
15 30 -- 60 -- to 60-day delay. That means who is going
16 to call you in Washington and say, whoops, Santa Fe
17 made a mistake. The early warning system that LANL
18 made didn't work. There's too many margins of error
19 currently now for us to consider any expansion.

20 After the Los Alamos -- after the Cerro
21 Grande fire, as an occupational therapist, I started
22 seeing children with holes in their heart. And I have
23 five children on my caseload that had holes in their
24 heart just in my caseload alone.

25 And this year I found out that there is a

1 syndrome called Chernobyl heart. What is happening in
2 neighborhoods where there are stockpiles of nuclear
3 waste blowing downwind and down river. The current
4 standards are set not for pregnant women and children.

5 I have been very glad to hear the questions
6 about adequate protection. What is adequate
7 protection? Are the standards that are being looked
8 at in these supercomputer analyses set for pregnant
9 women and children? None of the standards that
10 protect us now do.

11 What are the synergistic effects? I heard
12 plutonium talked about. But plutonium will not be
13 alone. Plutonium will be with petrochemicals, PCBs,
14 hexavalent chromium, americium, neptunium, a whole
15 legacy of 40 years of experimentation. That's what
16 could be in the air and could be in the water.

17 Have the computers looked at this? What is
18 the synergistic and cumulative effect of these? I
19 have not been able to find anything. And I have
20 looked at volumes and volumes.

21 The peer review, independent peer review
22 that -- at -- that looked at paper of the early
23 warning system for Santa Fe, for the water -- Buckman
24 Diversion Project has not been reviewed by anybody.
25 It was looked at in paper. There has been no

1 oversight for this.

2 And I have stand -- stood in the gauges that
3 have been filled with this ash. I have so many
4 questions. Five minutes isn't enough. But I thank
5 you so much for giving me a chance to stand here
6 before you.

7 The children that I see have missing toes,
8 missing ears, organs born outside of their body. I
9 have sat with women that have cried because their
10 fetuses are so deformed they have had to have an
11 abortion or they risk their lives to birth them.

12 What is going on in stockpiled areas? Who is
13 the oversight for this? And I implore you, please ask
14 these questions. The nuclear safety standards needs
15 to be changed just like smoking needs to be changed,
16 just like arsenic needs to be changed, just like
17 seatbelts need to be changed.

18 I implore you, there is not enough research
19 and funding for this. And we ask that the funding
20 that is directed toward expansion be directed toward
21 cleanup and safety.

22 In closing I'm asking for just a moment of
23 silence and contemplation, that we as a community all
24 joined here because we care, that we just find that
25 quiet place in our heart, that silence. That we all

1 feel the heaviness of these unanswered questions. And
2 I feel the crying of children and how we keep them
3 safe.

4 So I ask you to simply join me in a moment of
5 silence so that we can envision something better.

6 Thank you.

7 CHAIRMAN: Thank you, Ms. St. Pierre.

8 MS. ST. PIERRE: Thank you very much.

9 CHAIRMAN: And if you have any written
10 comments, please submit them to the record.

11 Ms. Stephanie Hiller. I'll check back later. Is

12 Ms. Stephanie Hiller here now? Okay. Ms. Susan

13 Rodriguez.

14 MS. RODRIGUEZ: Thank you. I would like to
15 thank the Board for coming to Albuquerque and for
16 asking the questions that need to be asked. There are
17 many more questions that we have. I have lived here
18 in New Mexico for 23 years now, brought up my daughter
19 in Albuquerque, New Mexico.

20 Albuquerque has been using the drinking water
21 from the Rio Grande for a few years now. I don't
22 know, four years, maybe less. But just recently, a
23 year ago, actually maybe before April, before -- when
24 the fire happened up in Los Alamos recently, they
25 decided to turn off the entrance of the water coming

1 from up river coming down river into Albuquerque,
2 where before we were drinking the aquifer, which many
3 people consider pristine. But we have questions about
4 that too which I might get to later.

5 The reason they stopped accepting the river
6 water is because of the ash, like the last speaker
7 just spoke, just mentioned. We understand that the
8 ash -- or the water coming down has plutonium and
9 other nuclides, which Joni Arends from NC -- Concerned
10 Citizens for Nuclear Safety will testify to.

11 And I went to the triennial review a year ago
12 in April. And there is -- there are nuclides in our
13 water. And Arjun Makajani, who is a physicist who has
14 an institute in California, said the only way to get
15 these nuclides out of the water at this time, if
16 you're going to be drinking that kind of water, is to
17 put a membrane on so that it's filtered that way.

18 And I understand Santa Fe has a membrane. We
19 don't in Albuquerque. And we're asking our water
20 Board to do that, our water utility authority to do
21 that, because we're very concerned about what can
22 result of that, because the standards are for a
23 healthy white male.

24 And I'm healthy. But I'm not a male. And I
25 weigh -- I'm underweight. And I have a daughter who

1 is 22. And I'm concerned that the safety standards
2 are not high enough and are not considering the great
3 majority of human beings that live here.

4 My other point is that I come from a state
5 where I was told there would never be an earthquake.
6 I come from Downstate New York. And I lived there for
7 about, oh, 20, 21 years, and then I lived Upstate.

8 And then I lived in Mexico where there was an
9 earthquake, a big earthquake every year. I lived
10 there for six years. Three of those years I lived in
11 Guerrero, Mexico, near Acapulco. And I felt one of
12 the earthquakes in Mexico City from down in Guerrero,
13 I felt one in Guerrero, I was thrown out of bed in
14 Guerrero from one.

15 So I know what an earthquake is. And when
16 that happened in New York, I was really like that's
17 not supposed to happen. And if it does happen, maybe
18 it's once in -- like one of our experts from Los
19 Alamos said, once in a thousand years. Well, that
20 thousand years could be tomorrow. And obviously it
21 already happened. So that's one.

22 And the unexpected event in Fukushima. And
23 in all the other events that Citizens Action, Dave
24 McCoy, mentioned around the world, that unexpected and
25 terrible things have happened. And we seem to look

1 the other way.

2 I don't understand why we need to have a
3 plutonium producing facility. I understand there is a
4 treaty that says we are not to continue producing
5 plutonium pits for nuclear weapons. That's my
6 personal stand. And if that's true, that there is a
7 treaty, we should not be doing this and putting
8 this -- the public at risk, at great risk.

9 I really commend you for asking these kind of
10 questions. And I'm very concerned that the kind of
11 answers you're getting are -- they're so positive,
12 they're so sure, they really have their Ph.D.'s and
13 they know all the answers. Well, we don't know all
14 the answers. And because of past recent events, we
15 know that the unexpected can happen. And it's very,
16 very dangerous. Thank you.

17 CHAIRMAN: Thank you. Ms. Rodriguez. If you
18 have any written comments, please submit them for the
19 record. Basia Miller.

20 MS. MILLER: Good afternoon. My name is
21 Basia Miller. I am speaking as a concerned citizen.
22 Thank you for this opportunity to speak.

23 I appreciated hearing today the careful
24 details about the history of seismic safety
25 assessments at the lab. It appears that every time a

1 new study shows that there's a failing or an
2 inadequacy prompt or emergency compensatory measures
3 have been taken, it's a precarious definition of
4 safety.

5 I appreciated hearing one of the Board
6 Members ask has it gotten to be too much. The fact is
7 we aren't required to have a laboratory in the
8 Pajarito fault zone where contamination can flow and
9 is flowing in the single source aquifer.

10 The Board isn't required to support building
11 an enormous facility like the CMRR that will hold
12 13,000 pounds of plutonium. It could recommend a
13 different location for the enhancement of nuclear
14 research and/or recommend a different and less
15 dangerous mission for the laboratory.

16 I appeal to you as the highly respected
17 advisory body for the nation's defense to return to
18 Washington committed to restoring common sense to
19 deliberations on our nuclear posture.

20 The CMRR in particular is a \$6 billion
21 building without a sustainable mission and without a
22 plan for storing or disposing the waste that will be
23 created during the ten years of its construction and
24 the 50 to 100 years of its expected life.

25 Please do everything you can to redirect the

1 ambitions and bring balance to the conversations of
2 the decision-makers. Thank you.

3 CHAIRMAN: Thank you, Ms. Miller. Once
4 again, if you have any written comments, please submit
5 them to the record. I have a name that's crossed out,
6 but I'm still obligated to see if this person is in
7 the room and wants to speak. Sam Henderson.
8 Mr. Henderson. Moving on, David Bacon.

9 MR. BACON: Thank you very much, Members of
10 the Commission. We hear testimony from Los Alamos a
11 lot here, but rarely with adults on the other side
12 that can think and question like you do.

13 The testimony of John Pasko was very
14 revelatory to me. He pointed out some serious aspects
15 of Los Alamos and where it's sited. He also pointed
16 out that the Cerro Grande fire came within a few
17 hundred yards of a lot of plutonium.

18 What I was thinking about in that time period
19 is that we dodged a serious bullet really by having
20 the Cerro Grande fire. Had it not occurred, the Las
21 Conchas fire would have blown the laboratory up almost
22 entirely. They would have not have been ready at all
23 for what happened. The severity and the depth of that
24 fire would have completely overwhelmed any response
25 that they might have had to a fire.

1 It was because of the Cerro Grande fire and
2 because of the fact that they spent some time and some
3 money that they were given that they could save the
4 laboratory. Not the rest of the Jemez, not Santa
5 Clara Pueblo, but the laboratory.

6 It led me to think about the fact that they
7 have no idea what will happen in a seismic event, none
8 at all. They have no way to respond to such an event.
9 Their answers were completely shockingly bad.

10 And the fact that we are even thinking of
11 building such a facility up there on the Pajarito
12 plateau with such a group of individuals who had no
13 clue about the Las Conchas fire is really beyond my
14 comprehension.

15 We -- you know, we don't need it. And I
16 think that's been iterated and reiterated very, very
17 well. We don't need this facility. If these guys
18 were making movies, if they were making running shoes,
19 I would be concerned about the immediate vicinity.
20 But they're making weapons of mass annihilation.
21 They'll have six metric tons of plutonium.

22 I would refer you to a book by Glenn Walp
23 called the "Implosion at Los Alamos." He was a
24 security guy up there in 2002 after the Cerro Grande
25 fire. He drills very deep into the culture that runs

1 the labs and how impossible it is to get past -- to
2 get into accountability anywhere at that institution.

3 He calls for -- and we interviewed him on a
4 radio show. He calls for a tiger team to go in, some
5 group of outside people to take over entirely. I
6 thought, when I read that at first in Glenn's book,
7 that he was being a little bit radical. I don't think
8 he is now.

9 I think it's time to shut down all nuclear
10 works at the labs, all weapons work, clean it up, and
11 then turn that lab over to some kind of pure cleanup
12 and mitigation. Thanks very much.

13 CHAIRMAN: Thank you, Mr. Bacon. Jon Block.

14 MR. BLOCK: Good evening. Mr. Chairman,
15 Board Members, I do join in thanking you for taking
16 the time to come out here and listen to the concerns
17 of citizens.

18 I wanted to begin -- first I'll -- I'll
19 just -- I'll follow your rule and state my name. It's
20 Jon Block. I'm an attorney. Before coming to New
21 Mexico three years ago, I practiced primarily nuclear
22 regulatory law in the Eastern Seaboard. I then worked
23 for the Union of Concerned Scientists. That's about
24 14 and a half years of work that I did in this area.

25 When I was at UCS [Union of Concerned

1 Scientists], I was their point person in nuclear
2 energy and climate change. Now I work at the New
3 Mexico Environmental Law Center.

4 But I'm here making comments on my own
5 behalf. Having had to read the draft SEIS in this
6 case for the CMRR and then look at the final SEIS, I
7 am moved to come here and speak briefly on my own
8 behalf based on my understanding through years of
9 reading many of these types of studies in connection
10 with nuclear reactor safety and the safety of other
11 kinds of nuclear facilities.

12 I think that it would have been good for the
13 Board to have provided those who signed up such as
14 Mr. Gilkeson, who come to this Board with expertise,
15 with an opportunity to be among the chosen few who sat
16 up at the dais to address you.

17 I think that those who came here with that
18 level of expertise deserve that same level of respect
19 that's accorded to the experts from the lab and from
20 the DOE. And I would urge you in the future to try to
21 make such arrangements with my remarks.

22 The destruction of the nuclear reactor
23 complex at Fukushima was considered a highly probable
24 event, a sequence of beyond design basis events.
25 Tidal wave, earthquake, loss of on-site power, loss of

1 containment, burning fuel.

2 Among those I think only the loss of
3 containment and the burning fuel have even been
4 considered by the NRC [Nuclear Regulatory Commission]
5 to be within the design basis.

6 And then with parameters that exclude most of
7 the kind of effects that one saw at the Fukushima
8 accident. My guess is that under NRC probabilistic
9 risk assessment criteria, it would be something less
10 than one times ten to the minus 13.

11 But just as the collapse of the World Trade
12 Center, floor coming down upon floor, was also
13 considered to be something that the architects of
14 those buildings said would not happen when a plane hit
15 the building, so too this kind of cascading succession
16 of failures takes a probability way, way out in the
17 remotest reaches of risk and makes it one over one.

18 And I think that the kind of information that
19 Mr. Gilkeson has brought to the Board working with
20 CCNS [Concerned Citizens for Nuclear Safety] and
21 making a set of comments that are very difficult to
22 read without feeling that there is a very, very
23 serious possibility within the framework that should
24 be considered that is part of the nature of the risk
25 as the current base allows it to be calculated.

1 So it is not a beyond design basis thing that
2 he is offering up in his comments. And I incorporate
3 them by reference here. Let's look at a few of the
4 phrases that have been tossed about here.

5 Evacuation. If there are no roads, what is
6 it going to be, by helicopter? Sheltering in place.
7 If you're talking about an earthquake with a massive
8 fire, the release and vaporization and burning
9 hazardous chemicals, nuclear waste, sheltering in
10 place equals death. And it really is something that
11 should be confronted.

12 Adequate response. I have no doubt about the
13 fealty of the people who are dedicated to be first
14 responders. But what about when they go to assemble
15 at the fire station and get their trucks and they
16 can't get there because of cars in the road, because
17 there are gaps that have opened up in the road due to
18 an earthquake, because of fire, because of personnel
19 who don't show up because they're dead or they're
20 trapped somewhere.

21 So the idea that all of these things can
22 somehow be just said as if the saying of the words
23 creates the possibility of meeting the eventuality of
24 a very serious earthquake and the ensuing effects it
25 will have on evacuating that mesa seems to me to be

1 something that the Board should take -- consider
2 carefully and put into a report to the highest levels
3 of decision-making in our government.

4 So that we don't take billions and billions
5 of dollars, throw them away, and also risk the lives
6 not only of the people of the lab, but everybody
7 within miles and miles of that facility.

8 I also would offer up one other point. And
9 that is that unlike the old lab, the new lab is run by
10 a profit-making consortium. And lessons are to be
11 learned from the deregulation of the domestic civilian
12 nuclear industry in the United States and the loss of
13 safety margins.

14 Take a look at Dave Lochbaum's report at the
15 Union of Concerned Scientists website on Davis-Besse,
16 an accident that almost took out part of Ohio. They
17 missed by millimeters having the entire reactor lid
18 blow off. Why? Because it's a profit-making venture.

19 So I ask the Board, in thanking you for the
20 opportunity to address you, I ask you to take the
21 safety issue, the risk issue as seriously as possible
22 and bring that to the highest levels of
23 decision-making, because I believe firmly that if
24 people confront the facts that are being presented
25 today, the facts that are in the comments that

1 Mr. Gilkeson will present later, there is only one
2 decision. This project must be stopped now. And
3 probably that lab needs to be moved to another
4 location. Thank you very much.

5 CHAIRMAN: Thank you, Mr. Block. If you have
6 a written statement, please submit it for the record.
7 Jeff Genauer. I believe I'm pronouncing that
8 correctly, they have spelled it for me very carefully
9 here. Jeff Genauer. Okay. I'll call for his name
10 one more time later. Charles Dickerman. Charles
11 Dickerman. There he is.

12 MR. DICKERMAN: Is it working? My name is
13 Charles Dickerman. And I want to thank you, gentlemen
14 and Ms. Roberson, for having me here. I'll be very
15 brief.

16 I look around and I see many, many, many
17 empty chairs. This subject is so important today.
18 I'm here from Albuquerque. This morning on the front
19 page of the Albuquerque Journal, this subject was on
20 the front page. And that's why my friend and I are
21 here.

22 I have the Santa Fe newspaper here. There's
23 not a word in today's paper about this meeting. This
24 concerns me. That's all I have to say. Thank you.

25 CHAIRMAN: Thank you. Michelle Delon.

1 MS. DELON: Hello. My name is Michelle
2 Delon, and I'm a concerned citizen of Santa Fe.

3 Mr. Chairman, Members of the Board, thank you
4 so much for having this meeting here today. I'm also
5 concerned by the many empty seats. But I'm grateful
6 that there are those of us who found out that you
7 would be here and showed up so that we could hear your
8 questioning and have a chance to voice our concerns.

9 I think this is really, really important.
10 I've lived in Santa Fe for a couple of years. And I'm
11 always amazed when I come to any sort of hearing or
12 meeting that's dealing with Los Alamos, because
13 usually the subject matter is talked about so -- so
14 easily. And I sometimes wonder if people realize the
15 dangers that we are discussing.

16 And we're not talking about a shoe factory or
17 a car parts manufacturer on the hill in Los Alamos.
18 But we're talking about a facility that has the
19 potential to be very, very dangerous. And I think
20 we've all had a bit of a wake-up call with what
21 happened in Japan.

22 One of the things that really spoke to me in
23 hearing the presentations and your questions was so
24 many undertakings in making the lab more safe. It's
25 great that they're happening. But what -- what

1 happens if there's an event tomorrow or next week or
2 in a month while these improvements are being made.

3 As local citizens we're the ones who are here
4 that will face the consequences of something happening
5 at the lab, if it happens before all these
6 improvements are made. And as has been stated, with
7 the last fire that took place, I suppose we were lucky
8 that there had been a prior fire so there was in a
9 sense a dry run of what could happen.

10 However, this last fire showed that the speed
11 of a fire can be as you said awesome. I happened to
12 have been out on Sunday, the day that the fire
13 started, and I had to drive someone to Albuquerque.
14 And you could see for miles the flames.

15 And I think this is an important point also
16 in talking about being prepared for another event,
17 whether it's a fire or seismic event. The last fire
18 started on Sunday. So there were a lot of people that
19 were at home, there were a lot of people that weren't
20 at work. And there was time to mobilize the forces
21 that needed to be mobilized to handle the fire.

22 But if this happened on a workday, when
23 people were on the road and children at school and
24 people at work, it may not have been as easy to bring
25 all the different elements from the fire department

1 and all the other people to the areas that needed to
2 be taken care of.

3 And as was mentioned there's only two roads
4 in and out of Los Alamos. And this to me seems a very
5 dangerous situation for a laboratory that has the
6 potential for so much damage and a community right
7 around it. What happens if something happens to one
8 of those roads? And what's going to happen when we
9 need to bring in more trucks and more people to the
10 people that are living there.

11 There was a comment on the transparency of
12 the lab during the last fire. And I would just like
13 to point out that initially, when the lab had been
14 asked about Area G, from what I understand, they
15 denied its existence. And they denied that there were
16 all these barrels of toxic materials stored in what
17 basically is a tent.

18 And it wasn't until -- I believe it was
19 Concerned Citizens sent out a press release to a
20 number of media sources and The Wall Street Journal
21 then contacted the lab that they finally acknowledged
22 that these were there.

23 So the transparency did not come from a local
24 citizen asking a question, it came from The Wall
25 Street Journal finally asking. And that was when the

1 truth came out about Area G. And I think that's
2 really important, because the lab makes it sound as if
3 they're our partner. But it seems that unless they're
4 pushed, you don't really hear all of the facts.

5 I would also like to address the issue of all
6 the waste that is still up there. From what I
7 understand, I've heard a number of figures, 30,000 or
8 40,000 barrels of waste up there. And whether it's
9 30,000 or 40,000 or even 5,000, it's a lot of material
10 that has been sitting there for a very, very, very
11 long time.

12 And I wonder how an idea can be pursued to
13 create a new facility up there that will produce even
14 more toxic materials when nothing -- when there has
15 not been sufficient action to deal with the materials
16 that are already there.

17 So I would like to voice my opinion along
18 with a lot of the other people here that the CMRR
19 seems to be a project that really should not take one
20 step further until first the lab is cleared up, the
21 seismic issues addressed, and the larger issue of is
22 this really the place where we should be storing
23 metric tons of waste based on all the other issues
24 that surround the lab.

25 So I just want to say thank you for the

1 opportunity to speak my concerns. And I also want to
2 thank you for the very pointed questions. It's the
3 first time that I've been at any kind of meeting or
4 hearing or anything like this where it seemed as if
5 very sensible questions were asked.

6 I'm a little bit concerned about the time lag
7 for the answers, because in the meantime we're all
8 living here. And we all face these issues every
9 single day. And whether an earthquake might happen
10 today or tomorrow, in ten years, I think we face the
11 same issue as -- there's fires in peoples' homes.

12 They don't happen every day. But I think
13 most of us have smoke detectors so that we can be
14 protected. And I don't know that we are really
15 protected from what's sitting on the hill in Los
16 Alamos. So thank you very much.

17 CHAIRMAN: Okay. Thank you. Our final
18 speaker, and I thank him for his patience very much,
19 is Mr. Gilkeson. But before he addresses the Board,
20 let me just check one more time whether Stephanie
21 Hiller is in the audience? I don't see her. And Jeff
22 Genauer. Yes.

23 MR. MALDEN: Good evening. I had signed up.
24 I didn't give my name yet.

25 CHAIRMAN: What is your name? I'm sorry.

1 MR. MALTEN: My name is Willem Malten.

2 CHAIRMAN: Well, take a moment now and
3 address the Board, please. I don't see it on the list
4 here. Did you sign up for tonight's session perhaps
5 by mistake? But either way take a moment, a couple of
6 minutes, because I would like to then turn to
7 Mr. Gilkeson for his final comments. Appreciate that.

8 MR. MALTEN: Thank you so much, Mr. Chairman,
9 Members of the Board.

10 CHAIRMAN: Could you state your name and
11 affiliation carefully for us.

12 MR. MALTEN: Yes. My name is Willem Malten.
13 And I'm -- I am part of the Los Alamos Study Group.
14 Okay. A little anecdotal saying. I've been an
15 activist in this area for a long time. And although I
16 came here -- came to the activism from a sort of legal
17 and also moral point of view, over time I have also
18 encountered safety issues.

19 The first time that I encountered a safety
20 issue in Los Alamos was when I was visiting Los Alamos
21 I believe it was in 1998. And there was an exhibit
22 there with safety vehicles, emergency vehicles. And
23 there was a strange machine sitting on top of one of
24 the vehicles.

25 And I said, "What is that?" It was four

1 suction naps and what looked like a knife sticking
2 out. And they were very excited about it. They said,
3 "Oh, that's something we actually invented ourselves."
4 I said, "What is it?"

5 And they said, "Okay. Well, you know, we
6 have a lot of barrels on" -- "at Area G. And there's
7 been problems with the barrels because we've changed
8 the lining of the barrels or the barrels were changed
9 in the lining. And the lining, the new lining started
10 to ferment.

11 "And so we used to have somebody go there and
12 stick a knife into one of the drums. And this sort of
13 fountain of PCBs and other contaminated oils and
14 things like that came out. And it would spray the
15 person that would put the knife into the drum."

16 And so I said, "Are you kidding me? And they
17 said, "No. And now we have these suction naps, they
18 go on top of the barrels. And with an hydraulic
19 automatic mechanism, we put a knife from a distance
20 into the barrel. And then nobody stands under the
21 spray and nobody gets contaminated like that."

22 I said, "Oh. And it must be a rare
23 occurrence." They said to me no, that it was not a
24 rare occurrence. Just yesterday, the day before, when
25 I was there, they had decommissioned 15 barrels in

1 this manner. So my whole trust in Los Alamos and in
2 its safety procedures took a dive at that -- at that
3 very point.

4 When in 1999 I was -- actually I was with a
5 Native American elder standing next to the Avanyu.
6 There's actually a big petroglyph right underneath
7 Area G of the Avanyu, which is the local deity, it's
8 an earth deity. And the elder said to me, "Oh, and
9 you know what, if you don't take care of Avanyu, which
10 is a water snake, it will transmute into fire snake."

11 And I was -- well, I thought about all the
12 contamination. At that time there was contamination
13 of high explosives in the aquifer that they were
14 researching. And I thought, oh, maybe that's what the
15 elder means. But, of course, come early 2000 there
16 was the Cerro Grande fire, which was actually very
17 dangerous.

18 And one of the things that actually has not
19 been investigated, and I bring it up to the Board
20 right here, is that several underground storage areas,
21 bunkers, from historical activity in Los Alamos caught
22 fire.

23 And even when the rest of the fire was
24 extinguished, one of the bunkers was still burning for
25 another six weeks I believe it was after the rest of

1 the fires had been extinguished. And nobody knew what
2 was in there.

3 Anyway but like David Bacon said earlier,
4 that fire actually prevented a disaster of the Las
5 Conchas fire. I understand there was a great effort
6 in the emergency personnel during the Las Conchas
7 fire. And they did some really amazing things like
8 counter fires and things like that.

9 But really why that fire was not disastrous
10 was A, because we had the fire, the Cerro Grande fire;
11 B, the wind changed right in time; and three, the only
12 reason why that fire really got extinguished is
13 because the rain came.

14 So yes, the emergency personnel at Los Alamos
15 did a great job. But at the same time, nobody could
16 have done it without the help of Mother Nature itself.

17 CHAIRMAN: Sir, could you -- could you come
18 to an end of your comments fairly soon.

19 MR. MALTEN: Yes. Well, in the last four
20 months, there have been two larger earthquakes in this
21 area. One was about 100 miles away from Los Alamos
22 and one was within 25 miles I believe to Los Alamos.
23 This is happening seriously all the time.

24 Between 1996 and I believe 2007, there were
25 200 registered earthquakes in Los Alamos area. It's

1 really a bad idea to put a building with a vault of
2 30,000 pounds of plutonium right on top of that fault
3 line. Thank you so much for your attention.

4 CHAIRMAN: Thank you. It's my understanding
5 that Mr. Gilkeson would like to speak this evening as
6 opposed to at the end of this session here. Is that
7 true?

8 MS. ARENDS: Mr. Chair, members of the Board,
9 yes, he would like to speak at the end of the session.
10 Thank you.

11 CHAIRMAN: Okay. At the end of this
12 evening's session. Okay. Thank you. Well, at this
13 time the chair calls a recess of this public meeting
14 and hearing. We will reconvene at seven p.m. Thank
15 you for being here.

16 (At 5:30 p.m. Session I concluded.)

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1 REPORTER'S CERTIFICATE

2

3 I, JAN A. WILLIAMS, New Mexico CCR #14, DO
4 HEREBY CERTIFY that on November 17, 2011, the
5 proceedings in the above matter were taken before me,
6 that I did report in stenographic shorthand the
7 proceedings set forth herein, and the foregoing pages
8 are a true and correct transcription to the best of my
9 ability.

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