

Center for Nuclear Waste Regulatory Analyses

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September 25, 1996
Contract No. NRC-02-93-005
Account No. 20-5708-661

U.S. Nuclear Regulatory Commission
Attn: Mr. Jeffrey Pohle
Division of Waste Management
TWFN Mail Stop 7D13
Washington, DC 20555

Subject: Thermal Effects on Flow (TEF) KTI Intermediate Milestone No. 20-5708-661-
620: Review of DOE Thermal Program—Letter Report

Dear Mr. Pohle:

The subject document is specified as a deliverable in the Operations Plan for the TEF KTI. Attached is the Center for Nuclear Waste Regulatory Analyses (CNWRA) document entitled "Review of Department of Energy Yucca Mountain Site Characterization Office Thermohydrologic Testing and Modeling Program." To better reflect the content of the document, the title has been changed from that originally identified in the Operations Plan. This technical document fulfills the requirements for the subject milestone which is due September 27, 1996.

This technical document has been prepared based on the review of three reports and information provided during a Nuclear Regulatory Commission (NRC)/Department of Energy (DOE) Appendix 7 meeting held in Las Vegas on July 24, 1996 and the NRC/DOE Exploratory Studies Facility (ESF) video conference meeting on September 12, 1996. The three documents are: (i) the Peer Review Team (PRT) Record Memorandum Report and Recommendations submitted to DOE by the PRT in January 1996, (ii) the DOE response to the PRT recommendations, prepared and released in July 1996, and (iii) the PRT comments on the DOE response to the PRT recommendations in a letter report dated July 30, 1996. In response to the PRT recommendations, although the DOE has agreed to reinstate the proposed Fran Ridge Large Block Test (LBT), this test may be canceled. If so, one and possibly two more of the PRT recommendations will not be followed. Recommendation 10 identifies a new process-oriented laboratory experiment, "Experimental verification of the concept of a critical rate, q^* , during infiltration of a fracture-matrix system." DOE states that the critical rate experiments are being considered in association with the LBT. This statement is interpreted by CNWRA to imply that DOE has not yet planned for this testing, and also that, if planned, it may be in jeopardy subject to cancellation of the LBT. Cancellation of the LBT would be a direct refusal of Recommendation 13, "Reinstatement of the large-block test into the TH program at Yucca Mountain."

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Lastly, the DOE response is restricted to the list of 23 PRT recommendations contained in the summary at the end of the PRT report. No effort was made to address the depth of concern reflected in the body of the text of the PRT report. As a result, additional comments and areas of added emphasis not included in the summary of the recommendations in the PRT report, are not addressed in the DOE response.

If you have any questions on this document, please contact Dr. Ronald T. Green at (210) 522-5305 or me at (210) 522-5151.

Sincerely yours,



Asadul H. Chowdhury, Manager
Repository Design, Construction,
and Operations

AHC/yl
Attachment

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