



Department of Energy
Washington, DC 20585

APR 25 1989

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John J.

Dr. Dade W. Moeller, Chairman
Advisory Committee on Nuclear Waste
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Dr. Moeller:

During the February 23, 1989, meeting of the Advisory Committee on Nuclear Waste (ACNW) there were presentations and discussions related to the availability and transmittal of data from the United States Geological Survey (USGS), which is a participant in the Department of Energy's (DOE) high-level radioactive waste repository program, to the State of Nevada. The USGS has provided DOE with information from their records detailing the specifics of information requests from and data transmittal to Nevada. We are providing this information to you (Enclosure 1) since it may be of use to the ACNW in evaluating the DOE's repository program.

Should you have any questions concerning this information please contact me on 586-6046 or Gordon Appel of my staff on 586-1462.

Sincerely

Ralph Stein
Associate Director for Systems
Integration and Regulations
Office of Civilian Radioactive
Waste Management

Enclosure: As stated

- cc: E. Roseboom, USGS
- B.J. Youngblood, NRC
- R. Loux, State of Nevada
- C. Johnson, State of Nevada
- M. Baughman, Lincoln County, NV
- D. Bechtel, Clark County, NV
- S. Bradhurst, Nye County, NV





United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VA. 22092

OFFICE OF THE DIRECTOR

In Reply Refer To:
WGS-Mail Stop 106

April 18, 1989

Mr. Ralph Stein
U.S. Department of Energy (RW-30)
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Dear Mr. Stein,

I am very concerned about recent comments by Nevada representatives to the Nuclear Regulatory Commission's (NRC) Advisory Committee on Nuclear Waste (ACNW) on February 23, 1989, in which Nevada claims that they are having major problems in obtaining data from the U.S. Geological Survey (USGS). At the ACNW meeting on March 23, which I attended as an observer, the ACNW indicated that it planned to report on "the problem of getting data from the USGS" at its next briefing of the NRC Commissioners on April 27, 1989. I feel that the statements of the Nevada contractors do not present a true picture of the past release of data by the USGS to the State of Nevada and I am concerned that their reiteration by the ACNW will lend them a credibility that is not supported by the facts.

Consequently, I have looked into the allegations made at the ACNW meeting, using as a basis the transcript of the meeting. I request that this letter be transmitted to the ACNW as soon as possible so that it may be considered by them prior to their meeting with the Commissioners.

There were other inaccuracies in the presentation by Nevada, as well as areas of scientific disagreement (Dr. Lehman's evaluations of the quality of the USGS water-level data, for example). This letter only addresses the alleged delays in obtaining data from the USGS.

Seismic Data: On page 499 of the transcript, Dr. Michael Ellis states that, "We have been trying to get hold of the seismic data for a couple of years now and we just can't get it because it won't be released." Following a discussion with Dr. Max Blanchard of the Department of Energy (DOE), Dr. Ellis stated, "The data that I am specifically referring to is public domain data from the USGS. It's nothing to do with classified data. Not from one of the National Labs. And that data is still sitting in Denver, or Golden, Colorado, not because of having been given to us but because they won't release it because it's not QAed." (p.502-3)

The facts are as follows:

A letter dated October 2, 1987, was sent by Robert Loux, for the State of Nevada, to DOE requesting copies of the magnetic tapes on which seismic events have been recorded by the USGS southern Great Basin seismograph network operated by the USGS for DOE since 1978. The first tapes were shipped from the USGS to DOE Las Vegas four months later on February 10, 1988. As the copying process is time consuming and a large number of cartons of tapes were involved, a total of 11 shipments were made at intervals of about a month, the last one being sent on March 3, 1989. Copies of transmittal letters can be provided. Two duplicate sets were shipped, set A for permanent archiving by DOE and set B for use by any interested party, i.e., Nevada. The tapes sent include local and regional seismic events recorded between the initial computerized operation of the net on September 29, 1981, through the end of 1987.

The only other request for seismic data from Nevada received by the USGS was a recent request to DOE from the University of Nevada - Reno specifically for data covering events that occurred in August of 1988. DOE decided that this data should not be sent until the present stop work order on the analysis and interpretation of USGS seismic data is lifted.

It should be noted that there is an excellent collegial working relationship between the seismologists of the University of Nevada - Reno, and their counterparts in the USGS involved in the Yucca Mountain Project (YMP) program. The seismologists from both organizations have been discussing arrangements to have the data from the DOE-funded seismic network telemetered simultaneously in the future to both the USGS and the University of Nevada - Reno, provided that the joint radio transmissions do not degrade the data. A student from the University spent a month last summer in the USGS offices in Golden, Colorado, going through the photographic (Develocorder) records that serve as back up to the magnetic tapes.

Water Level Data - General: At the meeting of the ACNW, Dr. Linda Lehman expressed concern over what she claimed were delays in getting hydrologic data from the USGS.

Nevada first requested water level data from DOE in a letter dated December 11, 1986, which was sent to the USGS by DOE on February 2, 1987. This request included transducer data, hand measured levels and pump tests. The USGS sent the data in several shipments to DOE, the last one on April 28, 1987, three months after the request from DOE. On July 24, 1987, DOE sent the data on to the State. On March 11, 1988, the State asked DOE to resubmit some of the data as some of the copies of paper records made by DOE were of poor quality. On April 1, 1988, DOE asked the USGS to make new copies of the requested data and send it directly to Nevada; this was completed five weeks later on May 9, 1988.

A separate request by Nevada for field log books and software programs of our Cambell Data Loggers was sent to DOE on February 8, 1988, and received by the USGS on March 17, 1988. Copies of this information were sent to DOE four weeks later on April 17, 1988.

The following discussions relate to specific types of hydrologic data as identified on Dr. Lehman's viewgraphs:

Water level - Pressure Transducer (15 wells): Dr. Lehman stated (p.560), "Now what this means is that historically reliable good quality data are not available for at least two years after the end of a test. And I saw (say?) this is a conservative estimate because most of the data that I've shown you on these two graphs with the exception of the UZ-1 data is common everyday hydrologic data. It's not anything complicated. It's just water level measurements, down hole transducer data. So it's not unusual at all."

In normal hydrologic uses, transducers are used for measurement periods of hours to days. The USGS network is unique in attempting to monitor water levels continuously for years and in relatively deep wells (1000 to 2500 feet) because of the great depth to the water table at Yucca Mountain. The project was given a relatively low priority through the mid 1980s and neither the DOE nor the USGS devoted adequate resources to it. Initially, surplus transducers were used to keep cost down. The focus was on data collection; if data had not been collected starting in 1983, there would be no data on past short term fluctuations in water levels.

Water Level - Other (28 wells): Dr. Lehman also stated (p.558), "This other data, 28 wells, the hand-measured data for the period 1981 through 1987, was just released in the USGS open file report the end of December (1988). We received it in January. That's two years from the end of testing, and as much as eight years from the start of testing."

The data in the open file report included the December 1987 measurements. Since the report was released in December, 1988, the elapsed time from the end of testing to release of the report was 12 months, not two years as Dr. Lehman states. Furthermore, the raw data from 1981 through 1986 had already been provided to Nevada by April 24, 1988, as described above. The "eight years from the start of testing" is irrelevant, since Nevada did not request the data until December of 1986.

Drawdown and recovery (10 wells): This data from pumping tests was obtained when DOE was screening a number of possible sites across the country. The data probably will not be published because new data will be obtained in future tests under appropriate QA. The raw data has been provided to Nevada as described above.

Hydrologic data - Unsaturated zone: Much of this past work was very developmental. Much of the early data will not be published unless its accuracy can be satisfactorily established. Unlike hydrologic data on the saturated zone, which is collected at the well, the data from these holes consists of measurements and observations made on the core samples in the laboratory. Thus data may not be actually obtained until long after the hole was drilled and the core collected.

Quality assurance of hydrologic data: The preceding discussion of hydrologic data relates primarily to release of raw data. Data collected during the DOE screening of potential sites across the country was done under whatever QA

existed at the time. Quality assurance of data for licensing of a repository is only now beginning to be fully addressed. Until the present QA program is fully implemented, it will be difficult to determine its effects on the timing release of Quality Assured data.

The USGS would be pleased to join DOE in future meetings with the ACNW on this or any other matters.

Sincerely,



Eugene H. Roseboom
Acting Assistant Director
for Engineering Geology

Copy to: Carl Gertz, DOE-YMPO
Max Blanchard, DOE-YMPO
Gordon Appel, DOE, RW-331
Stephen J. Brochum, DOE, RW-221
Mark W. Frei, DOE, RW-22
Stephen H. Kale, DOE, RW-20
Edward Regnier, DOE, RW-331
Verne Schneider, MS-414 Reston
Mitch Reynolds, MS-911 Reston
Larry Hayes, MS-421 Denver
Don Jorgensen, MS-421 Denver
Bob Raup, MS-913 Denver
Kaye Shedlock, MS-966 Denver
Charles Bufe, MS-966 Denver