NUCLEAR WASTE TECHNICAL REVIEW BOARD
FULL BOARD MEETING

SUBJECT: LICENSE APPLICATION
ANNOTATED OUTLINE

PRESENTER: APRIL VAN CAMP GIL

PRESENTER'S TITLE AND ORGANIZATION:
TEAM LEADER, LICENSING
ASSISTANT MANAGER FOR SUITABILITY AND LICENSING
YUCCA MOUNTAIN SITE CHARACTERIZATION OFFICE
LAS VEGAS, NEVADA

TELEPHONE NUMBER: (702) 794-7622

SALT LAKE CITY, UTAH
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License Application Annotated Outline

- Objective
- Background
- License Application Annotated Outline Process
- Annotated Outline Activities and Results to Date
- Future Plans
- Issue Resolution Process
- Conclusion
License Application
Annotated Outline

• Objective is the development of an acceptable License Application (LA) for submittal to the NRC

• Early DOE/NRC communication and identification of issues and status is essential to meet the statutory NRC 3-year review period for LA

• Methodical construction of the Annotated Outline (AO), with annual revisions, ensures the development of an acceptable LA by identifying information needed for licensing

• The License Application must support NRC’s reasonable assurance finding concerning performance objectives and technical criteria, as required by 10CFR60, Subpart E
Major Licensing Milestones

- Site Characterization, Design, Analysis, Evaluation
  - FEIS
  - Site Suitability
  - License Application Development
  - LSS Certification

- DOE Decision to Recommend Site Approval to President
  - 90 Days Maximum

- Construction
  - Construction Authorization
  - NRC Review (3 years)
  - DOE Submits LA to NRC

- DOE Updates License Application
- Operation
- DOE Submits License Amendment for Closure

- Closure
Background

- NRC suggested preparation of a "bracketed" LA
  - Allows document to be developed as information is acquired
  - Identifies necessary information

- DOE initiated the development of a bracketed License Application (or Annotated Outline) in 1991

- Document revised annually and transmitted to the NRC

- Interim revisions may be provided to communicate progress on specific issues or topics
Benefits of License Application
Annotated Outline

• Management tool to evaluate existing information and identify information needs for planning purposes

• Method for obtaining feedback on DOE interpretation of NRC requirements and guidance

• Method to ascertain when information is sufficient to demonstrate compliance with applicable regulatory requirements
License Application Annotated Outline

- Issue Resolution Activities
  - Annotated Outline (AO)
    - License Application
    - NRC Staff Guidance and Comments
    - Regulatory Requirements
  - Site Characterization, Design, Performance Assessment Activities
License Application Annotated Outline Process

• LA AO process captures
  – Known and available information provided in text, tables, and figures
  – Missing or incomplete information identified in brackets and documented on Information Needs forms
  – Information existing prior to license submittal, to facilitate discussion
License Application Annotated Outline

Process (Continued)

- Each revision integrates information from site characterization, design, and performance assessment activities

- Revised LA AO undergoes interdisciplinary reviews

- Approved revision is submitted to NRC for review and feedback

- Information Needs for licensing are compiled and used to focus annual and long-range planning
License Application Annotated Outline Process
(Continued)

• NRC has provided guidance on the content and format of the LA


  – Criteria used by NRC in reviewing LA and reaching required findings contained in the “License Application Review Plan for a Geologic Repository for Spent Nuclear Fuel and High-Level Radioactive Waste” (LARP) September 1994
License Application
Annotated Outline Status

• Fifth LA AO was submitted to NRC as “Revision 0” DOE document in March 1995

• About 1200 Information Needs have been provided to program planners

• Work is in progress to tie each Information Need to a deliverable and date for the deliverable
License Application Contents

Chapter 1
General Information
Facility Description
Physical Security
Site Characterization
Program Review
Statement of Compliance with 10CFR60

Chapter 2
Safety Analysis Report
Use of NRC
Technical Positions
Radioactive Material
License Specs.

Chapter 3
NATURAL SYSTEMS OF THE GEOLOGIC SETTING
Description of the Site
- 3D Geologic Description
- Post Closure Tectonics
- UZ Hydrology
- SZ Hydrology
- Radionuclide Transport
- Climate
- Thermal Effects

Chapter 4
GEOLOGIC REPOSITORY OPERATIONS AREA: (GROA)
Physical Facilities
- Design: Repository
- ESF/Test Facilities

Chapter 5
ENGINEERED BARRIER SYSTEM
Design: Waste
Package Materials
Testing
Design: Waste Package Engineering

Chapter 6
OVERALL SYSTEM PERFORMANCE ASSESSMENT
- Total System Performance Assessment
- Engineered Barrier Sub-system Performance Assessment
- Natural Barrier Sub-system Performance Assessment

Chapter 7
CONDUCT OF REPOSITORY OPERATIONS
- Radiation Protection
- Organization, Records, Training

Chapter 8
PERFORMANCE CONFIRMATION
- For Natural system
- For GROA
- For EBS

Chapter 9
LAND OWNERSHIP AND CONTROL
Plans for Restricting Use and Access

Chapter 10
QUALITY ASSURANCE
Description and Implementation of QA Programs

Chapter 11
EMERGENCY PLANNING
Future Activities

• LA AO Revision 1 to be submitted to NRC in January 1996

• Plan to include the following:
  – Update of text to ensure Information Needs are fully developed in all chapters
  – Results of FY95 site characterization activities
  – Results of Total System Performance Assessment -1995
  – Available design information
  – Description of Quality Assurance Program
  – Additional chapter-specific information
Future Activities

(Continued)

• Deliverables for each revision to LA AO have been listed in Program Plan

• Future revisions to LA AO:
  – Revision 1, January 1996
  – Revision 2, February 1997
  – Revision 3, January 1998
  – Revision 4, June 1999
  – Revision 5, January 2000

• Planned LA submittal to NRC June 2001
Issue Resolution Process

• Two organizing principles of site characterization:
  
  – Issues hierarchy (questions needing resolution to demonstrate compliance with regulations)
  
  – Issue resolution process (issue identification, performance allocation, data collection/analysis, and resolution documentation)
Issue Resolution Process

(Continued)

• NRC has indicated that DOE should provide issue resolution information through
  - LA AO
  - A small number of specified Topical Reports
  - Semi-Annual Site Characterization Progress Reports
  - Responses to NRC’s Site Characterization Analysis Comments and Questions

• DOE plans to use the LA AO process to provide the NRC with information necessary to resolve licensing issues
Conclusions

• LA AO process is being used to develop License Application within schedule and in a form that will allow docketing and review by NRC within statutory review period

• LA AO will be the focus of issue resolution activities as the primary vehicle for communication with NRC on these issues

• Program must focus multi-disciplinary resources on License Application development to succeed