

WM Record

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MEMORANDUM FOR: Hubert J. Miller, Chief  
High-Level Waste Technical  
Development Branch

FROM: Joseph O. Bunting, Jr., Chief  
Licensing Process and  
Integration Branch

SUBJECT: COMMENTS ON PRELIMINARY DRAFT 3 OF THE BWIP  
DRAFT SITE CHARACTERIZATION ANALYSIS

To provide you timely comments, we have conducted a quick review of the subject draft, focusing principally on the Comments and Conclusions. Overall, we found the preliminary draft to be clear and well-reasoned. From the standpoint of priority issues needing further substantiation, the choice of the three DOE assertions in the Site Characterization Report (SCR) for the Basalt Waste Isolation Project (BWIP) appears to be well-founded. It should be clear to all interested parties that NRC cannot accept at face value DOE's assertions that 1) pre-waste-emplacement groundwater travel time is likely to be "10,000 years or longer," that 2) the insolubility of radionuclides in Hanford groundwater will result in "maximum possible release rates" below the 10<sup>-5</sup> in proposed NRC criteria, and 3) tectonic processes within the Pasco Basin do not pose a hazard to repository construction and operation or long-term waste isolation. The discussion of the significance of these assertions in terms of their impact on the overall DOE characterization program is especially appropriate for the interested layman.

We note, however, that there are a few other issues that could also have been highlighted in the Comments and Conclusions. We raise this because, much as we understand the need for selectivity in the discussion of issues, we are concerned that the executive summary of our comments and conclusions might give the mistaken impression that if DOE attended to our concerns on hydrology, geochemistry, and geologic stability, all would be well. Except for a single citation on exploratory shaft construction and sealing, for example, the draft summary provides no discussion of the SCR's sketchy treatment of constructibility issues and their impact on repository design. Since just one of these possible impacts, the horizontal emplacement of waste, could have important

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effects on the contribution of engineered barriers to overall waste isolation, we believe it would be well to precis some of the DSCA's discussion of repository design issues in Subchapters 6.3.1. and 6.3.2.

For the sake of consistency, the Comments and Conclusions chapter should also underline the request in your January 13th letter to John Anttonen for more information on exploratory shaft construction and sealing plans "before construction proceeds to the point where obtaining such data is precluded." To neglect the opportunity to remind DOE of your request in the DSCA might falsely signal that we no longer find the need so pressing. Alternatively, if DOE has satisfied your concerns in supplementary information since the January letter, the DSCA should explain how, so that the public understands how NRC has handled the matter and does not react to a non-issue on the basis of outdated DOE information.

Another matter deserving more emphasis is the apparent lack of DOE plans for reliability analysis of the waste package. The absence of identified plans for this analysis is cited on page 7-3 of the DSCA as "a major shortcoming" in DOE's site characterization plans. Clearly, lack of an empirically-grounded, detailed analysis of the likely reliability of the waste package undermines the fundamental NRC concept of multiple barriers contributing independently to system waste isolation. The same criticism could also apply to other barrier components, both natural and engineered. Without a well-documented design objective for the performance reliability of each barrier, neither DOE nor NRC can be confident that the timing, kind, and degree of testing planned for BWIP will adequately support DOE's case for system performance meeting EPA standards and NRC criteria.

In addition, we have concerns about several statements on page 1-2 of the introductory DSCA chapter. First, nowhere does the Nuclear Waste Policy Act of 1982 clearly specify that "the site selection process, insofar as it requires consideration of factors that are not radiologically important, is no longer to be a matter for NRC review." This is a policy judgment that should be brought to NMSS management attention separately. Second, the purpose of our review of the SCR is not only to "identify issues" and "enable DOE to gather the information. While it is accurate to characterize the DSCA as "advisory" and "a critical analysis," the reader may be allowed to conclude that NRC no longer intends to use it to support a Director's opinion, which remains a requirement under 10 CFR 60.11 of our current licensing rules. While NRC may well decide to revise Part 60 to modify or delete the provision for a Director's

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opinion, this again is a policy decision that should not be prejudged by omission here.

Finally, based on what little we have seen of the updated preliminary draft 4 DSCA, we are concerned that the public might misunderstand their opportunities for comment on our DSCA. We believe it is confusing to say that the DSCA is not being issued for public comment, but that NRC will consider any such comment in preparing comments on DOE's Site Characterization Plan. We recommend that preliminary draft 4 be revised to state that while the DSCA is being issued now for public information, the DOE document on which it is based will have to be supplemented and updated to comply with the new statute. To assure that effort is not wasted reviewing and preparing comments on outdated material, NRC advises interested members of the public to reserve comments until DOE has made available the information needed to update and supplement the SCR. At that point, NRC would prepare an updated draft analysis of DOE's submittal, and comments on both the original and the updated draft analyses could be submitted at the same time for NRC consideration in preparing a Final Site Characterization Analysis.

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