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June 30

White Pine County
Board of County Commissioners

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Secretary
U.S. Nuclear Regulatory Commission
ATT: Rulemakings and Adjudication Staff
Washington, D.C. 20555-0001

Please find enclosed White Pine 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 their comments.

These comments were developed in consultation with other Yucca Mountain affected units of local government. If you have any questions, please do not hesitate to call Ms. Debra Kolkman, Director, White Pine County Nuclear Waste Project Office at (775) 289-2033.

Sincerely,

Julio Costello
Chairman

cc: Affected Units of Local Government
State of Nevada

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Acknowledged by card
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 Nuclear Regulatory Commission (NRC) requested comments on 5 questions relative to the above- proposed rule. 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 habitats, 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, overemphasizing factors such as groundwater depth, location from the repository, and soil conditions should not be belabored 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 (e.g., 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 human intrusion happens, 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 the agency responsible for managing the land does not maintain adequate records of the site, multiple drill holes are 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 the Department of Energy (DOE) to implement a quality assurance program for the geologic repository based on the criteria of Appendix B of 10 CFR Part 50.*

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 Total System Performance Assessment (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 predicted only 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 potential geologic repository. This is far different than the 10 CFR Part 60 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 10 CFR 960 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 Environmental Impact Statement (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 the DOE must demonstrate certain performance standards is understandable. However, the Environmental Protection Agency 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.

- **Transportation of High-Level Waste**

The lack of the Department of Energy to concentrate on specific transportation routes and to analyze effects in rural areas is cause for great concern. Even though the preliminary routes chosen by the Department of Energy do not include White Pine County, a preliminary study conducted by the Nevada Department of Transportation in 1989, recommended two

primary alternate routes for high-level waste to go through White Pine County. These two potential routes have not even been studied. If the State of Nevada overrides the DOE in route selection, will the DOE be required to analyze this route before transportation of high-level waste can actually begin? How will the DOE accommodate the affected county as far as first responder training, equipment and funding? Most first responders and emergency medical personnel in small communities in Nevada are ill-prepared to handle any situation that could arise from an accident of radioactive waste being transported through the area. A majority of the people that would respond to an incident would not be trained in minimal exposure risk, how to detect radiation, etc., and would not possess the proper equipment to be able to assess such a situation.

Also, most small rural areas do not have an interstate system. Roads within these areas are two-lane roads, some of which go over high mountain ranges that receive considerable snow in the winter, making transportation of high-level waste very hazardous. A study conducted by the University of Nevada Las Vegas indicated that potential risks from these two routes could result in a worst accident history than DOE had indicated, and a higher risk than other highways throughout the nation. (See *Risk Analysis for Spent Nuclear Fuel Transportation Through White Pine County, Highway Route*. UNLV/TRC/RR-95-9, dated October 1995, Revised January 1996.)

- **Atmospheric Pathways**

While the potential for measurable release of radiation from tectonic events, human intrusion, or nuclear criticality (atmospheric pathways) is very small, the DOE will not be able to totally eliminate this radiation exposure which will travel through repository rock fractures. Given the fact that Northeastern Nevadans have historically been exposed to the extreme amounts of radioactive materials via atmospheric pathways from surface and sub-surface atomic testing conducted at the Nevada Test Site as early as the 1940s, the cumulative effect could be quite significant.

When one considers the historical exposure from atomic testing coupled with exposure to low-level radioactive waste shipments (no matter how minimal) that are now occurring in White Pine County, plus exposure to high-level radioactive waste that could be transported through White Pine County by truck, the potential exposure risk suddenly becomes very real and very high. This scenario does not even take into account the fact that eventually spent fuel and high-level radioactive waste could be stored at Yucca Mountain for tens of thousands of years.