

The Honorable Lando W. Zech, Jr.
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Zech:

SUBJECT: ACRS COMMENTS ON SELECTED FY 1988 NRC RADIOACTIVE WASTE MANAGEMENT RESEARCH PROGRAMS

During the 334th meeting of the Advisory Committee on Reactor Safeguards, February 11-13, 1988, we met with the NRC Staff to discuss selected radioactive waste management research programs. These discussions included a review of the impacts of the Nuclear Waste Policy Amendments Act of 1987 on these programs. These matters were also discussed with the NRC Staff during a meeting on January 21-22, 1988 of our Subcommittee on Waste Management. Our comments on the research programs follow.

Research on High-Level Waste (HLW)

FY 1988 is the initial year of operation of the Center for Nuclear Waste Regulatory Analyses. We endorse the ongoing efforts by the NRC Staff to ensure that this organization obtains competent personnel to fulfill its assigned responsibilities. In addition, we recommend that procedures be established to provide periodic, critical, technical, external review of the performance of this organization to ensure that its work product is of high quality. To the extent practical, the ACRS Subcommittee on Waste Management is willing to assist in such reviews.

Research on Low-Level Waste (LLW)

The available program plans for FY 1988 do not include any research on the effects of organic chelating compounds on the behavior of radionuclides in low-level wastes. Since such materials can have significant effects on the mobility of radionuclides migrating from a site, and since there is increasing concern about the management and disposal of mixed wastes that frequently contain such materials, we recommend that plans and resource allocations for FY 1988 be changed to include studies on this subject.

We also reviewed the joint NRC/Canadian efforts to determine the adequacy and applicability of models for predicting the movement of radionuclides through the groundwater and soil near LLW disposal facilities. Although agreement between the model predictions and the data collected at the sites is good, this may be fortuitous. Additional effort should be made to provide data that will make it possible to rationalize the selection and variation of parameters, e.g., retardation factors, in these models. In addition, efforts should be made to develop measurement protocols to ensure that data for the key parameters needed for

input into the models can be made available. This work should be summarized in a timely manner so that the results can be applied to the needs of the regional compacts currently evaluating and selecting LLW disposal sites.

Other topics that were included in our review and need to be further addressed by the NRC Staff are research on: (1) reliable methods for the solidification of LLW, particularly in a concrete matrix, and (2) improved environmental monitoring programs for LLW disposal sites. Of the two, we believe that the first, reliable methods for the solidification of LLW, is the more important.

Sincerely,

William Kerr
Chairman

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