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WRK/SRPO-OR TRIP REPORT

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MEMORANDUM FOR: Robert E. Browning, Director  
Division of High-Level Waste Management

FROM: Walton R. Kelly  
Temporary SRPO On-site  
Licensing Representative  
Technical Review Branch, HLWM

SUBJECT: SRPO SITE REPORT FOR APRIL 20-24, 1987

During the week of April 20, 1987, I was temporary NRC on-site representative to the Salt Repository Project Office (SRPO) in Columbus, OH. The one-week assignment was conducted in accordance with an agreement described in the letter form J.J. Linehan (NRC) to J.O. Neff (DOE/SRPO) dated January 30, 1987. This report is late due to delays in review by HLOB, but most of the comments are still timely.

My activities during the week included the following: (1) discussions with pertinent SRPO and ONWI staff; (2) review of draft technical documents; and (3) review of the SCP "storyboard" (narrative outline) and performance allocation scheme. I also spent several hours in a review meeting of an NRC Office of Research contract at Battelle concerning waste canister corrosion. The meeting was chaired by Dr. Michael McNeil (RES).

My discussions with SRPO staff revealed the following:

1. Regarding the on-going move to Texas, an estimated 50-60% of the SRPO staff will not go. The estimated figure was slightly lower for ONWI staff, 30-50%, but there was a concern expressed that those who drop out will tend to be the more experienced staff members. The move for ONWI staff will be completed in January 1988, with those having primarily modeling responsibilities apparently the last to go.
2. An updated performance assessment plan is now available for NRC perusal in Columbus.
3. NRC Final EA comments will supposedly be considered in SCP preparation, although it was not always easy to trace the comments. I tried to find out what happened to our comment on brine migration; after going through four or five people in SRPO and ONWI, I finally discovered that the apparently responsible person for that comment was out of town.
4. The new SRPO contact for geochemistry is Roger Wu, who is also the contact for waste package. Dr. Wu indicated that SRPO will soon be trying to hire a geochemist; they have been without one for over a year.

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5. I gave Dr. Wu a copy of the NRC technical report on brine migration.

My discussions with ONWI staff proved to be very illuminating regarding the geochemistry program. There are three geochemists managing the program: (1) Paul Cloke, who is managing the more generic aspects, including the geochemical modeling contract (i.e., EQ3/EQ6) (LLNL), solubility and thermochemical data gathering projects (LBL, PNL, ORNL, ANL, Univ. California-San Diego, Florida State Univ.), and the natural analog study in the Salton Sea Geothermal Field (Univ. California-Riverside); (2) Bimal Mukhopadhyay, who is managing most of the site-specific work, including the DOE integrated contracts (PNL, USGS, TBEG) and ONWI contracts (Battelle-Columbus, Arizona State Univ.); and (3) Mark Abashian, who is managing the Grand Junction (UNC--formerly Bendix) contract, which is the largest geochemistry contract and site-specific in nature.

I asked the ONWI staff what input they would like from the NRC. They were all enthusiastic about having increased interactions with the NRC, which they felt could only improve the quality of the program. Dr. Cloke would like input from the NRC on the acceptability of their model validation scheme. He also expressed concern that the NRC performance objective on release from the EBS might disqualify the salt site despite very slow flow through salt; i.e., non-sorbing radionuclides such as Cs and I may be released from the EBS in excess of the NRC regulation but then be inhibited from further migration due to very slow flow. Dr. Mukhopadhyay expressed interest in receiving copies of any NRC reviews of DOE salt geochemistry documents.

Before leaving for Columbus, I sent to Gordon Appel a list of draft technical documents and agendas that I wanted to review. Dr. Wu had obtained some of these documents for me by the time I arrived at SRPO. In reviewing these documents, I noted the following items of particular interest:

1. A document on the petrology/chemistry of the San Andres Unit 4 suggests that a typical salt rock sample is 78.7 vol.% halite, 11.7 vol.% clay, and 7.6 vol.% anhydrite. Previous reports have suggested average halite volumes of closer to 90% and clay volumes closer to 5%. The significance and reasons for the different values have not been evaluated by the DOE.
2. A radionuclide solubility experimental program has been developed and initiated at several laboratories.
3. A near-field geochemistry meeting will be held in Albuquerque the week of September 21, 1987. SRPO, WIPP, and West Germany will participate. An NRC geochemist, and perhaps a waste package engineer, should attend this meeting as an observer.

I spent a considerable amount of time reviewing the Deaf Smith SCP storyboard and performance allocation/issue resolution scheme. Draft 1 of the SCP is due May 22, 1987. It was suggested to me that the NRC request SCP material in a Linehan to Neff letter; SRPO wants the NRC to be kept informed of their SCP

activities. "Information sheets," which will provide the baseline data for the project, are also being developed and will be published in the next few months. These are being developed to avoid conflicts in referencing data and will be periodically updated. The final SCP is due in March 1988; delays are expected but cannot be predicted.

The geochemistry sections of the SCP seemed to be comprehensive and well-organized. The geochemistry program itself has undergone significant improvements over the past few years and seems to be in competent hands. However, improvements are needed in the transfer of information between SRPO and NRC; information from SRPO concerning the geochemistry program is often incomplete and/or not timely. On the other hand, the ONWI geochemists are not fully aware of NRC activities that affect their program. The assignment as temporary OR was a useful mechanism for exchanging technical information between the NRC and the DOE and its contractors. I believe that regular assignments of this type would greatly benefit the efficiency of the program.

A debriefing was conducted for the other members of the NRC Salt Team during the weekly meeting of April 29, 1987. Most of the discussion concerned SCP status and organization and the performance allocation scheme. I also passed out copies of my notes on Section 8.3 of the SCP, the Site Characterization Program. In addition, I followed up individually with team members to transmit information of particular interest to them.

**ORIGINAL SIGNED BY**

Walton Kelly  
Geochemistry Section  
Technical Review Branch, HLWM

JUL 24 1987

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FROM: Walton R. Kelly  
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CONCURRENCES

ORGANIZATION/CONCUREE	INITIALS	DATE CONCURRED
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