

**Statement by the Deputy Secretary  
To the Defense Nuclear Facilities Safety Board  
December 7, 2005**

**Mr. Chairman and Members of the Defense Nuclear Facilities Safety Board** – Good morning. For the record, I am Clay Sell, the Deputy Secretary of the Department of Energy (DOE) for the United States of America. I am here today at your request to discuss the Department's policy for integrating safety into design and construction.

I acknowledge the Board's responsibilities, established in the enabling legislation, for reviewing safety standards for design and construction, and for reviewing facility design and construction of new DOE defense nuclear facilities. I thank you for your efforts that make the Department stronger and safer. I have reviewed the legislative record that led to the establishment of the Board in 1988. Following the Chernobyl disaster in the former Soviet Union, the Secretary of Energy initiated multiple independent studies of its own nuclear facilities. These studies identified significant safety issues including a lack of clearly defined safety requirements, weaknesses in technical experience and expertise among Federal personnel, and a generally impoverished safety culture. Since 1988, the Department, with the Board's advice and support, has worked steadily at addressing these issues and I believe we have made significant progress. Our shared goal should be to fully address any remaining issues so that the Department can function safely and effectively on its own, without the need for independent Board oversight. I have directed my staff to identify and initiate those additional actions needed within the Department to reach this goal. I ask the Board to work with us as we identify and address remaining gaps that must be addressed to reach this goal.

On the topic of integrating safety into design and construction, I want to begin by reiterating the Department's commitment to safety. This is my personal commitment and it is a commitment shared by the Secretary and the entire senior leadership team. Safety is more than a priority; it is a core value. We will not design and build facilities unless we are confident that we can operate them safely. To do this, we must fully understand the associated safety hazards and implement necessary controls. We will ensure that the design requirements are consistent with the specified safety standards, and we will ensure that the construction is consistent with the design requirements.

As the Department's Secretarial Acquisition Executive, I consider safety to be one of the essential factors in making decisions to initiate and advance projects from identification through design, construction, and start of operations. The Department's critical decision process, as defined by our project management order, clearly requires safety to be addressed at each phase of the project. We understand safety is an integral part of the life cycle of every project and that proper implementation of safety requirements is an essential consideration for each Critical Decision (CD). The Energy Systems Acquisition Advisory Board (ESAAB), which I chair, includes the Department's senior leadership who work collectively to ensure each Critical Decision is fully vetted before moving forward.

We want safety issues to be identified and resolved as early in the design process as is practicable. By so doing, we can address safety in a manner that will result in minimal project delays and fewer cost overruns. This is what sound project management is about, and this is why the Secretary and I place such importance on effective project management. This is not only good safety; it is also good business. As stewards of the country's defense nuclear facilities, we can not have one without the other.

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Program Strengths. The Department is firmly committed to our project management program. The Department is having successes using this approach: for example, the Tritium Extraction Facility at Savannah River has done well once the project was re-baselined and the Pit Disassembly and Conversion Facility at Savannah River appears to be starting well. I want to highlight several strengths of our project management program; these are strengths that we can and will build upon to realize our vision for this program.

1. The goal of our project management program is clearly defined in our DOE Policy 413.1, *Program and Project Management Policy for the Planning, Programming, Budgeting and Acquisition of Capital Assets*, issued in June 2000: “to deliver capital assets on schedule, within budget, and fully capable of meeting mission performance and environmental, safety, and health standards.” Safety and mission objectives should run hand in hand. A well run project will achieve both in a disciplined manner.
2. The DOE Order 413.3, *Project Management for the Acquisition of Capital Assets*, issued in October 2000, and accompanying DOE Manual 413.3-1, *Project Management for the Acquisition of Capital Assets*, issued in October 2003, are significant steps moving us forward in instilling the required discipline into the acquisition of major capital assets. We are committed to strong and disciplined project management. This is the right direction for the Department, and we need to build upon and enhance this management process to ensure that safety is well integrated. In strengthening our existing process, we must ensure that we preserve our capability to wisely use a graded approach to tailor the process based on complexity and risk; however, this graded approach must have appropriate guidelines and expectations to maintain necessary checks and balances.
3. The Department is moving forward with the certification of our Federal Project Directors. DOE has a formal certification process with a Certification Review Board jointly chaired by the OECM and NNSA. Currently over 85% of our capital asset projects are headed up by certified Federal Project Directors. The Certification Review Board meets regularly to consider additional candidates in order to meet the May 31, 2006 deadline when all capital asset projects must be led by a certified Federal Project Director. In addition, the Office of Environmental Management is aggressively pursuing certification for their Federal Project Directors managing the EM operating projects. We are moving in the right direction, and we need to increase the coverage of safety in the qualification process.
4. The Department has a strong set of safety rules and directives, including 10 CFR Part 830, *Nuclear Safety Management*, and DOE Order 420.1A, *Facility Safety*. These directives provide clear safety requirements for projects, and can be enhanced by providing more explicit expectations in our safety directives for early stages of design. We have an adequate foundation of DOE rules and directives, and we need to build on this foundation by making necessary clarifications and amplifications. Our current safety directives focus primarily on existing facilities and we need to augment them for new designs.
5. The Department has strong Integrated Safety Management systems implemented at our facilities, and we are implementing the Secretary’s 2004-1 implementation plan to institutionalize and revitalize our safety management implementation. We need to build on this program and better understand how to apply it to design and construction phases.

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Program Weaknesses. Recent history shows that the Department can improve its performance by adequately identifying and resolving safety issues early in the design cycle. Although safety is an integral part of the project management, I have concluded that DOE needs to improve how safety is incorporated into design, especially in the early project planning phases. Projects such as the Waste Treatment Plant at Richland, the Salt Waste Processing Plant at Savannah River, and the Sandia Underground Reactor Facility make clear the need to better incorporate safety into early design activities. In August 2005, the Secretary issued direction on improving project management. We are improving project management and will continue to move forward.

1. In terms of policy, we need to revise and reissue the DOE Order 413.3, *Project Management for the Acquisition of Capital Assets*, originally issued in October 2000, to bring it into agreement with the Manual. Based on experience and feedback, we have identified a number of potential improvements to clarify and strengthen the project management order, including the following: (a) more complete description of safety expectations for early design steps as well as for project completion and turnover; (b) clarification of the expected use of the graded approach by identifying clear expectations, including more complete expectations for acceptable use of design/build approaches; (c) clear requirements regarding safety qualification of individuals involved in project management and integrated project teams; (d) clear references to the required safety rules, directives, and standards; (e) more complete coverage of tailoring and safety issues at ESAAB meetings; (f) provisions for safety oversight by the Chiefs of Nuclear Safety, (g) provisions for safety engineering reviews by the Office of Environment, Safety and Health for capital asset projects over \$5 million, and (h) more complete requirements for after-action reports to promote effective learning from experience.
2. While we pursue changes to the project management order to better control and verify that safety is being adequately addressed, we know that line management, not the project management staff organization, owns the responsibility for developing designs using sound engineering practices. In terms of implementation, the line programs need to better staff their project teams with the necessary design engineering and safety expertise to ensure safety requirements are properly identified, translated into the project's design documents, and maintained in effect throughout the procurement, construction, and testing phases of the project. Where this expertise is not readily available within the Department, I expect them to contract this expertise. Line programs also need to more clearly define contractual expectations regarding the early integration of safety into the alternative studies and project design.
3. In terms of safety oversight, the Chiefs of Nuclear Safety are coming up to speed in accordance with the Secretary's 2004-1 implementation plan, and will soon begin providing effective oversight on the selection of safety requirements and standards for design and construction, and translation of expectations into contract requirements. I also expect the Chiefs to review project team make-up and contractor oversight, and sample safety hazard analyses, facility hazard categorization, safety analyses, safety system identification and performance categorization, and resolution of design and construction safety issues so that they can provide feedback and input to their Central Technical

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Authorities regarding whether they have confidence that the project teams have effectively integrated safety considerations into design and construction work activities.

Expectations. I would like to share with you my top-level expectations regarding integrating safety into project design and construction. To the extent that we have not fully realized these expectations, I have directed the responsible organization parties to identify specific actions to close the gaps between our performance and our expectations, and take those actions on a deliberate pace to fully meet these expectations.

1. I expect safety to be fully integrated into design early in the project. Specifically, by the start of the preliminary design, I expect a hazard analysis of alternatives to be complete and the safety requirements for the design to be established. I expect both the project management and safety directives to lead projects on the right path so that safety issues are identified and addressed adequately early in the project design.
2. I expect my line organizations to follow the requirements defined in the project management order and manual. The Secretary's August 2005 memo made it clear that he expects compliance with these directives.
3. I expect line project teams to have the necessary experience, expertise, and training in design engineering, safety analysis, construction, and testing.
4. I expect that the Chiefs of Nuclear Safety will provide safety oversight during the design, construction, and testing phases of our projects.
5. I expect staff work and presentations to the ESAAB to be sufficiently complete so that they highlight tailoring issues and safety issues that need management attention. I expect every ESAAB review to include a discussion of relevant safety issues.
6. I expect that we will learn effectively from our project experience so that future projects are more likely to be completed on time and on budget with all mission and safety objectives satisfied.

Path Forward. I have asked the OECM to begin needed revisions of the project management order in January 2006 and develop and issue this revision as a priority task during the upcoming year. I have also asked EH to review the existing safety directives and identify those that need to be revised to provide clear requirements regarding safety in early project phases. I do not expect line offices to await issuance of the revised orders before they move forward on implementing the expectations I have described above.

In closing, the Department has a solid foundation and is moving in the right direction in improving its project management practices. We recognize that improvements are needed in how safety is incorporated into design and construction, and we will make these improvements. Today, my senior managers will also speak to you about their efforts for effectively and efficiently integrating safety into the implementation of our projects. I look forward to hearing your advice and counsel on this topic.

Thank you, Mr. Chairman and Members of the Board, for your interest and attention. I am now prepared to address any questions that you may have.