



AGENCY FOR NUCLEAR PROJECTS
NUCLEAR WASTE PROJECT OFFICE

Capitol Complex
Carson City, Nevada 89710
(702) 885-3744

November 8, 1989

Mr. Carl Gertz, Project Manager
Yucca Mountain Project Office
Department of Energy
Nevada Operations Office
P.O. Box 98518
Las Vegas, Nevada 89193-8518

Dear Mr. Gertz:

As you are aware, on October 31, 1989 the U.S. Department of Energy conducted a major underground nuclear weapons test at Pahute Mesa on the Nevada Test Site. According to the U.S. Geological Survey, the explosion measured 5.8 on the Richter Scale of Earthquake Magnitude. John Minsch, a spokesman at the USGS National Earthquake Information Center in Golden, Colorado, stated in the press on November 1, that "The 5.8 reading on the Richter Scale was one of the higher levels recorded for such tests."

As you are also aware, Jerry Szymanski, a Physical Scientist on your staff, has proposed a hypothesis which focuses on a coupled relationship between seismic events and changes in hydrologic conditions (Jerry Szymanski, "Conceptual Considerations of the Yucca Mountain Groundwater System with Special Emphasis on the Adequacy of the System to Accommodate a High-Level Nuclear Waste Repository", July 26, 1989). The October 31 test could provide a unique opportunity to begin testing the validity of Dr. Szymanski's hypothesis. The October 31 test, because of its magnitude, could provide information of high quality which might suggest a cause and affect relationship between seismic events and changes in the groundwater table. We are sure the DOE and its contractors are well-aware of this unique opportunity and are already assembling the data to conduct an analysis.

I believe that it is important as part of our oversight role to conduct an independent analysis of the data which might test Dr. Szymanski's theory. In order to perform such a test, I request that the DOE provide to this Office certain data recorded by the

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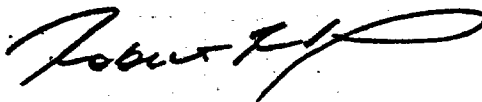
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DOE and its contractors before, during, and after the October 31 test. Specifically, I am requesting the following information:

- o Continuously-recorded groundwater level data from all monitored wells on Yucca Mountain and elsewhere on NTS for at least thirty (30) days prior to October 31, 1989 (October 1 - October 30); for October 31, 1989; and for thirty (30) days after October 31, 1989 (November 1 - November 30). The pre-test data will allow the establishment of static groundwater conditions and allow the identification of any perturbations to the groundwater system caused by the October 17 San Francisco Earthquake.
- o Continuously recorded seismograph data from the U.S.G.S. Southern Nevada Seismic Network for the same October - November 1989 timeframe.
- o Strong-motion seismic data recorded on Yucca Mountain and elsewhere on NTS for the October 31 test. These data may provide a correlation of ground acceleration with the magnitude of groundwater level change.
- o Any results of water chemistry analyses from groundwater samples collected before and after the October 31 test.

I would appreciate your prompt attention to this request. Neither one of us should miss this unique opportunity to test a theory which has great bearing on the potential suitability of Yucca Mountain as a High-Level Nuclear Waste Repository Site. Should you have any questions, do not hesitate to contact me or Carl Johnson of my staff.

Sincerely,



Robert R. Loux
Executive Director

RRL:CAJ:jem

cc: Robert Browning, NRC
Donald Deere, NWTRB
Dade Moeller, NRC-ACNW