



U.S. Department of Energy
Office of Civilian Radioactive Waste Management



Overview

Presented to:

Waste Package Materials Performance Peer Review

Presented by:

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Main - 70

Overview

- **BSC's analysis of Panel's recommendations will be documented in a Report to DOE on or before April 30**
- **We will discuss each of the Panel's five sub-issues**
 - **Composition of aqueous environments: Greg Gdowski**
 - **Materials: metallurgical stability: Tammy Summers**
 - **Long-term uniform corrosion of passive metals: Joe Farmer**
 - **Localized corrosion: Joe Farmer**
 - **Stress corrosion cracking: Gerry Gordon**



Panel Recommendations on General Organizational-Management

- **Integration of design/fabrication and materials/corrosion work activities**
- **Allocation of adequate resources to complete necessary work to evaluate long-term performance**
- **Utilization of external technical expertise**
- **Management of integrated waste package, design, analyses and testing**



Integration of Design/Fabrication and Materials/Corrosion Work Activities

- **Analyses of waste package degradation for Site Recommendation - focused on the appropriateness of materials and conceptual designs/fabrication**
- **Transition from Site Recommendation to potential License Application involves**
 - **Analyses and testing of effects of various welding, non-destructive examination and stress reduction techniques**
 - **Evaluation of ability to fabricate/construct the waste packages**
 - **Application of appropriate codes and standards**
 - **Development of the preliminary waste package design**



Allocation of Resources

- **A risk-informed decision process is being used to prioritize overall work scope**
 - **Highest priority is given to work that leads to greater confidence in repository safety**
 - **Materials/corrosion work has been prioritized using this approach**
- **Schedule for materials-related work will be consistent with overall licensing strategy**



Utilization of external technical expertise

- **We will continue to involve technical experts from academia and industry on design reviews, peer reviews, and expert panels**
- **Additional expertise for preliminary LA design will include:**
 - **welding**
 - **non-destructive testing**
 - **stress relief**
 - **ASME codes**



Management of Integrated Waste Package, Design, Analyses and Testing Activities

- **Bechtel-SAIC has a management structure to effectively manage waste package activities through preliminary design**
 - **Experienced Project Manager with recent waste package design, procurement, and fabrication experience in place**
 - **Assigned an experienced Waste Package Design Manager to lead materials/corrosion analyses activities**
 - **Senior management is committed to applying appropriate resources to integrate design, analyses and testing activities**

