

YUCCA  
MOUNTAIN  
PROJECT

Studies

# Additional Work Through License Application

Presented to:  
Nuclear Waste Technical Review Board

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June 25-26, 1997



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

# Outline

- **Overview**
- **Information available at Viability assessment**
- **Additional work supporting the License Application**
  - **Site testing**
  - **Repository/waste package design**
  - **Total system performance assessment**
  - **Regulatory activities**
- **Documentation of future plans**

# Information Available at VA

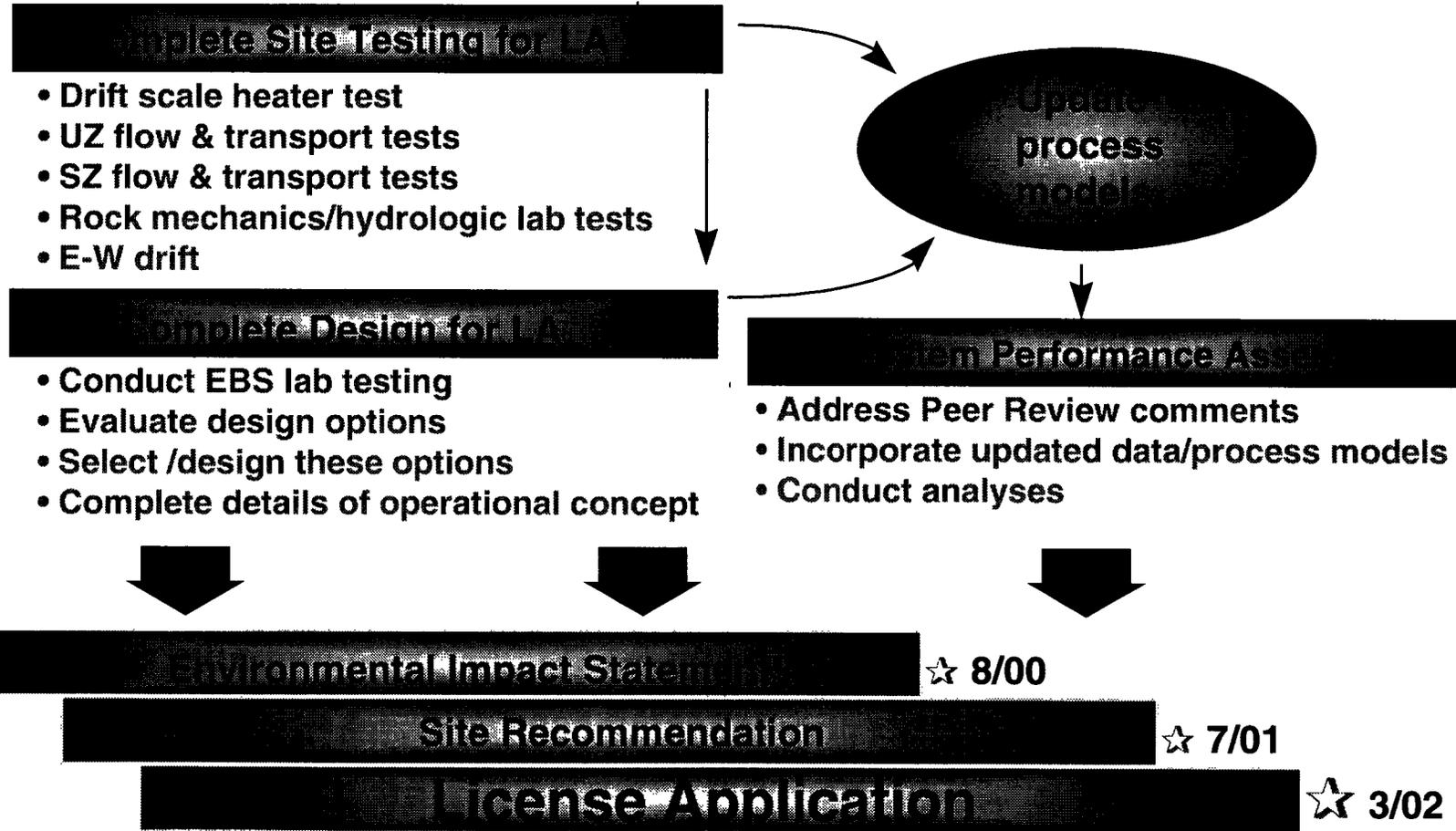
- **A basic understanding of site processes**
  - **Geologic framework**
  - **Hydrologic flow**
  - **Geochemical environment**
- **Preliminary design concept of key design features**
  - **Concept of operations**
  - **Reference repository and waste package designs**
  - **Identification and partial evaluation of available design options**

# **Information Available at VA**

(Continued)

- **Total system performance assessment**
  - **Based on preliminary site/design process models**
  - **Evaluation of reference design concept**
- **Preliminary safety case**
  - **Preclosure**
  - **Postclosure**

# Additional Work Supporting the LA



# Key Site Testing Activities

- **Drift-scale heater test**
  - Start in December 1997 and continue for several years
  - Information on coupled processes
- **UZ flow and transport tests**
  - Tests to be conducted in ESF, including E-W drift
  - Four new boreholes in vicinity of repository block
- **SZ flow and transport tests**
  - Data obtained from four boreholes south of the repository block
- **Rock mechanics/hydrologic lab tests**
  - Tests done on samples obtained from E-W drift
- **Update site process models for TSPA input**

# **Key Repository/Waste Package Design Activities**

- **Conduct EBS lab testing**
  - Waste package materials
  - Waste package/waste form degradation processes
- **Evaluate design options**
  - Complete evaluation of EBS options to enhance performance
  - Evaluate costs associated with these options
- **Select /design these options**
  - Focus on items important to safety and waste isolation, especially those with no regulatory precedence
- **Update EBS process models for TSPA input**
- **Complete details of operational concept**

# **Key Total System Performance Assessment Activities**

- **Address Peer Review comments**
  - **Comments on TSPA-VA; used to strengthen analysis for TSPA-LA**
  - **Final TSPA Peer Review report due March 1999**
- **Incorporate updated data and process models**
  - **Site, EBS, and biosphere data and models**
  - **Abstraction process similar to what is being done for TSPA-VA**
- **Conduct analyses**
  - **Includes sensitivity analyses of EBS options**

# Key Regulatory Activities

- **Prepare Final EIS**
  - Includes development of Draft EIS and public comment period
  - Final EIS must accompany the site recommendation and the license application
- **Prepare site recommendation**
  - Documents site suitability determination (10 CFR 960)
  - A key requirement is NRC's preliminary comments on sufficiency of information for the LA
- **Prepare license application**
  - Project Integrated Safety Assessment (PISA) will be used as starting point for Draft LA
  - Extensive interaction with NRC needed to facilitate docketing and to expedite detailed licensing review

# Documentation of Future Plans

- **License Application Plan will document the plan and cost estimate to complete the LA**
  - One of the four VA products
- **LA Plan will contain**
  - Overall strategy for LA development
  - Work to be conducted between VA and LA
  - Cost and schedule for that work
  - Description of the Performance Confirmation Program
- **Draft Plan in 9/97; Final Plan in 8/98**

# Summary

- **The work done for VA will help to focus remaining work needed to support the LA**
- **The LA Plan will document what will be done between VA and LA**
  - **Workscope, schedule, and cost**
- **Interactions with NRC will help to further focus the remaining work on the critical issues**