



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

Overview of Path Forward to a Possible Site Recommendation Decision FY01/02 Planning

Presented to:
Nuclear Waste Technical Review Board

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Yucca Mountain Site Characterization

May 8-9, 2001
Arlington, Virginia

**YUCCA
MOUNTAIN
PROJECT**

Presentation Outline

- **Path forward for an evaluation of site suitability and possible site recommendation (SR) decision**
- **Site Recommendation Document Structure and Process**
- **Purpose of FY01 Re-plan and FY 02 planning**
- **Summary**

Path Forward for Possible SR Decision

- **DOE has announced initiation of a public comment period on the possible site recommendation of the Yucca Mountain site for development as a geologic repository**
- **DOE has released the *Yucca Mountain Science and Engineering Report (YMS&ER)* to facilitate public review and comment**
 - **Provides summary of the technical information compiled during site characterization**
 - **Describes the results of site characterization studies, waste forms, repository and waste package designs, and updated performance assessments**

Path Forward for Possible SR Decision

(Continued)

- **DOE has also released a *Supplement to the Draft Environmental Impact Statement (DEIS)***
 - **Addresses the evolution of the potential repository design, reflecting**
 - ◆ **evaluations of design options**
 - ◆ **Potential repository operating modes that could reduce uncertainties, improve long-term performance, operational safety, and efficiency**
 - **Presents potential environmental impacts based on the evolved design concept**
 - **Provides for public review of changes in these potential impacts**

Path Forward for Possible SR Decision

(Continued)

- **DOE will issue additional information this summer that the Secretary will use in his consideration, that will include:**
 - **Results of ongoing sensitivity and uncertainty analyses presented in the *Supplemental Science and Performance Analyses (SSPA)* report**
 - ◆ *Volume 1: Scientific Bases and Analyses*
 - ◆ *Volume 2: Performance Analyses*
 - ***Preliminary site suitability evaluation (PSSE)* based on the methods and criteria in DOE's proposed suitability guidelines (10 CFR 963), the YMS&ER and supporting technical basis**
- **With the release of the PSSE, DOE will also announce dates, times, and locations for the public hearings on its consideration of the Yucca Mountain site, and the date for the close of the public comment period**

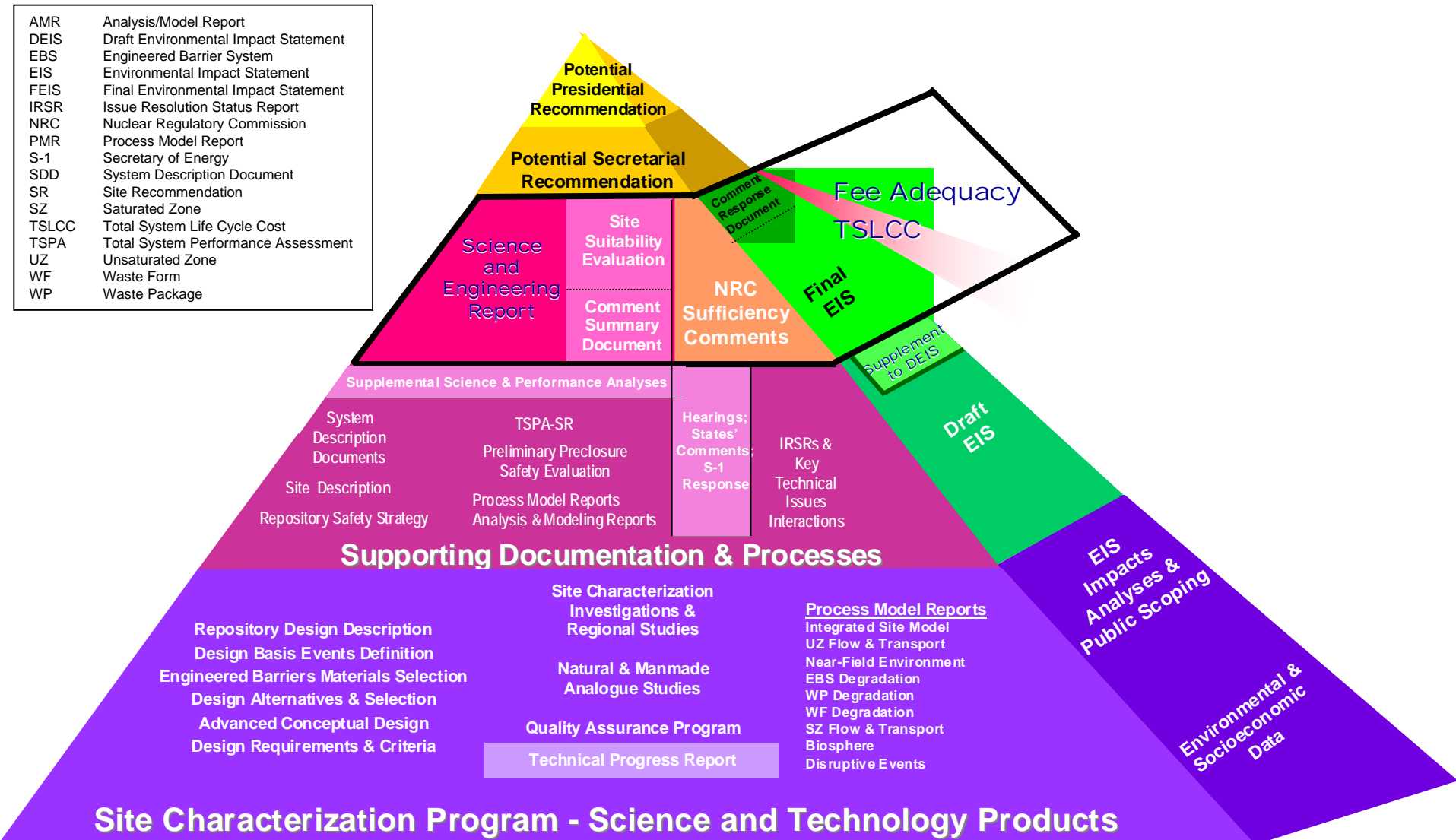
Path Forward for Possible SR Decision

(Continued)

- **Acquisition of additional information to enhance the technical basis for a possible SR decision has expanded the SR process**
- **DOE is providing the NWTRB, public, NRC, and other stakeholders time to review available materials and formulate comments regarding a possible site recommendation**

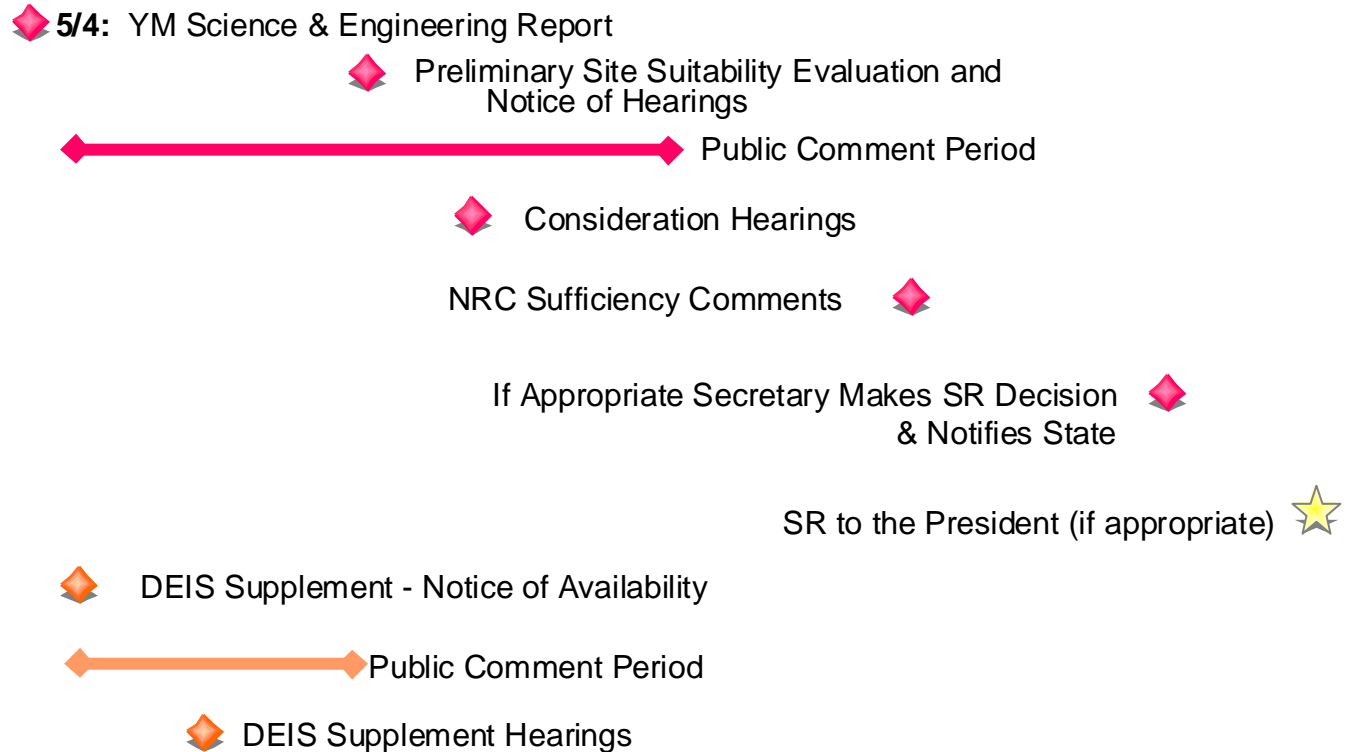
Site Recommendation Document Structure

AMR	Analysis/Model Report
DEIS	Draft Environmental Impact Statement
EBS	Engineered Barrier System
EIS	Environmental Impact Statement
FEIS	Final Environmental Impact Statement
IRSR	Issue Resolution Status Report
NRC	Nuclear Regulatory Commission
PMR	Process Model Report
S-1	Secretary of Energy
SDD	System Description Document
SR	Site Recommendation
SZ	Saturated Zone
TSLCC	Total System Life Cycle Cost
TSPA	Total System Performance Assessment
UZ	Unsaturated Zone
WF	Waste Form
WP	Waste Package

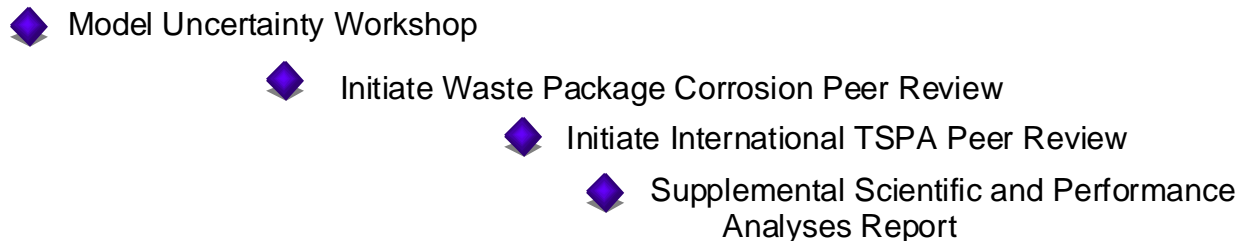


Site Recommendation Process

Programmatic Milestones



Technical Basis



FY 01 Re-plan and FY 02 Planning

- **DOE had originally planned to release a two-volume Site Recommendation Consideration Report in late 2000, to initiate the site recommendation process but deferred release to allow**
 - **Enhancement of the technical basis for a site recommendation decision**
 - **Completion of the Inspector General's investigation**
- **Oversight and stakeholder comments indicated a need for a broader and more robust technical basis**
- **As a result, the FY01 scheduled work was re-planned to address these needs**

FY 01 Re-plan and FY 02 Planning

(Continued)

- **Updated FY 01 plan with a revised SR approach is currently being reviewed by DOE for acceptance**
 - **Identifies a possible SR decision in early FY 02, and, if recommended and approved by the President and Congress, a LA submittal in 2003**
 - **Includes analyses and documentation needed to enhance the technical basis for a possible SR decision**
 - ◆ **Builds on *TSPA-SR Rev 0, ICN1* (December 2000) and compares results**
 - ◆ **Based on evaluation of a flexible design with a range of thermal operating modes**
 - ◆ **Emphasizes what the effects on performance would be across a range of lower-temperature operating environments**
 - **Addresses NWTRB concerns and NRC Key Technical Issues (KTIs)**

FY 01 Re-plan and FY 02 Planning

(Continued)

- **Updated FY 01 Plan addresses key TRB issues**
 - **meaningful quantification of conservatism and uncertainties in the Departments performance assessments**
 - ◆ **Will be addressed in the SSPA and international TSPA Peer Review**
 - **Progress in understanding the underlying fundamental processes involved in predicting rate of waste package corrosion**
 - ◆ **Will be addressed in Waste Package Peer Review Report and additional long-term testing**
 - **Evaluation and comparison of the base-case repository design with low-temperature that focuses on the following considerations:**
 - ◆ **Repository design parameters and thermal operating mode concepts (addressed in the YMS&ER)**

FY 01 Re-plan and FY 02 Planning

(Continued)

- **Evaluation and comparison of base-case design with low-temperature mode (continued):**
 - ◆ **Basis for confidence that process models are representative of processes and conditions over the range of thermal operating modes (addressed in SSPA Volumes 1 and 2)**
 - ◆ **Effects of uncertainties over the range of operating modes (addressed in the SSPA, Volumes 1 and 2)**
 - ◆ **Using TSPA to evaluate the range of operating modes (addressed in YMS&ER and SSPA, Volume 2)**
- **Develop multiple lines of evidence to support the safety case of the proposed repository that are derived independently of performance assessment**
 - ◆ **Addressed in the S&ER and SSPA Volume 1**

FY 01 Re-plan and FY 02 Planning

(Continued)

- **FY 02 multi-year planning is underway**
 - DOE is in process of preparing guidance for work to be completed through FY 04
 - **Guidance will include**
 - ◆ Continued work to address TRB concerns
 - ◆ Continued work to address NRC KTI Agreement Items
 - ◆ Completion of the SR process as appropriate
 - ◆ Revision of the technical basis for a potential LA
- **BSC will prepare and submit a draft FY 02 multiyear plan in summer 2001**
 - DOE will review and provide comments and additional guidance
 - Plan re-submitted to DOE in late September for approval

YMSCO Presentations

- **More details on the updated FY 01 plan: J. King**
- **Design Update: L. Trautner**
- **Uncertainty studies: W. Boyle**
- **Multiple lines of evidence: A. Van Luik**
- **Performance assessment - Summary and implications of the long-term climate model:
S. Sharpe & J. McNeish**
- **Performance assessment - Variations in performance of the engineered barrier system over time:
R. Howard and R. MacKinnon**
- **Science and Engineering update: M. Peters**

Summary

- **DOE has announced initiation of the comment period for a possible SR decision**
- **The YMS&ER and Supplement to the DEIS are available for public comment**
- **Additional documentation will be made available during the comment period to support the technical basis for a possible SR decision**
 - *Preliminary Site Suitability Evaluation*
 - *Supplemental Science and Performance Analyses*

Summary

(Continued)

- **SR process was expanded to address internal issues and external concerns to enhance the technical basis for a possible SR decision**
- **Updated FY 01 plan and FY 02 planning guidance specifically address**
 - **Four NWTRB priority concerns**
 - **NRC KTI Agreement Items**
- **Ongoing testing, data analyses, and design will continue to enhance our understanding of site conditions**