

pk

55

WM R- d File
102.2

WM Project 11 s/f
Docket No. _____
PDR WMRP r/f
LPDR NMSS r/f
CF

102.2

~~WM-11/KS/84/12/31/0/1~~
Distribution:
COEN

- 1 -

(Return to WM, 623-SS)

MAR 28 1985

RBrowning
MBell
JBunting
MKnapp
LBarrett
HMiller
RBoyle
SCoplan
JLinehan
JKennedy
RCook
PPrestholt
TVerma
JGiarratana

KStablein & r/f
PDR
KGano (o)

Dr. Donald L. Vieth
Director
Waste Management Project Office
U. S. Department of Energy
Nevada Operations Office
P.O. Box 14100
Las Vegas, NV 89114-4105

Dear Dr. Vieth:

As part of the process of informal pre-licensing consultation between the NRC and DOE staff, members of the NRC staff and NRC consultants undertook a review of NNWSI geology/geophysics data and data collection procedures in September, 1984. During September 17-21, 1984, NRC staff and consultants visited the USGS Core Library, G-Tunnel, and Yucca Mountain, Nevada; during September 24-28, 1984, the staff reviewed data at the USGS offices in Menlo Park, California (September 24-25) and in Denver, Colorado (September 26-28).

Such data reviews allow the NRC to conduct its independent assessment of the quality and reliability of data that the DOE has gathered/generated in support of its potential license application. The scope of material reviewed includes the data itself, procedures used to gather and process the data, and documentation that the procedures have actually been used. A data review is solely an information gathering activity that focuses on examination of data by technical specialists. It includes briefings by investigators but involves no consultation with DOE or DOE/contractors on interpretation, adequacy, or validity of data, nor is it in any sense a review of DOE's site characterization program or plans. Such matters are instead addressed at the technical meetings that are also a part of the pre-licensing consultation process conducted under the NRC/DOE Procedural Agreement.

The Data Review Summary, including the data reviewed, the data review check lists filled out by the staff, and our list of data requested of the USGS, was transmitted to DOE via my November 15 letter to you. We have not yet received any of the data requested (see Enclosure 1, NRC Data Request for NNWSI Geology Data Review). This represents a departure from the NRC/DOE Site-Specific Procedural Agreement, which states (p. 3) that the NRC is to receive data requested of the DOE "normally" within 45 days of its acquisition and after initial quality assurance checks are performed. Although our review could not be as complete as would have been possible had we had the data in hand, we hereby convey our concerns regarding the data and procedures reviewed during the visits.

8505010567 850328
PDR WASTE
WM-11 PDR

NV102255 H

615

Enclosure 2 contains a number of comments pertaining to USGS plans for geologic studies. Some of these comments are based on information from past technical meetings; others have arisen from remarks made by individual USGS investigators in providing orientation information to us during this data review. As stated above, the purpose of the review was not to discuss plans; the comments offered here concerning plans are provided in keeping with NRC's intent to identify potential problem areas at the earliest possible time and thereby avoid potential delays in DOE's program.

With respect to Enclosure 2, which presents the review team's comments and observations, there are numerous references to the "ISTP" and "ISTP issues". The document referenced thereby is the Draft Issue-Oriented Site Technical Position (ISTP) for Nevada Nuclear Waste Storage Investigations(NNWSI) that was issued for comment November 15, 1984; at that time several copies were sent to Jerry Szymanski of your staff.

Some clarification of one of our comments in Enclosure 2 may be in order. In the paragraph addressing G-Tunnel activities it is stated that "...the DOE should consider further study of fractures in G-Tunnel." In your September 5, 1984 letter to me you note that "... none of the activities underway at G-Tunnel relate to the current geological data base being developed for the Yucca Mountain site." We understand that it is your intention to use G-Tunnel only as an analogue of Yucca Mountain and are in agreement with your position. The suggestion that some attention might appropriately be given to study of the G-Tunnel fractures should be considered in that context.

Enclosure 2 presents observations based upon examination of core in the Core Library. Of greatest concern was the unavailability of procedures at the Core Library for collecting and handling core. We were told that the NNWSI could furnish us with those procedures. It was not clear whether the Core Library staff were familiar with or had the procedures. The reliability of core data depends upon such procedures; without seeing them it is impossible to fully assess the quality and reliability of the core data. There are two items in particular that appear to warrant your consideration: (1) the advantages of photographing the core and logging it for fractures at the drill site and before transportation; (2) inclusion in the geologist's log of drill penetration rate and fluid pressure which will be helpful in interpreting drill results.

One observation not specifically made in Enclosure 2 pertains to the area of quality assurance. While the data review was not a QA audit, there was an unevenness in awareness of and perhaps application of approved quality assurance procedures by members of the USGS staff. The investigators who presented the data were able to explain what procedures they were following to

OFC	:WMRP:lem	:WMRP	:WMRP	:WMGT	:	:	:
NAME	:NKStablein	:SCoplan	:HJMiller	:PJustus	:	:	:
DATE	:03/ /85	:03/ /85	:03/ /85	:03/ /85	:	:	:

collect their data; and in several cases they could show the NRC staff a written procedure for gathering particular data. However, the materials referenced by the investigators were--aside from isolated instances--not the approved USGS Quality Assurance Procedures which the USGS QA specialist has been attempting to implement. Whether most of the investigators did not know of the existence of such procedures, decided in favor of a more familiar set of procedures (written or not), or used the official procedures but failed to document their use, was not clear. The USGS stated that the investigators had been duly informed of the procedures and the need for following them. Based on lessons learned in licensing of nuclear power plants (see NUREG-1055, Improving Quality and the Assurance of Quality in the Design and Construction of Nuclear Power Plants, for a discussion of such experiences), the NRC considers it imperative that the next step, getting the investigators to use those procedures and to document the use of the procedures in the data files, be implemented as rapidly as possible. This is needed to assure that data being gathered now will not be subject to challenge with respect to its pedigree at the time of licensing. The need for an acceptable QA program is discussed further in our comments to the DOE on the draft Mission Plan for the Civilian Radioactive Waste Management Program (Enclosure 2 to Palladino letter to Rusche dated July 31, 1984, p. 2-3). Guidance on how the NRC will review DOE's QA program description has been provided to DOE in the NRC Review Plan: Quality Assurance Programs for Site Characterization of High Level Nuclear Waste Repositories (Enclosure 1 to Browning letter to Bennett dated June 29, 1984).

We hope that data reviews and follow-up comments such as those provided herein are a useful mechanism for NRC/DOE interaction and identification of areas where essential improvements can be achieved prior to licensing. We would appreciate your informing us on actions being taken to respond to our concerns; furthermore, we anticipate resolution of comments raised herein through follow-up technical meetings in geology/geophysics areas after we complete the draft EA reviews.

OFC	:WMRP:lem	:WMRP	:WMRP	:WMGT	:	:	:
NAME	:NKStablein	:SCoplan	:HJMiller	:PJustus	:	:	:
DATE	:03/ /85	:03/ /85	:03/ /85	:03/ /85	:	:	:

If you have any questions concerning this letter or the comments attached please contact Philip S. Justus (FTS 427-4684) or King Stablein (FTS 427-4611).

Sincerely,

"ORIGINAL SIGNED BY"

Seth M. Coplan, Section Leader
NTS Project Section
Repository Projects Branch
Division of Waste Management
Office of Nuclear Material
Safety and Safeguards

Enclosures:

- 1. NRC Data Request for NNWSI Geology Data Review
- 2. Rice to Coplan Memo of 12/28/84 *[Already In File in WM-11 (102)]*

cc: W. Dudley, USGS
W. Purcell, DOE

OFC	:WMP:lem	:WMP	:WMP	:WMP	:WMP	:WMP
NAME	:NKStablein	:SCoplan	:HJM	:PJustus	:JKennedy	:JLinehan
DATE	:03/22/85	:03/25/85	:03/27/85	:03/28/85	:03/28/85	:03/28/85

Enclosure

NRC DATA REQUEST FOR NNWSI GEOLOGY DATA REVIEW

SEPTEMBER 17-28, 1984

1. Televiewer log and stress measurement data for holes USW G-3 and UE-25 P-1, Yucca Mt. - J. Stock, et.al.
2. Seismic refraction profiles along Crater Flat and across Bare Mt., Nye County, Nevada - Hans Ackermann.
3. Copies of unpublished trench maps for: RV-1, RV-2, and trench numbers 8, 10B, 11, 13, and 14.
4. Copies of Gordon Bath's 2 and 3 dimensional aeromagnetic computer program with example models.
5. Copies of overheads compiling data collected from G-3 and G-4 cores - Len Anderson.
6. Data from crustal deformation research at the Nevada Test Site, August 1984 - William H. Prescott.
7. Data resulting from uranium dating of Quaternary deposits in the Nevada Test Site area, Nevada and California - J. N. Rosholt.
8. Data resulting from uranium trend dating of materials in the Yucca Mt. area - J. N. Rosholt.
9. Lithologic log for G-4 - R. Spengler.
10. Geologic map (1965) of the Topopah Spring SW Quadrangle, Nye County, Nevada, with new gravity data superimposed - H. Oliver.
11. Ground magnetics and micro gravity survey data across Fortymile Wash - H. Oliver.
12. Preliminary magnetic survey data of Yucca Mt. - H. Oliver/G. Bath.
13. Results of permeability studies (Part II) of the Topopah Spring Member of the Paintbrush Tuff, Nevada Test Site - D. Moore, et. al.