

**NWTRB PRESENTATION AGENDA  
JANUARY 18-19, 1990**

**WASTE PACKAGE ENVIRONMENT AND CONTAINERS**

**JANUARY 18**

- |                                  |   |                       |
|----------------------------------|---|-----------------------|
| 8:30                             | Technical Review Board<br>Introductory Remarks  | Price/Verink          |
| 8:45                             | Department of Energy Remarks  | Isaacs                |
| 9:00                             | Introduction<br>Introductory Remarks<br>Organizational Summary<br>Repository Underground Configuration  | Jardine               |
| <b>Waste Package Environment</b> |   |                       |
| 9:30                             | <i>near field</i><br>Introduction   | <i>Dale</i><br>Wilder |
| 9:45                             | Hydrologic Interactions<br>Undisturbed conditions<br>Physical effects of waste package emplacement<br>Modeling studies (non-isothermal), including validation<br>Fracture/matrix interactions   | Buscheck/<br>Nitao    |
| 10:15                            | Geochemical Interactions<br>Undisturbed conditions<br>Physiochemical effects of waste package emplacement<br>Stability of minerals in repository temperature field<br>Characteristics of near-field geochemistry<br>Radionuclide behavior at elevated temperatures<br>Modeling studies (non-isothermal), including validation | Glassley              |
| 10:45                            | Mechanical Attributes of the<br>Waste Package Environment<br>Borehole stability<br>Rock properties<br>Fracture properties<br>Thermomechanical effects of waste package emplacement<br>Modeling and validation   | Blair                 |
| 11:10                            | G-Tunnel Prototype<br>Temperature field<br>Moisture content changes<br>Permeability changes<br>Vapor-steam inflow to borehole<br>Hydrothermal flow models<br>Instrumentation performance  | Ramirez               |
| 11:40                            | Interaction of Radiation with the<br>Waste Package Environment<br>Radiolysis in moist air<br>Interaction of radiolysis products with the rock, container,<br>and waste form   | Van Konynenburg       |

**JANUARY 18 (Cont)**

- 12:00 Lunch
- 1:30 Tour of LLNL Facilities  
(NWTRB members and invitees only)

**JANUARY 19**

- 8:30 Discussion of Lab Tour

**Waste Package Container**

- 9:00 Introduction Clarke
- 9:15 Strategy for Container Material Selection Halsey
  - Objectives
  - Initial selection criteria
  - Interim screening
  - Current criteria
  - Peer review
- 10:30 Candidate Material Performance McCright
  - Phase stability
  - Oxidation and Corrosion
  - Localized corrosion
  - Stress corrosion cracking
  - Hydrogen effects
  - Weldability
- 12:00 Lunch
- 1:00 Corrosion Properties Farmer
  - Testing:
    - Stress corrosion cracking
    - Electrochemistry
    - Fracture Toughness
    - Radiolytic Effects
- 2:00 Modeling:
  - Existing Models
  - Evaluation/Selection
  - Model Development
  - Parameter Determination
  - Test Requirements
- 3:00 Alternative Materials and Concepts Clarke
  - Rationale
  - Option Description
- 4:00 Board Summary Discussion (closed)
- 5:00 Adjournment