



5 May 1989

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Mail Stop 4H3
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"NRC Technical Assistance
for Design Reviews"
Contract No. NRC-02-85-002
FIN D1016

Dear Dr. Tanious:

Enclosed is the NUREG bibliographic data sheet for the draft final of Topical Report 006-01-T1, "Analysis of Alternative Waste Isolation Concepts," which was prepared under Contract No. NRC-02-85-002, Task Order No. 006, Task 1. This report was sent to you on 28 April 1989, but this page was left out inadvertently. Please accept my apologies for the mix-up.

Sincerely,

Kathleen A. Sikora
Administrative Assistant

cc: M. Mace, Division of Contracts
Division of Publication Services
DWM Document Control Room

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BIBLIOGRAPHIC DATA SHEET

SEE INSTRUCTIONS ON THE REVERSE

2. TITLE AND SUBTITLE

Analysis of Alternative Waste Isolation Concepts

3. LEAVE BLANK

4. DATE REPORT COMPLETED

MONTH | YEAR
April | 1989

6. DATE REPORT ISSUED

MONTH | YEAR

5. AUTHOR(S)

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7. PERFORMING ORGANIZATION NAME AND MAILING ADDRESS (Include Zip Code)

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8. PROJECT/TASK/WORK UNIT NUMBER

NRC-02-85-002

9. FIN OR GRANT NUMBER

NRC FIN D1016

10. SPONSORING ORGANIZATION NAME AND MAILING ADDRESS (Include Zip Code)

Division of Waste Management
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

11a. TYPE OF REPORT

Topical Report

b. PERIOD COVERED (Inclusive Dates)

November 1988 - April 1989

12. SUPPLEMENTARY NOTES

13. ABSTRACT (200 words or less)

This report presents the results of numerical analysis which compares the vertical and horizontal waste emplacement concepts currently under consideration for long-term nuclear waste storage. The two concepts are compared in terms of drift and borehole stability and compliance with the suggested design criteria (U.S. DOE, CDSCP, 1988).

Thermal results are presented which illustrate the thermomechanical response of the rock adjacent to the emplacement drifts and boreholes. Mechanical results are presented which illustrate the stability of the emplacement rooms and boreholes as a result of in-situ and thermally-induced stresses.

Conclusions include the finding that the horizontal waste emplacement geometry does not meet the room temperature design criterion. It was also found that the drift supporting horizontal emplacement is more sensitive to joint displacement than is the drift employed for vertical emplacement of waste packages.

14. DOCUMENT ANALYSIS - a. KEYWORDS/DESCRIPTORS

tuff, thermal-mechanical analysis, nuclear waste, geologic disposal

b. IDENTIFIERS/OPEN-ENDED TERMS

15. AVAILABILITY STATEMENT

16. SECURITY CLASSIFICATION

(This page)

(This report)

17. NUMBER OF PAGES

18. PRICE