sub-tiers. So you might have to go through two or three parts of that organization before you could get an answer to a particular question or a decision.

So I would say two or three tiers have been eliminated because of the removal of the Albuquerque Operations Office.

VICE CHAIRMAN EGGENBERGER: Any tiers at Headquarters?

MR. ERICKSON: I would say no.

VICE CHAIRMAN EGGENBERGER: Okay. But now, you do have a tier still existing if you desire to use the Albuquerque Service Center, is that correct?

MR. ERICKSON: I don't see that, I guess, as a tier. I see that as a Service Center. They provide service. They provide individual expertise, federal for the most part, but they also have some very valuable non-federal people under contract that we also can utilize.

VICE CHAIRMAN EGGENBERGER: I see. Thank you.

MR. ERICKSON: Okay.

CHAIRMAN CONWAY: Admiral Nanos, we will turn to you now.

ADMIRAL NANOS: Okay. Mr. Chairman,

members of the Board, thank you for this opportunity to provide testimony on Los Alamos National Laboratory's Performance Assurance System.

With over 35 years of experience successfully managing large, complex, and high-risk nuclear and non-nuclear activities in the Navy, I fully recognize and embrace the importance of a comprehensive, robust assurance system as an essential and critical management tool. I also recognize that the Laboratory does not meet your, the Department of Energy's, and my expectations for a robust assurance system.

Many of the performance issues we have been addressing in recent years would have been prevented if potentially adverse trends were identified in a timely manner and effective corrective actions were developed and implemented.

It is clear that we must strengthen our assurance system to identify and correct emerging performance issues before they become significant, so that improvement is assessment-driven, not event-driven. To that end, we are taking actions to improve our assurance system regardless of how and when DOE and NNSA expectations for line oversight and contractor assurance are articulated.

Ultimately, that overarching assurance system will provide us an integrated performance management tool for all facets of laboratory programs, management, and administration, business practices, and operations. I will focus this testimony, however, on those aspects of the Laboratory's assurance system most relevant to the Board's interest.

I will describe the current status of the Laboratory's assurance system and actions underway and planned to strengthen this important management tool. In doing so, I will address the Laboratory's ability to fulfill the intent of the draft DOE-P-226.1, *Department of Energy Oversight Policy*, and the draft NNSA Line Oversight/Contractor Assurance System Policy Letter.

The Laboratory's Performance Assurance System is driven by a variety of requirements, foremost of which is 10 CFR 830, Subpart A, Quality Assurance. Contractual drivers include clause H.007 of the University of California's contract for the management and operation of the Laboratory. "Performance-Based Management" is the title of that.

I have provided you a copy of that clause in Attachment 1 to my written testimony. The contractual expectations of the clause are reinforced

by requirements identified in Appendix G of the contract and the associated Work Smart Standards.

Key examples of contractual standards with assurance-related requirements include DOE-O-414.1A, *Quality Assurance*, and DOE-O-5480.19, *Conduct of Operations Requirements at DOE Facilities*. In addition, the Laboratory is subject to many assurance-related requirements embedded within the contractual standards, ranging from the quality requirements of QC-1 [Office of Defense Program, Standard for Quality Assurance of Nuclear Weapons Activities] and NQA-1 [American Society of Mechanical Engineers, NQA-1, Quality Assurance Program Requirements for Nuclear Facilities] to activity- and function-specific assessment requirements.

Institutional implementation of these requirements is effected through Laboratory Performance Requirement 307-01-00, Performance Assurance, Laboratory Implementation Requirement 307-01-01, Management Assessment, and Laboratory Implementation Requirement 307-01-03, Issues Management.

Appendix F of the University's contract for management of the Laboratory is the nexus of the Laboratory's Performance Assurance System. This

performance management process underwent significant revision in FY03 [Fiscal year 2003], and is being tailored further in FY04 to assure NNSA, the University of California, and the Laboratory are provided a foundation for risk-based management and decision-making.

The critical few contractual performance objectives and measures defined in Appendix F drive improvement in meeting technical objectives and due diligence in the oversight of management systems. The joint University of California/Laboratory contract evaluation plan defines the processes for the review of contractual performance measures.

Importantly, senior Laboratory managers are directly involved in the real-time management and oversight of Appendix F performance through the Contract Performance Evaluation Board. The Laboratory's Performance Assurance System directly supports the overarching objectives of Appendix F.

Most of the elements of that system, shown in Attachment 2 of my written testimony, are in place. Their implementation, however, is not always effective. In a few cases, primarily in the area of corrective action management, system elements are not sufficiently mature -- for example, causal analysis --

or are not formally defined -- for example, corrective action change control processes.

That said, the Laboratory suffers most from the poor definition and management of the functional interfaces between assurance system elements. Perhaps the best illustration of this shortfall is the inconsistent use of assessment data to drive improvement.

Innumerable internal and external assessments provide volumes of performance data. Far too often that information is not used effectively, if at all, to improve performance, because clearly-defined mechanisms for translating assessment findings into viable corrective action plans are inadequate.

I have taken specific near-term actions to address these shortfalls by strengthening the roles and responsibilities of the Director's Central Safety and Security Committee, and the establishment of the Nuclear Safety Executive Board. The explicit intent of these groups is to assure focused senior management engagement in the oversight and resolution of both non-nuclear and nuclear safety and security issues.

I chair both the Central Safety and Security Committee and the Nuclear Safety Executive Board. Members include my Deputy and Associate

Laboratory Directors. I will address initiatives to better manage the interfaces between assurance system elements and improve corrective action management later in this testimony.

The Laboratory's assessment program is comprised of three major elements -- management assessment, independent assessment, and program review. Sub-elements are often executed at multiple levels within the Laboratory's organizational structure and hierarchy. For example, self-assessment can and must be conducted at virtually every hierarchical level, from post-job meetings at the work level to management walk-arounds and formal line self-assessments.

The semi-annual Appendix F performance reviews conducted by senior Laboratory management, the University of California, and NNSA leadership, are supported by these subordinate levels of self-assessment. Many elements of the Laboratory's assessment program serve as both management and independent assessments.

For example, an assessment of a specific functional area, such as radiological protection, is, from the perspective of the Laboratory, a self-assessment of the institutional radiological

protection program. That same functional assessment, however, serves as an independent assessment of organizations or facilities responsible for implementation of the radiological protection program requirements.

In the following discussion, I will focus on the two areas of assessment most relevant to the Board's interest. The management assessment program addresses the full spectrum of laboratory operations and includes both routine, i.e. proactive, and for cause, i.e. reactive, assessment activities.

Performance expectations and criteria for the management assessment program are driven by the performance-based nature of the University of California contract, to include Appendix F, and Laboratory policies and values defined by the Director's Central Safety and Security Committee and the Nuclear Safety Executive Board.

DR. MATTHEWS: Admiral Nanos?

ADMIRAL NANOS: Yes.

DR. MATTHEWS: Can I interrupt with a question --

ADMIRAL NANOS: Certainly.

DR. MATTHEWS: -- in the middle of your testimony? You said in the beginning that the

Laboratory wasn't up to your expectations in self-assessment.

ADMIRAL NANOS: That's true.

DR. MATTHEWS: Mr. Erickson sort of said the same thing about the Site Office. Simply, the question I have is, I see you've got a lot planned, but when are you going to be ready to take over the new roles and responsibilities? I'm asking both of you that question.

ADMIRAL NANOS: Well, we're not sitting -- I'll give you my answer. We're not sitting by idly waiting for something to happen. If you've been observing what's been going on, I'm sure you're aware that as a result of some of the activities and lack of attention -- lack of performance in this area, that I have accelerated some very important processes at the Laboratory to get at the critical areas, what I consider to be the most lacking areas in the Laboratory.

The three areas that I feel most concerned about are integrated work control, adherence to procedure, and probably the one that's the overarching one that causes the most difficulty with all of those is the whole aspect of communication -- basically, thin layers of management that aren't carrying the

message from my level down to the working level in the Laboratory.

This has been complicated at the Laboratory over the years by a sense that open discussion on vital issues is potentially a cause for retribution. I've got a couple of cases that I'm investigating now in some of the groups where people have come to me and said that, for example, when they disagree or want to discuss management's position, they are forced to apologize, for example.

This is one case I have going right now, and I have about 20 people who have -- who are willing to testify to that effect. So we're undergoing an investigation to find out why I can't get the kind of open communications in the Laboratory I need to conduct this kind of business.

We have taken action to go at integrated work management. I have accelerated that to the point where I did not wait until everybody got all of the procedures and the paper dry. I demanded that we actually start doing integrated work management on -- in the beginning of November before I knew that we could -- actually, in advance of the time I knew we could actually fully accomplish it.

And I've had a lot of support, and that's

why, as Ralph has told you, he has put his full support behind getting that done. As a matter of fact, he has been fully supportive of these kinds of activities. He does keep me abreast of his opinions on where I and the Laboratory fall short. We take those aboard.

And I guess what I'm -- the message I want to give you is that we're not standing by. We've implemented new organizational -- organizations. We are pulling together our event tracking system. Any time I have a major incident I demand that a -- an Associate Director level review be done of serious safety incidents to get the top management of the Laboratory down into the details of the issues that are going on in the Laboratory.

This sort of thing takes time, but, you know, I think we're starting to see some results, at least in awareness.

DR. MATTHEWS: So are you saying that even though there's work to be done --

ADMIRAL NANOS: Well, there's a lot of work to be done.

DR. MATTHEWS: -- you're good enough right now to --

ADMIRAL NANOS: No, we're not good enough.

All I'm saying is --

DR. MATTHEWS: So when are you going to be good enough? That's --

ADMIRAL NANOS: Well, no. Well, the point is it's hard to know. I have, you know, 20 -- well, it's hard to go back 20 years. But I'd say demonstrable problems over the -- in this area over the last decade, and particularly organizational issues that have grown up with them, and the cultural issues, do not get changed overnight.

But I think that -- the reason I reacted the way I did is the characterization that we are waiting somehow for some sign from above to get on with business is a mistaken impression, because we're not. We're actively pursuing improvements.

MR. ERICKSON: With regard to the NNSA side, much like as was found in the Columbia report, culture is the key. And we have a lot of culture to change, both within the Laboratory and within the Site Office. We're having to relearn some things ourselves, learn that we have responsibility and authority, and know how to impart this attitude to the the the staff that we're trying to hire.

That's starting to change, because of recent relaxation in our ability to hire outside of

NNSA. So we'll be able to reach out to places like Rocky Flats and hire some FRs from there, I hope, reach out to some other parts of the Department and outside of the Department even to hire some subject matter experts.

But as Pete is saying, we're not waiting for some sign from above. We're actively moving out, and it is going to take time. Culture doesn't change in a month or six months or even a year. But if we don't start, then it will never change. And I believe that we need the commitment to change, and that we are changing.

ADMIRAL NANOS: I would like to add one other additional thing. I said earlier if you go to the NR or the SP, or even the model I was setting up in NAVSEA, it's dependent on a proactive examination or a full court press on issues.

One of the things I found when I came to the Laboratory is what I think is a lack of skill in just management walk-arounds, for example, people being aware, having the skills to go through a space and examine and say, "Okay. What's in this corner? What's right? What's wrong?" and moving on and being aware of what you're seeing.

So we've gone so far as to hire safety

experts to come in and train and conduct guided walk-arounds with our senior managers to train them to do what we would call in the Navy, "Zone Inspections," proper Zone Inspections, so that we get the kind of active feedback on issues that we think are necessary.

Self-assessment. A variety of activities fall into this category and include management walk-arounds, formal line organizational self-assessments, and Appendix F performance evaluations. Managers are required to conduct a minimum of three formal walk-arounds per quarter. We have taken actions in recent months to improve the quality of walk-arounds.

The line organization self-assessment program has been revised in the last year to better engage my senior executive team in defining expectations and to better tailor objectives and criteria to areas of institutional emphasis. Line organizations are required to conduct these assessments on a quarterly basis. Line self-assessment data are reviewed by the Director's Central Safety and Security Committee.

And I'd like to add to my written testimony, one other thing I've done at the Laboratory is I hold quarterly retreats at the division level. The main reason for doing that is to make sure the

critical issues in the Laboratory -- that I have a dialogue at the second-line supervisory level within the Laboratory to make sure that these issues -- that my feeling and emphasis on these issues are strongly transmitted to the rank and file.

Too many times we found out that, you know, all of the furor at the top end of the Laboratory never made it to the group level.

Functional assessment. These assessments focus on 11 functional areas -- emergency management, environmental protection, facility management, fire protection, management systems, occupational safety and health, packaging and transportation, quality management, radiation protection, safeguards and security, and nuclear safety basis.

The functional managers for each area are required to conduct assessments of their respective institutional program on a semi-annual basis. As with the line self-assessments, the results of functional assessments are reviewed by the Director's Central Safety and Security Committee.

The results of these assessments contribute directly to Appendix F performance evaluations. We are better-defining the roles and responsibilities of the functional managers to

strengthen this program.

Readiness -- the Laboratory formalized its readiness program in late 2002 with the issue of a formal requirements document and associated guidance that drive implementation of DOE-O-425-1C, *Startup and Restart of Nuclear Facilities*. Program implementation is still immature as evidenced by the number of pre-start findings identified in Readiness Assessments.

We are seeing improvements, however. Most recently, an NNSA Readiness Assessment of Laboratory packaging and transportation activities concluded in two days, due in large part to the quality of the Laboratory's Readiness Assessment.

Non-conformance reporting -- although non-conformance reporting is formalized in several organizations and programs -- for example, the weapons Quality Assurance organization -- we do not yet have an institutional non-conformance reporting program in place. This initiative is included as part of our institutional Quality Management Implementation Plan.

Incident investigation and reporting. The Laboratory maintains a robust occurrence investigating and reporting program in accordance with the requirements of DOE-O-231-1A, *Environment Safety and Health Reporting*. In January 2004, we will implement

a Laboratory-wide incident reporting system to capture events that do not meet formal reporting criteria but have the potential to provide valuable data that would indicate the onset of adverse trends.

Price-Anderson investigation and reporting. The Laboratory's Price-Anderson Program has been strengthened significantly in the last year. The Nuclear Safety Executive Board directly involves senior Laboratory management in assessment and mitigation of nuclear safety vulnerabilities and provides oversight and direction on all Price-Anderson related issues and actions.

The Price-Anderson Program Office coordinates activities of the Price-Anderson Corrective Action Working Group, which is comprised of representatives from each Laboratory directorate and division with nuclear safety responsibilities.

Employee concerns. Group-level nested Safety and Security Committee meetings provide employees a venue to communicate safety concerns. As necessary, those concerns are elevated to the division and directorate levels, and, if still not resolved, to the Director's Central Safety and Security Committee.

Employees may also communicate through the Laboratory's Safety Concern Program. This web-based

program directly engages the responsible line manager and tracks concerns to closure.

I would also add that I get personal e-mail and personal e-mail where people's identities are protected. And I do get feedback when that system apparently is not working, and I get a chance to dig deeper to make sure that we're doing what we need to do.

Independent assessment. The internal independent assessment program is managed by the Laboratory's Audits and Assessments Office. This organization also coordinates external assessment activities. The office reports administratively to me and functionally to the University of California auditor. That endures independence.

I have just established and chaired the Audits and Assessments Work Group. Comprised of senior Laboratory managers, the work group provides input to the auditors and assessors on risk identification and mitigation strategies, to assist in ensuring timely follow-up on corrective actions, and to create a forum for auditors and assessors to communicate with senior management about significant findings and trends identified throughout their work.

The University auditor is a member of the

LANL Work Group.

Internal independent assessment. The Internal Assessments Group, AA-2, conducts performance-based and compliance assessments and reviews of Laboratory processes and activities. These reviews include the 11 functional areas addressed in the management assessment program.

Evaluation schedules are risk-based. Unscheduled reviews are conducted throughout the year, as requested by Laboratory managers or as deemed necessary by the Audits and Assessments Office. As warranted, I task my associate directors with conducting independent for cause assessments of abnormal events.

Corporate assessment. The University of California provides corporate oversight through its Regents' panels. In mid-November, the University rolled out plans to strengthen its Laboratory governance model.

Key elements include a strengthened Laboratory management organization, the establishment of a Laboratory Management Council, and a National Security Laboratories Board of Directors, and plans for the addition of industrial partners to assist in the management and oversight of the Laboratory --

essentially, to get additional talent, mature talent, into the Laboratory to help us with the issues.

Third party assessment. Although the Laboratory does not yet have a formal program in this area, we recognize the value of independent third party assessments. Recent examples of such assessments include the Price-Waterhouse-Coopers review of business operations and the BWXT assessment of nuclear facility operations.

We intend to strengthen this program in the coming year with assistance from the University of California. In addition, the University and the Laboratory are exploring industrial partnerships to provide cutting-edge expertise in areas of nuclear and higher hazard facility operations and business practices.

External assessments. The Audits and Assessments Office serves as the institutional liaison for routine and for cause external assessments. The Laboratory coordinates its internal assessment schedule with external assessments conducted by NNSA's Los Alamos Site Office.

Ongoing real-time external oversight is provided by that Site Office Facility Representatives and is augmented by formal assessment activities by

the Site Office and the Office of Independent Oversight and Performance Assurance.

DOE and NNSA oversight and assurance models. As noted by Ambassador Brooks in his testimony to the Board on October 21, the NNSA's oversight policy builds directly on the draft oversight policy -- DOE-P-226.1 -- and contains three fundamental elements -- critical, honest self-assessment; line management reviews; and independent oversight reviews.

Contract clause H.007, Performance-Based Management, directly supports these elements in defining expectations for a broad-based, comprehensive Performance Assurance System of which Appendix F is a key component. In turn, the Laboratory's assurance system model identifies three major attributes that support both the ideals of the draft oversight policy and contractual expectations.

Governance. Formal processes exist for establishing and maintaining dialogue between the contractor and Site Office to address key issues and formulate appropriate risk-based decisions.

Assurance. Periodic and systematic review and evaluation of performance is afforded through assessment processes and systems that support

Appendix F.

Improvement. Processes and mechanisms are in place to assure appropriate, risk-based actions are developed and implemented to improve performance.

As I noted earlier, many of the elements necessary to support this model are in place. Significant changes have been made in the last year to the management and administration of the contractual performance evaluation process defined in Appendix F. Those changes are consistent with the draft oversight policy and assurance system model.

Other recent initiatives supporting the ideals of the draft oversight policy include the establishment of the Performance Surety Division in April 2002, the implementation of new and revised Assurance System elements -- readiness, management assessment, issues management -- and the development and execution of an institutional Quality Management Implementation Plan.

A number of actions are necessary before the Laboratory can fully meet the intent of the draft oversight policy, and, more importantly, have confidence that we are capable of adequately identifying and managing our issues.

As I discussed earlier, work remains to

fully define both the functional and organizational interfaces of the Laboratory's assurance system elements to assure roles, responsibilities, authority, and accountability are clear and understood. We must also strengthen our corrective action management program to assure necessary actions are efficiently and effectively implemented.

Many of these improvements are underway, and others will be initiated in the coming months as part of our implementation of the institutional quality management program. I expect that it will take a year and a half to two years before our Performance Assurance System is sufficiently robust and mature. During that period, I both expect and welcome a level of NNSA and DOE oversight commensurate with the level of risk presented by Laboratory operations and the maturity of our Assurance System.

In the interim, I am taking a risk-based approach in the implementation of compensatory measures to address shortfalls in the Laboratory's assurance system. Many of these measures are associated with the commitments I made to the Department of Energy's Office of Price-Anderson Enforcement -- EH-6 -- in March 2003.

As you know, our appearance before EH-6

stemmed, in large part, from failures in our assurance system. Specifically, our inability to proactively identify and resolve issues resulted in nuclear safety violations, and ineffective corrective actions resulted in recurring violations.

Examples of some of the compensatory measures I have implemented include: establishment of the Nuclear Safety Executive Board, augmentation of the Price-Anderson Program Office staffing, appointment of a nuclear safety functional manager, and increased emphasis on implementation of the institutional Quality Management Program and components thereof -- for example, Software Quality Assurance, management assessment, etcetera.

More recently, the University of California and the Laboratory have embarked on developing industrial partnerships. This unprecedented initiative will integrate proven industrial expertise into key Laboratory management positions. The explicit intent of these partnerships is to accelerate the implementation of programs that are important to formality of operations.

I would welcome the opportunity to discuss this initiative with you in more detail.

It is important, obviously, to develop and

monitor metrics to determine if the Performance Assurance System is meeting expectations. The Laboratory can no longer rely on the all-too-familiar lagging indicators to tell us our management systems are not adequate. We intend to work closely with the University of California and the Los Alamos Site Office to develop appropriate leading indicators and metrics.

Many of the elements of the Laboratory's Performance Assurance System are in place. That system, as it matures, will meet the intent of the draft DOE oversight policy. Hence, relatively few new staff will be required to implement and maintain the assurance system.

Those functional areas in which staff augmentation will be required include causal analysis, issues management, and trending and analysis. Personnel with the needed competencies for these areas exist within the Laboratory and subcontractors.

Organizational realignments -- for example, the establishment of the Performance Surety Division -- have allowed us to take advantage of economy of scale and reduce potential organizational interface conflicts by collocating assurance system responsibilities in a single organization. Additional

organizational realignment is likely in the coming year to further enhance our ability to manage the Performance Assurance System.

And I intend to integrate -- obviously, integrate this with our industrial partners as they -- as their resources become available.

As is the case throughout much of the complex, the Laboratory's corrective action management program has been the weak link in our Performance Assurance System. The Laboratory does not currently have a well-defined, overarching corrective action management program. Various elements exist throughout the Laboratory, but they are not formally linked, vertically or horizontally.

The Nuclear Safety Executive Board and its protocols serve as compensatory measures for higher hazard nuclear activities pending broader Laboratory-wide implementation. Similarly, efforts are underway to increase the effectiveness of the Director's Central Safety and Security Committee.

A new issues management requirements document -- LIR 301-07-05, Issues Management -- was developed in June 2003 with full implementation scheduled in FY04. The Audits and Assessments Office manages and tracks corrective actions originating from

external assessments and their internal independent assessments. But we do not yet adequately assess corrective action effectiveness in all areas.

A notable exception is the Price-Anderson Program Office's assessment of the effectiveness of selected corrective actions important to nuclear safety. Increased emphasis on assessment of corrective action effectiveness will be integrated into the management assessment program.

To support these activities, we are actively working to identify and implement an issues management tool that better facilitates life cycle management of an issue from the point at which it is identified through the closure of the corrective action and a subsequent review for corrective action effectiveness.

Basically, we can't afford to just focus on the nuclear part of this, because the larger culture has to support the nuclear activities within.

Until recently, formal causal analyses were limited to formal investigations and occurrence reports. We have developed and are applying more formal causal analysis protocols for nuclear safety issues. The Nuclear Safety Executive Board is responsible for the oversight of that process. We are

in the process of extending and formalizing these causal analysis protocols Laboratory-wide.

The Laboratory's Occurrence Reporting and Investigation Group is developing a causal analysis process based on Integrated Safety Management [ISM] that will be defined in a forthcoming revision to the requirements document and supporting guidance on event reporting, LIR 402-130-01, Abnormal Events.

We have taken strengths to -- taken steps to strengthen and formalize our trending and analysis and performance indicators programs through the combination of two organizations within the Performance Surety Division. Significant efforts in trending and analysis of events reportable under DOE-O-231.1A will be expanded for broader application to other types of events.

All these efforts are important, but are of no value if not effectively communicated. To that end, we are taking actions to better disseminate lessons learned, as evidenced by several new Laboratory lessons learned publications.

These include: First Take, immediate dissemination of event-specific lessons learned information important to protecting the health and safety of the public, workers, and the environment;

Final Take, follow-up to First Take communications to -- it provides lessons learned information, including event causes and corrective actions, when the final investigation report becomes available; and The Mirror, a quarterly summary of lessons learned information.

The full development and implementation of the Laboratory's corrective action management program will be the rate-limiting step in being able to demonstrate a sufficiently robust and mature Performance Assurance System. Recognizing the importance of this issue, we have worked through DOE/EH to schedule a technical assistance visit from INPO [Institute for Nuclear Power Operations] in January 2004 that will focus explicitly on improving the Laboratory's management of corrective actions.

In summary, I want to reinforce that I have no greater personal responsibility than for the safety of the public, workers, and the environment. I am fully committed to do what I can to fulfill that responsibility, and have made it clear to my senior management team that my priorities are their priorities in this regard.

The Laboratory has made significant progress in the last year. I am proud of our

collective efforts, but we are not resting on those accomplishments. Obviously, we can't. We fully recognize there is much work to do before we meet the expectations of our stakeholders and customers, as well as our own personal expectations for excellence in all that we do.

We are taking a risk-based approach in the implementation of compensatory measures as we develop and implement the management systems and tools necessary to fully support the draft DOE and NNSA oversight policies. With the continued support and partnership of the DOE, NNSA, the University of California, and your constructive oversight, I have no doubt we will succeed.

On a closing note, we are aware of both the Board's and the Department's interest in the results of the Columbia space shuttle accident investigation. We share your desire to understand how lessons learned from that tragic accident can help us do our work more safely.

To that end, we have engaged in discussions with the University of California and hosted a visit from Mr. G. Scott Hubbard, Director of NASA [National Aeronautics and Space Administration] Ames Research Center, on December 11th. Mr. Hubbard

was the sole NASA official on the Columbia Accident Investigations Board.

We will also participate in formal discussions with Professor Karlene Roberts of the University of California/Berkeley at the January 2004 meeting of the University of California Regents' ES&H [Environmental, Safety and Health] Panel. Professor Roberts served the Board as a consultant on organizational causes.

Again, thank you for the opportunity to present this testimony to you today. I will gladly entertain your questions.

CHAIRMAN CONWAY: Thank you, Admiral Nanos.

Dr. Eggenberger?

VICE CHAIRMAN EGGENBERGER: Help me. I understand, I believe, the self-assessment system and assurance activities. And it appears to me that it applies very well to operational activities -- for example, activities that are going on in TA-55 and things like that. I understand that.

Now, the thing that I'm having a difficulty in dealing with is, how does this apply to new activities? And let me explain. And we talked a little bit about this previously. Let's take a large

project, new project, and where what you have done is you have set up an organization to provide a machine and an activity that you haven't done before.

For example, DYNEX [Dynamic Experiment] -- I would call that a large new project that is doing things. Now, how does this work as applied to an activity like that?

ADMIRAL NANOS: Well, it's --

VICE CHAIRMAN. EGGENBERGER: Does that -- do you see my problem here a little bit?

ADMIRAL NANOS: Yes. Of course, what you have to -- there are several levels at which that has to be addressed. First of all, you have to address the new activity in some detail. In other words, there's clearly Authorization Basis. There's a lot of thought that needs to go into constructing the environment, the facility, the operating environment. And there has to be a real addressing of the hazards.

What I have done at the Laboratory, and the thing that is part of what I consider to be the cultural change that leads to these things, is actually at the core of the integrated work management work control process that I've jammed into place; is the identification of what I call the Responsible Division Leader, and the accountability of the

Responsible Division Leader. And what I have to convince the laboratory of, is that at a -- and the Responsible Division Leader is the one who owns a facility, and is the one who I hold accountable for the operations and quality of operations, and the safety of operations within that facility.

This can be a Facility Manager in the case of an office building for white lab space. But in general, I demand that it is the person who has both the technical knowledge, because of the ongoing operations, because of the technical background. And also, the accountability for that facility because of their organizational position. And those are the individuals that I'm going to hold accountable for making sure that the proper activities are generated.

And more importantly, particularly when work is going on in facilities; and you'll note that probably one of the biggest problems we've had in the last year at Los Alamos has been the inability to correctly identify hazards associated with ongoing work. And almost everything has revolved around this inability to properly walk the work site down, identify the hazards, and make sure that the workers are properly trained, qualified, protected, and instructed, etcetera.

That's the critical issue. It's this issue of accountability that I think undergirds all that. We have slowed down the DYNEX experiment. We have done that to make sure that we have reviewed, and make sure that we are procuring the proper equipment facilities in order to be able to do that safely, and that we will not proceed with that project without proper mitigation. And so I personally set that back in time while that gets done. I'm not allowing the programmatic schedules to override that decision. That's causing some discomfort, but we'll get over it.

VICE CHAIRMAN EGGENBERGER: Thank you.

CHAIRMAN CONWAY: Dr. Mansfield.

DR. MANSFIELD: Thank you for a very complete presentation. Could you explain the distinction for me between your desire to improve -- let me phrase it differently. You want improvement to be assessment-driven, not event-driven.

ADMIRAL NANOS: Yes. When you've had an event, you're in trouble.

DR. MANSFIELD: Yet you distinguish between proactive and reactive, i.e., for cause assessment activities. Is there a distinction there?

ADMIRAL NANOS: Yes. The issue of proactive, go back to even my preliminary comments

before we've gotten into our testimony: proactive is management walk-around, management attention, is your assessment organizations, people going around with their eyes open, asking questions and developing issues.

I think the secret of Naval -- actually, the secret of not only just Naval Reactors in its operation, or SP and its qualities -- the fact that they had organizations which were tasked with an aggressive pursuit of issues and truth. And they would ask questions, and they would develop point papers and issues. And the people who owned those activities would have to respond and get into that dialogue.

I remember my experience in working in a Naval Ship Yard, as a young officer in the Naval Ship Yard, watching this in activity, not just in the Nuclear Reactor area, but that attitude. And, you know, confession is good for the soul, almost religious fervor that goes with that particular culture has a transformative effect throughout the organization. And so that's what I mean by proactive.

Actually, you know, rather than sitting there waiting in your foxhole hoping that lightning is not going to strike you, you get out there in the

middle of the action and make sure that your lightning rod is in place, and your grounding girdle is in place so that you don't get a problem.

DR. MANSFIELD: Yet, there is a role for cause reactive assessment.

ADMIRAL NANOS: Yes. And I think when you have an incident - of course, when you have an incident, it's too late to prevent it and have a good safety record. Now you're at the bottom of the heap trying to work yourself up out of the hole. And my view on that is put - particularly the serious issues - put senior managers not in the same organization in charge of the investigation.

That has had two effects. First of all, I've had some absolutely superb analysis done. Secondly, it has really made the managers aware of the issues associated with the operations and the culture at Los Alamos. And so, instead of -- they are now unable to operate at a level where they're manipulating symbols. They have to get down into the issues associated with the operation, and I think that's -- it's getting the senior management engaged proactively in the safety process, and the development of communications which will help them, and a culture that will help them get their concerns down to the

workforce level.

That's probably the biggest barrier we have at Los Alamos, I think, is the combination of proactive engagement and communication going with it to get those concerns truly down to the first line supervisor.

CHAIRMAN CONWAY: Dr. Matthews.

DR. MATTHEWS: Yes. You've described a very thorough and elaborate self-assessment system that I have no doubt when implemented, it will meet the goals and improve safety at the Laboratory. I want to ask a question that's a little bit outside of that box, if you'll allow me.

As you know, the weapons laboratories have the responsibility for the safety and reliability of the stockpile, and for safely managing nuclear materials. This role, as you also know, has to be underlined by scientific technical expertise and unique facilities. Some of the other recent changes, and these are my interpretation of what I read from DOE, is changes in the way contracts are managed, more emphasis on deliverables, more likelihood of contract changes, contractor changes, contract management changes.

Both Los Alamos and Livermore have carried

the stewardship role on for the last 60 years, so my question to you is, with the changes - and I'll ask Mike the same question - with the changes that are occurring, how do you plan to set in place this foundation that is crucial to the safety of the stockpile and nuclear materials? Have you thought about that issue?

ADMIRAL NANOS: Well, I think when you say put it in place, the changes -- I guess I would tell you that my view of this is that I am not going to allow the changes to impact the safety and security of the stockpile. My responsibility --

DR. MATTHEWS: Maintain, I should have said.

ADMIRAL NANOS: Yes. And so the point here is that - and I think Mike probably feels the same way - it's our job every year to inform the country independently, and without any sort of coercion or pressure from NNSA, UC, or anybody else on our personal take on the safety, security, and reliability of the stockpile. And the mechanisms by which I assess that, and the mechanisms by which I assure that the resources are correctly allocated, in that regard, is very direct and personal. And it's clearly the key function of the Laboratory for this

country -- weapons laboratory, as distinct from another facility or manufacturing Site.

I mean, we do, too. We're the second largest manufacturing Site in the complex, but we're also a weapons design laboratory. And you're talking about that particular function. And we can't allow, and I won't allow these changes to impair that function.

CHAIRMAN CONWAY: Am I right in concluding, with the possible exception of the third party assessment, that the changes that you are implementing you would be doing whether or not NNSA is changing its method of oversight?

ADMIRAL NANOS: Yes. I think the issue here is that you can't operate a facility like Los Alamos to the level of professionalism and performance you want to, without a level of formalism and attention to detail, and the formalism to get there. And remember, with the NR, SP, NAVSEA, all those organizations are basically oversight organizations, but they fundamentally are there to ensure that the contractor has mature systems to enable the degree of control and compliance that you want.

And unfortunately, our systems are weak, so we've got to -- regardless of whatever happens,

whatever oversight system you want to put on it, adequate performance is going to depend on us putting the systems in that everything else rides on.

CHAIRMAN CONWAY: Let me put it a different way then. What changes, if any, are you now going to implement because NNSA is requiring you to do something different, or because of their changes that they are making from their point of view? So I've concluded you would be doing this anyway.

ADMIRAL NANOS: Yes. No, I can't think of anything that I'm going to change, unless they decide to forbid us from doing things. If you're trying to get done. And Ralph has indicated he's going to forbid me making any improvement.

CHAIRMAN CONWAY: With that, then I want to thank you very much for the time and effort you put into preparing your testimony, and we wish you success in your operations. Thank you all. And with that, we'll ask for the contingent from Livermore. We'll start with you, Camille, if I may.

MS. YUAN-SOO HOO: Okay. That's fine.

CHAIRMAN CONWAY: If you want to at any time put your statement in the record to summarize, they'll do it whichever way you want to do it.

MS. YUAN-SOO HOO: I shall do that.