



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON NUCLEAR WASTE
WASHINGTON, D.C. 20555

ACNWR-0056

June 27, 1991

The Honorable Kenneth M. Carr
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Carr:

**SUBJECT: COMMENTS REGARDING 10 CFR PART 61 PROPOSED REVISIONS
RELATED TO GROUNDWATER PROTECTION**

In a report dated September 6, 1990, the Advisory Committee on Nuclear Waste (ACNW) urged that the revised technical position on the waste form be published, and stated that the Committee had several additional concerns, including the need to revise Part 61 to show more direct emphasis on the resistance of low-level waste (LLW) forms to leaching by groundwater. The report also called attention to the effects of aging on the waste and the consequent changes in chemical and physical properties. These concerns were focused on the question of groundwater protection.

In a Staff Requirements Memorandum (SRM) of December 31, 1990, the Commission requested that we specify our current position on the need to revise 10 CFR Part 61 and justify our position by an evaluation of the efficacy of the existing Part 61 in meeting our concerns. In a subsequent SRM dated April 18, 1991, the Commission indicated the response date was postponed until June 28, 1991, so that we could study this subject further.

We have discussed with representatives of the Office of Nuclear Material Safety and Safeguards (NMSS) and the Office of Nuclear Regulatory Research (RES) the general topic of groundwater protection as reflected in NRC regulations and the related regulatory background. The staff noted the history and experiences of the six licensed LLW disposal facilities, particularly as related to the migration of radioactive elements into and with the groundwater. The staff considered this experience in developing Part 61, and the environmental impact statement for that regulation clearly demonstrates that groundwater migration is the most significant radionuclide pathway to the environment.

We approve of the recently initiated effort by NMSS to develop a specific regulatory guide for the performance assessment of LLW disposal facilities. During the development of this regulatory guide, we expect that additional insight into issues such as groundwater protection will be garnered by the staff and, through such a mechanism, transferred to the LLW disposal facility developers. We tentatively plan to schedule a Working Group

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June 27, 1991

meeting to discuss, among other related topics, the modeling and performance assessment of LLW disposal facilities. Staff progress on the development of this regulatory guide will be included in the agenda for this meeting, and we plan at that time to explore further the role of groundwater protection provisions.

During our 32nd meeting we heard a presentation on the May 23, 1991 "brainstorming" session involving NMSS, RES and several contractors. In this session, the participants explored options that might be used to improve radionuclide retention in, or to retard radionuclide migration from, low-level radioactive waste. We are interested in the technical evaluations associated with these activities and intend to follow their evolution.

We are mindful of the staff's response to our discussions of last September, we appreciate the cooperation of the staff in its endeavors to better understand the relevant issues, and we look forward to continuing the dialogue on relevant major technical issues and developments.

On the basis of these interactions, we have concluded that we can set aside our suggestion that Part 61 be revised to explicitly include a requirement for waste performance that enhances groundwater protection. We plan to provide periodic reports to you concerning progress made on this matter.

Sincerely,



Dade W. Moeller
Chairman