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Mr. Carl R. Cooley, Leader
Technology Team
Office of Waste Isolation
U.S. Department of Energy
Washington, DC 20545

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Dear Mr. Cooley:

Attached is a copy of the trip report prepared by the Nuclear Regulatory Commission (NRC) staff in its fall 1981 review of the Department of Energy (DOE) National Laboratories' Geochemical Research Programs which pertain to high-level nuclear waste isolation in geologic repositories. In this copy, we have incorporated DOE staff comments made during our meeting on February 25th. This trip report is a follow-up to a similar visit to DOE laboratories in 1980.

As we discussed when we met with the DOE staff on February 25th, we observed that progress has been made in addressing some of the specific technical concerns that were expressed in our 1980 trip report. However, other NRC comments based on observations made in 1980 still apply. Namely, we continue to be concerned that little progress has been made in establishing what constitutes a sufficient program to characterize the geochemistry of a site. General agreement is needed between NRC, DOE and others in the technical community who will be involved in the licensing process concerning: 1) the site specific geochemical issues that are important in terms of overall repository performance, 2) the amounts and kinds of information or data that will be sufficient to make licensing findings on the issues, 3) the timing of the information or data gathering, and 4) a system for peer review among the laboratories.

The area of geochemistry is one of the most developmental areas in the high-level waste repository program. Geochemical issues are complex and involved and, in many cases, we are dealing with basic phenomena which are not yet understood. For this reason, it will take some time to gather reliable data which can be used in our performance assessments of

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Carl R. Cooley

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proposed sites. Accordingly, it is important that DOE and NRC clearly establish sufficiently early what are the basic elements and necessary technical approaches of a geochemistry data acquisition program.

Please contact me if there are any questions concerning the trip report. Also, my staff is available to those within DOE who are concerned with geochemical issues and program planning to resolve the issues we have raised.

Sincerely,

ORIGINAL SIGNED BY

Philip S. Justus, Section Leader
Siting Section
High-Level Waste Technical
Development Branch
Division of Waste Management

Enclosure:
As Stated

1. REVIEW OF DOE NATIONAL LABORATORIES'
GEOCHEMICAL RESEARCH PROGRAMS IN
HIGH-LEVEL WASTE MANAGEMNT

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