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WM-10 (2)

JTB 12/22 M2 FORSHEY

FEB 26 1987

- 1 -

Mr. Dave Forshey  
U.S. Bureau of Mines  
2401 E Street, N.W.  
Washington, DC 20241

Dear Mr. Forshey:

The Department of Energy has nominated and the President has selected the Hanford site near Richland, Washington as one of three sites which will undergo site characterization prior to selecting a site for the first geologic repository. Each site has a unique set of geologic properties. Therefore, there are advantages and disadvantages to locating a repository at each site. The ability to construct a shaft and an underground facility within the dense basalt flows at the Hanford site is an issue which has been raised by the NRC and others, and recognized by the DOE, for some time. Existing conflicting views about the viability of constructing a repository at the Hanford site guides the NRC to continue to examine the constructibility issue. Since the U.S. Bureau of Mines is the government authority on shaft construction and underground excavation, the NRC requests the Bureau's position, as an agency, on the ability to construct a repository in the basalts at the Hanford site. The U.S. Bureau of Mines has been a technical assistance contractor to the NRC for several years.

The NRC recognizes that the Bureau has in the past reviewed and commented on various Hanford site documents related to specific aspects of constructibility of the repository. In view of the continued constructibility concerns as discussed in Attachments 1, 2, 3, and 7 listed below, the NRC would like the Bureau of Mines to respond to the following specific question:

Given the rock properties, high horizontal stress field, high temperature, and potential for high water inflow rates in the Cohasset flow, does the Bureau of Mines consider it is technically feasible to drill six foot and twelve foot shafts to the Cohasset flow and successfully construct and maintain the openings for an underground nuclear waste disposal facility.

The following attached documents may be helpful in responding to the above question, because the topics discussed therein essentially revolve around the above question.

1. Makhijani, A. and Tucker, K.M., 1985, Heat, High Water, and Rock Instability at Hanford, with a supplement by Donald E. White, Health and Energy Institute.
2. Parry, S.J. to Linehan J.J., Memorandum dated September 25, 1986.

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WM Record File 101  
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3. Markey, E.J., and Wyden, R., to Palladino, N.J., Letter dated June 28, 1985.
4. Palladino, N.J. to Markey, E.J., Letter dated August 2, 1985.
5. Doe, 1986, Environmental Assessment for the Reference Repository Location Hanford Site Washington.
- 6a. Markey, E.I., Wyden, R. to Peck, D.L., letter dated June 28, 1985.
- 6b. Peck, D.L., to Markey, E.I., letter response dated July 26, 1985.
7. Schlax, W., 1985, Testimony at Public Hearing.

We would appreciate the U.S. Bureau of Mines position on the above question of constructibility. If there are any questions please contact John Buckley of my staff at 427-4544

Original Signed by  
MICHAEL J. BELL

*RWB* Robert E. Browning, Director  
Division of Waste Management, NMSS

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LETTER TO: Mr. Dave Forshey, BOM  
 FROM: Robert Browning  
 SUBJECT: CONSTRUCTIBILITY ISSUE AT THE HANFORD SITE  
 DATE: 2/26/87

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