



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

July 1, 1988

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

Dear Chairman Zech:

SUBJECT: RULEMAKING PETITION TO ESTABLISH AN ACCIDENT DOSE GUIDELINE IN
10 CFR PART 60

During the first meeting of the Advisory Committee on Nuclear Waste (ACNW), June 27-29, 1988, we met with representatives of the U.S. Department of Energy (DOE) to discuss a Petition, being developed by DOE, for Rulemaking to Establish an Accident Dose Guideline for the High-Level Radioactive Waste (HLW) Repository (referenced). We also had the benefit of discussions with the NRC Staff.

During the meeting, DOE representatives described their proposed petition, which had previously been discussed during meetings of the ACRS Subcommittee on Waste Management. Both the DOE representatives and the NRC Staff requested that the ACNW consider and comment on certain key controversial issues. In response to these requests, we offer the following comments:

1. Although NRC regulations (10 CFR 60) applied to the design and construction of an HLW repository specify a dose limit for determining systems and components "important to safety," there is no accident dose limit for specifying systems and components whose failure must be compensated by engineered safety features. The purpose of the DOE petition is to develop such a limit. We support this action by DOE.
2. The DOE draft petition contains a number of useful concepts and approaches. Among these are the use of the "effective dose equivalent" for expressing the proposed dose guidelines, the application of the 50-year dose commitment for assessing the risks of long-lived radionuclides, and the incorporation into the supporting technical arguments of the latest findings of the National Research Council's Committee on the Biological Effects of Ionizing Radiations. The use of these guides and standards will enhance the utility of the proposed rule.

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3. The draft petition also raises a number of issues that have yet to be addressed. These include:
 - a. The dose guidelines as currently proposed would apply to any accident, regardless of its probability. We believe a lower probability limit (cutoff) should be established for the range of accidents to be considered under the guidelines.
 - b. The draft petition does not include technical information in support of the proposed rulemaking. We believe that the DOE Staff should include such information in the formal petition. We also believe that it would be helpful to include a description of the full range of pertinent accident scenarios together with estimates of their associated probabilities for occurrence.
 - c. As part of the petition, the DOE Staff has proposed that an "accident dose area" be defined around the repository site. The technical information provided in support of the proposed rulemaking should include a rational and obvious process for defining this area.

Consideration should be given by the NRC Staff to the following:

1. To assure compatibility of the proposed "accident dose guidelines" with related NRC policies and numerical guidelines, the values proposed by DOE should be compared, for example, to the Safety Goals that have been developed for nuclear power plants.
2. The NRC Staff should evaluate existing information, such as the Licensee Event Reports, as an additional contribution to the data bank on the nature, type, and frequency of occurrence of fuel handling mishaps.

We hope you will find these comments useful.

Sincerely,



Dade W. Moeller
Chairman

Reference:

Petition for Rulemaking to Establish An Accident Dose Guideline for a High-Level Radioactive Waste Repository, Draft dated 5/31/88.