

MAY 04 1993

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MEMORANDUM FOR: Eric S. Beckjord, Director
Office of Nuclear Regulatory Research

FROM: Robert M. Bernero, Director
Office of Nuclear Material Safety and
Safeguards

SUBJECT: COMMENT FROM NUCLEAR SAFETY RESEARCH REVIEW COMMITTEE
ON HIGH-TEMPERATURE STORAGE OF HIGH-LEVEL WASTE

The purpose of this memorandum is to respond to your memorandum dated April 6, 1993, in which you identified an issue the Nuclear Safety Research Review Committee (NSRRC) had with the thermal loading of the repository. In general, the Department of Energy (DOE) has been concerned with this problem for several years, and at this time, there is no consensus among DOE scientists on this subject. DOE scientists most recently debated whether a low-temperature environment or high-temperature environment is best for a high-level waste repository at a March 1993 meeting.

In addition to the internal debate within DOE, the Nuclear Waste Technical Review Board (NWTRB) has raised this problem to DOE in its fifth report to Congress and the Secretary of Energy. The discussion on thermal loads in a repository begins on page 23 of the above document and discusses the high-temperature baseline from the Site Characterization Report (SCP) and the alternative low-temperature environment. A copy of the NWTRB fifth report to Congress is enclosed.

Division of High-Level Waste Management staff have been following the DOE's thermal load program and have participated in discussions on this problem. The staff will pass on the NSRRC's concerns to DOE as part of its routine interactions with DOE including reviews of designs and discussions at technical exchanges with the DOE scientists.

If you have any comments or questions, please contact me or Mr. Paul Prestholt of my staff on 504-3810.

Original signed by
Guy A. Ariotto

Robert M. Bernero, Director
Office of Nuclear Material Safety and
Safeguards

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