

April 18, 1997

MEMORANDUM TO: John W. Hickey, Chief
Low-level Waste and Decommissioning
Projects Branch, DWM/NMSS

FROM: John H. Austin, Chief
Performance Assessment & HLW
Integration Branch, DWM/NMSS

SUBJECT: PRE-PUBLICATION COPY OF FINAL REPORT ON CRITICALITY IN LOW-
LEVEL WASTE DISPOSAL SITES

Attached is the final draft (pre-publication) of "The Potential for Criticality following Disposal of Uranium at Low-Level Waste Disposal Facilities," recently completed by Oak Ridge National Laboratory (ORNL). Copies have been distributed to the Commission, NMSS, and DWM management.

The purpose of the study was to evaluate possible conditions for mobilization, transport, and reconcentration of SNM in disposed soil at the Envirocare disposal facility, at Clive, Utah. The study determined a small set of conditions that could support a nuclear reaction. However, the conditions will be very difficult to achieve at the site, thus indicating that the potential for criticality is not a concern under current burial practices.

PAHL agrees with the conclusions reached in ORNL's report. Further, we are presently "estimating" the probability of achieving a nuclear reaction and will transmit that information separately.

Virginia Colten-Bradley was the technical monitor for this project and will continue to oversee publication of this document as a NUREG/CR.

Attachment: As stated

CONTACT: Virginia Colten-Bradley, DWM/PAHL
415-6616

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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