



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

ACNWR-0053

PDR

May 30, 1991

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

Dear Chairman Carr:

SUBJECT: ALTERNATIVE APPROACH TO THE PROBABILISTIC SECTION OF THE
CONTAINMENT REQUIREMENTS IN 40 CFR PART 191 ("THE THREE-
BUCKET APPROACH")

With the issuance of Working Draft 3 of 40 CFR Part 191, the proposed revised standards for the management and disposal of high-level radioactive wastes, the U.S. Environmental Protection Agency (EPA) has requested comments on the proposed "three-bucket approach" for classifying events that may affect repository performance. The Committee discussed this matter with the NRC staff during our 30th meeting, April 23-24, 1991, and with the EPA staff during our 31st meeting, May 22-23, 1991. On the basis of these discussions, we offer the following comments.

In general, we endorse the three-fold classification system outlined in the enclosure, and we believe it will be helpful in addressing the problems of assessing inadvertent human intrusion. We also endorse the deterministic treatment of scenarios that are assigned to "bucket number two."

We accept the fact that the presence of natural resources represents a potentially adverse condition [10 CFR 60.122(c)]. If there are potential resources present at a site in large enough amounts to create a high probability for human intrusion, the site should be rejected. We expect that no scenario involving inadvertent human intrusion will be assigned to "bucket number one."

As part of our continuing study of the "three-bucket approach," we are evaluating the bounding probability limit for distinguishing between scenarios that are unlikely ("bucket number two") and very unlikely ("bucket number three").

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The Honorable Kenneth M. Carr 2

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We hope these comments will be helpful.

Sincerely,

Dade W. Moeller

Dade W. Moeller
Chairman

Reference:

EPA, 40 CFR 191 - Draft Environmental Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes, dated April 26, 1991, with attachments.

Enclosure:

Viewgraph from presentation by EPA
representatives to the Advisory
Committee on Nuclear Waste,
May 22, 1991

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Three-Bucket Proposal

Distributed Separately for Comment

1985 Standards

Quantitative, probabilistic
performance assessment
for scenarios down to
1/1,000

Suggested Wording

Bucket One:

Scenarios $>1/10$: quantitative
probabilistic performance
assessment

Bucket Two:

Scenarios $<1/10$ but
 $>1/10,000$: individual
scenario, deterministic
analysis, comparison to
10X the release limits

Bucket Three:

Scenarios $<1/10,000$: analysis
not required