



## Department of Energy

Albuquerque Operations Office  
Los Alamos Area Office  
Los Alamos, New Mexico 87544

MAY - 9 1996



Dear Community Member:

Subject: Highly Enriched Uranium (HEU) Vulnerability Assessment

The Department of Energy (DOE) Environmental, Safety and Health (ES&H) organization is in the process of conducting a vulnerability assessment at DOE sites with holdings of HEU. The Los Alamos National Laboratory (LANL) is one of these sites. Natural uranium contains less than 1 percent of the fissionable isotope uranium-235, while HEU is defined for this study to be uranium with over 20 percent of that isotope. Enriched uranium is used in nuclear weapons and as fuel for nuclear power plants. This assessment will take a "snapshot" of DOE's HEU holdings and associated ES&H vulnerabilities in the mid-1996 time frame. Secretary O'Leary has directed that the assessment be completed by August 1996 (Vulnerability Assessment of HEU Storage Memorandum, Secretary of Energy, February 22, 1996). The assessment is intended to encompass only those ongoing activities involving HEU within this "snapshot" period and not as an oversight of activities.

The objective of the HEU Vulnerability Assessment is to determine the ES&H risks arising from DOE's storage and handling of its current HEU holdings. In particular, the study will focus on the conditions that could lead to unnecessary or increased exposure of workers or the public to radiation or to HEU associated chemical hazards, or to the release of radioactive materials to the environment. The assessment will identify and prioritize ES&H vulnerabilities, and provide an information base for identifying corrective actions, if any are needed, for the safer management of HEU.

In response to Secretary O'Leary's directive on the control and disposition of fissile materials, the Plutonium ES&H Vulnerability assessment was completed in November 1994 and the HEU ES&H vulnerability assessment was initiated in February 1996. As in the plutonium assessment, the HEU assessment will build on existing data and assessments to the extent appropriate and have participation by cognizant secretarial offices, operation offices, site contractors, and external stakeholders.

This assessment will encompass the following HEU categories: (1) nuclear weapons parts, (2) stored metal and metal oxide, (3) process residues, (4) compounds, (5) solutions such as uranium in nitric acid, (6) reactor fuel, (7)  $^{233}\text{U}$ , (8) uranium in ventilation and process equipment, (9) instrument sources, (10) analytical samples and standards, (11) mixed hazardous materials, and (12) spent fuel not previously evaluated. Those



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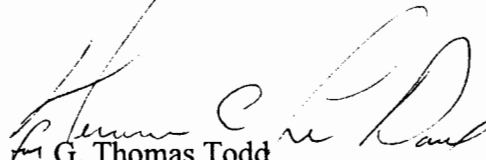
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materials of the scope of this assessment are: (1) intact nuclear weapons, (2) HEU expended in nuclear device tests, (3) materials in NRC or agreement state licensee custody, (4) materials in Department of Defense custody, (5) irradiated spent fuel and targets evaluated in Spent Fuel Vulnerability Assessment, (6) HEU materials evaluated in the Plutonium Vulnerability Assessment, (7) high-level waste, (8) transuranic and low-level waste, and (9) materials in areas subject to funded environmental restoration programs.

LANL is in the process of developing assessment teams and planning assessment strategies. As part of this process, external and internal stakeholders are invited to participate to the extent possible. Input to the HEU vulnerability assessment team can be achieved through Ken Bower, Community Involvement and Outreach Office, 665-2578, or 1-800-508-4400. Unclassified information generated throughout this assessment will be available through the LANL Outreach Centers in Taos, Espanola, and Los Alamos. The final LANL contribution to this assessment will be discussed in a public workshop should there be interest from the community.

Sincerely,

  
G. Thomas Todd  
Area Manager

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