



REQUEST REPLY BY 8/10/98

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

COMSECY-98-020

July 31, 1998

*Approved w. attached
list.
L. J. Callan
8-10-98*

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MEMORANDUM TO: Chairman Jackson
Commissioner Diaz
Commissioner McGaffigan

FROM: L. Joseph Callan *[Signature]*
Executive Director for Operations

SUBJECT: NRC ISSUES WITH THE ENVIRONMENTAL PROTECTION
AGENCY'S DRAFT YUCCA MOUNTAIN STANDARD
(40 CFR PART 197)

RELEASED TO THE PDR

9/10/98 *[Signature]*
date Initials

The Office of Science and Technology Policy (OSTP) has requested the Federal agencies participating in the interagency discussions regarding U.S. Environmental Protection Agency's (EPA's) draft Environmental Radiation Protection Standards for Yucca Mountain, Nevada, to identify issues that need discussion by the interagency group (Attachment 1). OSTP asked that this be done by July 20, 1998, but U.S. Nuclear Regulatory Commission (NRC) staff indicated that it would request the Commission to review its list of issues, and would not provide its list until early August. Issues identified by NRC staff concerning draft 40 CFR Part 197 are provided as Attachment 2. The issues identified are similar to those previously identified during the development of the Commission's cleanup rule and in comments to EPA during the Waste Isolation Pilot Plant certification process. NRC staff plans to provide the attached list to OSTP and the other participants by August 14, 1998, unless directed otherwise by the Commission.

SECY please track.

Attachments (2): As stated

cc: SECY OGC
OCA OPA
CFO CIO

CONTACT: Michael J. Bell, NMSS/DWM/PAHL
415-7286

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PDR WASTE 980731
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approach requires extremely detailed models, with supporting characterization data, to estimate precisely the shape of the plume with no commensurate increase in safety over simpler approaches that average concentrations over the production zone appropriate to withdrawal wells of the critical group.

- EPA specifies a compliance period of 10,000 years, but requests comment on time period, including time of peak concentration. NRC believes a 10,000-year performance period is the longest period for which quantitative estimates to demonstrate compliance should be required. Although it is scientifically possible to estimate performance hundreds of thousands of years in the future, as NAS suggests, NRC does not consider it prudent to base regulatory decisions on such analyses, particularly in its adjudicatory licensing process.
 - EPA seeks comment on five alternative locations for compliance, including the repository boundary. Location of receptors at the repository boundary is inconsistent with the concept of geologic disposal that uses the geologic systems as barriers that provide isolation.
 - EPA's analysis of the capture zone of a single family well is inconsistent with current agricultural practices in Amargosa Valley. The U.S. Department of Energy (DOE) and NRC estimate the capture zone to be about two orders of magnitude less, resulting in significantly lower estimates of dilution and for greater difficulty in demonstrating compliance.
- 3) EPA's overall performance standard of 15 mrem/yr to the reasonably maximally exposed individual (RMEI) for a rural-residential scenario is unduly restrictive.
- an all-pathways dose standard in the range of 25 to 30*
- NRC considers that a limit of 25 mrem/yr to the average member of a critical group is protective of public health and safety. Based on current lifestyles and practices, as recommended by NAS, NRC considers the critical group to be a small farming community located in Amargosa Valley (20 km distant from Yucca Mountain).
 - EPA specifies a 10,000-year period, but seeks comment on time periods up to peak dose. NRC does not consider quantitative assessments of performance past 10,000 years a sound basis for regulatory decisions.
 - EPA considers that 50 percent of the diet of a rural-residential individual consists of food grown in the local area, which appears very conservative - NAS has recommended that the lifestyle and diet be based on the characteristics of current populations.
- 4) The Appendix to 10 CFR Part 197 provides a "...binding framework for implementation of the rule in the Commission's licensing proceeding," which is stated to be binding in the same manner as the Standard. In previous comments to EPA, NRC has viewed implementation as an area of NRC jurisdiction. Some examples are: