



## Department of Energy

Washington, DC 20585

November 7, 1997

The Honorable Shirley Jackson  
Chairman  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Dear Madam Chairman:

Pursuant to the Nuclear Waste Policy Act, Section 113(b)(3), this letter transmits the sixteenth semiannual progress report on site characterization activities at the Yucca Mountain site. The enclosed report covers the period October 1, 1996 through March 31, 1997.

As described in the enclosed report, we continued the implementation of the 1996 draft Program Plan. The program is currently focused on completing the work required for the 1998 viability assessment. While not a substitute for the site recommendation, the viability assessment will serve as an invaluable management tool by focusing the site investigation and facility design on key tasks and unresolved issues. The viability assessment will also serve as a major informational input to the policy process and provide all parties with a common frame of reference for evaluating our work.

We have completed excavation of the main tunnel of the Exploratory Studies Facility as well as alcoves for thermal testing and investigation of the Ghost Dance Fault. Detailed planning for an additional tunnel across the repository block is ongoing. Excavation of the starter tunnel should begin in early FY 1998, and excavation across the repository block should begin mid FY 1998. Although Congressional FY 1998 budget reductions have unfortunately reduced our original 1998 planned science experiments in the tunnel and alcoves, I do expect valuable information to support the design and performance assessment activities to still be obtained.

Total system performance assessment has continued to play an important role in focusing the site characterization activities on those issues most significant to repository performance. During this reporting period, we adopted several measures to ensure the Total System Performance Assessment for the viability assessment would provide a clear record of the evaluation and would be readily understandable to readers and reviewers. For example, we conducted seven abstraction-testing workshops and two formal expert elicitations to develop and document the input to the evaluation. These activities were observed by representatives of the Nuclear Regulatory Commission, the Nuclear Waste Technical Review Board, and other interested parties. In addition, an independent peer review of the Total System Performance Assessment is underway. Members of this peer review panel observed our abstraction-testing workshops and have delivered the first of three interim reports. This report is being evaluated by the program and the peer review will continue to review the entire performance assessment process. The second interim report is expected in the first quarter of FY 1998; the third interim report, in the third quarter of FY 1998. A final report is expected mid FY 1999.

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Design activities continued to focus on resolving key design issues and on designing systems, structures, and components of the repository system that have little or no regulatory precedent and will have a major impact on performance assessment, schedule, construction, and cost. Continued field study and modeling of the Yucca Mountain site resulted in increased understanding of the systems and processes at work.

The viability assessment will assemble the results of these recent activities with the other scientific and technical information collected in over 15 years of site investigations into a workable repository design and an analysis of its cost and performance. The viability assessment will also define a path forward to a site recommendation and license application. Its completion will continue progress towards a national decision on geologic disposal at Yucca Mountain. If you wish to discuss any of these matters further, please call me at 202-586-6850.

Sincerely,

A handwritten signature in black ink, appearing to read "L. H. Barrett", with a large, stylized loop at the end.

Lake H. Barrett, Acting Director  
Office of Civilian Radioactive  
Waste Management

Enclosure

cc: (See Attached list)

A handwritten signature in black ink, appearing to read "on the shelf", with a large, stylized loop at the end.

cc: (See Attached list)

Susan W. Dudley, Esmeralda County Board of Commissioners, Goldfield, NV  
Jason Pitts, Lincoln County Nuclear Waste Project Office, Pioche, NV  
Les W. Bradshaw, Nye County, Tonopah, NV  
Dennis A. Bechtel, Clark County Nuclear Waste Div., Las Vegas, NV  
Commissioner Wayne Cameron, White Pine County Board of Commissioner, Ely, NV  
Tammy Manzini, Lander County Yucca Mountain Inf. Office, Austin, NV  
Sandy Green, Eureka County, Yucca Mountain Inf., Office, Eureka, NV  
Alan Kalt, Churchill County Comptroller, Fallon, NV 89406  
Kim Packard, Mineral County office of Emergency Man., Hawthorne, NV  
Robert R. Loux, Nevada Nuclear Waste Project Office, Carson City, NV 89710  
Brad Mettam, Yucca Mountain Repository Assessment Office, Inyo Cty., Bishop, CA

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AUTHOR: LAKE BARRETT  
AFFILIATION: DEPT OF ENERGY

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LETTER DATE: Nov 7 97

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MOUNTAIN, NEVADA"

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