DEFENSE NUCLEAR FACILITIES SAFETY BOARD

Public Hearing and Meeting on Los Alamos National Laboratory at Santa Fe, New Mexico

Thursday, November 17, 2011

Session II

7:00 p.m.

Santa Fe Convention Center

201 W. Marcy Street

Santa Fe, New Mexico 87501

BOARD:

Dr. Peter S. Winokur, Chairman
Ms. Jessie H. Roberson, Vice Chairman
Dr. John E. Mansfield, Board Member
Mr. Joseph F. Bader, Board Member

Mr. Timothy J. Dwyer, Technical Director
Mr. Richard A. Azzaro, General Counsel
Mr. Brett P. Broderick, Board Technical Staff
Mr. Richard T. Davis, Board Technical Staff
Mr. John A. Pasko, Board Technical Staff

ALSO PRESENT:

Dr. Donald L. Cook, Deputy Administrator for Defense Programs, National Nuclear Security Administration
Mr. Kevin W. Smith, Site Office Manager, Los Alamos Site Office
Dr. Charles Keilers, Assistant Manager for Safety Operations, Los Alamos Site Office
Dr. Carl Beard, Principal Associate Director for Operations and Business, Los Alamos National Laboratory
Mr. Charles Anderson, Acting Associate Director for Nuclear and High Hazard Operations, Los Alamos National Laboratory
Mr. John Krepps, Assistant Manager for Field Operations, Los Alamos National Laboratory

I N D E X

CHAIRMAN: Good evening. Please take your seats. We will now resume this public meeting and hearing.

My name is Peter Winokur. And I am the chairman of the Defense Nuclear Facilities Safety Board. I will preside over this public meeting and hearing. I would like to introduce my colleagues on the Safety Board.

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

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

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

In order to provide timely and accurate information concerning the Board's public and worker

health and safety mission throughout the Department of Energy's defense nuclear complex, the Board is recording this proceeding through a verbatim transcript, video recording, and live video streaming.

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

Per the Board's practice and as stated in the Federal Register notice, we will welcome comments from interested members of the public at the conclusion of testimony, at approximately 8:30 p.m. for this session.

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

There is also a table at the entrance to this room with a sign-up sheet for members of the public who wish to make a presentation but did not have an

opportunity to notify us ahead of time. They will follow those who have already registered with us in the order in which they have signed up.

To give everyone wishing to make a presentation an equal opportunity, we ask speakers to limit their original presentations to five minutes. The Chair will then give consideration for additional comments as time permits.

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

A record of this proceeding will remain open until December 19, 2011.

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

I would now like to discuss why the Board chose to hold a public hearing concerning the Los Alamos National Laboratory. First the Board intends to hold more public meetings in the communities near

defense nuclear facilities. Many of the Board's public hearings are held in Washington, D.C., a great distance from those members of the public who have a vested interest in these sites.

Second, Los Alamos's role in the nuclear weapons complex is unparalleled. It is one of the oldest sites in the complex and arguably the most challenging site for NNSA to safely manage.

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

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

It's also important to note that many of the site's defense nuclear facilities are located in close proximity to surrounding communities.

The Board identified three topics for today's meeting and hearing that are high priorities due to their safety implications. Seismic safety at the

Plutonium Facility and site emergency preparedness were discussed this afternoon.

During tonight's session the Board will consider the safe operation and safety strategy for existing and planned Los Alamos National Laboratory defense nuclear facilities.

Because of the laboratory's historical role and its evolution over time, nuclear operations were conducted in many years in an expert-based manner that employed few formal rules and standards that govern work execution and safety practices.

In recent years Los Alamos has worked to attain the more disciplined approach to nuclear operations, engineering and maintenance, as required by the National Nuclear Security Administration.

In addition, the laboratory has encountered many challenges as it has sought to establish and maintain up-to-date nuclear facility analyses, termed safety bases, to adequately characterize and control the hazards from nuclear operations.

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

This evening the Board will examine the laboratory's efforts to improve formality of operations, effectively update safety bases, and mitigate risks associated with the continued operation of several aging nuclear facilities.

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

VICE CHAIRMAN: No, thank you, Mr. Chairman.

CHAIRMAN: Dr. Mansfield.

DR. MANSFIELD: Nothing at this time, Mr. Chairman.

CHAIRMAN: Mr. Bader.

MR. BADER: Nothing at this time.

CHAIRMAN: This concludes the Board's opening remarks.

At this time I would like to introduce Mr. Todd Davis who will provide testimony from the Board's staff on the topic of safety at Los Alamos National Laboratory defense nuclear facilities.

Mr. Davis, I will accept your full written statement into the record. Please summarize your written statement in ten minutes or less.

MR. DAVIS: Good evening, Mr. Chairman and members of the Board. My name is Todd Davis. I'm one

of the Board's site representatives responsible for overseeing the National Nuclear Security Administration activities at the Los Alamos National Laboratory.

In this session of the public hearing, the Board is considering the safety of operations at existing Los Alamos nuclear facilities along with the plans and safety strategies for replacement facilities. I will discuss the status and current issues with safety basis documents and efforts to implement a robust and mature formality of operations program at Los Alamos.

I will also discuss operations at existing aging facilities and safety strategies to ensure replacement facilities are designed and constructed to meet modern, robust nuclear safety standards.

Consistent with the principles of integrated safety management, the safety basis for nuclear facilities ensures that hazardous work can be performed with adequate protection for the public, worker, and environment.

At Los Alamos NNSA and its contractors have struggled to develop and implement modern compliant safety basis documents. The proximity of facilities to the site boundary and significant quantities of

nuclear material at Los Alamos result in offsite doses to the public for postulated accidents that exceed DOE [Department of Energy] Evaluation Guideline in many cases.

Aging facilities that lack modern safety systems like safety-class confinement ventilation systems have limited the site's ability to credit effective safety controls for these scenarios. In January of 2001, DOE published 10 CFR 8 -- Part 830, the nuclear safety management rule.

Subpart B of this rule established safety basis requirements for DOE nuclear facilities and required contractors to submit new compliant Documented Safety Analyses by April 10, 2003. Subpart B also requires the contractor to annually submit either an updated Documented Safety Analysis for approval or a letter stating that there have been no changes.

Despite the requirements in this rule, Los Alamos' nuclear facilities have continued to operate since 2003 with outdated safety basis documents that are not updated on an annual basis.

When the new contractor took over in 2006, they concluded that the safety bases were not fully compliant within NNSA rules and standards and the

safety controls were not rigorously implemented. In December 2006 the site office approved a safety basis improvement plan to develop compliant safety bases. This plan was not fully successful.

Although improvements in the development and quality of safety basis documents have occurred since 2006, timely submittal and approval of quality safety basis documents has proved problematic. Currently the Radioactive Liquid Waste Treatment Facility, the Weapons Engineering Tritium Facility, and the Area G safety basis documents have not had major revisions since 1995, 2002, and 2003, respectively.

Some improvements have been made in meeting the annual update requirements for facilities with modern safety basis documents. However, LANL continues to struggle in this area as well.

Following the 2008 major revision to the safety basis document for the Plutonium Facility updates were submitted but not approved in 2009, 2010, and 2011. A second revision to the 2011 update was recently approved by NNSA but has not been implemented at this time.

High-quality, comprehensive safety basis documents that meet the requirements of the safety management rule are fund -- are a fundamental basis

for ensuring safety at NNSA nuclear facilities.

NNSA and LANL are improving the quality and timeliness of these documents at Los Alamos. However, additional emphasis and effort is required to ensure modern compliant documents are in place and updated on an annual basis.

Another key ingredient for performing work safely at defense nuclear facilities is the formality and the performance of work, including operations, engineering, maintenance, and training. When the new contractor took over in 2006, they recognized that substantial improvements in these programs were required and initiated a significant overhaul of the programs governing formality of operations.

The multiyear effort which has been emphasized by NNSA via performance incentives included development of compliant institutional programs and infrastructure followed by field implementation at LANL facilities.

Currently the contractor has largely completed core implementation of the improved institutional programs at all LANL nuclear facilities. However, continued operational and engineering issues along with NNSA and contractor assessment results highlight the need for improved maturity in these

programs at Los Alamos.

In September NNSA directed the contractor to identify corrective actions in response to operational events and assessment results related to formality of operations at the Plutonium Facility and waste disposition facilities.

At the Plutonium Facility, recent issues associated with criticality safety implementation and conduct of operations prompted contractor management to suspend operations, to communicate expectations to the work force, perform training, and review the adequacy and implementation of criticality safety controls. NNSA also identified concerns with safety systems and safety management programs at waste disposition facilities.

Based on these issues, NNSA has -- NNSA requested the contractor to determine whether safety management programs at these facilities required compensatory measures and expressed concern about the recurring nature of safety problems.

As a part of these -- as a part of the improvements in conduct of engineering, the contractor established a cognizant system engineering program and has been working to staff, train, and mature this program. These engineers are a key element for

ensuring that LANL safety systems remain operable and reliable.

However, a recent NNSA assessment concluded that LANL -- that the LANL program is not compliant with DOE requirements, noting that the majority of these engineers are not knowledgeable of key safety parameters for their assigned safety systems.

Strengthening formality of operations is an important step in achieving sustainable safe operations at LANL nuclear facilities. At Los Alamos additional effort by the contractor and oversight by NNSA are required to mature these programs to ensure work can be safely performed.

NNSA is pursuing several projects to replace aging nuclear facilities at LANL with robust facilities that meet modern nuclear safety standards, including the Chemistry and Metallurgy Research Replacement nuclear facility, the Radioactive Liquid Waste Treatment Facility upgrade, and the Transuranic Waste Facility.

Given the age and design of the existing facilities, structural and safety system vulnerabilities exist that require additional scrutiny to ensure nuclear operations can be performed with adequate protection of the public, worker, and

environment.

The Chemistry and Metallurgy Research building began operations in 1952 and sits atop a known seismic fault. Recently NNSA had plans to terminate operations in this facility in 2010. However, due to programmatic needs, this facility will not -- will now operate for at least another decade until the replacement facility is available.

The Board and its staff reviewed the safety basis that supports the post-2010 operations including a reduction in nuclear material limits such that off-site dose consequences will not exceed the DOE Evaluation Guideline during postulated accident scenarios. The facility still poses a threat to workers in a seismic event, and options to relocate its analytical chemistry activities to other facilities should be continually evaluated.

In late 2009 the contractor restarted transuranic liquid waste operations at the Radioactive Liquid Waste Treatment Facility following a significant multiyear refurbishment of equipment and systems. These upgrades have greatly improved the reliability of transuranic liquid waste operations.

However, age-related degradation remains a concern for equipment associated with low-level liquid

waste processing systems. As previously noted the safety basis -- the safety basis for this activity has not had a major revision since 1995.

The contractor recently provided a strategy to NNSA for updating this document in the next 18 months. Significant contractor effort is focused on solid transuranic waste disposition activities to support Area G closure.

Transuranic waste associated with disposition activities at Area G represents a significant source term at Los Alamos with offsite dose consequences that exceed the DOE Evaluation Guideline for postulated accident scenarios. In July the contractor completed an independent assessment of facility and programmatic operations for waste disposition including Area G.

The review concluded that these operations were not significantly -- were significantly noncompliant with requirements associated with safety basis, engineering, fire protection, criticality of safety, emergency preparedness, quality assurance, and management systems. Contractor management has accepted these findings and is working to develop and implement comprehensive corrective actions.

Clearly the ultimate strategy for reducing risk at Area G is to process the waste and ship it

offsite. Given the significant programmatic pressure to achieve Area G closure and nuclear material involved and the independent assessments results, NNSA needs to focus appropriate resources on approval and implementation of an upgraded safety basis and improve operational performance.

For the planned replacement facilities, the Board and its staff have performed project reviews to ensure early integration of safety into the design and construction process.

For the Chemistry and Metallurgy Research building replacement project, the Defense Authorization Act of fiscal year 2009 directed the Board to submit a report to the Congressional defense committees certifying that concerns raised by the Board regarding design of safety systems and seismic issues had been resolved. The Board provided input to NNSA throughout the certification process on safety concerns and the actions necessary to resolve them.

In September 2009 the Board completed its review and provided a report to Congress certifying that concerns regarding the design of the CMRR [Chemistry and Metallurgy Research Replacement] have been resolved, provided NNSA completed full implementation of commitments related to

safety-related processes, structures, systems, and components.

For other LANL projects, the Board and its staff performed key design and safety basis reviews, especially at critical decision points, to ensure safety is adequately integrated into the design process.

Thank you. That concludes my prepared remarks. I'll answer any questions at this point.

CHAIRMAN: Do the Board Members have any questions for Mr. Davis? Hearing none, thank you, Mr. Davis.

MR. DAVIS: Thank you.

CHAIRMAN: I would like to invite the panel of witnesses from DOE and its contractor organization for the topic of safety at Los Alamos defense nuclear facilities to take their seats as I introduce them.

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

Mr. John Krepps is the Assistant Manager for Field Operations at the site office. Dr. Carl Beard

is the Principal Associate Director for Operations and Business at the Los Alamos National Laboratory. Mr. Charles Anderson is the Acting Associate Director for Nuclear and High Hazard Operations.

The Board will either direct questions to the panel or individual panelists who will answer them to the best of their ability. After that initial answer, other panelists may seek recognition by the Chair to supplement the answer as necessary. If panelists would like to take a question for the record, the answer to that question will be entered into the record of this hearing at a later time.

In addition to Mr. Smith, does anybody on the panel wish to submit written testimony at this time? Seeing none, that -- we'll continue with an opening statement by Mr. Smith. Obviously we'll accept your written comments into the record and ask you to summarize them in ten minutes or less. Mr. Smith.

MR. SMITH: Thank you, Mr. Chairman. I'll be glad to. During the last four years, the National Nuclear Security Administration, NNSA, and the Los Alamos National Security, LLC, LANS, have dramatically improved our understanding of the factors affecting the safety of the laboratory's operations; and we made significant strides in improving nuclear safety.

In 2006 the laboratory self-reported noncompliances in controlling and updating the safety basis for its nuclear facilities. The safety bases are the NNSA approved documents that describe the work, the facility, the hazards, and the controls depended upon to protect the workers, the public, and the environment.

In 2006 several of these key documents lacked clear linkage between postulated accidents and the controls intended to prevent or mitigate the accidents. They largely lacked configuration control, important analyses that were difficult for facility management to find and track and update, and interim documents were often being used. Most nuclear safety bases have not been updated in many years.

Since then LANL has established configuration control of safety bases. Eight of the nine safety bases have been updated since 2006. Six have major updates this year. In the process of updating these safety bases, LANL revisited the hazard analysis and the accident analysis and the control section to ensure a clear linkage. The NNSA nuclear safety specialists then reviewed these analyses to ensure they met standards.

Another example in 2006, the laboratory did

not have established procedures and programs for formality of operations and could not readily assure that the requirements for conduct of operations, engineering, maintenance, and training were being met.

Through an intensive effort, LANS has established and largely implemented and continues to improve these management programs, incorporating the best practices from other DOE sites. In 2006 LANS did not have a trained employed cadre of system engineers responsible for ensuring that safety credited systems could perform their intended function during an accident.

LANS has since staffed and established a cadre -- such a cadre and is maintaining its cognitive system engineered program. LANS has also implemented a good facility management model that closely couples operations to programmatic activities in LANL nuclear facilities.

LANL does have operational deviations that occur from time to time. Many of these were self-reported. But not to the percentage that the site office and NNSA believes to be a good measure yet. We think more should be self-identified and less by outside agencies.

But they are reported by the personnel when

they -- they are readily reported by the personnel when they occur. And, when appropriate, they are thoroughly and objectively investigated by NNSA and/or LANS.

The special and unique aspects of the laboratory's mission requires nuclear operation to be conducted in a manner where there is a questioning attitude and it's cultivated to be there. Nuclear safety is continuously examined. Self discovery and reporting is valued. And organizational learning is embraced.

These are the key elements of a strong nuclear safety culture. And DOE, NNSA, and LANL expect -- are expected to have that at this site and elsewhere -- or as expected at this site and elsewhere. It's the standard we strive for.

So let me bring you up to this year. Currently we have a full court press on bringing it and achieving and sustaining the safety basis standards and formality of operations that the Department expects.

We have put a clear-cut set of standards in the 2012 performance evaluation plan. And it has, for lack of a better term, plenty of teeth. And that we have made it very clear that we are going to reach a

certain sustainment level and sustain it. And we want to -- and we want the LANS contractors to be able to prove it.

And so that the metrics that we'll discuss I anticipate in a few minutes that -- that can demonstrate that level of positive performance are being developed and -- and tracked in several organizations right now. I will also say that the site office is not -- is also part of the issue that we have to make sure we sustain.

We have now trained the people. And I have made it very clear to our staff that we expect the ability to turn safety documents in a time that it keeps them fresh and they don't get stale, and that we won't be the limiting factor in safety basis performance in the future.

Mr. Keilers knows that -- or Dr. Keilers knows that's a requirement for his performance. And so we have made the steps this year, if you will, to reach the standards that we will sustain and is expected by the Department. That concludes my remarks.

CHAIRMAN: Thank you for your comments. The Board will now direct questions to the panel. And we'll begin the questioning with Dr. Mansfield.

DR. MANSFIELD: Thank you, Mr. Chairman. As I understand it, now you have achieved the status of having a compliant --

MR. AZZARO: Mr. Chairman, the court reporter needs you. His mike.

CHAIRMAN: Is the mike on?

MR. AZZARO: You've got to pull it in closer. Or maybe -- you're on.

DR. MANSFIELD: Okay. It's on.

MR. AZZARO: That's better.

DR. MANSFIELD: Okay. As I understand it, you have now achieved the status of having a 10 CFR 830 compliant safety bases for all Los Alamos facilities; is that correct?

MR. SMITH: Let me defer to Mr. Keilers, because he's my expert in this area.

DR. KEILERS: So let me put it this way, so the laboratory has been on an improving trend since 2006 on the safety bases. And you can see that in -- eight of the nine safety bases have been updated since 2006. Six of the nine have been undated in the last year.

When you look at what's required to be in a safety basis, our standards are very high. But -- our standards and LANS's standards as far as expectations.

And you can see that -- I refer to Mr. Davis's testimony where, for the Plutonium Facility, we've gone through four iterations in the last three years before we've finally achieved a product that was approvable. The standards are extremely high.

Now, given all that, if you'll look at the key elements, the key expectation in the nuclear safety management Rule 10 CFR 835 -- sorry. 10 CFR 830 that we're talking about, there are several requirements that apply specifically to safety bases.

Contractors are responsible for operating nuclear facilities. They must perform work in accordance with the approved safety bases with hazard controls that ensure adequate protection of the workers, the public, and the environment.

They must establish and maintain the safety bases. They identify the scope of the work, the hazards, and the controls upon which the contractor will rely to ensure adequate protection. They must establish and implement a change control process, the USQ [Unreviewed Safety Question] process.

If they discover a potential inadequacy in the safety bases, they must take appropriate actions to place or maintain the facility in a safe condition until the safety of the situation is evaluated. They

must notify DOE, perform a USQ determination, notify DOE of the results, and submit the evaluation and the safety of the situation to DOE prior to removing any operational restrictions put in place because of this situation.

So these are some, but not all, this is not the all-inclusive list of everything that's required under the nuclear safety management rule.

Now, the nuclear safety management rule also requires that they must keep the safety bases current and to reflect changes in the facility, the work, and the hazards including submitting to DOE annually either an updated safety basis or a letter that states there have been no changes since the prior submission.

And so that is the area of concern, that is an area that we are working to improve upon, because as I mentioned earlier six of -- we have achieved six of nine within the last year. So we have not fully implemented that aspect of the thing.

That said, if you look at the full scope of what's required under 10 CFR 830, as far as ensuring that the work scope is identified, that the hazards are identified, the accident analyses are conducted, and the controls are identified, we believe that all the facilities from that standpoint are meeting the

expectations of the nuclear safety management rule.

DR. MANSFIELD: Okay. That's what I wanted to hear you say. Just let me ask this of Mr. Smith and Dr. Cook individually or together. What constitutes compliance with 10 CFR 830?

MR. SMITH: Compliance means that all of the LANL nuclear facilities have a DOE and NNSA approved safety basis that analyzes the hazards, establishes the controls which are in place to safeguard nuclear material in order to protect the workers, the public, and the environment.

DR. MANSFIELD: Okay. Is that your answer too?

DR. COOK: Yes.

DR. MANSFIELD: Okay. Fine. There are -- in 2006 there were -- essentially none of the facilities I believe were -- had compliant safety bases. Today still Area G and the Tritium Facility, RLWTF, have -- and curiously have the same core safety analysis documents that were declared noncompliant in 2006. And yet they're sufficient now for you to judge that Part 830 -- you've complied with Part 830. That seems odd to me.

MR. SMITH: If it's okay, I'd like to have Mr. Keilers start that. And then we'll have Mr. --

Dr. Beard follow that up.

DR. MANSFIELD: Okay.

DR. KEILERS: So the key element there is the -- is what I mentioned earlier, the USQ process, the change control process, which requires that any change to the facility, to procedures, operating procedures is reviewed by people who are specially trained to do this to see if it has created a condition that would require -- that would affect safety. And then require NNSA approval.

And so that's the key element. So since 2006 I think you would find that, for all our safety bases, we've -- except for one, Radioactive Liquid Waste Treatment Facility, we have at least made minor updates. We have updated the TSRs [Technical Safety Requirement].

We have religiously -- the contractors religiously use the USQ process to review changes to the facility to make sure that any new operations that come in, any new hazards, are essentially evaluated to make sure that the control set is adequate. And when the -- if there are issues with the control set, then the contractor has proposed changes to the -- to the requirements that they use to operate the facility, the technical safety requirements.

DR. MANSFIELD: So -- so your answer seems -- seems to be that you really have changed the core safety analysis, because you've added further controls and further analyses. And it's not correct to say that you're using the same core analyses that were declared to be noncompliant in 2006?

DR. KEILERS: The -- when significant operations have been brought in, we have made minor changes to the safety bases and corresponding changes to the controls that we operate the facilities under, the technical safety requirements.

DR. MANSFIELD: We --

DR. KEILERS: But let me elaborate also. The thing about it is is our standards in this area are very high for -- for the quality of the documentation, the justification for the controls, the linkage between the work, the hazards, the accident analysis, and then the control set that we end up with.

And so in the newer safety bases that the laboratory has been submitting and then we have been reviewing, we have very high expectations for the quality of that linkage. And so --

DR. MANSFIELD: So the quality of the safety basis --

DR. KEILERS: Correct.

DR. MANSFIELD: -- for these three facilities really has improved?

DR. KEILERS: So Area G -- we are currently reviewing a revision to Area G. We've had -- actually gone through several revisions, reviewed several revisions over an extended period, each time striving to improve the quality of that linkage, that justification. And so -- and we are currently reviewing the latest on that. And each one has gotten better.

DR. MANSFIELD: A number of them now have reached a level below the 25 rem Evaluation Guideline. But as you've heard us say several times, that's -- in our view, all of us, that's not the goal of adequate -- that's not what you should aim for for adequate protection of public health and safety. It should be considerably -- significantly less than 25 rem to achieve the goal that SEN 35-91 [Secretary of Energy Notice] states.

What additional actions are planned and what kind of compensatory measures and what kind of controls will get you to small fractions of the Evaluation Guidelines, not just for the three facilities we were talking about but for all of them?

MR. SMITH: Let me start first, that I'm just

personally celebrating RANT [Radioactive Nondestructive Testing Facility] just now making it below 25 rem. So again we're on a journey and that we have -- have to make the next step.

So I agree with you that we have to keep going. I just am very pleased that we've made the first sets of milestones and we have a path that -- to really get to 25 and below across the board. And there are a number of activities that can be done.

If it's okay with you, I would like to shift this over to Dr. Beard and let him give a little bit more detail on it. But I will tell you that it is an absolute focus of mine to be the best in all aspects of what we do. And that includes safety basis work and get them all within standards. Dr. Beard.

DR. BEARD: Thank you. So in terms of specific controls that we look at to continue to reduce the potential offsite dose, it really both is facility specific. But it, you know, goes through the gamut.

We, of course, continue to look at minimizing the material-at-risk either by just reducing the overall amount of material that we have in a facility overall. That's a specific strategy we're deploying at the Tritium Facility to -- better protecting the

material that's in the facility, such as containerization inside the gloveboxes at PF-4, which is a strategy that we continue to pursue there to continue to drive down the material-at-risk.

In addition, we look at mechanisms and specifically engineered mechanisms to mitigate initiating events, such as a fire, and move to safety-class systems such as moving to safety-class fire suppression within the Plutonium Facility, which we now have for all events, except for a seismic event; and, as we discussed early -- earlier today, intend to upgrade that system where it would be safety class even in the event of a seismic event, therefore, being able to put out a fire in the facility and prevent its spread and dispersion of material.

And then other controls like the seismic switches in PF-4 that we installed that cut off electric power in a seismic event, better flow of our fire suppression systems so it could put out bigger fires. Those of that nature, engineering -- basically engineering controls to mitigate initiating events.

And then ultimately we have -- have administrative controls that we've put in place such as PF-4, where we worked to better control the more hazardous forms of material such as molten plutonium

or plutonium 238. So we take for those operations the absolute minimum amount we have to have in order to execute the work.

So it's the real full suite of controls. We look at all the facilities. And if you go facility by facility, you pretty much can find those three basic strategies employed in different forms. And that's what we'll continue to follow.

We think we have paths to get all of our facilities well below the Evaluation Guideline. As I've told this Board many times, that is our goal, to be -- not challenge the Evaluation Guideline, be significantly below it. And I think we'll achieve that in the not too distant future.

DR. MANSFIELD: Good. Okay. I note that you've got a mix of engineering controls and administrative controls. I just want to point out that in my view, a couple of the controls that you've mentioned as engineering controls are really heavily administrative as well.

Keeping the lids on the containers in the gloveboxes is an administrative control, even though the -- even though the sealed containers is engineered. And keeping the areas of the floor -- policing the combustible materials on the floor is an

administrative control also.

I'm not saying there's anything bad about administrative controls. It's just that they have to be maintained like safety-class controls.

DR. BEARD: I agree.

DR. MANSFIELD: Thank you, Mr. Chairman.

CHAIRMAN: You know what, I'm still trying to get to the bottom and to understand what a compliant DSA is in your opinion. It's not just an esoteric discussion. These are not the Board's rules, the nuclear safety rule, and its associated standard.

And I think the reason why we want clear definition is so that we can measure along with you when you do have a compliant DSA. And I know we've had discussions about that.

Is it your opinion, Dr. Beard, that you'll have a compliant DSA when you get to a small fraction of the Evaluation Guideline in terms of the mitigated offsite dose to the public or do you have another definition of what a compliant Documented Safety Analysis is?

DR. BEARD: My definition of compliance is when we have the system -- the safety management programs in place, which we do, to fulfill the requirements, when we produce documents that follow

the DOE standards and, then when we get approval of the safety basis from the government. Ultimately I get my license to operate from the federal government. And it's their evaluations of those documents that I have to rely upon.

CHAIRMAN: Okay. So let me turn to you, Mr. Smith, and -- because I know you want to answer. Just so we can get very specific, if the lab submits to you a Documented Safety Analysis with a dose that exceeds the Evaluation Guideline, do you -- do you judge that to be a compliant Documented Safety Analysis?

MR. SMITH: It can be a compliant safety analysis. Again we'll have to look at it. But again, remember, we talk about a dose as a planning factor. And then we have to take the rest of the consideration involved.

But I was going to share with you a little bit more of something that kind of gums up the work when we talk about compliant DSAs. And that is, we can have a compliant DSA that meets the requirements but is very difficult to operate in, very difficult to update, very difficult to understand. It's like trying to reset your oil light in the car sometimes and reading the instructions to do that.

What we're trying to get with compliant DSAs are DSAs that are very easy, very clean, and very repeatable to operate. And so sometimes when we talk about a high quality DSA or a compliant DSA, people mix those terms.

A compliant DSA meets the 830 requirements. We evaluate that very carefully through our SER [Safety Evaluation Report] process. And that -- but we want to have it so that it meets the quality and the ease of applicability and application, that it can be updated very quickly and very easily, and anybody can operate on it and not make a mistake.

CHAIRMAN: So does a -- let me ask the question again. To have a compliant DSA, do you need to re -- to continue to apply controls until you get to a small fraction of the Evaluation Guideline?

MR. SMITH: We can have a compliant DSA without being a small fraction. But that's not the Department's goal and objective.

CHAIRMAN: Okay. Let me -- let me move on.

MR. DWYER: Mr. Chairman.

CHAIRMAN: Yes. Go ahead.

MR. DWYER: If I could follow up with a couple things for clarity.

CHAIRMAN: Please go ahead.

MR. DWYER: And, Dr. Beard or Dr. Keilers, whichever one wants to answer. We keep talking about how many of the DSAs and how many were updated, how many were changed since 2006. What are the nine facilities that we're talking about?

DR. BEARD: So it's -- so the nine facilities are the Chemical and Metallurgical Research facility, CMR; the Plutonium Facility, PF-4; RANT, where we ship our waste from; WETF, which is the Tritium Facility; our nuclear environmental sites; our site-wide transportation; our Area G where we do transuranic storage; rad liquid waste treatment facility; and our WCRRF [Waste Characterization, Reduction and Repackaging Facility] repackaging facility. Did I get all of them?

MR. DWYER: Okay. And then eight of those have been --

DR. BEARD: The only one that's not been completely updated is rad liquid waste.

MR. DWYER: Okay. Thank you. Rather than listing the eight, it's easier to give me one. So that one still has a 1995 safety basis?

DR. BEARD: That is correct.

MR. DWYER: Okay. And I'm sorry. The Tritium Facility I thought still had a 2002 safety

basis. But you're telling me it's been updated since 2006?

DR. KEILERS: The Tritium Facility safety basis was updated this year. It was not a complete update as far as in the accident analysis. But as far as, you know, reviewing the operations and the linkage, it was updated.

It was not -- there's more work that needs to be done to make that a truly quality document. But given the extent of time, you know, that that DSA has been out there and the difficulty of operating that facility with the old DSA, the 2002 DSA, you know, it was our judgment and the contractor's judgment that it was better to make the incremental improvement, lock in some improvement, on that safety basis and then move forward.

MR. DWYER: So we have made incremental improvement on the 2002 safety basis. Have we met all of the requirements of 10 CFR 830?

DR. KEILERS: Yes. The 2002 safety basis I believe was 830 compliant.

MR. DWYER: It's 830 compliant so it meets which --

DR. KEILERS: Yes.

MR. DWYER: Which standard?

DR. KEILERS: I'm not exactly sure what you mean by which standard in your question.

MR. DWYER: Did you follow the [DOE Standard] 3009 methodology?

DR. KEILERS: Yes.

MR. DWYER: Okay. And the Area G safety basis?

DR. KEILERS: The area -- so the 2003 safety basis is the current safety basis for Area G. And that is the one that we've received several -- we've gone through several iterations with the laboratory. And we are currently reviewing a revision that we think is probably close.

MR. DWYER: So nothing has been approved since the 2003 DSA?

DR. KEILERS: Yes. But I refer you back to my previous discussion on the change control process, that any new operation that comes in or any new hazards introduced gets reviewed and handled on a case basis.

MR. DWYER: Okay. So as long as the USQ process is working properly, you consider that a compliant DSA?

DR. KEILERS: I would say that that is a major element of assuring compliance.

MR. DWYER: Okay. Then in the facility-centered assessment that was done, when the RANT and the WCRR and the Area G USQ processes were determined to be broken, wouldn't that invalidate your statement?

DR. KEILERS: I'll have to go back and -- you know, I'll have to go back and check that review. I do not think that that review specifically went and said that the USQ process was not functioning for those facilities. So I beg your indulgence. I would like to go check that.

CHAIRMAN: Okay. Mr. Smith.

MR. SMITH: I was going to say, if I may, that's -- since that was a self-assessment, I would like to -- I would recommend we give Dr. Beard a chance to comment on the facility-centered assessment, because some of the conclusions were not necessarily supported by the -- by the factual data in the report.

But it -- and we are in the process of expecting that the corrective action plan that they're going to provide us -- and the official release of that document is still yet to come to us.

DR. BEARD: So yes, the facility-centered assessment was a self-assessment. We conducted it. It's part of our overall improvement efforts across

the site.

These facility-centered assessments are very broad assessments that center around specific facility areas. And we look at all aspects of our safety envelope as we execute work there. These are done by workers on the site. So these were written by our workers.

And in there there is contradictory language. So they start out by saying we had safe operations. And then they use some terminologies like significantly noncompliant. And so you really have to go to the background to look at the real true issues, what the deficiencies were and, you know, the measure of response that they warrant.

Now, we value these assessments. And we value the critical work that our workers gave and that the issues that they found do warrant attention. And we intend to give it the full attention.

But I would just caution you to -- you know, the opinions of some workers. And we didn't attempt to suppress the language that they chose to use. But that does not mean that that is the overall opinion of the laboratory or the government.

So we do owe our formal corrective action plan to the government on how we're going to address

the deficiencies that were noted. And then -- and we will go take aggressive action to make those processes better.

But quite frankly this is the type of behavior and hard self-examination that is the hallmark for a successful nuclear safety program, right, not one where we don't look or wait for outsiders to work -- look, but where we go to where we think we might have issues and look ourselves.

That's what we did. We found some things. We'll fix those things. But I don't think that's a sign of weakness, actually I think that's a sign of strength.

MR. DWYER: Okay.

MR. SMITH: Mr. Chairman, may I add to that, please. Kevin.

CHAIRMAN: Yes.

MR. SMITH: Mr. Dwyer, I just happened to remember it also that, on the case of the USQ, and Charlie Anderson can correct me, that it was -- that the deficiencies for the USQ process for Area G was fixed during the evaluation before it was even written. And Mr. Anderson can correct me on that.

But we did pull a string on that. And because it was fixed, we didn't go further. But I'll

defer to Mr. Anderson, if he had -- he can remember, because I don't think we have the expert here on the panel today.

MR. ANDERSON: Actually on the number of the issues with the facility-centered assessment, as they were being identified during the assessment, we did operability determinations on them.

And in some cases where there were some deficiencies, then they were fixed at that point or at least initiated to be fixed before the report came out. So not just in the USQD [Unreviewed Safety Question Determination] process but in several of the others, the criticality area and several of the other areas.

CHAIRMAN: Well, you know, the reason we're spending so much time on this is that this Documented Safety Analysis is the key document for facilities. When I look at the Department of Energy and especially at the Board's oversight role, nothing is more important than defense nuclear facilities. And facilities translate into licenses to operate.

And you're your own regulator. So you are the ones determining when these facilities are safe to operate. And we're just trying to understand your interpretation of this nuclear safety management rule

and its safe harbor methodology and how -- to what degree these controls need to be applied to get the mitigated dose to the public to a low level.

And the reason for that is that's -- that's a measurable thing to us and to I think people in this audience that they want to know and understand. A lot of this discussion about processes, you know, to me seems to be a little bit subjective.

And I would be more comfortable if we could just move in the realm of the numbers and see what the numbers say about the facilities, not discounting the fact that you're making -- obviously making serious efforts here on many of the facilities to get these offsite doses down.

And we're going to continue to work with you to try to get a definition of what a compliant DSA is. And hopefully the final result we do get will be a fairly small mitigated offsite dose. And I think we started the discussion by saying that we do have facilities at Los Alamos that do have doses that do exceed the Evaluation Guideline.

So with that I want to just transition to another question. And that's just about the annual update process, which is an important part of integrated safety management.

And obviously that's been a little challenging for the Plutonium Facility that we discussed this morning because the contractor submitted a 2008 DSA. And we were expecting to see a 2009 DSA and a 2010 DSA and a 2011 DSA, and we skipped from 2008 to the 2011 model.

So basically -- maybe I'll start with you, Carl [Beard]. What was going on there with the update process?

DR. BEARD: Well, during that entire time, of course, several things were going on. We were trying to update the document itself, provide better linkages. And we did submit updates in 2009, 2010, and ultimately two in 2011.

So providing clarity of linkage between the hazard analysis and the control set to make more clean in terms of those linkages. And at the same time, as I indicated earlier today, we are aggressively trying to improve the safety posture within the facility.

So we were instituting new methods to control, new methods to protect assumptions, new methods of doing business, and physical upgrades that we were trying to roll in and did roll in in different ways to the documents during that time frame. So the challenge that we really had, both on our side and on

the government, was really a period of dramatic change.

As you're aware, Mr. Chairman, originally the annual update process was really seen as a mechanism to incorporate, you know, USQs that had been done through the previous year, not do large-scale transformation of the safety basis. But that was what we needed to do. And so that's what we have tackled.

We, of course, wish we had done it faster. But we believe we met our requirements by continuing to submit the updates as we went through. Every single one of those updates showed a dose reduction. As you're aware the last one is below the Evaluation Guideline. But we can -- we intend to go much farther than that.

So we think we've made tremendous progress since 2006, not just to the Plutonium Facility but across the site. I am actually very confident in saying that I believe our operations are safer now than they've ever been.

And specifically at the Plutonium Facility, I can unequivocally state that our -- both the facility posture as well as the operations with the facility are safer than they have ever been since that facility opened.

So I think all entities were working diligently toward a common goal. We have shared and discussed that goal with you many times. And I actually think we're actually very well aligned, even though we do discuss some of the semantics and the issues.

CHAIRMAN: Absolutely.

DR. BEARD: But we've worked very well with the area office. As they've said they have tried to force -- enforce a degree of quality and linkage and understanding.

That's important not just from their side but from ours in terms of the ability of the workers to use the safety basis as an operational document. And I think now you're seeing a convergence where hopefully here in the near future we'll be in a much more stable posture.

CHAIRMAN: So I'll probably end with you, Mr. Smith. So from the site office's point of view, what was going on with these Documented Safety Analyses that were being submitted in 2009 and 2010, before the 2011 that you finally approved, what was -- what were the challenges in the process for you?

MR. SMITH: Well, Mr. Chairman, for me it's a little bit of history because I wasn't here. But I

will tell you that when I got to here a little over a year ago, I was quite surprised at how cumbersome and still hadn't gotten to the point that I was used to at other locations.

And so I actually -- when Mr. Vocella who is actually visiting here today, when he departed, I moved Dr. Keilers over for the very specific purpose of having an expert in place to work the improvements. I think that the -- it was so cumbersome and the backlog was so deep that things got stale, things were difficult to turn. More research was needed.

We had -- and so we have now allowed the contractor to help us prioritize the work and the sequence that they need things to try to achieve -- to make sure we get the fastest turn. We stick people with documents, we improve people through the process.

We try to turn everything in a set duration or period of time to now be able to perform and have a throughput both in the site office and through the contractor's side of the house in safety basis work. We haven't quite turned the point that we can get to a letter update level. But we are not that far away.

We have some issues with Area G of how we proceed there and the amount of time that area is functioning of what we do with it next and how we push

it forward. But for the other documents, I think that we are seeing an opportunity here to achieve the level of performance that we expect.

CHAIRMAN: So your goal is to be able to effectively implement this annual update process?

MR. SMITH: Absolutely. I have no sense of humor for anything else.

CHAIRMAN: Yeah. And so people understand, it should get easier as time goes on because once these facilities have what I would call compliant Documented Safety Analyses, you can actually get to the point, and I know from your experience at Y-12, where you can simply write a letter and say not much has changed, we've established a very firm, strong safety basis for this facility.

MR. SMITH: Yes, sir. And looking at the quality of the 2010 DSA for PF-4, granted we work through the seismic issues and what we've got coming in the pipe with CMR, we are on striking range to do this.

CHAIRMAN: Right.

MR. SMITH: I think that the 2010 from PF-4, as Dr. Beard mentioned, is a very good candidate for almost there. So I'm optimistic. But as I mentioned we really have a path forward this year that we intend

to really make and that we hope will make this -- the throughput and the quality matching at the same time.

And as I mentioned, when you have a award term measure that -- in the mix here that, if we fail to meet, that there's no grant of an extension of contract, that's how serious we are about this.

CHAIRMAN: Okay. Ms. Roberson.

VICE CHAIRMAN: Thank you, Mr. Chairman. Mr. Smith spoke in his opening statement about the challenges in the area of formality of operations as found in 2006. So I would like to ask you, Dr. Beard, if you can characterize for us your view of the state of formality of operations in engineering, maintenance, training, and conduct of ops at LANL.

DR. BEARD: I'll be happy to. First let me give a little bit broader background for our audience, when we say formality of ops, what exactly we're referring to. If the Board will indulge me, because I know you're very familiar with it yourself.

Our goal is reliable and robust operations. And no more so than our nuclear facility. It's our goal everywhere. But in a nuclear facility, obviously it takes a higher level of importance.

And so you can break that out into several elements. The first which we've been talking about is

a robust analysis of the possible hazards that are associated with those operations and what controls you need to mitigate those hazards to provide an acceptable level of control.

Many of the times you do that, you end up with engineered controls as we talked about. Physical systems that are in place to mitigate an accident or prevent an accident, fire suppression, ventilation, et cetera. So we need to make sure that those systems will function when we need them to function.

And to do that we use what we call our cognizant system engineer system, our conduct of engineering, one of the four that you mentioned, whereby we assign engineers to oversee these systems, to know their functions, to know what are the critical aspects to make sure those systems fulfill their functions, and then basically to oversee those operations on a daily basis.

Coupled with that obviously, if you want to maintain systems at a high degree of reliability, we have to be doing maintenance on those systems in an appropriate and timely fashion. And our conduct of maintenance which is how we do that, the quality controls that go into place in terms of the parts and the processes we use toward those equipment, and

those, of course, have to be linked to the engineers themselves who oversee that.

Training then and conduct of ops gets to how do we work within the nuclear facilities. We talked about administrative controls which are controls that depend upon people to do work in a certain way. And in order for those to be successful, we must have the people follow the rules, follow the procedures as written so we can make sure that those controls are effective.

That's what we refer to as our conduct of operations. And then, of course, so they know how to do that, we have to appropriately execute training and have a robust and documented training program so we make sure that we only assign appropriately people to do work. And then we are assured that they can conduct that work in a fashion that's satisfactory for successful execution.

We define those requirements through our conduct of training. Those elements, while some of them existed in a small form in 2006, did not exist as robust institutional programs at transition -- at contract transition in 2006.

So since then we've defined those programs, we have staffed those programs, and we've implemented

those programs site-wide. And we've made tremendous progress. However, Los Alamos is a big and complicated site. And we're far from perfect.

And so, while we've seen improving trends in our operations, we've also continued to identify weaknesses. We talked about the facility-centered assessments. And the facility-centered assessments which we conducted did identify weaknesses specifically in conduct of engineering, where we still have a lot of young, inexperienced engineers, not quite fully mature in truly understanding the full suite of their responsibilities that they possess.

We've tried to augment that through bringing in more experienced staff from our parent companies or other contract organizations to help mentor these engineers, to help augment those support staffs and make sure that we can bring them up to the level that we need. But that is an area that we still need to improve.

We are orders of magnitude better than we were five years ago. But we still need to improve. When it comes to our training execution, once again a similar story. We have put in better tools and processes, we have better qualifications and certifications, we have better and more effective ways

to check whether or not people have the appropriate training in order to execute work.

What we have to mature to is a better evaluation of how effective the training that we give is. Now we can prove that we train people and that we have at least evaluated the type of work versus the training required.

But the training only serves our purpose if it's truly effective in giving the skills and knowledge needed to the -- to workers to conduct that work. So we have to then continue that feedback loop of evaluating whether or not the training that we are delivering is being effective in producing the results and the behaviors and the execution that we would like to see.

And so in the criticality event that was talked about that occurred in August of 2011, where we had workers who deviated from their trained behavior, you know, that's an indication that we need to reevaluate those training processes, those training programs, and try to understand why, even though clearly the information was presented, why wasn't it presented in a way that it produced a more effective result.

And so once again there we have work that

still needs to be done. And there are other elements of our program such as configuration management, which relies on document control and records management, where we can clearly define the technical configuration of the engineered systems that we rely on, we can clearly control the configuration of the procedures that we rely on, their linkage to the safety basis documents.

Once again we've seen dramatic improvement in those processes. But we're still finding deficiencies and breakage in some of those linkages. So it's a continuous improvement of process. It's actually never over because you can always do better. And so we're not satisfied where we're at.

We still see too many operational upsets, although they tend to be of decreasing severity. But we just have to continue to reinforce those processes and be willing to look at both the processes as they're defined, the processes as we execute them, and listen to our workers.

I mean that's one of the things that we've been trying to do. And the recent criticality event was a good example where we brought a group of workers together led by one of our managers within the facility to take a look at the whole criticality

program within the facility and tell us, okay, we know we have the major elements here, but what are we missing around the edges, what are we missing in the details that is keeping people from executing this consistently and reliably on a day-to-day basis.

You know, when you look at the opportunity for errors, there's many. But we know we can hit very high levels of performance. We were able to do that when I was at the Pantex facility and we implemented all the same type of programs. And I'm confident we can do it here. But we are still in that process of maturity because of the complexity and the nature of the site.

VICE CHAIRMAN: Do you have metrics that you use to determine where you are in that line between --

DR. BEARD: We do. We track a number of metrics to different levels. So at the executive level, we track off-normal events. We track them in several ways. We track them in terms of what kind of events raise to the level that we're required to report them to the Department of Energy, ORPs [Office of River Protection] reportable events.

And then we track the ratio of events that we critique, self-evaluate, that don't rise to that level to make sure that what we're seeing is a high level of

attention on low-level events that don't rise to the higher levels so we can find and fix systemic problems before they result in off-normal events and more severe occurrences.

We also track the mean time between significant events to see if we're continuing to get progress in terms of a lower frequency of events. And then, of course, for each event we evaluate the various causal analyses and the different aspects.

And -- and then -- and then at the different operational levels, they track all kinds of metrics, everything from things like glovebox breaches and contamination events in the Plutonium Facility to other operational upsets across the site.

So the first ones I mentioned at the executive level are a part of what we call our executive scorecard, which the area office has visibility and which we can be happy to share with you folks as well.

VICE CHAIRMAN: Okay.

MR. SMITH: May I add to that, please.

VICE CHAIRMAN: I was going to come to you. Certainly. Go ahead.

MR. SMITH: Two pieces. First of all Dr. Beard and I sat down with all these dashboard

metrics to see how we're going to have what's transparent, what's leading indicators, whether it met all the things that I think that are valuable.

VICE CHAIRMAN: Your speaker.

MR. SMITH: Sorry. But we sat together and plotted out how to make sure that we have a comprehensive, effective suite of metrics that show it transparently to the site office, that they use to manage and make their decisions, that they don't create something special, that we see the actual data, the same data they use to decide how they're doing.

And so we have spent many times sorting through those metrics, deciding on the leading indicators, and trying to ensure that we have a model for the Department.

I was going to suggest, since we are talking about formality of the operations and the effort we're going through right now on both sides of the house, that you might take just a minute and let Mr. Krepps explain where we are with readiness and the efforts, if that's -- if you can indulge me for just a second.

VICE CHAIRMAN: Yes.

MR. KREPPS: While Mr. Smith brought that up, you know, I think establishing readiness is one of the disciplines that really should fall under formality of

operations. And it dovetails quite nicely with those that we just discussed.

And it really is part of our integrated safety management program. And basically ensuring prior to starting up any new activity, starting up any new facility, we go through a rigorous program to ensure that that activity, that facility, is ready to start up effectively.

I would say in the -- in the not too distant past, we have had some false starts, if you will, in that readiness process. And where we were getting to the point where we were using readiness activities to get the facility ready. And the goal is that you would be basically ready to start before you entered into that process.

So some of the improvements that we've seen the contractor make over the past several months, and I'll point out specifically down in Area G, is that they have implemented these red teams or readiness teams, where they will go out and at cost to them bring in some outside experts to review activities, to review the hazard analysis, to review the controls that have been put in place to establish readiness even before we get into the formal readiness process.

In addition to that, they have also

established a senior readiness review board and really look closely and scrutinize every step of the process, when they go from their management self-assessments and then into their contractor readiness assessments.

And so we've been working with the contractor in -- to making a more robust readiness program and most specifically making sure that those facility's activities are ready to start up safely even before we entered into that process.

MR. SMITH: If I might, we've gone from a program that was considered poor to one that is now approaching best in class.

CHAIRMAN: Okay. Ms. Roberson. And then we'll go to Mr. Bader for a question.

VICE CHAIRMAN: Yeah. Okay. I think just my last question is probably to you, Mr. Smith. Both you and Dr. Beard mentioned your communication following your organization's assessment of some occurrences in the Plutonium Facility.

I guess the question would be -- and either you or Dr. Beard. Obviously your job is to provide oversight, safety oversight at the site. What does it tell you about maturity of implementation that you raised this?

MR. SMITH: I think the best way to

characterize this is that we have in the last year developed an incredibly quick communication and full transparency and full trust. And if something transpires that I haven't heard from Dr. Beard personally, if it's any significant, then I would call him.

And between the two of us, these kinds of things -- and we have put the emphasis on self-reporting. And we have encouraged facilities to reward self-discovery and self-reporting. And we have encouraged that in our facility reps and our representatives that are out in the field.

And I think that what we're seeing is this extreme focus now on rewarding that behavior is generating a little bit of a spike in actual identification of things, which is good, whether it be engineering, whether it be conduct of maintenance, both on the federal side and on the contractor side.

And I think that we are working through a period of time that will lead to excellence on the back end. And so I assess that we are comfortable we have the formality of operations. What we need to do now is ensure that it is there and we don't have to worry about it, losing it, or getting tarnished over -- for lack of attention.

It's now the integrity of doing the right thing or doing it right when someone is not watching. And so my assessment is there's still too much turbulence. We're not through the knothole yet. But we are on our way. And we have the perspective and the team to do that. And I'll defer to Dr. Beard.

DR. BEARD: Yeah. I would just reiterate, both with the facility-centered assessment as well as the criticality event, those were self-reported. All right.

So the criticality event was self-reported by the workers involved. The facility-centered assessments were our assessments, even though they were shadowed by the government. And in both of those cases, we maintained very close contact with the area office.

Now, the area office does exercise oversight. So, for instance, in the facility-centered assessments of -- even though the -- you know, through the findings, after many -- after discussions the -- Kevin [Smith] made clear that -- that, you know, look, that they needed to go exercise their oversight and go on record to make sure that they could, you know, enforce the appropriate follow-up to the findings that we had found because that's part of their job. And I

understand that.

Now, that doesn't mean that we find everything internally. Once again a lot of the maturity in the systems and engineering program shows up when the area office is exercising its oversight and they're evaluating either documents we produce or elements of condition in the field.

And they find things that quite frankly we should have. We're getting better at that. It's a maturity level in terms of our engineering expertise at the site. Once again we're imminently better than we were five years ago.

But, you know, we have to get to a point where we find those things first. That doesn't mean we won't find things. The, you know, one continuity in terms of being in operations is you are always going to find things.

But we are the ones that need to find things. We need to find them first. We need to communicate those effectively with the government. I think we've come a long way down that path, but we have a ways to go.

VICE CHAIRMAN: Okay. Thank you. Thank you.

CHAIRMAN: Mr. Bader. And then I would have a question. Go ahead.

MR. BADER: Mr. Beard -- Dr. Beard, excuse me, Carl. I've been just noting some of your statements as you went along. And if I've written these down correctly, you said the facilities are safer now than they have been since the facilities were opened, workers are comfortable using the safety bases, we see operational upsets decreasing in severity.

You're basically painting a picture that things could be better, but that they are improving fairly substantially and they're not bad; is that a fair summary of what you're trying to say?

DR. BEARD: Yeah. I think I could definitely defend that we're -- we have substantially improved in -- since 2006. I will definitely tell you that they can and need to be better. And I will leave the subjective evaluation of not bad to any individual's evaluation right now.

So we do have a high degree of standards. I am not satisfied. I will not be satisfied until we can, you know, match some of the achievements that I've been able to achieve elsewhere in terms of, you know, length of operation without upsets, a number of industrial type injuries and accidents that we have, things that really do hurt our workers, and our robust

execution of our safety basis and controls, including getting the overall offsite doses down well below the Evaluation Guideline. So --

MR. BADER: All right. I'm trying to evaluate that versus the words that I see in Mr. Smith's letter of September 16th to Dr. McMillan. And I'll quote it. "Examples of such problems that LASO has observed include inadequate processes for self-identifying and sustainably addressing issues, inadequate work package planning, not identifying all job hazards, inadequate closure of issues, lack of system engineering processes and safety basis knowledge, inability to execute procedures as written, workers accepting inadequate procedures or not following procedures, and management/supervisory actions not" -- excuse me. "That rationalize the status quo rather than identifying root causes and fixing the problems."

That to me is a more sober assessment. How do you make the bridge between your positive -- basically positive assessment and this?

DR. BEARD: Well, my answer is the devil is in the details. Right. So, you know, you can walk into a facility and you can not use a procedure at all and totally ignore things. And that's a huge problem.

You can try to follow a procedure or follow a procedure and yet skip a step or do steps out of order, and that's still inappropriate in our world. But the two are different grades of the same problem.

So I would tell you that, while you find those type of problems, you find different grades in the same problem. Now, it's different at different facilities.

And what you also find is after 2006, we very cognizantly put most of our talent at the high-risk facilities, the Plutonium Facility, at the CMR facility. We see more maturity in those facilities.

They're not without issue. Obviously the criticality event of August indicates that. But generally we're more mature in those facilities than we are in some of the lower risk facilities such as the waste facilities. So there's a maturity --

MR. BADER: But my -- my point is this. This is aimed at the workers. These items that have been mentioned are basically or primarily the conduct of work by the workers. And that's the most essential thing that has to be -- I mean when you have workers working properly and effectively implementing ISMS [Integrated Safety Management System], you have a safe facility.

So this to me is the most basic rudimentary evidence of how the facility is running. It would suggest to me that you have further to go than you're expressing. Is that fair?

DR. BEARD: Well, I believe I'm adequately expressing my personal evaluation. I agree we have further to go. But once again, if you really look at a lot of our worker behavior, they are self-identifying the problems. We are evaluating very low-level events. They are trying to execute the work.

Now, it is our job to provide systems, processes, and the appropriate training to enable them to be successful in doing that. All right. But I actually don't have -- perceive a large problem with what I would call "attitude" with our workers.

The one -- actually the issue I have with some of the area office opinion is the idea of the complacency of our workers. I actually don't see a lot of complacency of our workers.

But that doesn't mean that we're perfect and that doesn't mean that we don't make mistakes and that doesn't mean that we don't -- we can't improve to much higher degrees of performance, because I know we can because I've been in places where we've done it.

But I also know where we've been. I know where we were in 2006. I know how far we've come. And so if it's -- if it's a glass half empty or half full, I guess I do choose to look at it as half full. But I do believe we're safer now than we ever been. I mean I truly believe that. And I think the data shows that. But we still have work to do.

MR. BADER: Let me shift to Mr. Smith.

MR. SMITH: Thank you, Mr. Bader. And I appreciate that. (Laughter.)

MR. BADER: Let me ask my question first. Mr. Smith, well, do you feel that this is an adequate response in terms of the letter that you wrote?

MR. SMITH: I'm going to give Dr. Beard the benefit -- again he's only been in his job a couple months. And his primary focus has been PS -- PF-4. And I will agree with his comments on the primary high-hazard facilities of CMR and PF-4.

And I agree his comments are accurate, with the exception of -- that you're well aware, we're working through some infractions in safety. So I agree, his comments are accurate with respect to the too big and too -- and two highest risk facilities.

Most of the turbulence comes from WETF, comes from WCRRF, comes from Area G and those facilities.

And they're ones that Carl has split responsibility for with Paul Henry. And that there are -- there are activities that occur.

Let me put this way. I come from a different set of sites. And I have a different level of expectation of what I consider to be the appropriate level of nuclear operations in a nuclear turbulence and deviations.

And so I am, if you will, bringing with me that bias and that format for a much higher set of conduct of operations. And I have articulated that to Dr. McMillan. And I have charted with Dr. McMillan a course of how do we get the level of -- as again I prefer the term turbulence down to an appropriate level that is much closer to what I would expect at any nuclear facility.

So I can bridge the gap between where Dr. Beard is and his comments. But he also -- Dr. Beard knows very well that we are trying to focus on the entire installation and trying to get everything back up to the -- to a level of standard that we can be comfortable with, that it's self-identified, that engineering is competent, that systems engineers know their systems, and that there's no question across the board.

Now, we have experts, individuals, that can handle all of these individual things. But the bench strength needs to be there. I mean, if so and so has got a cold for the day and gone, then number two better be able to pick up the ball and be able to run with it.

MR. BADER: I have no argument, in fact, that would support Carl's thrust that things are better. But I get concerned when the statements are too optimistic and I prefer your assessment of the statements. Is this -- I mean I took your letter as a very serious letter.

MR. SMITH: Yes, sir.

MR. BADER: And are you -- I'd like your assessment of how you feel progress is being made against the letter that you wrote.

MR. SMITH: It's a fairly young letter. And I'm waiting for some -- the first set -- the second set of feedback on that letter. So it's a fairly young letter.

But I will tell you that I believe that there are pockets of excellence at Los Alamos. But you bring in 500 post-docs and throw them in the facilities every year and you get a training problem of immense proportion.

But I believe that the -- that we have had a level of turbulence that we've been accepting for a long period of time that doesn't meet my standards. That I would consider safe and effective and make me sleep better at night.

And so I stand beside my letter verbatim. And I will say that I will agree with Dr. Beard. I have clearly seen improvement in a number of areas. But it's not where I consider to be quite right yet.

CHAIRMAN: We're going to have to move on. I would just make a final statement and we'll move on. I'll tell you, Joe, which question we're going to. But I saw the letter as very harsh. And it's not the first time that NNSA has written a fairly harsh letter.

And my concern is that I know that LANS is trying very hard. And I don't need a response, this is just expressing my opinion. But the weaknesses -- corrective actions aren't really taking hold and the lessons aren't being learned.

And the theme of these letters seems to be that these things are happening again and again and again. And then it gets back to the issues of what are you measuring. I know you guys are good at metrics.

But what are you measuring and can you make those metrics better so that you can maybe head off a few of these things and not have recurring events happen again and again. But -- and you can have a very short response. We do have to move on.

MR. SMITH: It will be short, sir.

CHAIRMAN: Yeah.

MR. SMITH: That was the purpose of the letter, was to let it very be clear that we -- we expect to make that standard, to make that turn, and not have to go back again.

CHAIRMAN: Okay. Thank you. And, Joe, I think we're running out of time. So do you want to -- we want to shift gears now to look at these aging facilities and the new ones that are going to replace them. So I'm looking at number nine here, moving on to that.

MR. BADER: Let me see if I can't condense this down a little bit. CMRR is going to be located in Tech Area 55 adjacent to the existing Plutonium Facility. How do seismic structural aspects of these -- basically the design for CMRR differ from the Plutonium Facility? Kevin.

MR. SMITH: Well, sir, I'm not an expert in -- in clearly being able to define the two. I know

we have done literally a thousand bore samplings in that area to ensure that we've got and understand the integrity of that particular environment and that the CMRR is really going to be the safety and design feature that the Department wants. I'll defer to Dr. Keilers who worked the PDSA [Preliminary Documented Safety Analysis].

MR. BADER: No. I think -- I think where I'm trying to go with this, what steps are being taken in the CMRR design to ensure that the facility meets seismic safety requirements? That's really the heart of the -- -

DR. KEILERS: Mr. Bader, if I may, I will try to answer the question to your satisfaction here. The seismic structural design for CMRR is basically based on modern nuclear safety standards, modern national consensus building codes, takes advantage of what is known now on the response of structures during a seismic event.

It's based on the 2007 probabilistic seismic hazard analysis that we talked about this morning and which is -- in its way it's based on the prehistoric earthquake records that Mr. Goen discussed this afternoon when we were on topic one.

So you compare that to PF-4. PF-4 was

designed in the early 1970s to the ground motion as it was understood at that time, where they did not have the benefit of the prehistoric records, they could only consider the last few -- last couple hundred years the historical record.

And so -- and in the early 1970s, the codes were just then beginning to incorporate more modern knowledge on the earthquakes.

So if you look at the CMRR design and the design approach that was taken -- that is being taken, the intent is to keep the design entirely elastic, which is one big difference from where we -- and so -- and as a result of that, it has a great deal of concrete, it has a lot of steel.

The other aspect is if it were to for some -- you know, if the loads were to exceed what is currently -- it's being designed for, it has a great deal of detailing in the steel reinforcement that is able to take -- to absorb energy plastically, ductile detailing, which is also something -- a modern aspect of design that they did not have -- or they did not consider when they were developing the PF-4 design.

MR. BADER: Is it fair to say that CMRR is going to meet the requirement of a small fraction of the Evaluation Guideline?

DR. KEILERS: That is my understanding, sir.
DR. BEARD: Yes, yes.
MR. SMITH: Absolutely.
MR. BADER: Thank you. That was a clean and crisp answer.
CHAIRMAN: For the record Mr. Beard said the answer -- Dr. Beard said the answer is yes. All right. Did I get that -- did I hear that correctly?
DR. BEARD: Yes, yes, that is correct, Mr. Chairman.
CHAIRMAN: All right. We're going to move on. Jack.
DR. MANSFIELD: Okay. Dr. Beard, I'm -- we've really been quite satisfied with what you have done with the old CMR facility, from one of the highest risk facilities to one that meets the Evaluation Guidelines. And I just have a few softball questions I hope about that.
The -- you know, we want us -- want you to get as low as possible. And what I'm asking is what possibilities there are -- are there for dispositioning further material either -- either to disposing of it or storing it someplace else?
DR. BEARD: So as you're aware there's a couple of major operations that actually affect the

amount of material that we have to have in the old CMR facility.

One is to clean up some legacy vessels that we have that has nuclear material. But that actually will result in a bit of a spike of nuclear material that's present at the facility. And as we've agreed to before, actually restaging how we did that to make sure that we didn't have more material so we would exceed the guidelines was one of our key strategies.

So we expect to get over those operations here in the next few years, and then those will go away. And then the remaining operations will be our material characterization and annual chemistry operations that support the broader suite of actinide operations that we do.

As you're aware we do very extensive analysis of which ones that we could relocate to the existing Plutonium Facility or are in the process of relocating some of those, such as the P [Plutonium] 238 analysis, as well as the sample management effort -- applications. So we're only sending over the minimum amount of material we have to do the operations.

DR. MANSFIELD: And just in time.

DR. BEARD: Just in time, right, realizing

that that does require a movement down the road and there are some logistic issues here.

Also our latest facility, the Radiation Laboratory and Utility and Office Building, the RLUOB [Rad Lab/Utility/Office Building], we took beneficial occupancy. We'll begin to outfit those laboratories. Even those are very low-level material laboratories that will still allow us to also relocate some other operations.

So we'll continue those evaluations. Part of it will depend upon the overall programmatic requirements. We will be in -- at least I'll say the projected programmatic forecast of the next, you know, three to five years is lower than we have been.

So that will help in terms of the amount of material that we'll go to see more. But we'll have to continue to evaluate the options for minimizing what we have to do to that facility until the replacement facility is available.

DR. MANSFIELD: And you expect, when the Bolas program is finished, you're going to see a step function down --

DR. BEARD: Yes.

DR. MANSFIELD: -- in material-at-risk. That's what -- you can't evaluate what that is yet,

can you?

DR. BEARD: Well, we have those projections. I mean so we know the material that's -- it's in there. And then we know -- we do know those step functions. I don't know them off the top of my head, but we do have --

DR. MANSFIELD: And my last question is that this is even harder, moving the people out. You know, a good -- a large contributor to the risk in our view is the fact that there are so many people who work in the building that don't have to. What plans are there to try to get people out of there?

DR. BEARD: Well, we've tried to minimize the number of people that work in that facility and we're down to only about 100. So I don't think we have a large number of people there that don't have to be located in the CMR.

That was an effort to several years ago. As you know we've closed -- really stopped operations in three of the wings. And so we only have three remaining. And we only conduct the operations that we have to conduct in that facility with the staff that's required to do those operations.

DR. MANSFIELD: Okay. So it's not a problem you can solve?

DR. BEARD: Well, we're cognizant of it. We intend to continue to minimize the personnel that have to operate in that facility going forward. So I don't see large changes until we get the replacement facility. But that does not mean we will not continue to try to reduce it.

CHAIRMAN: We're going to go about ten more minutes and then we're going to begin the public comment. Did you have an additional question?

MR. BADER: Yeah. I wanted to follow up on what Dr. Mansfield just said. If you remember, when we were doing a walk-down we had at CMR, we noticed people working in offices there. And we had a discussion on reducing the people using offices when -- when possible.

You met -- with RLUOB now opening, and my understanding is people are occupying office space now in RLUOB, are you making a concerted effort to look and be sure that people that can be moved out of the offices in the CMR are being moved out? I mean everybody likes a nice convenient office right near where they work. So you get resistance even though the building is not the building I would want to work in.

DR. BEARD: Yeah. I'm not sure we get a lot

of resistance to moving into the nice offices of the RLUOB. So we're just now taking beneficial occupancy, just now starting to move people into RLUOB. We have actually -- there's a whole set of dominoes so to speak, because we have people who are replaced from CMR, we have other operational people that actually need to be in RLUOB to support those operations.

So the simple -- the simple answer to your question is yes, we continue to evaluate that. I just -- you know, I don't know that we're going to be able to impact a large fraction of the remaining workers in the CMR.

MR. BADER: I've seen your plot of people that you sent us versus time that are housed in CMR. And even though it may not be a large number, it would still be good to get as many people out of there as often as possible, correct?

DR. BEARD: Yes, I agree.

MR. BADER: Good.

CHAIRMAN: Let me kind of end the questioning. And I'll turn to other Board Members, if they have one final question, and talk a little bit about Area G. Maybe Mr. Anderson and I can chat a little.

Obviously a very challenging area for you. A

lot of transuranic waste in Area G and a lot of pressure, a lot of mission pressure. There are commitments to the state and so on and so forth.

What's your perspective on cleaning up Area G, do you need new capabilities to be able to effectively manage getting that transuranic waste off of the hill there and down to WIPP?

MR. ANDERSON: Actually we have been bringing in some new capabilities. We've just started the high-energy RTR [real time radiography] this week and run several of the standard waste boxes through that -- through that capability.

We are in the process of upgrading our -- our fiberglass reinforced box remediation from a less than Haz Cat 3 [Hazardous Category 3] quantity to the larger, you know, Haz Cat 3 quantities. We have a couple of other capabilities that we do need to bring online additional of the fiberglass reinforced box remediation and the stone 375, but in one of the domes.

So those capabilities. You know, we've brought a series of those on in the last six months. And we have a few more to bring on here in the next year. And that will help us to accelerate the removal of that risk, that waste from Los Alamos.

CHAIRMAN: What lessons have you learned looking across the complex? I mean DOE always talks about lessons learned. So maybe I'll ask you, have you been looking across the complex at the cleanup of transuranic waste and seen any ah-ha's, any things you might learn that would help you or insights you might gain at Los Alamos?

MR. ANDERSON: We've actually seen some and felt a few.

CHAIRMAN: Okay.

MR. ANDERSON: For one thing some of the -- we've tried to use what's been used across the complex. In a couple of cases there, as we worked through the safety analysis, we realized that other sites have had the benefit of being several miles from the boundary or from the public. So we've had to modify or do some additional work.

Our sole characteristics, things like that, it's been a little harder to just take a capability and plop it down, if you will. And Area G doesn't always work. So we've had to spend a little bit of time to adjust that and make those adjustments.

But we've worked through a lot of those problems here in the last two years. We'll have a drum venting system up soon and a number of the

capabilities, CCP [Central Characterization Project] capabilities and remediation capabilities.

WCRRFs, you know, we had a number of troubles here in the past year. We worked through that on formality of operations. It's remediating well. This last year we shipped 171 shipments to WIPP.

One of the things we ran in there is we had to increase some of our equipment capability at RANT. I mean we just -- literally we wore the crane out, some of the components of the crane. So we've had to -- our system engineers have had to get in there and say you can't just look at history in using some of this equipment at a lower level.

We've turned up that level. So we're having to increase them for maintenance. And again getting out and talking with the other sites that are doing transuranic waste for how to accelerate this or avoid some of the pitfalls that they have run into.

CHAIRMAN: Now, one of the things we've seen across the complex and I would caution you with is we have seen that the cleanup of transuranic waste is becoming more and more challenging, that at many sites the easy transuranic waste has been taken care of and repackaged and sent to WIPP; but that the integrity of what remains, in your case perhaps what's below ground

as opposed to what's above ground or what's in some of those silos, whatever it is, becomes more and more challenging.

And very often sites in the complex have been forced to slow down, even stop operations at Idaho. And they've had a lot of problems at Savannah River and other places. And I would just caution you. I know you've got a tough mission, an aggressive mission.

But we've talked about the need for safety. And I just think that these operations, especially those you're going to perform at Area G, are going to be very challenging for you.

MR. ANDERSON: We acknowledge that. There are some differences that actually are in our favor. The -- some of the below-grade waste here at Los Alamos is not as deteriorated as some of those containers in other areas.

We are tackling a lot of our drums that have integrity questions and dealing with those now. So we are repacking, you know, in overpacks and working through that. You know, a lot of that goes through WIPP in that -- I mean WCRRF in that respect.

So, you know, in some cases it's a little more difficult and in a few cases here, you know, our

waste -- our waste characteristics are a little bit more straightforward.

CHAIRMAN: Any additional questions? All right. Jessie, Ms. Roberson.

VICE CHAIRMAN: Mr. Chairman, I think I have a couple of yes/no questions so I'll be quick.

CHAIRMAN: Great.

VICE CHAIRMAN: Dr. Cook, is it still NNSA's expectation that its sites have a strong integrated safety management program as a key component of a safety infrastructure?

DR. COOK: Absolutely.

VICE CHAIRMAN: Mr. Smith, are you planning an ISM [Integrated Safety Management] verification in the near -- in the not so distant future for Los Alamos?

MR. SMITH: A dedicated separate one, no. But I do it almost every day on every activity and every deviation. We may do it at the future. I'm not sure yet.

VICE CHAIRMAN: Right now you're not planning --

MR. SMITH: A separate, yes. We'll get the annual verification. But I'm talking about a separate outside piece. Not right now. I don't think I need

it.

VICE CHAIRMAN: I'm sorry. You're not planning an annual verification?

MR. SMITH: We are planning an annual.

VICE CHAIRMAN: You are. Okay.

MR. SMITH: But I'm not planning an outside piece.

VICE CHAIRMAN: Okay. Okay. The annual review. Okay.

CHAIRMAN: Is that it? Well, I guess Los Alamos is -- has the challenge being the site in the complex that has really most of the facilities that do exceed the Evaluation Guideline right now and many facilities that need to be replaced as we talked about in our comments with new modern facilities.

And the Board has expressed this opinion many times. This gap between the continued operation of these aging facilities and when the new ones are going to come online is something we're continuing to monitor. I know that you are as well.

And there may come a point when some of these facilities may need to be closed. For example, CMR really was originally planned to only operate through 2010. And it will be extended.

So we'll work with you on that. This aging

infrastructure is a challenge. And hopefully, you know, I know you're monitoring it carefully. And I think it's going to force some tough decisions in the future. But we'll be looking at it with you. Thanks. Great.

So I would like to thank the panel very much. We do have a lot of public comments that we'd like to get to. Dr. Cook, thank you once again very much. I know you're very busy. Mr. Smith, Dr. Keilers, Mr. Krepps, Dr. Beard, and Mr. Anderson, thank you very much, appreciate it.

So at this time it's the Board's practice and as stated in the Federal Register notice, we will welcome comments from interested members of the public. A list of those speakers who have contacted the Board is posted at the entrance to this room.

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

There was also a table at the entrance to this room with a sign-up sheet for members of the public who wish to make a presentation but did not have an opportunity to notify us ahead of time. They

will follow those who have already registered with us in the order in which they have signed up.

To give everyone wishing to make a presentation an equal opportunity, we ask that speakers limit their original presentations to five minutes. The Chair will then give consideration for additional comments should time permit.

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

The first speaker in this evening's public comment session is Mr. Greg Mello. Please state your name again and affiliation.

MR. MELLO: Thank you very much. My name is Greg Mello, I'm with the Los Alamos Study Group. Thank you again for having this meeting and for your professionalism and continued independence. It was a wonderful hearing. And we look forward to the follow-up that will come from it and hope that the Board and the NNSA will continue to make very strong strides toward increasing safety at Los Alamos.

I believe that I have -- I am seeing an improvement in the safety culture at Los Alamos. It's

hard to tell for sure. But I think there is some improvement. And I'll return to that in just a second.

I want to emphasize the gap that you mentioned at the very last, the gap between the older facilities which are unsafe and the new facilities which are meant to replace them.

This gap can expand to a long period of time because of contingencies in budget, contingencies in planning, the planning fallacy well understood in just about every field. We all face it in our work.

And I was pleased to hear some of the questions from the Board about how to reduce the hazards in the existing CMR building. As we look at this chasm looking forward, it's going to be a long time before -- even if -- before the CMRR nuclear facility is completed, even if it is completed, but as -- it will be really a whole generation of workers that will be working in the old CMR building from the time that the CMRR building was conceived.

So we're talking about a quarter of a century almost. So it's a long time to wait. And I beg the Board to work on increasing awareness of how to take interim steps in the meantime to increase safety, because the full modern solution may really not

appear. All right.

We need more transparency. This is a theme that underlies a lot that's going on. And we really appreciate this hearing. But it's difficult to maintain and -- to establish and maintain a safety culture without that kind of transparency.

It's great to have a conversation between the Board and the site contractor and the NNSA, but it's really not enough. We hear that the contract is enforcing safety. But the contract is not available to the public.

We have a secret contract, in effect, because of the operative part, the PEPs [Project Execution Plan] and the PERs [Performance Evaluation Plan], are not the project -- the evaluation plan and the actual awards that are made are not available to the public.

Unfortunately those awards are usually most of the potential award historically. So the maintenance and operating contractor gets most of the money no matter what they do.

I think that the NNSA grades too easily. We don't see any list of off-normal events. So no one is looking over anyone's shoulders. We don't have any sort of transparency about the infrastructure conditions across the site. Not just in the nine

facilities that were the main focus here this evening, but the other facilities like the Sigma Building.

We need really a complete revolution in transparency to go with a solid safety culture. We love you guys, but we -- you're only four people. And nothing can really be trustworthy until we have that kind of transparency. I don't think we have that transparency with respect to Congress or in any other way.

I think that this -- we need to begin to think seriously following the comment that was made near the end to look at closing down some of the CMR wings by a date certain. 100 people is not that many people.

One of the reasons I think we can do that is we need to look at whether we actually need to conduct some of these missions. For example, do we really need to do the Bolas Grande mission. We are not privy to the ultimate purpose of the Bolas Grande mission.

We are told that it increases the material-at-risk in the CMR building, but to what end? We are told that we need to have pit production capacity of a very large amount which is driving most of this infrastructure improvement, but no one can explain exactly why we need that pit production

capacity.

The best thing was one Congressional staff member who said, "Greg, the generals just aren't satisfied with not having this around." Well, that's the level of justification we're really going on.

I'm not confident that the safety systems that we're talking about are robust with respect to future events such as decreases in budget. I don't think that LANL can really be made easily safe in a culture in which the overall safety contract -- excuse me. Social contract is so -- is so precarious.

You could say that it's difficult to make LANL safe when Northern New Mexico is not safe. It's not an isolated facility. Real people work there, real people have problems. And as much as we might like to wall off the problems of the rest of society, we can't entirely. So there's limits to safety.

CHAIRMAN: Could you begin to summarize your comments. Thank you.

MR. MELLO: Yeah. Thank you. I will. I heard a little bit of complacency and a little bit of -- I mean we all want a little bit of promotional sort of talk here this evening. I would like to see more -- less optimism.

We all -- we have a friend here in Santa Fe

that says avoid optimism. That's his little motto. And I would suggest that's a good motto for Los Alamos, avoid optimism. And I think that's really about it. Thank you very much, gentlemen.

CHAIRMAN: Thank you, Mr. Mello. Please submit any written comments for the record. Our next speaker is Mr. Peter Neils.

MR. NEILS: Thank you, Mr. Chairman, Members of the Board. My name is Peter Neils. I'm the President of the Los Alamos Study Group. I just have one comment. That is most of the panelists today have been substantially above the pay grade of the lab representatives that chair the meetings that we're accustomed to attending. And many of which are best categorized as content free.

The public is permitted input. But it falls into a black hole. It's a sort of managed democracy, where you have the allusion of participating but you have no impact.

So in contrast these sessions have been I would say content rich. And holding some of these high officials from the lab, insisting on -- that they answer your questions is something with which we are unaccustomed. And for that I think that the public is in your debt. Thank you.

CHAIRMAN: Thank you, Mr. Neils. Ms. Joni Arends, please.

MS. ARENDS: Good evening, Mr. Chair and Members of the Board. I relinquished my time earlier this afternoon in order for Mr. Gilkeson to be able to present for ten minutes tonight. Thank you.

CHAIRMAN: And I think we've agreed he'll talk at the end of these speakers and ten minutes will be appropriate.

MS. ARENDS: Great. Thank you.

CHAIRMAN: Mr. Scott Novak. Mr. Scott Kovac, excuse me. My apologies.

MR. KOVAC: Thank you. Thank you, Chairman and Members of the Board. My name is Scott Kovac with Nuclear Watch New Mexico. In these times of budget constraints, upgrading safety features of existing buildings must come before the construction of new buildings, especially new buildings that enable increased nuclear weapons production capabilities.

Whether we like it or not, all safety issues are really budgets issues. In the September 29th implementation plan for Recommendation 2009-2 submitted to the Board, the lab estimates that upgrades to the existing -- the existing plutonium facility could cost 150 to $300 million and last until

the year 2020.

That's an average of 15 to $30 million a year. Meanwhile, the proposed nuclear facility will receive 200 to 300 and upwards million dollars a year, while lab cleanup budgets to remove Cold War legacy are being slashed in half.

We'd like to -- I'd like to take a quick look at the project to seismically upgrade the gloveboxes at the existing Plutonium Facility. In 2010, 157 gloveboxes were slated to be upgraded to reduce the plutonium that could be readily dispersed by toppling gloveboxes followed by fire. These upgrades would improve the protection of the public.

Now the plan is to upgrade ten to 24, I'm not exactly sure, by 2014. The estimated cost is five to 10 million, but the footnote says unknown budget situations in fiscal year 12 and beyond may require a balanced approach between funding and institutional demands. It's iffy if the budget will be there.

A DNFSB June 2010 report, weekly report for Los Alamos stated that the expected cost of seismic upgrades to individual gloveboxes has risen from the original cost of about 80,000 per glovebox to a current estimate of approximately 850,000 each.

In addition, the lab also ended up doubling

the number of gloveboxes that need upgrades as a priority up to 157. So, in effect, the lab's original estimate for this glovebox work was 6.4 million, 80 gloveboxes at 80,000 each, but the revised estimate in 2010 was 133 million.

What do we get for 100 -- what do we get for $850,000? Well, the work requires replacement of the existing stand with the more robust structural members for stronger anchorage. To gain access to these components, all services below the gloveboxes must be removed. The glovebox must temporarily be supported and the existing stand removed.

The new stand members will then be installed and increase the anchorage to the floor and diagonal members to support it. All services will be rerouted to the glovebox.

The approved -- the approved accident -- this is where I get unsure of exactly what happened. But the approved refined accident analysis and control selection conclude that glovebox -- glovebox stand seismic upgrades should focus on gloveboxes that contain molten plutonium operations only.

This insight of the scope of work to that small number of -- reduces the scope of work to a small number of gloveboxes. Completion in design and

start of that construction is expected to start in 2012, May 2012.

The first two stages were affecting 24 gloveboxes. Now we'll focus on adjoining gloveboxes that were not only high risk but share common utilities and have common interferences. This will improve the overall efficiency but will only -- only by requiring single removal and the reinstallation of glovebox interferences and utilities.

So anyway my question is: What happened to the other 100 some-odd gloveboxes that were needed to be upgraded in PF-4? I hope they didn't get dropped by the way or get dropped because of, you know, an outrageous estimate. Thank you.

CHAIRMAN: Thank you, Mr. Kovac. If you have any written comments you want to submit for the record, please do so. Ms. St. Pierre. I know she did speak this afternoon. Perhaps she signed up for both sessions and chose one. Once again Ms. St. Pierre. Ms. Rodriguez.

MS. RODRIGUEZ: I spoke earlier, but I only made a few points. And I kept it short. So the rest of my points are I live in Albuquerque for 23 years. And I've -- I'd like to make some other points. One is the CDC [Center for Disease Control] study that has

not been done to my knowledge in Los Alamos, in Albuquerque, or around the state.

My feeling is New Mexico has become a nuclear dump. We have Los Alamos; we have Albuquerque, which has Sandia; and there's a mixed waste dump which we're fighting over. To even get information about, we had to sue the -- for the information about what was in that dump.

I don't know if you're aware of that. They put wells in to see if it's even going into the aquifer of the largest city in New Mexico. We don't really have the information on that. That's still in controversy. They want to build a big development there called Mesa del Sol right within a mile or two of this dump. I find that really scary.

And then you have Carlsbad. And then you have many outfits, I don't know if they're private or -- private companies just wanting to mine for more uranium. And we have a whole legacy of what happened to the people who have worked in that industry.

And former Senator Domenici was at last able to get some money for them which brings -- for the people who were harmed by working with the uranium mines, which brings me to my other point, is that healthcare is a big issue.

A lot of people have healthcare who are underinsured. And then you have the rest of the people who aren't insured. So here we live in a state that has a lot of problems with air, water, and ground contamination.

And then we're considering building the CMRR, which started out, what, two, 4 billion, now it's up to 6 billion. They haven't built it yet. I don't see why we have to make more plutonium pits. I mean isn't this illegal? Does anybody know that there is a treaty that says we're not supposed to do that.

Isn't that -- isn't that proliferation? Don't we have pits already? How many nuclear weapons do you have to use? I mean they're so many times stronger that were used in Nagasaki and Hiroshima. This is completely crazy.

I know these facilities in Los Alamos pay good money and it's -- and the private companies make big money on their contracts. Well, you know, that's not good enough. They should do something else. Just because you have a doctorate in physics doesn't mean you should go up there and make bombs to kill people and continue to do that.

The Russians are gone, the Soviets are gone. Who are the enemy? I mean who needs the Russians when

you have Los Alamos. You know, we are being harmed by that. This is quite serious.

My other -- my main issue is I would like -- I would like you to find out if the CDC could do this study. And maybe we get some more answers. Because you're not going to get any answers from these guys.

They're really slick and they have all these answers and they're overly confident. How can you be overly confident when we're all aware, if you pay attention to the kind of accidents that are happening right within our lifetime. It's just -- it's just staggering. I mean are we waiting for a fault to open up?

None of these guys said that they actually asked a geologist to look at the faults. And if I'm wrong, good. Because I'd like to know where the faults are. And I think you should ask. Let's get an expert.

Not an expert that was hired by Los Alamos. An outside expert to find out where the faults are and what the real geological dangers are. This is totally unacceptable. Thank you very much. I've found a lot of your questions, especially -- I can't even read the names.

The head of the Board and to his right, I was

very -- and actually the three men on the right. I thought they asked very good questions. And the woman too. I don't -- sorry. I don't know your name. Excuse me.

But at least I felt that you were asking questions and you weren't putting up with some of the double-talk and the -- I don't know how else to put it. But their use of the English language. I mean the word robust, I've got to look that up. I've never heard it used so many times the way they did today. Thank you very much. (Applause.)

CHAIRMAN: Thank you, Ms. Rodriguez. Next is Dario Rodriguez Jarano. I'm not sure I got that completely right. My apologies if I didn't. Please state your name and affiliation.

MR. RODRIGUEZ-BEJARANO: Mr. Chairman, my name is Dario Rodriguez-Bejarano. I am a resident of the State of New Mexico since 1988. I have worked here in Albuquerque for most of that time. And 11 years of those -- that time I worked here in Santa Fe. I commuted every day of those 11 years.

But the reason I'm here is because I am the head of my family unit and a concerned individual who would like to express his particular opinions this evening about two items.

The first one is the safety of LANL or the Los Alamos National Laboratories. It is an aging facility as the Chairman very well pointed out. And everybody had been saying it's a 70-year class facility that has -- definitely has run its time.

And as you all know, trying to make an aging facility safe is almost an oxymoron. It's almost impossible, never mind that it's extremely expensive. And that's why we have dump -- put in all of our work -- monies at this particular time.

The personnel from LANL were saying this evening all these kinds of improvement. They sound quite optimistic and so on and so forth. It sort of reminded me of the time I lived in Michigan when Ford in the early 1980s, Ford Motor Company was talking about that quality was the priority number one.

So I beg the question, what was priority number one before. We are talking about improvement safety -- safety standards of an aging facility, which I have said is probably -- it's a very difficult in the most kind assessment of the words there.

There are also these particular problems with that facility. It is located in a seismic active area with potential and recently discovered volcanic vents. Secondly, the geology of that particular area is at

best lacking. And LANL personnel have actually said so much.

Tonight they have painted to my -- seeing these particular present -- presentations tonight in the last few hours, it's a situation regarding the safety of LANL now and in the past as being rather dismal. I will say that in the future it will be just as dark.

Suffice to point out two particular issues that were brought to your attention this evening should -- and it would -- probably is a matter of when an event of really significant proportions actually happened in LANL, what is going -- what are you going to do in terms of evacuating and relocating the population just in the city of Los Alamos? Never mind the surrounding population.

The risk of catastrophic fires, forest fires, has always been present there. We didn't indeed learn much about the Cerro Grande fire a few years ago. I don't think we did learn that much about that. Because when the latest fire happened, we were still unprepared to do anything about it.

It was simply good luck that it stopped the fire. And if we are going to say that safety is based on good luck, it would probably be good luck to us,

the ones who will suffer at the catastrophe.

Safety and the protection of the employees and the population of Los Alamos and the nearby towns can only be characterized as a work in progress. But there is no real plan to try and keep that population safe. I don't think those $6 billion will pay anything on that.

This is a dangerous situation that will only call for one particular thing that was already mentioned among other peoples. But one of the -- David. I'm sorry. Mr. -- I forget his name. The famous candidate of the Republican party like to say. But never mind. It's -- it is a nearly impossible thing to continue with this facility, LANL, and it should be simply shut down and then cleaned up.

The second point that I would like to address my comments to is the water contamination. I will point you to this particular hat that I am wearing. And it says we all live downstream.

In the case of Los Alamos, it is one -- the drainage of Los Alamos drains into the Rio Grande just above the diversion that brings the water to the City of Santa Fe. Down the stream and along the Rio Grande is about 80 -- sits about 80 percent of the population.

That is Santa Fe, Bernalillo, Albuquerque, Rio Rancho, Isleta, Belen, Los Lunas, and then you count also the City of Las Cruces down there. Now, the Rio Grande is the main waterway of the State of New Mexico and is the generator in terms of economic terms of most of the agricultural product that we produce here.

Damming it that particular way is really serious. Never mind that Los Alamos, the national laboratories, have already polluted and contaminated the ground and most likely and almost definitely the groundwater. We are claiming at this point that it's a localized underground basin.

CHAIRMAN: Mr. Jarano, could you -- could you summarize your remaining comments at this time.

MR. RODRIGUEZ-BEJARANO: My summary to all these comments, Chairman, is that we ought to close Los Alamos. Close it, then clean up, and then find a better use for our tax dollars.

And I would like to thank you as a -- for closing my remarks to everyone here who actually came to hear this particular series of comments and things. Not only to you, the Board, but to the citizens of the State of New Mexico who cared enough about the well-being of the state. Thank you. (Applause.)

CHAIRMAN: Thank you. If you have any written comments, please submit them to the record. Mr. Marian or Marian Naranjo.

MS. NARANJO: Chairman, members of the Board, my name is Marian Naranjo. I am a tribal member of the Pueblo of Santa Clara. In my presentation tonight, I would like to add a further description of the Jemez Mountains, the Pajarito Plateau where LANL lies.

This place is the ancestral homelands to native pueblo people. This place is a sacred place to us. It has sustained our culture, our life ways since time immemorial. We are here to witness what has happened in the last 70 years in our sacred place.

Many changes have occurred. We have sacrificed our cultural life ways for three generations thus far. During these fires, you know, forests burn. And in past we had looked at this as a replenishment so that new growth can happen.

We experienced somewhat of a different situation since more government agencies have come to this area. You know, at one time, when we had 24/7 lookout towers where families, you know, would take turns. And whenever you see the lightning strike or these fires, you know, our hunters, our men in the

valley of Espanola and surrounding communities of our pueblos, they would gather together.

And they know the terrain like the back of their hands because of their hunting for the elk, the deer, the turkeys, the fishing. And they could take care of it. They knew where to draw -- do these lines.

Now, because of governmental agencies who have come and -- educated people from somewhere else, because they, you know, go by the book, safety rules or whatever, Cerro Grande.

A potter, in which I am 40 years a traditional potter, know that you don't fire your pottery at three o'clock in the afternoon in Northern New Mexico. There's a natural wind rose pattern that comes. And they were doing a prescribed burn.

This Las Conchas fire, even though there was this great communications system that had come about since the Cerro Grande as lessons learned, it was also part of the scenario, you know, there is this climate change that should have been put into the -- to that calculation.

We witnessed through the media, controlled media, where the people in -- commanders in charge of this fire were saying we're forcing the fire to go

north and to go south to save the lab. And they were very successful in doing that.

But during that the reverse side of this coin is is that my Pueblo, my people lost our watershed to this fire. We had not -- we had not gotten over the Cerro Grande fire much less this next one. The terrain burnt so hard, so hot, that the runoff is like waterfalls.

We've experienced several runoffs where debris, trees, boulders, the whole change of our canyon system has drastically changed. It will never be the same. We lost sacred sites. We have sacrificed. We're still sacrificing for our nation.

There are a bigger picture to this very holistic picture in this mountain and in what we mean as our piece of the earth. The earth is changing. We're witnessing it now. Both north and south of the LANL property is changing. It's moving. We felt it.

My house cracked. And there are -- these are signs to beware. As land-based people, we've got to witness a lot of things. And it's beware. Many of these toxins, these chemicals, these things that are on LANL property, they need to be removed or we're all in trouble.

You know, we've been there since time

immemorial. Where are we going to go? What happens when our -- when we can't drink our water anymore? You know, we have a very -- the faults that are throughout this whole Rio Grande rift. We depend on this system for our springs.

We depend on it for our pure drinking water that we can't use anymore. You know, every time they probe into the earth or explode something, it's ruining this system. And one day it will not be able to sustain us. And it's -- it's -- I hate to say this. But that day may come soon if we are not aware.

And it's in your hands as recommendations. And it's also environmental justice issues that need to be recognized as recommendations for a people who has been here since the millennium. And for an operation that's only been there for a short 70 years and the changes that have occurred.

I ask you to please consider the Santa Clara tribal comments to the Site-Wide Environmental Impact Statement, complex transformation, the CMRR, and San Ildefonso Pueblo also, because these issues are very eloquently addressed. Thank you.

CHAIRMAN: Thank you. (Applause.)

MS. NARANJO: Thank you.

CHAIRMAN: Thank you. Basia Miller, please.

MS. MILLER: Mr. Chairman, I gave my remarks earlier.

CHAIRMAN: What did she say?

DR. MANSFIELD: She gave her remarks this morning.

CHAIRMAN: Okay. Thank you. She did speak this morning, you're correct. Dominique Mazeaud, Mazeauz. Perhaps I'm pronouncing that incorrectly. Please correct me.

MS. MAZEAUD: It's Mazeaud, like chateau.

CHAIRMAN: Okay.

MS. MAZEAUD: I'm a resident of Tesuque right outside of Santa Fe. And I want to mention a few things that the Board should pay a lot of attention to. And I will list them. People are dying of cancer and disease from LANL. LANL's past and present operations, they have contaminated air, water, and soil.

The CMRR and its facilities are within and threaten a residential area. That's quite obvious. Overwhelming public opposition to the CMRR. The prima facie unsafe geological location and earthquake dangers.

I was at home a couple of weeks ago. I remember the time, 10:38 working, and all of a sudden

the house shook. And I called the casa fire, local public station, and they confirmed that indeed there had been an earthquake.

It reminded me being in Japan in 1994, right near Kobe, where this was the very large earthquake which -- the one before the Fukushima earthquake. So we are, you know, hearing about earthquakes everywhere more and more. And I think that's a very crucial issue to pay attention to.

The existing groundwater contamination, waste generation, and management is another public concern. Unknown financial costs for CMRR completion, aquifer depletion, the threat to local health and safety from potential accidents, international concerns from -- for nonproliferation nuclear war, and finally the continuing environmental injustice of forced removal of native peoples and the contamination of their land and sacred sites as Ms. Marian Naranjo said so movingly.

I want to reiterate the fact on the Nuclear Nonproliferation Treaty by seeking to proceed with the construction of nuclear of weapons at the LANL CMRR and the modernization of nuclear weapons. The United States is violating a nuclear -- the nuclear Nonproliferation Treaty, NPT [Nonproliferation

Treaty].

The U.S. is acting contrary to the advisory opinion of July 8, 1996, of the International Court of Justice regarding the legality of the threat or use of nuclear weapons. Thank you, Mr. Chairman and Board.

CHAIRMAN: Thank you. If you have any written comments, please submit them to the record. Anna Hansen.

MS. HANSEN: Hello. My name is Anna Hansen. I was -- first I want to thank you very, very much for coming to Santa Fe and holding these hearings. It has been -- after 30 years of -- I've lived in New Mexico for 38 years.

And working against the destruction of our community for the last 30, I am really impressed by at least having some of the questions. And I'm also impressed that we have experts here that we don't even have that are legislators when they have held hearings. I have never seen this level of expertise in our own state capitol. So I think it's great that you could come here.

But LANL has an extreme, extreme history of a lack of safety. I was Chair of Concerned Citizens for Nuclear Safety during the Cerro Grande fire for five years. I hosted a conference called Cerro Grande and

the Aftermath, where DOE representatives did come thanks to at that present time our Governor Richardson who was then Secretary of DOE.

But, you know, to me one of the things that came out tonight was the fact that I find it's absurd that they are self-regulating. I have been a regulator under Governor Richardson. And I feel that regulators should not be self-regulated. There should be an oversight to see what is done.

Because we have sued -- numerous groups have sued the labs. And we have achieved consent decrees because of their lack of inability to provide safety records as they mentioned tonight. In the past they're not very good at keeping bookkeeping records of how to keep things safe. So that is a real -- that was a really great question that you asked and I appreciate that.

But I also want to speak really seriously to the fact that we live in a sole-source aquifer. Not -- this -- the Rio Grande is a sole-source aquifer. And LANL is contributing a tremendous amount of contaminants; not just nuclear, but all kinds of contaminants to our watershed and our water right above the Buckman Diversion.

And it is a huge concern to me. It is a huge

concern that we are being exposed and the future generations are going to be exposed to these kind of chemicals that are being used at LANL.

Legacy waste is still not completely cleaned up. We have arroyos and areas on the plateau that are still not cleaned up. Why is that after 60 years. Those -- those arroyos that are offsite of LANL need to be cleaned up now. They are going into our water system.

Once again we are a sole-source aquifer in this bio-region. And I have to say that I do support what a number of people have gotten up here and said, that LANL needs to be shut down or their mission needs to be changed so that these contaminants are cleaned up and that future generations are not exposed to the kind of level of chemicals that are being expose -- that are going down into our water system.

The Rio Grande already has plutonium in it. So we already know that plutonium has been found in Cochiti and in the river. So we know that there are chemicals there. And I'm sure that you know that.

You asked some of the best questions that I've heard anybody come here and ask. And so I'm grateful that you're here to protect me and my community. But we need a little more protection. And

we need you to be really there for us, because that is your job from what I understand and what I've read.

CHAIRMAN: Would you summarize your remaining comments, please.

MS. HANSEN: Yes, I will. I hope you will come back regularly and often and check on our community. And we are -- and I am grateful that you were here. Thank you. (Applause.)

CHAIRMAN: Thank you, Ms. Hansen. If you do have a written statement, please submit it for the record. I don't know how to make the first name of the next person, I can't read it well, but it's Ms. Sollitt. Thank you.

MS. SOLLITT: Hello. Chairman and Members of the Board, my name is Shannyn Sollitt. I come representing an idea, the Los Alamos Peace Project, to transform the laboratory's creating of weapons of mass destruction into institutions that engage only in life affirming research and development.

I'm not a specialist in anything except for being a human being caring deeply about the future generations with a deep abiding love of the great mother earth. I have prepared a statement.

LANL sits on top of a windswept mountain in a seismic zone where wildfires and contaminated runoff

continues to threaten and compromise the health and well-beings of millions who live downwind, downstream.

The people here are asked repeatedly year after year to leave their fields of endeavor and to take the time to defend their communities against the oppression and the tyranny of the U.S. military industrial complex.

Citizens have repeatedly shown up to testify, believing we can with words defend our rights to have our air, water free from the horrible radionuclide contaminants created by the lab. Our opinions do not change. And clearly our voices have never been heard.

These hearings always feel like an exercise in futility, pretending to affirm that we still live in a democratic country. Nuclear bombs are immoral. They are a vulgar and heinous crime against planet earth and humanity.

The only worse crime against humanity is the actual utilization of them. Their existence goes against the very tenets of freedom and the prevention from tyranny that our founding fathers designed the Constitution to protect us against. And those who perpetrate this crime I believe are tyrants, despots, and traitors to the Constitution.

Please find out how will this CMRR facility

protect our inalienable rights of U.S. citizens to life, liberty, and the pursuit of happiness. You may respond that the very existence of these weapons prevent war and for this reason we must continue the proliferation of our nuclear arsenal.

But since the inception of the nuclear bomb, the United States has been directly involved militarily in conflicts in at least 30 countries, Korea, Guatemala, Iran, Haiti, Cuba, Thailand, Indonesia, Congo, Peru, Laos, Vietnam, Cambodia. Lebanon, Grenada, Libya, El Salvador, Nicaragua, Panama, the Dominican Republic, Chile, Bolivia, Angola, Bosnia, Afghanistan, Somalia, Yugoslavia, Macedonia, Sudan, Yemen, Philippines, Liberia, Chad, Iraq, and continues to fund more that channels arms to Columbia, Mexico, and Israel.

This has been an undercover protracted world war for world domination. The United States has been far and away the world leader in the development of weapons of mass destruction and is -- and the existence of these weapons by our country holds the rest of the world in fear and has been the cause of nuclear proliferation, has shredded the fabric of global potentials for cooperative security that the whole rest of the world is yearning for.

I am going to call a spade a spade. This plan to modernize the nuclear weapons complex, this CMRR complex, is being created to line the pockets of the military industrial contractors in bed with the legislators in Washington. The military industrial complex are the traitors to the U.S. Constitution who have led our country down the road to a failed democracy.

The CMRR facility is out of compliance with the Nuclear Nonproliferation Treaty and the Strategic Arms Reduction Treaty. I have a gift for members of the panel. It is a graphic of the idea of the Los Alamos Peace Project. And I would like permission to give each one of you this gift. May I have permission to approach.

CHAIRMAN: If you would just submit it into the record, we would be very grateful. Thank you very much.

MS. SOLLITT: Okay. Thank you.

CHAIRMAN: Thank you for your comments. And if you would like to submit your written statement into the record, we would accept that too. Now I think our last speaker, and he's been very patient, is Mr. Gilkeson. And please provide your comments.

MR. GILKESON: Thank you, Chairman Winokur

and Members of the Board. My name is Robert Gilkeson. Let's work on this. We need to raise it. Is this better?

CHAIRMAN: Thank you.

MR. GILKESON: My name is Robert Gilkeson. I am a registered geologist with more than 40 years of experience in large technical and research projects.

I was a research scientist at the Illinois Geologic Survey which is a division of the University of Illinois for 17 years. I was a technical -- a senior technical consultant to Los Alamos -- I'm stumbling over the name of the laboratory. Los Alamos National Laboratory for ten years.

I have the credentials for the peer review of the LANL activities to characterize the seismic hazard. The design basis earthquake for the proposed CMRR is -- are simultaneous ruptures from a single earthquake of magnitude 7.27 with horizontal ground motions of 0.47 G and vertical ground motions of 0.51 G. These are large ground motions.

The ground motions measured that destroyed the power reactors at Fukushima in Japan in March 2011 were nearly identical at 0.52 G. A very serious issue is that the LANL 2007 seismic hazard report admitted that synchronous earthquakes may occur at the proposed

CMRR NF.

And I have an excerpt on page 1 of our fact sheet which I will read now. "The hazard from synchronous versus simultaneous ruptures is shown on figure 753. The hazard is higher for synchronous rupture, because the ground motions will be larger from seismic slip involving two sub events versus more uniform slip in a single, albeit larger simultaneous event."

I did an analysis of figure 753 in the 2007 PSHA report which presents the results from computer modeling. The analysis for earthquake rupture of 20 -- on a 2,500 day recurrence period showed that the synchronous ruptures produced 75 percent greater ground motions at the proposed CMRR NF than the values in the design basis earthquake for simultaneous ruptures from a single earthquake.

This is a very important issue. And it's evidence that the design basis earthquake is not adequate for the engineering design.

Presidential Executive Order 12699 [Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction] which was written into law -- signed into law in July 1990 requires for industry standards to be used for the seismic hazard

assessment at federal facilities.

The industry standards require detailed characterization of faults over a lateral distance up to 24 miles away from the proposed nuclear facility. And this is for quaternary faults, which includes all faults in the Bandelier Tuff.

The seismic hazard analysis is based only on faults that reach the land's surface. The industry standard requires careful characterization of blind faults in the subsurface. And the industry standards that -- on page 5 in the fact sheet, in the case of concealed or blind faults, the location of the most shallow extent of the fault shall be indicated on fault -- excuse me. On fault maps.

So if we go to the back of the fact sheet to figure 2, on page 12, the figure shows the locations of faults that were used for the seismic hazard analysis for the proposed facility. This figure only shows a faults map at the land surface.

A very significant finding is that the GM [Guaje Mountain] fault only extends down to the south and is shown as terminating a distance of 13,000 feet away from the facility. I found a LANL report by Scientist Mallits. And the figure from that report is on the next page, on page 13.

The location of the CMRR NF is shown in the southern half of the figure. And the large brown zones on this figure are zones of intense fractures that were mapped from detailed investigations by LANL Scientist Mallits. The zones of intense fractures are evidence of ground motions during earthquake ruptures.

And the -- these brown zones would be continuous along the north/south dash traces, except that they become concealed in certain locations. So this is a significant issue that I put in comments to the Department of Energy. And I was surprised at their response.

Their response was, "Yes, we know that. There is an extension of the Guaje Mountain fault in the subsurface toward the location of the CMRR NF." And they referenced me to a report that was written in 1985, which is on the next page, on page 14. And Joni has a blowup of this map.

This map is very important because the map describes the findings from detailed seismic reflection surveys which were done on two long seismic lines in Mortanda canyon and the Los Alamos canyon further to the north. And those are lines one and two on the map.

And the DOE informed me that these lines

identified the southern extent of the varied Guaje Mountain fault and actually project that that fault is located below the brown zone on the previous figure very close to the location of the proposed nuclear facility.

The industry standard requires accurate and detailed characterization of this varied fault for assessment of the seismic hazard at the proposed facility. But that characterization has not been done. In addition, on figure 3, there's another fault identified by the zones of intense fracture located 2,000 feet east of the proposed facility.

It's also very important and a requirement of the industry's standard that there's a detailed characterization of this fault that's concealed in the subsurface. If we look on --

CHAIRMAN: Would you begin to summarize your comments, Mr. Gilkeson, please.

MR. GILKESON: If we look on figure 2, we will see that it only shows the locations of faults at land surface. And it doesn't meet the requirement in the industry standard for showing the location of concealed faults and the shallowest depth of the concealed fault below ground surface. Thank you for this time. (Applause.)

CHAIRMAN: Thank you very much. Are there any other members of the public who would like to make comments at this time? Yes, please. Address -- come to the microphone and tell us your name and affiliation, please.

MS. RAY: Thank you. It's lovely to see you all here tonight. My name is Anaria Ray. I reside here in Santa Fe with these good people. I am a universal citizen. And I'd like to give you the overview from an esoteric standpoint.

And that would be, as you can see, there are dramatic earth changes happening on the planet. And a lot of them, if you really track them, are all around the nuclear plants. There are floods, fires, because Gaia who is the earth's spirit is bringing people together to see this.

And it's why this last fire, for example, took so long to become under control, because she didn't want to be in control to bring as much attention as possible to LANL. Because it is indeed time to step forward and make the choice for total peace and harmony.

And these places of mass destruction creating bombs, not only for on the earth, but that work right through the entire universe have got to be stopped

now, because we're all citizens of this amazing planet. And we through our being have the opportunity to change it now by making huge choices for life. Thank you. (Applause.)

CHAIRMAN: Thank you. Please identify yourself and your affiliation. I don't think we can hear you.

MS. TSOSIE: Hello.

CHAIRMAN: We can hear you.

MS. TSOSIE: Good evening. My name is Biata Tsosie. I'm from Santa Clara Pueblo. I live about 15 minutes away from Los Alamos National Laboratory. It's located in my ancestral homelands from which I've been disconnected from for about three generations now, unable to go and offer my respects and my prayers in our ancestral way and the way that this land deserves and what it needs right now to heal from the desecration that's been enacted upon it.

I'm really glad that you're here and that you have the word "defense" in the front of the name of your Board, because our people really need that right now. We need really strong, firm advocacy for our environment and our communities and our families at this moment in time in history with the Los Alamos National Laboratory.

If they're so certain that safety is in the future, why don't I feel safe with my family, why these standards like -- that you talked about that need to be higher. I'm really glad to be hearing that, because the standards that they're using right now protect an adult male.

They don't protect my children, they don't protect the elderly, they don't protect people of color. They won't protect an unborn child that I would carry inside me. In fact, some of the toxins coming from these facilities are the only toxins that can cross placental boundaries.

Standards that come -- that need to hold these facilities accountable need to protect those most vulnerable first. And until those standards are in place, there should be no continuation of the RD -- the land that's already like way beyond contaminated.

According to reports that have come out in the La Habra report, we're the most contaminated site for airborne plutonium in the nation, more than Hanford, Rocky Flats, and Savannah combined. That's legacy waste that deserves cleanup before that's like compacted by cumulative impacts of another facility that's just going to increase that pollution.

Area G is barrels of mixed waste put in the

dirt right above our aquifer. How is that not going to get into our water. It's inevitable. The trees, the tree roots can penetrate that over time. You know, it's -- it goes without saying that the safety needs to be increased.

There is no health studies that have been done in my communities, even though I've seen a majority of my family die from various rare cancers. Where are these -- when are we going to get health studies to show what our communities are dying from at this moment before any of these new facilities can be built.

Please help us. Please listen to the -- to the community experts that are being provided independent from Los Alamos. Please get more of our community experts on board with you guys up there, because we have our own experts that have been living off of this land for generations.

It's not taken into consideration the fact that we live off the land, that we eat animals that walk around on the grounds on this facility. We harvest rainwater, we grow gardens. You know, I can go on and on about how we -- the points of access into our bodies that aren't being addressed in these statements of safety.

And so please to keep that in mind when you're thinking about the larger picture of standards of safety when you have actual people that are sustaining themselves from the environment surrounding these facilities. Thank you very much. (Applause.)

CHAIRMAN: Thank you. Does anybody else from the public wishing to speak at this time? Seeing nobody -- do you have a comment?

MR. BLOCK: Jon Block. I spoke earlier. And I would just like to add one observation having listened to the proceeding. I would add my voice in thanking all of you for your patience and for having made this possible, particularly to the staff who helped prepare you for this.

I think that all of you were splendidly prepared. And it really is a refreshing thing. I've been attending these kinds of proceedings, you know, for nine out of 16 years. And I do say sincerely that I am quite pleased to see this. One tends to lose faith in our government. And it's good to see a reasonable showing. So thank you.

My added comment is that there have been efforts to clean up this site since 1985. Word has it that a billion dollars has been invested and that of that less than a million has actually been used to

clean it up.

It's time for the highest level of our government to take a very, very hard look at that situation. The people who are getting that money, whether it's LANL, whether it's the State of New Mexico, they obviously have taken it and incinerated it.

We need to clean up the legacy waste. That's a very clear message. And it should be a fundamental principle at each one of these sites that we do not continue to use them for these dangerous activities until we have cleaned them up, certified them as being safe for continued use, and then made a decision as to what to do in the future of each one of these sites.

You're well aware of each of them, I don't have to name them for you. But you know what's happened there. And this site is no different. It's the oldest, it may be the filthiest, and it's the one that has the largest gathering of people in what would be called environmental justice communities around it. I urge you to take that into consideration in your report to the President. Thank you. (Applause.)

CHAIRMAN: Okay. Thank you. Once again any other comments from the public? With that I'm going to turn to the Board Members for their closing

comments. And I will end with my comments.

Ms. Roberson.

VICE CHAIRMAN: I don't have any -- I don't have any additional comments. I'd like to -- I would like to thank the members of the public that have endured with us and the members of all the panels. Thank you very much.

CHAIRMAN: Dr. Mansfield.

DR. MANSFIELD: I just want to say that I'm honored to be here and to meet you people and to see how obviously concerned you are with the safety of Los Alamos as we are.

CHAIRMAN: Mr. Bader.

MR. BADER: I would just like to second Jessie's comments. And I have found this to be an extremely informative evening. And with that thank you.

CHAIRMAN: Thank you. I'll now provide some closing remarks. First I want to acknowledge the hospitality of the Los Alamos National Laboratory and the local community. I would like to thank our witnesses and all the members of the public who participated in this meeting and hearing.

I particularly want to thank the elected officials and other key members of the community who

participated here today. An active community with engaged leaders is a vital part of any successful program of this nature.

The Los Alamos National Laboratory has a long-term mission with critical importance to our nation. Los Alamos is also a complex site that presents an array of safety challenges. To face these challenges NNSA, the National Nuclear Security Administration, must ensure that the laboratory's nuclear facilities are equipped with effective safety controls that provide adequate protection of the public and workers.

The Board explored three topics of interest today. Plutonium Facility seismic safety, emergency preparedness, and safety at the Los Alamos defense nuclear facilities. The Board believes that no safety problem in the NNSA complex is more pressing than the Plutonium Facility's vulnerability to a large earthquake.

Today NNSA and the contractor described their plans to fix weaknesses in the building structure and to upgrade these safety systems so they can survive a large earthquake. These plans are promising and progress to date has been sound, but this work must continue to be executed with the utmost urgency to

ensure adequate protection of the public and workers.

From the Board's perspective, additional modeling and analysis will be required to ensure that all seismic vulnerabilities for the Plutonium Facility that can lead to its collapse and loss of containment are fully addressed.

At this hearing the Board has continued to engage the Department of Energy and NNSA to better understand its regulatory framework for ensuring adequate protection of public and worker safety at its defense nuclear facilities.

The Board is particularly concerned that NNSA has approved a 2008 documented safety analysis and a 2011 justification of continuing operations for its Plutonium Facility under circumstances where offsite dose consequences to the public exceed the Evaluation Guideline of 25 rem by one or more orders of magnitude.

The Board believes that a strong emergency preparedness and response program is critical at a site like Los Alamos, where the hazards are significant and threats from natural disasters are inevitable. The Board recognizes the work that's been done to mitigate risk from wildland fires at Los Alamos. But priority for improving and maintaining

these measures must be sustained, even after the vivid memory of the most recent fire begins to fade.

The Board also sees ample opportunity for the laboratory to improve its response planning for large or cascading events that could affect multiple nuclear facilities and impact critical infrastructure.

The Board believes that improving nuclear facility safety bases and strengthening formality of operations are two key steps needed to continue the safe operation of aging facilities until robust replacement facilities can be designed and constructed.

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

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

This concludes this public meeting and hearing of the Defense Nuclear Facilities Safety Board. We will now recess and take up the call of the Chair if and when that becomes necessary. Thank you

for all attending.

(At 10:00 p.m. Session II concluded.)

REPORTER'S CERTIFICATE

I, JAN A. WILLIAMS, New Mexico CCR #14, DO HEREBY CERTIFY that on November 17, 2011, the proceedings in the above matter were taken before me, that I did report in stenographic shorthand the proceedings set forth herein, and the foregoing pages are a true and correct transcription to the best of my ability.

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JAN A. WILLIAMS, RPR
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