



Churchill County Administration Office

NUCLEAR WASTE PROJECT OFFICE

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(64FR8640)

Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Attention: Rulemakings and Adjudication Staff

Dear Rulemakings and Adjudication Staff;

Attached are Churchill County's comments to the Nuclear Regulatory Commission's proposed rulemaking-disposal of high-level radioactive wastes in a proposed geologic repository at Yucca Mountain, Nevada. The County appreciates the opportunity to provide such comments. These comments were developed in cooperation with other Yucca Mountain affected units of local government. If there are any questions about the attached, please do not hesitate to call me.

Very truly yours,

Alan F. Kalt
Churchill County Comptroller
Yucca Mountain Grant Administrator

Cc: Board of County Commissioners

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Acknowledged by card

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SECY-02

***Comments on the U.S. Nuclear Regulatory Commission's
Proposed Rulemaking
Disposal of High-Level Radioactive Wastes in a Proposed
Geologic Repository at Yucca Mountain, Nevada***

The Commission has requested comment on five questions relative to its proposed rule. The questions and comments are as follows:

Question 1- The Commission solicits comments on the appropriateness of its proposed approach to defining the critical group and reference biosphere for Yucca Mountain. In particular, the Commission solicits comments on any other candidate population groups, biosphere assumptions and potential exposure pathways that should be considered in the establishment of a "critical group" for Yucca Mountain.

The proposed rule appears to have made the "characteristics" of the critical group part of the regulation. It is at best a stretch to assume that the characteristics of a farming community or any community 10,000 years in the future will be the same as they are today. How NRC defines the characteristics of the critical group now has the potential to influence repository performance measures. Assumptions about characteristics such as dietary habits, water use, population density, distance from the repository, consumption of animal products etc. could change substantially in the future.

The use of the critical group concept does appear to be conservative in that it uses a segment of the population most likely to have multiple ingestion pathways. However, over emphasis on factors such as groundwater depth, location from the repository, soil conditions should not be overemphasized or used as proxies to determine critical group location. Instead NRC should assume that a critical group could occur anywhere in the discharge region regardless of proximity to the repository. For example, a large dairy herd such as the one in Amargosa Valley or a feed lot could exist anywhere. A dairy operation is not necessarily dependent on the quality of soils or on-farm feed production to remain profitable. A dairy which uses local groundwater, some irrigated pasture grasses, and imported feed supplement could exist anywhere in the Yucca Mountain region up to and including locations very close to Yucca Mountain, within 5km.

As a result, a standard for groundwater contamination should be based upon the potential to adversely impact the critical group regardless of location. That is, groundwater contamination within the discharge zone should at no point exceed the amount which could adversely affect the critical group regardless of the location.

Question 2-The Commission solicits comments on the appropriateness of its proposed human intrusion scenario, and the assumed timing of its occurrence, as a reasonable

measure for evaluating the consequences of intrusion at a repository at Yucca Mountain.

The human intrusion scenario does not appear to be realistic. If it is to happen, it will likely be the result of mineral exploration. Assuming that a mining exploration company does not adequately research plat maps, mining claims, land ownership, etc. prior to drilling and that the agency responsible for managing the land does not maintain adequate records of the site, multiple drill holes could be possible. Therefore, if NRC is going to include a human intrusion scenario it should consider multiple drill holes.

Question 3-The Commission solicits comments on the merits of requiring DOE to implement a quality assurance program for the geologic repository based on the criteria of Appendix B of 10CFR50.

The quality assurance program should remain intact.

Question 4-The Commission solicits comments on the suitability of alternative criteria for proposed 63.44. These alternative criteria are included in the statement of considerations discussion of proposed 63.44 and are substantially equivalent to that proposed last year for nuclear reactors and spent fuel storage facilities.

The alternative criteria appear to clarify the issues involved in changes, tests, and experiments by providing the appropriated criteria and definitions. There are a few subjective terms still used which need more complete definitions.

Question 5-The Commission solicits comments on whether the approach and criteria for changes, tests, and experiments at 63.44 should apply solely to the Safety Analysis Report or to the contents of the entire license application, irrespective of whether the proposed 63.44 or the alternative criteria presented in the statement of consideration are selected.

The criteria should apply to the entire license application.

Additional Comments

- **Defense in-depth concept**

The original concept of defense in depth was to assure waste isolation and containment. The Commission's desire to move to a risk informed performance based regulation changes the original concept from containment to a system of multiple barriers which serves to slow the release of radioactive materials from the repository. The new approach

to defense in depth relies upon the TSPA to predict repository performance and hence the performance of the multiple barrier system. As a result, the only assurance the multiple barrier system provides is that which is predicted by a series of computer models. The sub-system performance standards of 10 CFR Part 60 should be retained in the proposed rule in order to gauge the effectiveness of individual components of the multiple barrier system.

- **TSPA and the Performance Based Standard**

The only way to evaluate future performance of the repository is through the use of computer models which introduce additional uncertainties into the evaluation of Yucca Mountain as a geologic repository. This is far different than the 10CFR60 which requires individual subsystem components to meet certain performance standards and provide waste isolation. The performance based standard becomes far too reliant on the TSPA to demonstrate future performance rather than the barriers of the repository to determine performance. Some individual standards whether they are 10CFR960 should be in place to provide greater assurance of repository performance.

- **License amendment 63.51**

A license amendment for permanent closure is a major federal action which cannot rely upon the EIS adopted by NRC for the license application. Permanent closure will occur far into the future and will be based in part on performance confirmation data collected during the intervening period. The section should include a requirement for a new EIS as part of the amendment for closure.

- **EPA Standards**

The desire to move forward and create performance standards by which DOE must demonstrate certain performance standards is understandably. However, USEPA by law must be the agency to drive any such changes. Therefore, it appears to be somewhat premature to develop new standards until EPA has offered its own.