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M E M O R A N D U M

DATE: November 22, 1985

FOR: Robert E. Browning, Director
Division of Waste Management

FROM: Paul T. Prestholt, Sr. OR - NNWSI 

SUBJECT: NNWSI Site Report period October 19, 1985 through
November 22, 1985

1. Geology - Hydrology

A. During the October TPO - Project Manager meeting (October 30, 31, and November 1) a preliminary (draft) "Site Geology Schedule" was presented by the USGS. Many of the milestones indicated on the schedule have slipped or will slip. However, the schedule does show the activities that are planned and expected to take place. These activities include geologic,

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hydrologic, and geophysical programs and tests planned through 1989. A copy of the draft schedule is enclosed.

B. On November 5 and 6, the USGS conducted a field trip covering springs and spring deposits in Southern Nevada and Eastern California (Death Valley). The purpose of the field trip was to introduce the participants to the calcite/silicate deposits in the vicinity of Yucca Mountain in order to promote a better understanding of the possible spring deposits in the vicinity of Yucca Mountain.

Accompanying me on the field trip were Charlotte Abrams and John Bradbury, GT Branch, Larry McKague, LLNL, and Russ Purcell, an independent consultant (geomorphology) under contract to LLNL.

On the 5th, Dr. Ike Winograd, USGS took the group to the location of spring deposits and springs in Death Valley, Ash Meadows, and the Amargosa Desert, south of Yucca Mountain. On the 6th Dr. Gary Dixon lead the group to tuffa mounds and one active spring in the vicinity of Glendale, Nevada on the Moapa Indian Reservation, east of the Nevada Test Site.

The trip was informative and gave a good introduction to the region around Yucca Mountain. The trip was disappointing, however, in that neither Dr. Winograd nor Dr. Dixon tied the various springs and spring deposits seen on the trip to the deposits found in the vicinity of Yucca Mountain. No new light was shed on the origin of the Yucca Mountain Deposits.

On the 4th I took Ms. Abrams and Dr. McKague to trenches 14 and 14A. These trenches were dug across the Bow Ridge fault on the west side of Exile Hill. These trenches have extensive deposits of secondary minerals in the fault zone. As reported in previous reports, it is these deposits and others in Crater Flat,

just west of Yucca Mountain, that are being studied at the present time.

On the 7th, Ms. Abrams, Dr. McKague and Mr. Purcell visited "G" Tunnel and Dr. McKague gave an excellent overview of the geology of the Test Site. Dr. McKague has been involved in geologic studies at the Test Site since 1972.

On the 8th, Dr. McKague and Mr. Purcell visited trenches C-2 and C-3 in Crater Flat. These trenches show evidence of Holocene faulting.

C. On November 13, and 14, a DOE Hq sponsored meeting on the generic Seismo-Tectonics workshop with the NRC, scheduled for December 3 and 4, was held in Las Vegas. Dr. Alan Jelasic and Mr. Dan Youngberg, from DOE Hq, conducted the meeting. Attending were representatives from BWIP, SRPD, NNWSI, and Weston. Also attending were representatives of the AE's for the surface and underground facilities. An attendance sheet is enclosed.

Discussed were the 15 points for discussion concerning the rationale for seismic/tectonic investigations for licensing a nuclear waste repository set forth in the November 6, 1986 letter from Seth Coplan, NRC to Dr. Alan Jelasic, DOE. Also discussed were the proposed definitions of terms found in the annotated outline for the "Rationale for Seismic/Tectonic Investigations for Licensing a Nuclear Waste Repository" that was transmitted to the NRC by DOE-0GR on June 20, 1985. After some discussion, it was agreed that each organization would submit objections or comments on specific definitions and should objections not be resolved, that definition would be removed from the list.

A presentation, titled "NNWSI Project Seismic/Tectonic Status and Proposals" was given by Mike Glora and Chris Pflum, SAIC. Included in this presentation was a discussion of the regulatory background; an in depth search of the various regulations from a number of different agencies (DOT; EPA; DOI/DSM; DA/COE; NRC; FERC; HUD; MSHA) that contain seismic/tectonic criteria. The object of this exercise was to explore regulations, other than 10 CFR 60, 10 CFR 960, and 40 CFR 191, that might influence the high level nuclear waste program.

Another important part of the SAIC presentation concerned pre- and post- closure assessment of tectonic events. The purpose was to propose a common approach to demonstrate compliance with NRC and EPA regulations with respect to tectonic factors (from handout). The numbers arrived at concerned anticipated and unanticipated processes and events for pre- and post-closure.

Pre-closure included anticipated events for radiation exposure and release and retrievability consequences (from 10 CFR 60). No unanticipated events were considered. For post-closure, both anticipated and unanticipated events were considered from 10 CFR 60 and 40 CFR 191 (compliance with the EPA standard over 10,000 years; containment for 300 - 1,000 years; release rate from engineered barrier system less than 10^{-5} year; pre-waste emplacement ground-water travel time at least 1,000 years; undisturbed performance for 1,000 years, 40 CFR 191.15 and .16).

This presentation may or may not be given, in full, at the workshop on December 4, and 5. At this time, a decision has not been made.

2.Exploratory Shaft

A. Interest in an Appendix 7 discussion on the ESTP has been expressed by Dr. Don Oakley, TPO LANL. I mentioned this to Dinesh Gupta, WMEG and to Dr. Vieth. WMPD will give consideration to such a meeting in the January - February, 1986 time frame. Dinesh Gupta pointed out that the NRC team needs more review time with the ESTP. This has been conveyed to Dr. Vieth and Jerry Szymanski and if this meeting is scheduled, this need will be accommodated.

3. QA

A. I have reviewed a document outlining the DOE-OCRWM 4 level QA grade system. The 4 level graded QA system is in some conflict with the 3 level graded QA system that has been put in place in the NNWSI project. If the 4 level system is imposed on all DOE projects, a significant delay in the full implementation of QA at the NNWSI could result. A further result, which is possibly more serious, is that a considerable amount of confusion may be added to what is a rather fragile acceptance of QA by the NNWSI participants.

Weston, SRPD and the crystalline project are pushing the 4 level system while NNWSI and BWIP prefer the 3 level system. Areas concerning public radiologic health and safety are treated in about the same way by both systems.

B. All major participants in the NNWSI have approved QA plans with the exception of Sandia. Sandia has been asked to simplify their QA plan and develop a plan to deal only with NNWSI work.

4. General

A. In the site report dated October 21, I reported that a NNWSI project charter revision has been executed giving Don Vieth

"Contracting Officer's Technical Representative" authority. I enclosed the agreement between the Albuquerque DOE office and the Nevada DOE office. This document gave the above authority to Dr. Vieth for NNWSI project work performed at Sandia National Laboratory and Los Alamos National Laboratory. I am now enclosing documents that give this same authority to Dr. Vieth for the remaining participants except Lawrence Livermore National Laboratory. It is expected that agreement with the San Francisco DOE office will be reached in the next six months.

B. A memorandum from Don Vieth to Ralph Stein giving comments on the Appendix 7 discussions held in September is enclosed. The comments are generally favorable. The criticisms on the manner in which the meetings were scheduled have been noted by King Stablein and myself.

C. An up-dated NNWSI Project Organization Chart is enclosed. I understand that the USGS chart is out-dated and that significant changes have been made in the USGS organization to perform NNWSI Project work. I will forward the new organization chart as soon as I receive it.

D. The November TPO - Project Manager meeting is scheduled for December 3, 4, and 5.

E. Monthly reports for August and September are enclosed.

F. Weekly reports for October 17, 24, 31, November 7, and 14, 1985 are enclosed.

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enclosures as listed