



United States Department of the Interior

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LPDR

Distribution:

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(Return to WM, 623 SS)

Hubert J. Miller
Chief, Repository Projects Branch
Division of Waste Management
Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Miller:

The Department of the Interior has reviewed the Draft Technical Position on In Situ Testing During Site Characterization for High-Level Nuclear Waste Repositories and has the following comments.

The stated intent of this document is to provide guidance to the Department of Energy on what the Nuclear Regulatory Commission staff considers to be the essential elements of an in situ test program to address the requirements and performance objectives of 10 CFR 60 with respect to a site to be described in a license application. 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 in situ test plans for site characterization will provide for the necessary and sufficient testing to address the key issues prior to submitting a license application. However, we perceive the potential for significant problems in implementation of the Draft Generic Technical Position (GTP). The logic of the "sufficiency criteria" (4.9) is good. However, it requires at least tentative assignment of performance goals for individual components of the system including a decision on how much redundancy will be included among system components. Given the current understanding of the various sites and associated large uncertainties, we question whether it is possible to make credible and defensible technical and management decisions on even tentative component performance goals. We suggest that additional guidance be provided on how this may be accomplished. In addition please refer to our comments on this subject sent to you for the "Review of Draft Generic Technical Position on Licensing Assessment Methodology for High-Level Waste Geologic Repositories"; Draft Technical Position (ER 84/1095) dated October 30, 1984, copy attached.

It is current Department policy that land for radioactive waste storage or testing can only be acquired through fee transfer of the lands or permanent congressional withdrawal. Therefore, before DOE takes occupancy of any Federal lands administered by this Department, Congress must enact a transfer giving DOE irrevocable responsibility for the property.

We recommend the definition of host rock as noted on page 5, paragraph 2 should be clarified since no specific definition or explanation of this term is provided in the draft GTP. For example, at the proposed Gibson Dome sites in the Paradox Basin of Utah, it is unclear whether the host rock includes only Salt Cycle 6 of the Paradox Formation, the entire Paradox Formation, the Paradox Formation and proximate overlying formations, or some other combination of extant geologic strata. The draft GTP does indicate on

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page 7 that NRC rules at 10 CFR 60.10 require that site characterization include a program of in situ exploration and testing at the depths that wastes would be emplaced; however, pages 12 and 13 of the draft GTP go on to describe various in situ tests in the exploratory shaft(s) which may occur above the waste emplacement zone. Therefore, it would seem appropriate to clarify usage of the term "host rock" in the GTP and also to modify the introduction of the document to clarify that in situ testing includes both testing in the host rock at the zone of waste emplacement and also at shallower depths in the exploratory shaft(s). Likewise it is unclear whether there would ever be a circumstance where the exploratory shaft(s) would extend deeper than the waste emplacement zone to permit additional testing below this zone. This possibility should also be examined.

On page 13, the draft GTP makes an apparent distinction between the terms "underground test facility" and "in situ test facility." The distinction between these two terms, if any, should be clarified.

The "chamber test" for determining groundwater influx potential (as mentioned on page 13) should be briefly described since it is not a common hydrologic test.

We note the word "gamma" is misspelled on Page 12 in 3.2.1.A.(4). Likewise, the word "require" should be "requires" on Page 15 in 4.1., second paragraph.

We hope these comments will be helpful to you.

Sincerely,

A handwritten signature in cursive script that reads "Lillian K. Stone" followed by a small "for" written below the name.

Bruce Blanchard, Director
Environmental Project Review

Enclosure