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**Department of Energy**

Office of Civilian Radioactive Waste Management  
Yucca Mountain Site Characterization Office  
P.O. Box 30307  
North Las Vegas, NV 89036-0307

**JUN 27 1997**

**OVERNIGHT MAIL**

Robert R. Loux  
Executive Director  
Agency for Nuclear Projects  
State of Nevada  
Evergreen Center, Suite 252  
1802 North Carson Street  
Carson City, NV 89710

Dear Mr. Loux:

**RESPONSE TO CONCERNS REGARDING CLOSURE OF COMMITMENT TO MONITOR PNEUMATIC CONDITIONS IN BOREHOLES NRG-6 AND 7A AT YUCCA MOUNTAIN, NEVADA**

- References:
- (1) Ltr, Loux to Barnes, dtd 1/7/97
  - (2) Ltr, Dreyfus to Bernero, dtd 11/14/94
  - (3) Ltr, Brocoum to Holonich, dtd 5/1/95
  - (4) Ltr, Brocoum to Bell, dtd 12/18/96

In your letter (reference 1) you inquire about the basis of the U.S. Department of Energy's (DOE) decision to close a commitment to monitor ambient pneumatic conditions at Yucca Mountain, Nevada. The commitment was two-fold:

1. A hold was placed on Tunnel Boring Machine (TBM) operations beyond the Paintbrush Tuff nonwelded unit to provide adequate confidence that sufficient data would be collected to address the issue of pneumatic pathways at Yucca Mountain (reference 2), and;
2. We described our plan to continue to monitor the pneumatic conditions at Yucca Mountain in boreholes NRG-6 and 7a until the gaseous flow model describing the behavior of the unsaturated zone and the influence of the Exploratory Studies Facility (ESF) construction on the gas-flow regime had been sufficiently developed and confirmed by the data (references 2 and 3).

The hold on TBM operations was in place until data were collected representing the passage of several barometric pressure fronts (reference 2). As you are aware, the hold on TBM operations was lifted in May 1995.

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With respect to continuing to monitor pneumatic conditions at Yucca Mountain, we have collected three years of quality data sets from our monitoring program in boreholes NRG-6 and NRG-7a; monitoring has ended in NRG-6 only. NRG-7a continues to yield valuable information. The data sets obtained from our monitoring program have been used in the calibration of the unsaturated zone model; these data sets are listed in Enclosure 1. In addition, the data were used in two reports: "Interpretation of Pneumatic and Chemical Data From the Unsaturated Zone Near Yucca Mountain, Nevada" (enclosure 2); and "Calibration and Prediction of Pneumatic Response at Yucca Mountain, Nevada, Using the Unsaturated Zone Flow Model" (enclosure 3). Based on the data collected, we determined the influence of ESF construction on the ambient pneumatic conditions at Yucca Mountain had been sufficiently evaluated to close this commitment (reference 4).

Characterization of pneumatic pathways is an important part of the testing program at Yucca Mountain. Although monitoring of borehole NRG-6 has ceased, we have an extensive, ongoing pneumatic monitoring program, including NRG-7a, three boreholes in the North ramp area, and four boreholes along the alignment of the ESF North-South main drift. Current plans call for these boreholes to continue to be monitored until the pneumatic responses are sufficiently understood.

Sincerely,



Wesley E. Barnes  
Project Manager

Enclosures:

1. Pneumatic Monitoring Data From  
NRG-6 and 7a (8 diskettes)
2. Interpretation of Pneumatic and  
Chemical Data From the Unsaturated  
Zone Near Yucca Mountain, Nevada
3. Calibration and Prediction of Pneumatic  
Response at Yucca Mountain, Nevada  
Using the Unsaturated Zone Flow Model

Robert R. Loux

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JUN 27 1997

cc w/o encls:

J. T. Greeves, NRC, Rockville, MD

M. V. Federline, NRC, Rockville, MD

P. W. Pomeroy, ACNW, Washington DC

cc w/encls 2 & 3: (2cys)

S. L. Wastler, NRC, Rockville, MD