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NUCLEAR WASTE PROJECT OFFICE**

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September 10, 1993

Mr. Carl P. Gertz, Program Manager  
Yucca Mountain Project Office  
U.S. Department of Energy  
P.O. Box 98608  
Las Vegas, NV 89193-8608

Dear Mr. Gertz:

I have reviewed with interest the D. Shelor to J. Holonich letter dated August 20, 1993 and the L. Hayes to J. Younker letter dated June 25, 1993 which both respond to the State's concern relative to characterization of pneumatic (gas, air, or vapor) pathways. There appears to be a significant difference between statements contained in the L. Hayes (USGS) letter and statements in the D. Shelor (DOE) letter.

The Hayes letter states the following:

"In the process of preparing this reply to your request for assistance, the USGS-YMPB staff did develop some preliminary ideas of surface-based testing that should precede significant penetration beyond the starter tunnel. Although not yet sufficiently mature to be offered as firm proposals, the following examples should provide the nature and scope of forthcoming suggestions:

- A. Complete presently planned testing and monitoring of gas chemistry, gas flow, and shut-in pressures in UZ16 and UZ14 using currently available packer systems, prior to stemming; same testing, using SEAMIST systems and prior to stemming where appropriate, in UZ6, UZ6s, UZ7, and SRGS/SD11; possibly same testing with SEAMIST system in more distant holes UZ4, UZ5, and UZ13.
- B. Monitor gas pressure in UE25a4 to overlap and continue beyond gas-pressure monitoring (after stemming) in NRG6.

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- C. Develop and implement new plans as in (A) for boreholes NRG2a, NRG5, NRG6, SRG4, and SD12.
- D. Develop and implement new plan to drill and test as above UZ7a in the Ghost Dance fault and a new hole closer to the ESF location.
- E. Develop and implement new plans to pull casing and perform pneumatic tests in selected WT holes (e.g., WT2) near the planned ESF excavation.

Generally, the objective would be to complete the testing and obtain about one year of monitoring data before excavation closely approaches the monitored holes."

In contrast, the Shelor letter states the following:

"The U.S. Geological Survey (USGS) evaluated the technical concerns contained in the State's letter and those concerns that have been expressed in prior comments from the NRC and State. Recommended actions to optimize the sequencing of surface-based testing and ESF excavation that are under consideration in this review include:

1. Complete presently planned testing and monitoring of gas chemistry, gas flow, and shut-in pressures in U16 and UZ14 using currently available packer systems, prior to stemming; same testing, using SEAMIST systems and prior to stemming where appropriate, in UZ6, UZ6s, UZ7, and SRG5/SD11; possibly same testing with SEAMIST system in more distant holes UZ4, UZ5, and UZ13.
2. Monitor gas pressure in UE25a4 to overlap and continue beyond gas pressure (after stemming) in NRG6.
3. Develop and implement new plans as in 1. for boreholes NRG2A, NRG5, NRG6, SRG4, and SD12.
4. Develop and implement new plan to drill and test as above UZ7a in the Ghost Dance fault and a new hole closer to the ESF location.
5. Develop and implement new plans to pull casing and perform pneumatic tests in selected WT holes (e.g., WT2) near the planned ESF excavation.

Those USGS recommendations that are feasible for action have been identified in the Yucca Mountain Project Office review and a preliminary implementation and test schedule has been developed. It will be available for examination by the NRC On-site Representatives upon their request."

It is clear in the Hayes letter that items A through E are only examples and not firm proposals for recommended action, yet the DOE has implemented these examples as actions. I suggest a meeting be arranged between the DOE, USGS, NRC, and the State to clarify DOE's understanding of this problem and how it intends to address the concerns which have been raised.

It is noteworthy the complete agreement between the DOE's geology and hydrology experts, the U.S. Geological Survey, and Nevada's scientific experts that the site characterization effort must obtain undisturbed pneumatic pathway data. I appreciate the candor of L. Hayes in acknowledging that surface-based testing has fallen behind the accelerated ESF construction, and that surface-based testing must be accelerated in order to obtain undisturbed site characterization data. Additionally, I am requesting a response on how the Yucca Mountain Project intends to satisfy the concerns of the State and USGS scientists and the priority that DOE places on obtaining undisturbed pneumatic data and the commitment of funds to support the data collection.

Your prompt attention to this request is greatly appreciated.

Sincerely,



Carl A. Johnson  
Administrator of Technical Programs

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cc: L. Hayes, USGS  
✓ J. Holonich, NRC