



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**  
ADVISORY COMMITTEE ON NUCLEAR WASTE  
WASHINGTON, DC 20555 - 0001

ACNWR-0249

October 17, 2006

The Honorable Dale E. Klein  
Chairman  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Dear Chairman Klein:

**SUBJECT: PREVENTION OF LEGACY SITES**

At its 172<sup>nd</sup> meeting on July 17-20, 2006, the Advisory Committee on Nuclear Waste (the Committee) heard a presentation from the U.S. Nuclear Regulatory Commission (NRC) staff on preliminary plans for the development of rulemaking and guidance for the prevention of legacy sites. A legacy site is defined as a site having insufficient financial resources needed for decommissioning. The rulemaking is needed to address this issue and its application to all licensees.

**BACKGROUND**

The proposed rulemaking and associated guidance present opportunities to enhance capturing lessons learned from decommissioning projects and incorporating lessons learned into the design and operation of new facilities.

10 CFR Part 20.1406, Minimization of Contamination, states that

“Applicants for licenses, other than renewals, after August 20, 1997, shall describe in the application how facility design and procedures for operation will minimize, to the extent practicable, contamination of the facility and the environment, facilitate eventual decommissioning, and minimize, to the extent practicable, the generation of radioactive waste.”

This regulation includes several requirements that are important to risk-informed and performance-based decommissioning, namely, “facilitate eventual decommissioning,” “minimize to the extent practicable contamination of the facility and the environment,” and “minimize, to the extent practicable, the generation of radioactive waste.” Specific guidance to licensees and NRC staff with respect to how these requirements can be met will be important to the overall objective of preventing legacy sites.

The Committee learned of several cases where actual decommissioning costs greatly exceeded initial estimates. The root causes of these discrepancies will provide insights that will be helpful in preparing the rulemaking and guidance.

The Committee provides the following observations and recommendations:

## **OBSERVATIONS**

- The NRC staff stressed the importance of adequate financial assurance and the need for periodic reviews and updates, given experience with sites where actual decommissioning costs greatly exceeded initial estimates.
- The NRC staff also stressed the need for early remediation of decommissioned sites. The Committee concurs that early remediation can be a major factor in the prevention of legacy sites and notes that early detection of releases is needed as well. Caution is needed, however, in the formulation of a remediation plan. In some cases, premature action in the absence of adequate understanding of the site and system behavior may be inappropriate or even counter productive to remediation goals.
- The Committee learned that the NRC staff is considering setting “action limits” as threshold conditions at which remediation may be required. The Committee notes that generic action levels are not necessarily risk-informed and may not apply at different sites. An alternative approach that communicates the benefits of early release detection and remediation, and that is risk-informed may be preferred. For example, there is a large body of information from sites where releases to the subsurface have occurred. The timing of remedial activities can have a large impact on both the difficulty and the ultimate cost of remediation. The guidance could provide information on factors that result in increasing remediation costs with time.
- While the Committee agrees with the need to provide adequate financial assurance to manage legacy sites, the Committee believes that the guidance should focus on good practices designed to prevent releases, early release detection capabilities in the event that releases do occur, and incentives for early remediation.
- The NRC staff expressed an interest in the use of trusts to meet financial assurance requirements. The Committee notes that experience with trusts is being gained by other agencies, such as the Department of Defense (DoD), and Federal and state environmental protection agencies, for sites that cannot meet the requirements for remediation to unrestricted use.

## **RECOMMENDATIONS**

- The Committee encourages the NRC staff to draft the rulemaking and guidance within the broad framework of contaminant release prevention, early release detection and timely remediation.
- The guidance should provide information focused on causes of increased decontamination and decommissioning costs, and how to avoid them.
- The Committee recommends reduced financial assurance requirements for licensees who effectively implement the guidance and requirements, and are responsive to the need for release prevention, early release detection, and remediation.

- The Committee recommends that the NRC staff include in the guidance information regarding the major drivers of decommissioning costs, so that licensees can better evaluate their facilities and licensed activities.
- Given the number of decommissioning projects that will occur in Agreement States, the Committee encourages the NRC staff to provide for significant Agreement State participation in the rulemaking and guidance development process.
- The Committee recommends that the staff collect information from the DoD, the U. S. Environmental Protection Agency, and state environmental protection agencies concerning their experience with trusts.

The Committee appreciates the opportunity for early involvement in the development of rulemaking and guidance for the prevention of legacy sites, and looks forward to further updates from the staff.

Sincerely,

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Michael T. Ryan  
Chairman

References:

1. Report dated August 12, 2005, from Michael T. Ryan, Chairman, ACNW, to Nils J. Diaz, Chairman, NRC, Subject: Draft Revised Decommissioning Guidance to Implement the License Termination Rule,
2. Report dated June 9, 2006, from Michael T. Ryan, Chairman, ACNW, to Nils J. Diaz, Chairman, NRC, Subject: Revised Decommissioning Guidance to Implement the License Termination Rule.

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Michael T. Ryan  
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