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The following information was submitted by
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Document_Title: Yucca Mountain Review Plan (NUREG 1804- REVISION 2)

Comments:

Nuclear Regulatory Commission (NRC)
 Yucca Mountain Review Plan, Draft Revision 2
 NUREG-1804, Revision 2

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Introduction

Thank you for the opportunity to comment on the Nuclear Regulatory Commission (NRC) Yucca Mountain Review Plan, Draft Revision 2, a document that will be important in determining whether the Yucca Mountain site can be licensed. I would like to express a number of comments, questions and concerns about the Draft Revision 2 of the Yucca Mountain Review Plan as well as the licensing process. I had the opportunity to discuss many of these comments with NRC staff at hearings held in Las Vegas, Nevada in May of 2002.

The NRC is the key agency to determine whether Yucca Mountain will be licensed to accept waste. Maintaining the independence and professional integrity of the NRC is imperative if the site is to receive a fair review. The NRC notes in its Mission Statement that independence is a key objective of the Commission. Maintaining this independence is critically important in this highly politicized program.

There will be extreme pressures from Congress to complete Yucca Mountain. Recent statements indicate that many in Congress already feel that Yucca Mountain is proceeding ahead to completion (e.g. May 16 and 22 Senate hearings; where Senator Craig, as an example, states that "now we can proceed with the development of a repository). The main crux of the arguments at those hearings was that billions of dollars had been spent on the program and that spent nuclear fuel was accumulating at reactors. No arguments were presented, however, justifying the suitability of the site or whether it could actually be licensed. It will be up to the NRC, as well as litigators to ensure that the process is "above board" and maintains the objectives of the Nuclear Waste Policy Act. There have been a number of Boards, with nationally acclaimed technical members and staff that have expressed concern that the Department of Energy (DOE) proceeding ahead with licensing was highly premature.

The Presidential-appointed Nuclear Waste Technical Review Board (NWTRB) indicated, as an example, in a April 24, 2002 letter to DOE that when DOE's "technical and scientific work is taken as a whole, the Board's view is that the technical basis for the DOE's performance assessment is weak to moderate at this time." Not a ringing endorsement for proceeding ahead with licensing. Others including the General Accounting Office (GAO) have echoed this concerns as well.

Despite the Congressional rhetoric, however, DOE Secretary Abraham and others have acknowledged

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that the NRC will review license for technical adequacy. The license application review is designed to ensure that DOE has demonstrated compliance with performance objectives. The NRC needs to ensure that this responsibility is maintained throughout the licensing review process.

Comments on the Plan

General Concerns and Comments about the Revised Plan:

The three figures in the document describe processes reviewed and issues examined. It would be useful for the public to have a process diagram illustrating how decisions are made, or how inadequacies are addressed.

Figure 1-3 illustrates phenomena reviewed and provides a sense regarding how the review will consider "engineered barrier" failure. How will similar inadequacies (e.g., "fast tracking of weapons grade "fallout" to the repository horizon and similar) be addressed for the site environment?

The acceptance process has three potential options "Reject," "Accept," or "Accept, request additional information." The third category description should be modified. If additional information were needed there would appear to be some basis for rejection, or at least non-acceptance. As worded, this could give the wrong impression to Congress and others that an issue has been resolved.

Although the Final Yucca Mountain Environmental Impact Statement (YMEIS) is referenced in the document, it is described in terms of why the YMEIS is not considered, etc. There should be another section that describes other documents in the licensing process- YMEIS, state and local government review documents, and similar for those who may not be aware of these submittals and their purpose and value.

Specific Issues

There are a number of concerns that I have about NRC's role in the licensing review process as stated in the draft Review Plan. Several that I have particular concern about the following:

It is noted in the Plan that during the acceptance review the NRC does not determine the adequacy of the submitted information. Isn't assuring the adequacy of the information integral to determining whether a site can be licensed? If the data or methodology were suspect whom else would determine the adequacy of information if not the NRC?

The NRC can grant the license subject to conditions agreed to by the licensee. What if the licensee does not agree with the conditions? In its role of protecting the American public from digressions by DOE, it would seem that the NRC would have the regulatory power to compel DOE to adhere to certain conditions. Without NRC setting the regulatory standards and ensuring that DOE meets them, it appears that licensing becomes more of a negotiation process, with perhaps the party with the greater political power having the edge.

It is noted that NRC has no power to compel the licensee to come forward with or prepare a different

proposal. What if DOE's process is flawed either technically or uncertain because of inadequate information (see Number 1)? How then would the NRC enforce the conditions of the license if DOE needs to modify a certain factor or submit data or information to better prove a particular phenomenon?

The Plan notes that the NRC is not seeking scientific precision. Again, who does and why is NRC not seeking scientific precision?

In a perfect world where DOE had completed its mission to provide a stronger basis for site suitability perhaps these generalities could be accepted. The NRC must be stronger in its review and interpretation of DOE information in the licensing process.

Performance Review

Total Systems Performance Assessment.

Questions:

How will NRC address uncertainties in performance? Further testing? Peer review? Etc.?

How will NRC compare (and weight?) uncertainties among site features (e.g., unsaturated zone, saturated zone, etc.)? How will priorities among site features be established for decision-making? (e.g., site characteristics versus engineered barriers as an example).

Re: Integrated repository performance. Will NRC refuse to grant a license if one aspect of performance would not adequately meet standards and could not be "engineered around"?

Transportation Issues

1. Supplemental EIS (SEIS) is apparently to be prepared to evaluate transportation (re: to be produced by DOE). DOE has stated that the Department would prepare a supplemental EIS in several years (?) to address transportation issues. Transportation, of course, is the part of the program that would impact more people nationally. There, consequently, will be increased interest and concern in transportation issues. The current, final Yucca Mountain EIS that will accompany the license application as a part of DOE's "licensing application package" does not substantively address transportation issues (e.g., national routes, etc.).

Questions:

Will the SEIS on transportation be incorporated into the "Final EIS" as a component of NRC's licensing review? Will transportation issues be considered as part of performance assessment?

Will the NRC license Yucca Mountain as a repository if there are inadequacies in DOE's resolution of transportation issues as expressed in the SEIS, or regarding the inability to license a transportation cask?

If there are inadequacies in this SEIS, will NRC set "conditions" prior to issuing a license to accept fuel or operate a repository correcting these deficiencies? How will the NRC follow-up to ensure that these issues have been addressed?

Licensing of a transportation cask

As noted previously, there are increasing national concerns regarding the transportation of nuclear waste, due in large part to the potential danger of the radioactivity from the spent nuclear fuel and high-level defense waste (other issues, of course, are the unprecedented number of waste shipments). These fears could be somewhat allayed (or potential problems determined) by the full-scale testing of the casks. At a

U.S. Senate Energy and Natural Resources Committee hearing in May, NRC Commission Chairman Dr. Meserve indicated that full-scale testing could be undertaken under certain circumstances in the "Package Preference Study" to verify canister integrity.

Questions:

How will the NRC study proposed DOE transportation canisters? Review computer simulations and samples produced for DOE? Replicate DOE's analyses? Perform independent analyses (of any type including full-scale testing)?

What would be the circumstances that would result in the NRC initiating full-scale testing by NRC? (evidence such as studies performed for an evaluation of the Baltimore tunnel fire?)

Who would conduct the review or analyses? DOE, DOE contractor, or independent contractor?

Comments:

The NRC as part of licensing should perform full-scale, independent testing of proposed rail and truck canisters. This will greatly assist in determining the viability of the canisters under possible accident conditions. As important as computer simulation can be for use in predicting some aspects of future risk or failure, these will not satisfy the public's concerns regarding how canisters would operate under "real life" conditions.

The criteria used for the present range of tests required by NRC (fire damage, water immersion, etc.) do not reflect, unfortunately, many accidents that currently exceed these requirements. A key example is last year's Baltimore tunnel fire, and a number of other violent train crashes that have become common. The NRC should utilize criteria from accident examples such as these to test canisters. These may not even be "worst case" examples, but they are instances of accidents that have happened.

Quality control on canisters: There was an incident several years ago in Kingman, Arizona involving a DOE-contracted truck leaking fluids from a truck container carrying waste contaminated with low levels of radioactivity. The leak occurred, after final analysis, from stress on the canister caused by the misreading of a blueprint that led to the canister being manufactured incorrectly. This quality control error was not captured until after the incident.

Questions:

Will NRC review the QC on the manufacturing processes used to produce nuclear waste transport (and other) casks?

Will NRC specify conditions, or criteria for the certification of a canister?

Are manufacturing processes, construction and quality control issues periodically reviewed by NRC to ensure that approved certification criteria are adhered to and canisters constructed to required specifications?

Other concerns that need clarification:

The YMEIS document is included in the licensing submittal. How will the NRC consider the comments made by NRC and others to the draft YMEIS that may not have been incorporated in the final YMEIS? The State and Affected Counties also expressed many of the NRC's concerns. Will the NRC require DOE to correct issues that have not been addressed in the YMEIS (including the NRC's)? Will the NRC develop an EIS to correct any deficiencies if DOE does not?

How will the NRC inform the public on the status of its review in particular issues that have not been resolved adequately?

Will the Licensing Support Advisory Review Panel (LSARP) continue to perform a review role on licensing issues?

How will the NRC handle any major course corrections in DOE's work?

How will the NRC consider technical documents produced by others, the State of Nevada, etc. in deliberating licensing issues?

It is uncertain in my mind as to when the NRC considers the license application to be complete; there are currently 250 issues that have not been resolved by DOE to the NRC's satisfaction?

How will the NRC consider "context" issues; the communities surrounding the site, transportation and similar?

Summary:

The NRC (and perhaps the courts) will (or should) be the "reality check" for the suitability of the site, now that it appears that Congress and DOE are abrogating their responsibilities per the Nuclear Waste Policy Act and amendments.

Since this is in essence a "first of a kind facility" notwithstanding the repository at WIPP in New Mexico, and given the safety of storing waste at reactor sites for at least 100 years (by NRC evaluations), the licensing process undertaken should be deliberate, ensure that the public and workers safety and not circumvented by political expediency or undue haste.

Thank you for the opportunity to provide input.

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SUBMIT2: Send Questions or Comments
