



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

ACNWR-0226

August 12, 2005

The Honorable Nils J. Diaz
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Chairman Diaz:

**SUBJECT: DRAFT REVISED DECOMMISSIONING GUIDANCE TO IMPLEMENT THE
LICENSE TERMINATION RULE**

The NRC staff is developing revised decommissioning guidance to implement the License Termination Rule (LTR). In support of this effort, NRC staff and the ACNW (the Committee) have participated in two meetings. The first was an April 2005 decommissioning workshop organized by the NRC staff. The entire Committee attended this workshop. The second was a 1-day working group meeting on June 15, 2005, during the 160th meeting of the Committee.

In its working group meeting, the Committee had the benefit of discussions with the NRC staff and five invited experts selected to provide the perspective of experienced practitioners.¹ During the meeting, the Committee provided comments and suggestions that the staff is considering while developing the draft guidance. Since the staff participated in the working group meeting and subsequent Committee deliberations, the Committee is confident that its comments and suggestions have been conveyed.

The working group discussed a range of guidance revisions in several different areas. The Committee has not seen the revised document since it is still being developed. However, observations and recommendations that have been discussed with the staff are provided in the rest of this letter.

OBSERVATIONS AND RECOMMENDATIONS

- The Committee supports the issuance of generic guidance implementing the LTR. However, site-specific factors are especially important to consideration of partial restricted release under the long-term control (LTC) license and intentional soil mixing.

¹ The invited experts were Eric Abelquist, Director of the Radiological Assessments and Training Program, Oak Ridge Institute for Science and Education; Virgil Autry, Consultant, Department of Health and Environmental Control, State of South Carolina; Eric Darois, Radiation Safety and Control Services in New Hampshire; Tracy Ikenberry, Associate and Senior Health Physicist, Dade Moeller & Associates; and Thomas Nauman, Vice President, Shaw Environmental and Infrastructure.

In these cases, the Committee recommends that the NRC staff develop criteria and a demonstration process to enable site-specific decisions on a case-by-case basis.²

- The staff presented an approach to classifying restricted-use sites as either lower or higher risk and a graded approach to selecting institutional controls. The Committee believes that this approach is appropriate and risk informed.
- Durable controls will be needed for higher risk restricted-use sites. NRC staff reported that the guidance will provide two options: an LTC license and a legal agreement/restrictive covenant (LA/RC) with the NRC. The second option, while potentially attractive to a site owner, may present uncertainties with respect to the survivability of the long-term controls. The staff prefers the LTC approach, and the Committee concurs with this preference.
- The staff asked the Committee for its input on the merits of partial restricted release. The staff indicated a preference for including the entire site under the LTC license, and the Committee agrees. However, there may be site-specific factors that merit consideration, and the Committee recommends a case-by-case approach to partial restricted release.
- Existing guidance on the use of engineered barriers is limited. The Committee concurs with the staff's assessment that the agency needs expanded generic guidance on the barrier design options and more performance experience that can be tailored to specific sites. The breadth and depth of this guidance should be sufficient to enable risk-informed decisionmaking.
- The staff prefers robust engineered barriers. However, the experience base for the performance of currently favored designs goes back only a few decades. Very long-term performance (centuries to millennia) has not yet been demonstrated, and there is no basis for concluding that current systems will perform for very long times without continuing periodic maintenance. The Committee concurs with the staff's assessment that monitoring will be needed to confirm performance.
- The Committee recommends that the conventional upper bound resident farmer scenario be used only as a screening tool and that realistic scenarios be used to evaluate risk. The revised guidance will address the use of more realistic scenarios for projected land use. Many decommissioning sites can achieve unrestricted release using the very conservative and unrealistic resident farmer scenario, but guidance is needed on more realistic exposure scenarios, especially for complex materials sites.

² The ACNW recommended a case-by-case approach to requests for intentional mixing of contaminated soil in its letter of July 30, 2004, "Review of the LTR Analysis - Intentional Mixing of Contaminated Soil." The Committee notes that the working group expert panel was divided with respect to the merits of permitting intentional mixing of contaminated soils.

- Groundwater monitoring should be a prime consideration in the revised guidance and should address ways to determine the requirements for subsurface characterization and monitoring. The guidance should also address subsurface characterization, monitoring plans, and contingency plans should groundwater contamination occur.
- The Committee recognizes that the lessons learned from decommissioning projects provide valuable information for designing new facilities (designing with the end in mind). In addition to developing protocols and mechanisms for information collection and dissemination, the staff will need to devise a process to evaluate the accuracy and reliability of the information that is disseminated.

The Committee has participated in the staff's information-gathering activities for the revised decommissioning guidance to be published at the end of September 2005. Therefore, the staff need not respond to the issues discussed in this letter. The Committee has discussed these issues with the staff and plans to interact with the staff again after the draft guidance is published. The Committee believes that these early and ongoing interactions have helped the Committee and the staff meet their respective obligations on schedule.

The Committee plans to comment on the draft guidance when it is published.

Sincerely,

/RA/

Michael T. Ryan
Chairman

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