



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

ACNWR-0242

June 9, 2006

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

SUBJECT: REVISED DECOMMISSIONING GUIDANCE TO IMPLEMENT THE LICENSE
TERMINATION RULE

Dear Chairman Diaz:

The Advisory Committee on Nuclear Waste (Committee) has been following the U.S. Nuclear Regulatory Commission (NRC) staff's revision of decommissioning guidance to implement the License Termination Rule (LTR). In support of this effort, the Committee participated in an April 2005 decommissioning workshop organized by the NRC staff. The entire Committee attended this workshop. A one-day working group meeting was held on June 15, 2005, during the 160th meeting of the Committee at which the NRC staff presented its approach to the guidance revisions.

The NRC staff published the proposed guidance revisions in September 2005 and requested public comments on the draft revisions. Following the public comment period, the Committee re-convened the working group and held another one-day meeting on March 22, 2006, during the 168th meeting of the Committee. At this working group meeting, the staff presented its proposed responses to the substantive public comments received on the proposed guidance revisions and its approach to finalizing the guidance.

In this second working group meeting, the Committee benefited from the continued participation of invited experts selected to provide the perspective of experienced practitioners in decommissioning. This working group was comprised of four of the members of the June 2005 working group and a fifth member who had participated previously in Committee activities on the West Valley Demonstration Project in New York.¹ This provided continuity on the review of the revisions to the guidance from the June 2005 working group.

OBSERVATIONS AND RECOMMENDATIONS

The Committee has the following observations and recommendations based on the working group meeting held on March 22, 2006.

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

- The staff has adopted the recommendations provided in the Committee's letter of August 12, 2005. Also, the expert panel unanimously agreed that the staff had factored the panel's input into the proposed guidance.
- The Committee believes that the graded approach adopted by the staff for both engineered barriers and institutional controls are risk-informed.
- Onsite disposal remains controversial and is best approached on a case-by-case basis. Several of the commentors perceived a link between onsite disposal and the creation of legacy decommissioning sites. The staff needs to address this issue in either this guidance revision or the guidance being developed to address the prevention of legacy sites.
- The staff should determine and track the potential impact of onsite disposal on the ability to achieve unrestricted release through the operational and decommissioning phases of a facility's lifetime.
- The long-term performance of engineered barriers in specific environmental settings remains a source of uncertainty, given the relatively short time that currently favored designs of barriers have been in service, as the guidance indicates.
- The proposed guidance provides a menu of potential institutional controls that could have merit for low- and high- risk sites. As experience is gained with the controls that function best under specific site conditions, the staff should incorporate more specific guidance for specific site conditions.
- During decommissioning, potentially contaminated soil can be characterized by soil excavation followed by radiation surveys to identify and remove soil that exceeds applicable limits. The soil that does not exceed applicable limits can be returned. The Committee believes that this practice should be allowed and not interpreted as intentional mixing.
- Decisions on license termination for restricted release sites would be based primarily on compliance with dose criteria for two cases: assuming that institutional controls will remain effective for the duration of the hazard, and assuming that institutional controls are no longer in effect. This LTR requirement is appropriate and risk-informed. However, the potential differences in approaches to institutional control of sites terminated under the LTR and the associated decommissioning guidance with other regulations (e.g., 10 CFR Parts 40 and 61) have been identified as a source of concern in the public comments and by the expert panel. The staff should ensure that these differences are explained in the decommissioning guidance.
- The differences between the technical and regulatory approaches used in decommissioning power reactors as compared to complex materials sites can be confusing when using NUREG-1757. For example, all three volumes of NUREG-1757

apply to materials site decommissioning while only Volume 2 of NUREG-1757 applies to reactor decommissioning. The Committee recommends that the staff expand the flowchart included in the guidance into a “roadmap” that points out the distinctions in the approaches for these two kinds of decommissioning projects to address this in a constructive manner.

- The Committee learned that the staff is working with Agreement States and industry groups to capture lessons learned from past decommissioning efforts. The Committee believes this initiative will provide valuable information that can be incorporated into the designs of new facilities in ways that facilitate future decommissioning. The Committee strongly supports these efforts to capture lessons learned.
- Both the Committee and staff recognize the relationship between modeling and monitoring to achieve confidence in regulatory decisions. The Committee is planning a working group meeting in the near future to address the modeling/monitoring interface and invites the staff’s participation in the session.

The Committee believes this experience of early involvement and continued interaction with staff provides a useful model for Committee evaluation and assistance that can be used in other areas as well. The Committee looks forward to early interactions with the staff on the development of the proposed rulemaking and related guidance to prevent legacy sites.

Sincerely,

/RA/

Michael T. Ryan
Chairman

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Michael T. Ryan
Chairman

* See previous concurrence.

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