

**Statement by the Assistant Secretary
for Environmental Management
before the Defense Nuclear Facilities Safety Board
December 7, 2005**

Good morning Mr. Chairman and Members of the Defense Nuclear Facilities Safety Board. I am happy to be here today at your request to present the Office of Environmental Management's process for integrating safety into design and construction. With your permission, I would like to submit my written statement for the record.

This is my first time to address you as the Assistant Secretary for Environmental Management (EM). The Defense Nuclear Facilities Safety Board has an established history with the EM program. My gratitude to each of you for your contribution to furthering a safer workplace----a goal we commonly share. My hope is that over my tenure, we can take further steps together to a stronger and safer cleanup program.

As each of you are aware, the EM program manages some of the most inherently hazardous materials and is responsible for some of the nation's most crucial environmental actions. Safety is always our top priority. It applies to all ---federal employees and contractors. We will continue to maintain and demand the highest safety performance in all that we do. Every worker deserves to go home as healthy as she or he was when they came to the job in the morning. I have sent several messages to all our field managers emphasizing that safety must always be our first priority. No schedule, no milestone, no cost consideration is worth any injury to our work force.

We believe safety is a cornerstone in the execution of good project management. The overall responsibility for both project management and safety in our environmental cleanup projects resides with the Assistant Secretary for Environmental Management at all but NNSA sites. Line management responsibility, including safety, flows from me to my Chief Operating Officer, then directly to the Field Managers and the Federal Project Directors, and then ultimately to the contractors. The Deputy Assistant Secretary for Integrated Safety Management (ISM) and Operations Oversight provides EM line management oversight and assessment functions, as well as having approval authorities related to nuclear facility safety basis and startups/restarts at some sites

We have taken direct steps to embed safety into the design process using a defense-in-depth philosophy, as well as rigorous adherence to quality assurance criteria. Overall, this process relies on 1) a systematic analysis of the hazards; 2) conformance with commitment to the appropriate design codes and standards, 3) continuous refinement of design and close communication between facility designers/engineers and safety personnel using a formal design control process; and 4) Department of Energy (DOE) oversight using qualified and technically competent personnel. For safety assurance for nuclear facilities, projects must comply with nuclear safety design criteria, radiation

protection criteria, quality assurance requirements, and worker safety design principles along with the applicable OSHA requirements.

Design decisions must be justified at critical decision points throughout the project, beginning with the conceptual design phase. The conceptual design phase requires a hazard analysis and selection of safety related systems, structures, and components. The safety analysis evolves as the design progresses through preliminary and final design. A Preliminary Documented Safety Analysis must be prepared and approved by the DOE as a prerequisite for approval of the final design for Hazard Category 3 or higher facilities. This safety basis is typically reviewed using an Integrated Project Team that is managed by the Federal Project Director.

The Federal Project Director is directly responsible and accountable for integrating safety into the design. EM has nominated 59 individuals for certification by the Department's Certification Review Board. The Department's certification program for Federal Project Directors ensures that project managers are qualified in the areas of design, systems engineering, safety systems design, and integrated safety management. At this time, the Certification Review Board has completed certification of 12 EM candidates with the goal of completing the certification process for our first round of EM candidates by May 2006. Regardless of the Federal Project Director's level of certification, an Integrated Project Team (IPT) will be developed for each line item construction or operating project to ensure that the appropriate level of expertise is available in the areas of design, systems engineering, safety systems design, and integrated safety management. The IPT must possess the requisite skills for safety basis authorization, which could be vested in the Federal Project Director himself or one or more of the IPT members.

However, as you are fully aware, the mission is not an easy one---the most visible example of a project with many challenges being the Waste Treatment Plant (WTP) at Hanford. Another is the Salt Waste Processing Facility (SWPF) at Savannah River where Natural Phenomena Hazard design modifications have caused delays. From these and others, we clearly recognize that there are two key areas in need of immediate attention. The two key areas are the experience level of our people and the quality and timing of analysis.

In regard to the first key area, EM has delegated, in many cases, safety basis authorizations, including the preliminary hazard analysis to the field. However, it is now being recognized that decisions that were made early on in the design process are being reconsidered when the project is reviewed at the Headquarters level. These shortcomings may be caused by:

- 1) Federal Project Directors and other key senior project officials do not always have adequate experience and/or training to understand the principles of integrating safety into design and construction or to execute complicated projects with significant nuclear safety implications.

- 2) Integrated Project Teams do not always include the needed expertise. In a wide variety of disciplines such as ventilation/confinement, nuclear safety, fire protection, and system engineering, these experts are not being involved early enough in the process to assure the right requirements are being included.

As we put certified Federal Project Directors in place, the certification process will assure that each individual has the specific training and experience requirements. Additionally, we will review the Integrated Project Teams, especially projects requiring nuclear facility expertise, to assure they are appropriately staffed with sufficient expertise in areas such as engineering and quality assurance. We are also looking for enhancements to the mechanisms/processes used to ensure technical competence of Federal staff who oversee project management activities.

The shortcomings I mentioned just now and the predominant causes, which we will correct, have had significant impact on certain projects. Inadequate analysis and independent technical safety reviews have contributed to decisions being delayed, thus leading to changes late in the design or even during construction. In some cases, you, the Board, raised concerns to us – such as those on the Waste Treatment Plant, and Recommendation 2004-2 on Active Confinement System. We must institute safety reviews earlier in the design process, and DOE oversight must be present throughout an entire project using qualified and technically competent personnel.

While I am focused on enhancing our overall process for improving project performance, several actions have been or are being taken to correct or remedy safety integration and design decisions. Starting in Fall 2005, EM now requires, as part of the annual ISMS declaration, demonstration of how the ISM functions are implemented for design/construction projects.

Another action is the establishment of a systematic process for delegating approval authorities to field managers that requires consideration of available safety expertise. This is being coordinated with the Chief of Nuclear Safety (CNS) for the Energy, Science, and Environment (ESE) Central Technical Authority (CTA) as part of implementing the Board Recommendation 2004-1.

Also, EM has established an additional level of oversight of selected projects through the Deputy Assistant Secretary for ISM and Operations Oversight. Weekly progress meetings have been held to provide expert technical direction and support on projects such as the SWPF at Savannah River Site, Bulk-Vitrification Facility at Hanford, K-Basins Closure Project at Hanford, and Sodium Bearing Waste Treatment Facility at Idaho. Direct safety enhancements have resulted, such as the decision to upgrade the SWPF seismic design to Performance Category 3 requirements and the decision to incorporate a safety related active confinement system for the Bulk-Vitrification facility design. In addition, for the SWPF, the Savannah River Site manager has assigned the Director of Engineering Division independent design authority functions for the project instead of having someone performing those functions within the project team.

I believe these are important first steps to enhancing safety integration into design and construction. But we must be diligent in our efforts to assess our processes and expertise. I want to emphasize to the Board that EM is committed to executing our projects safely. To achieve this, I will continue to 1) strive for highly competent Federal Project Directors, technical functional leads, engineers, and safety experts; 2) work diligently with others in the Department to clarify and improve our policy and guidance; and 3) enhance EM Federal oversight, both in the field and in Headquarters, of the project planning and execution, including timely review of the safety analysis and design criteria determinations.

I look forward to your comments and questions. Thank you.