



## Department of Energy

Washington, DC 20585

January 9, 2007

The Honorable A.J. Eggenberger  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue NW, Suite 700  
Washington, D.C. 20004-2901

Dear Mr. Chairman:

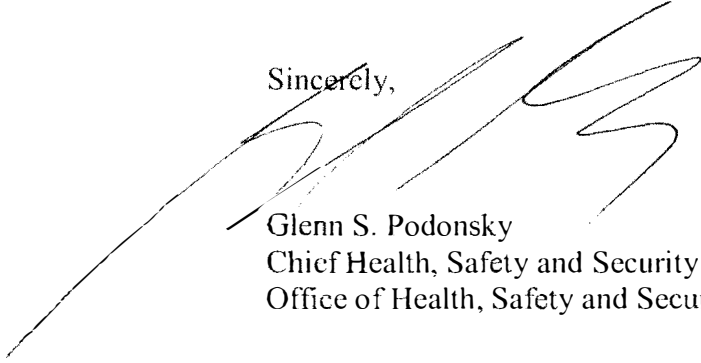
On November 23, 2005, you sent a letter to the Secretary of Energy requesting information on the Department of Energy's (DOE) plan "to ensure the appropriate use of risk assessment methodologies at defense nuclear facilities." On January 23, 2006, former Assistant Secretary for Environment, Safety and Health, Mr. John Spitalcri Shaw, responded to you on behalf of Secretary Bodman, and provided the Defense Nuclear Facilities Safety Board (Board) with a draft policy and Risk Management Planning and Execution Guidance document. He also described a number of steps necessary to coordinate and improve these products. The Department's expectation as stated in this letter was to have the final policy and guidance documents available for DOE-wide review within twelve months of the date of the letter.

A number of steps were taken by the Department towards meeting this goal. In June 2006, the Department organized and held a meeting with the Board's staff as well as Program Secretarial Office (PSO) representatives. The group reviewed a new version of the draft guidance document and recommended that direct involvement of staff from agencies such as the Nuclear Regulatory Commission (NRC) and the National Aeronautics and Space Administration (NASA), with significant experience in using risk assessments, would benefit this product. As a result, a workshop was organized and convened in September 2006 in Germantown, MD with participation of a number of PSO organizations, Board staff, and representatives from NRC and NASA. After significant information exchange and discussions, the workshop participants recommended that the next version of risk assessment policy and the guidance document be developed sequentially to avoid "back tracking" and confusion as to when elements of the policy or guidance had to be modified as a result of the review process.

Following this approach, the revised draft DOE *Risk Assessment Policy for Nuclear Safety* has been developed and attached for your review and comments. It is our

expectation to have the Policy and the guidance document ready for submittal to the DOE Directives System in March 2007.

Sincerely,

A handwritten signature in black ink, appearing to read 'G. Podonsky', written over the word 'Sincerely,'.

Glenn S. Podonsky  
Chief Health, Safety and Security Officer  
Office of Health, Safety and Security

**U. S. Department of Energy**  
**Washington, D.C.**

**POLICY**

**DRAFT**  
**DOE P XXXX**

**Approved: XX-XX-06**

**SUBJECT: RISK ASSESSMENT POLICY FOR NUCLEAR SAFETY**

---

**PURPOSE**

The purpose of this policy is to ensure consistent and proper use of risk assessment methods in making informed nuclear safety decisions within the Department of Energy (DOE). The policy establishes a framework for determining the formality and rigor needed in such assessments based on the importance of risk assessment results in making decisions about nuclear safety.

Currently, DOE manages the risks of its nuclear operations by ensuring rigorous implementation of its safety requirements for contractors' nuclear activities at DOE facilities. A major aspect of this process involves analyzing, understanding and mitigating hazards through appropriate engineering and administrative controls. This policy identifies ways in which DOE's nuclear safety decision making processes can be strengthened through application of formal risk assessment methodologies.

This policy promotes the use of a structured process for risk assessment to:

- Enhance use of traditional deterministic safety assessment methods prescribed in DOE Directives and standards and currently used in the development of safety basis for nuclear facilities and operations, by:
  - prioritizing safety challenges on the basis of risk significance,
  - explicitly identifying and quantifying uncertainties in analyses, and
  - testing the sensitivity of the results to key assumptions.
- Provide a framework for addressing changes in nuclear safety requirements where new standards and other requirements are introduced over the course of a project;
- Provide transparency and openness of the risk-assessment methods and processes; and
- Enhance the quality and credibility of the results and decisions.

## **SCOPE**

This policy applies to all DOE elements with nuclear operations or activities with the exception of Naval Reactors (Naval Nuclear Propulsion Program).

## **POLICY**

It is DOE policy to use risk assessments where they can improve decisions involving issues associated with nuclear safety. Moreover, when the decision making process places heavy emphasis on risk assessment results, it is DOE policy that a high level of formality and rigor be applied. In these situations:

- DOE and contractor managers designate the risk assessment activity as an activity important to nuclear safety and will explicitly require that a formal risk assessment be conducted.
- Results will be documented clearly, be consistent with existing DOE rules, Directives and standards, and models and data sets utilized will be documented for traceability.
- The development and publication of the risk assessment documents will follow rigorous planning, approval and quality assurance steps, including formal approval of an assessment plan by management and appropriate peer review process.

These actions should be consistent with DOE implementation of the Data Quality Act (PL 106-554) and guided by the standards specified in the Office of Management and Budget's Proposed Risk Assessment Bulletin<sup>1</sup>, as applicable, practical and appropriate.

Details and rationales for steps concerning decisions on the importance of risk assessment to safety, approval of the plan, and the peer review process are described in the guidance document supporting this policy. Because of diversity of nuclear activities within DOE, a single risk assessment approach is neither practical nor appropriate. Therefore, planning for selection of risk assessment methodology and associated tools must give careful consideration to a variety of available alternative options. DOE and contractor management will ensure application of a graded approach. The rigor of a risk assessment will be tailored to provide the information needed to support a decision on an acceptable level of risk for a nuclear activity and will address the availability and quality of data, and its intended purpose in informing the specific nuclear safety issues of interest.

---

<sup>1</sup> The Office of Management and Budget's (OMB) Office of Information and Regulatory Affairs (OIRA) released a proposed bulletin on risk assessment on January 9, 2006. The proposed bulletin seeks to improve the quality of agency risk assessments by providing clear, minimum standards for the scientific quality of federal agency risk assessments. The National Academy of Sciences is currently peer reviewing this bulletin under a project cosponsored by the Environmental Protection Agency (EPA), the Department of Agriculture (USDA), the Department of Defense (DOD), the Department of Energy (DOE), the Department of Health and Human Services (HHS), the Department of Labor (DOL), and the National Aeronautics and Space Administration (NASA).

In addition, as part of the disciplined and formal approach to risk assessments, it is also DOE policy to share lessons learned. DOE's formalized lessons learned process will be used to disseminate risk-informed decisions made pursuant to this policy and share the insights and techniques across the complex, including to interested parties and affected stakeholders as appropriate. These insights will also be used to improve DOE rules, directives and standards to better institutionalize risk assessment methods and techniques.

Finally, in furtherance of the goals described in this policy DOE will establish an Advisory Committee, and develop and provide appropriate training curricula to better integrate risk assessment in nuclear safety decision making.

BY ORDER OF THE SECRETARY OF ENERGY: