



ENGINEERS INTERNATIONAL, INC.

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High Level Waste Technical Development Branch
Division of Waste Management
U. S. Nuclear Regulatory Commission
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Mail Stop 623-SS
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(PDR)
LPDR (B, N, S)

Attention: Mr. Trueman Seamans, Mail Stop 623-SS, Project Officer

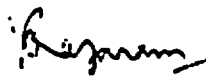
Subject: Draft 2 of the Appendix on Stable Openings and Comments
on Golder Associates Appendix on In-situ Testing

Dear Mr. Seamans:

Enclosed is one copy of the above mentioned reports. Please call me
if you have any questions.

Sincerely,

ENGINEERS INTERNATIONAL, INC.


V. Rajaram
Project Manager

VR/ja

Enclosure

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Design of Stable Openings

1.0 INTRODUCTION

The objectives of constructing a nuclear waste repository are to terminally store the waste and isolate the radionuclides from the biosphere. In an effort to verify the performance of the repository and ensure that its objectives are fulfilled, the proposed 10CFR60 rules specify a retrievability period of 50 years from the initiation of waste emplacement. There are several openings in a repository and the stability of these openings must be maintained, at least during the retrievability period. The design of stable shafts, main access drifts, waste emplacement rooms and holes is a major consideration in repository design.

The Nuclear REGULATORY Commission (NRC) has proposed a set of rules in 10CFR60 which will provide a framework for licensing nuclear waste repositories. 10CFR 60.132 provides the design requirements for the underground facility. 10CFR 60.141 provides the guidelines for the confirmation of geotechnical and design parameters during repository construction and operation. In this appendix, a design logic is presented which will assist in compliance with the requirements in 10CFR 60.132. A phased approach to design is described which will permit the use of data obtained from the surface to develop a conceptual design, and refine the design as in-situ data is obtained from test excavations in the repository horizon.

The applicability of the design approach to the Basalt Waste Isolation Project (BWIP) is briefly discussed, and areas of concern in the conceptual design presented in the BWIP Site Characterization Report (SCR) are described.

TABLE OF CONTENTS

Comments.
Rejiram
12/22/82

1 INTRODUCTION

2 APPROACH

3 DETERMINATION OF INFORMATION NEEDS

**3.1 Critical Repository Design and Construction
Engineering Variables**

**3.2 Key Issues Which Impact the Design of the
In Situ Testing Program**

**3.3 Significant Characteristics Which Impact the
Resolution of Key Issues**

4 AVAILABLE TEST METHODS

5 CONCLUDING REMARKS

TABLES

FIGURE

GLOSSARY