



ER-84/1095

# United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

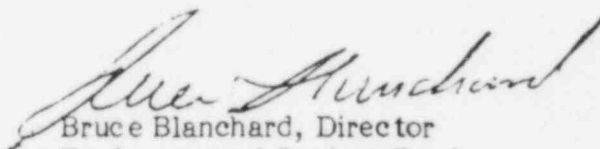
OCT 30 1984

John J. Linehan, Section Leader  
Repository Projects Branch  
Division of Waste Management  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Linehan:

The Department of the Interior has reviewed the document containing the Draft Generic Technical Position on Licensing Assessment Methodology for High-Level Waste Geologic Repositories. Our detailed comments are attached. We appreciate the opportunity to comment on this information.

Sincerely,

  
Bruce Blanchard, Director  
Environmental Project Review

Enclosure

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Specific Comments on the Draft Generic Technical Position on Licensing  
Assessment Methodology for High-Level Waste Geologic Repositories (ER 84/1095)

The stated purpose of this document is to provide guidance to the Department of Energy on what Nuclear Regulatory Commission (NRC) staff considers to be the necessary elements of an acceptable licensing assessment and performance assessment methodology that addresses safety assessments. In our opinion the overall technical position and guidance are appropriate. The logic is well developed and, if implemented, will have a high likelihood of assuring that the licensing documents (Safety Analysis Report and Construction Authorization Application) are complete, technically and procedurally defensible, and comply with the requirements of 10 CFR 60. However, we perceive the potential for significant problems in implementation of the Draft Technical Position (DTP). Current understanding of the various sites and associated large uncertainties (pre-site characterization) virtually precludes accomplishing a meaningful performance assessment or licensing assessment at the time of submittal of the initial site characterization plan. NRC recognizes this and suggests it would be prudent for Department of Energy (DOE) to make an early technical and management decision, guided by the performance criteria of 10 CFR 60, as to what the performance goals for individual components should be and how much redundancy among system components will be included. It is recognized that the initial setting of these goals must be tentative and calls for an iterative process of data collection, performance assessment, re-evaluation of component performance goals, and design of a revised set of activities during characterization until the DOE criteria for demonstrating compliance with the requirements of 10 CFR 60 are met.

Given the current level of understanding at the various sites, we question whether it is reasonable to require DOE to document the contents of the 3 bullets at the bottom of page 11 in submittal of the Site Characterization Plans (SCP's) or even possible, at this time. The first full paragraph on page 12 states a much more reasonable approach.

Again, given the current understanding of the various sites, is it possible to make a credible and defensible technical and management decision on even tentative component performance goals? We concur that this will require "substantial judgment" but suggest that additional guidance on how this may be accomplished is desirable. We are concerned that the setting of tentative component performance goals be defensible and do not appear to be arbitrary or capricious which could result in their being challenged and produce delays in the program. Another concern is that these goals may be recognized as tentative by both DOE and NRC but may be difficult to modify once they are perceived as objectives by the public.

NRC must recognize that ongoing work, which will continue well into the site characterization process, includes basic, first of its kind research. An example is the unsaturated zone studies at NNWSI. Obviously, the results of this work cannot be predicted at this time. However, the results of this work are absolutely essential to performance assessment and licensing of this site. NRC guidance on how this might appropriately be factored into the assignment of tentative interim component performance goals is needed.

On page 13, it is stated that this Generic Technical Position deals with safety assessments in SCP's (to meet the requirements of 10 CFR 60), and that this Generic Technical Position does not address environmental assessments in SCPs (to meet the requirements of 10 CFR 51). It would be helpful to the reader to move this important distinction to the introduction section of the document (i.e., Section 1.0). It also would be helpful if the introductory section disclosed whether NRC has plans to develop a similar Generic Technical Position for environmental assessments in SCPs.

If performance-related questions are site specific, as stated in the last paragraph on page 14, why was a "Standard Format and Content for Site Characterization Reports" (Reg. Guide 4.17) created?

Given the current state of knowledge at each site is it reasonable to expect DOE to address all of the questions on page 15 and include detailed plans for their resolution in the site Characterization Plan? This appears to exceed what could be reasonably expected and conflict with the setting of interim performance goals and the iterative process of licensing and performance assessment that is recommended. We suggest that clarification and guidance is needed on how to proceed when available knowledge is limited.

The first paragraph on page 16 again requires "detailed plans for resolution of each of these questions." We concur that they must ultimately be answered, but is the first site characterization plan the place to attempt to resolve largely unknown issues?

Page 21 in the fourth paragraph determines "fastest path" as ground water travel time. How is the unsaturated zone to be considered?

On page 23, second paragraph, a paradox is created when it is recognized that some scenarios may be overlooked but must be identified. Clarification is needed. Further while it is recognized that this effort is generic, there appears to be an excessive reliance on the derivation of numerical risk probabilities. This emphasis leaves the impression that the risk assessment is based on objective data. Given the intangibles associated with assessing even the near future, the extrapolation of risk 10,000 years into the future can only be described as subjective. This issue should be described.

The conceptual models of radionuclide release do not appear to include the biological portions of the natural systems. The biological component must be considered as it is the portion most affected by a release.

Appendix 1 under "Benchmarking" states "...that a new code can reproduce results from a previously qualified code..." In dealing with new concepts there may be no previous code. Clarification is needed.