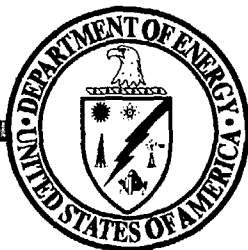


DOE/NRC QA Meeting
 June 13, 2001
 Rockville, MD

Sign-In Sheet

NAME	ORGANIZATION	TELEPHONE
S. J. CEREGHINO	BSC	702-295-4251
W. W. WATSON	BSC	702-295-5550
N. H. WILLIAMS	BSC	702-295-5143
Bill Keame	NRC	301-415-6537
LARRY Campbell	NRC	301 415-5000
Russ Dyer	DOE	702 794-1300
April Gil	DOE/YMP	702 794-5578
King Stabtein	NRC	(301)-415-7445
Paul Ibrahim	NRC	301-415-6651
ROB MACDUGALL	BSC	202-479-2122
Nick DiNunzio	DOE	202-586-8953
Jim Curtis	Winston & Strawn	202-371-5751
THOMAS MATULA	NRC	301-415-6602
Bois MURRAY	BAH (DOE-MTS)	702-794-5566
Kieu Chang	NRC	301-415-6612
KEISS GRIFFIN	DOE/EM-42	301 903 8478
TIM GUNTER	DOE/YMSCO	702-794-1343
Tim Sullivan	DOE/YMSCO	" " 5589
Edward Baker	NRC/NRC	301-415-8529
R. F. WEMHEUER	BSC	702-295-3966
Bob Toro	DOE/THA	301-987-2131
MANNY COMAR	NRC	301-415-6074
Jandra WASTLER	NRC	301-415-8733
ERDIO SIEFKEN	BSC	(202) 479-2104



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

DOE Site Recommendation Process

Presented to:
NRC/DOE Management Meeting

Presented by:
Tim Sullivan
Office of Licensing and Regulatory Compliance
Yucca Mountain Site Characterization Office

June 13, 2001
Rockville, Maryland

**YUCCA
MOUNTAIN
PROJECT**

Legacy/main - 700

Presentation Outline

- **Background**
- **Description of roles and relationships of SR Documentation**
- **Path forward to possible SR Decision**

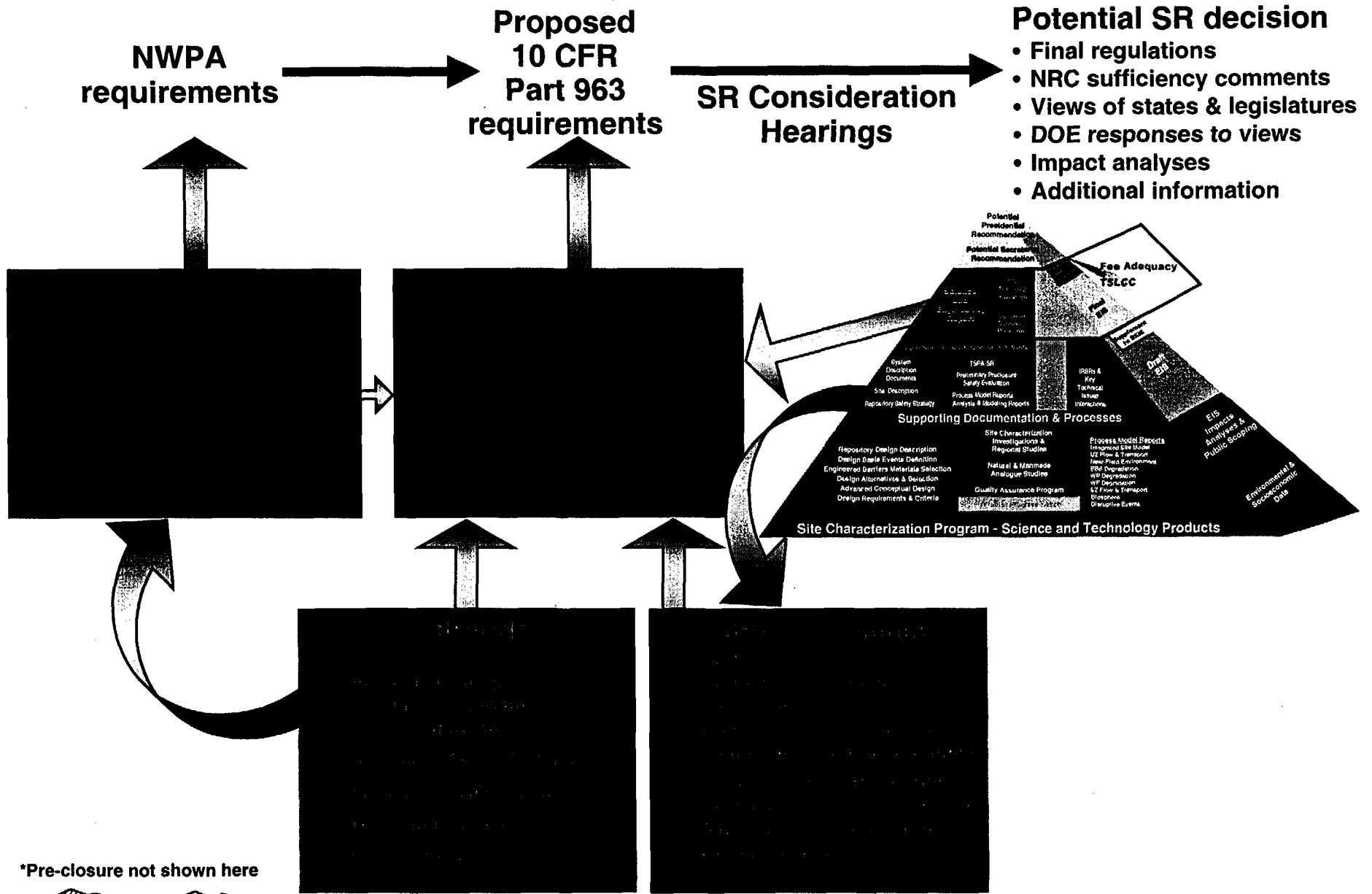
Background

- **DOE had planned to release a Site Recommendation Consideration Report (SRCR) in late 2000**
- **SRCR was deferred to allow**
 - **Enhancement of the technical basis for a site recommendation decision**
 - **Completion of the Inspector General's investigation**
- **As a result, FY01 scheduled work was re-planned to address these needs**

Background

- **Revised SR strategy extended the SR process to allow for incremental release of SR documents**
- **May 2001**
 - **Release of the Science & Engineering Report (S&ER)**
 - **Release of the Supplement to the Draft Environmental Impact Statement (SDEIS)**
- **Summer 2001**
 - **Plan to release the Supplemental Science and Performance Analyses Report (SSPA)**
 - **Plan to release the Preliminary Site Suitability Evaluation (PSSE)**
- **Plan to hold SR Consideration Hearings following release of PSSE**
- **Provide basis for possible SR decision in early FY02**

Roles & Relationships of SR Documentation



*Pre-closure not shown here

Total System Performance Assessment - Site Recommendation (TSPA-SR)

- **TSPA - SR has forecast the performance of a repository for the proposed 10,000 year compliance period, and beyond**
 - **Provides integrated set of conceptual models reflecting the relevant features, events, and processes (FEPs) that could operate after permanent closure of a repository consistent with proposed 10 CFR Part 63**
 - **Includes nominal scenario, disruptive events (igneous activity) scenario, and human intrusion scenario consistent with proposed 10 CFR Part 63**
 - **TSPA-SR Rev. 00 assesses higher-temperature operating mode**

Science and Engineering Report

- **Provides the information identified in Section 114 (a)(1)(A) - (C) of the NWPA**
 - **Description of the proposed repository including preliminary engineering specifications**
 - **Description of the proposed waste form or packaging and relationship between waste form or packaging and the geologic medium**
 - **Discussion of data obtained in site characterization related to safety of Yucca Mountain**
- **Plans for additional low-temperature evaluations**
- **YMSEER will be revised as appropriate to address comments to support SR decision**
- **YMSEER is a compilation and summary of existing information drawn from AMRs, PMRs, SDDs, and TSPA-SR**

Supplement to the Draft Environmental Impact Statement (SDEIS)

- **Addresses the evolution of the potential repository design, reflecting**
 - Evaluation of design options
 - Ways in which the repository could be operated (operating modes) that could reduce uncertainties and improve long-term performance and operational safety and efficiency
- **Provides for public review of potential environmental impacts based on the current design with a higher- and lower-temperature operating mode**
 - Initiates 45 day public comment period
- **Three public hearings have been completed**

Supplemental Science and Performance Analyses Report (SSPA)

- **SSPA planned for release in summer 2001**
 - **Volume 1 - Scientific Basis and Analyses**
 - ♦ **New science and engineering data collected since completion of documents (AMRs) supporting the YM S&ER**
 - ♦ **Process-level analyses with revised ranges of uncertainties and quantified uncertainties**
 - ♦ **Process model modification to reflect the potential effects of a lower-temperature operating mode**
 - **Volume II - Performance Analyses**
 - ♦ **TSPA supplemental model built from TSPA Rev. 00, ICN 1**
 - ♦ **Evaluates performance assessment results for higher- and lower-temperature operating modes**
 - ♦ **TSPA sensitivity analyses investigate effects on predicted performance of revised ranges of uncertainty, quantified uncertainties, and lower-temperature operating mode**
 - ♦ **Compares results to the existing TSPA-SR results to better understand the potential effects of additional information and changes in thermal operating modes**
- **Future use of the information in the SSPA in a License Application requires verification under the appropriate QA procedures**

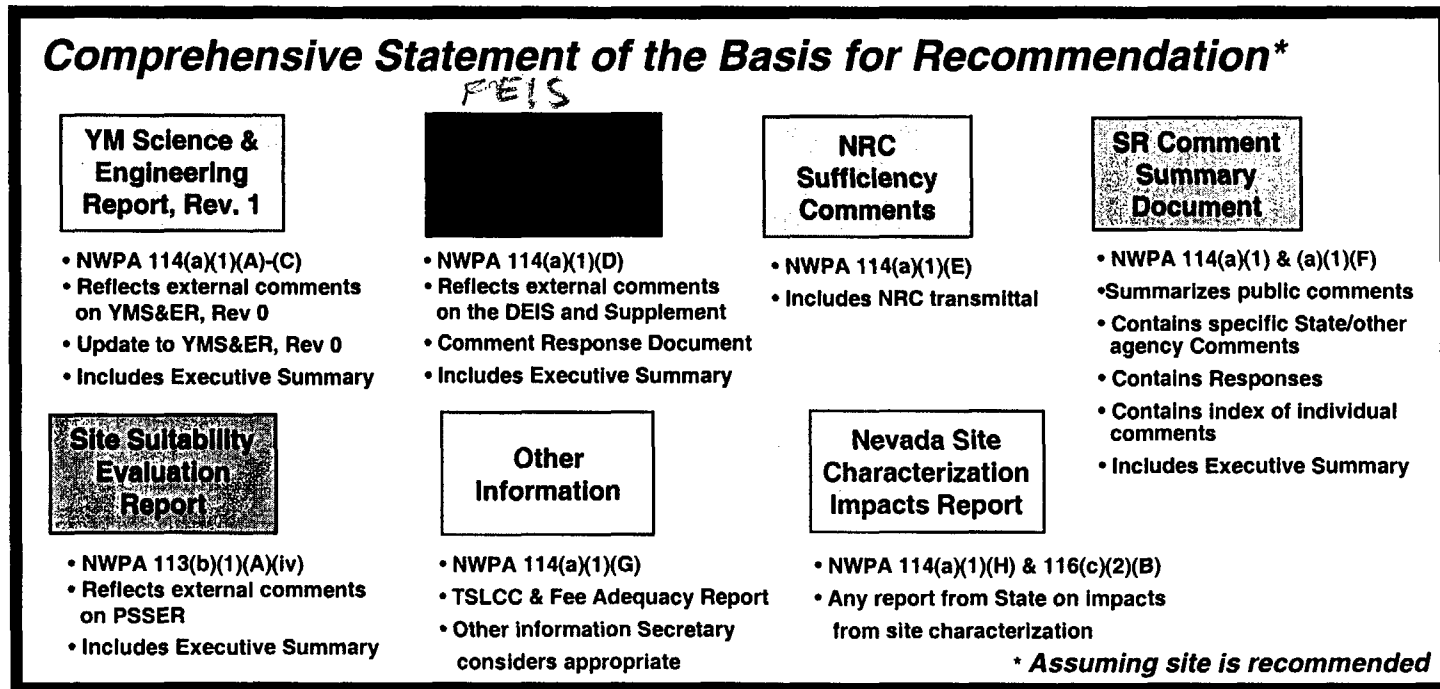
Preliminary Site Suitability Evaluation (PSSE)

- **Preliminary evaluation against pre and post-closure site suitability guidelines in DOE's proposed 10 CFR Part 963**
- **Post-closure evaluation includes**
 - ◆ **TSPA methodology**
 - ◆ **Barrier analyses**
 - ◆ **Criteria evaluations and sensitivity studies**
 - ◆ **Evaluation of repository performance for a higher temperature and a lower temperature operating mode**
 - ◆ **Comparison of mean annual doses with standards (10,000 years)**
 - ◆ **Consideration of uncertainties and variabilities**
 - ◆ **Sensitivity studies**
 - ◆ **Alternative features and processes ?**
- **Release of the PSSE will be accompanied with dates, times, and locations for public hearings, and dates for the close of the public comment period**

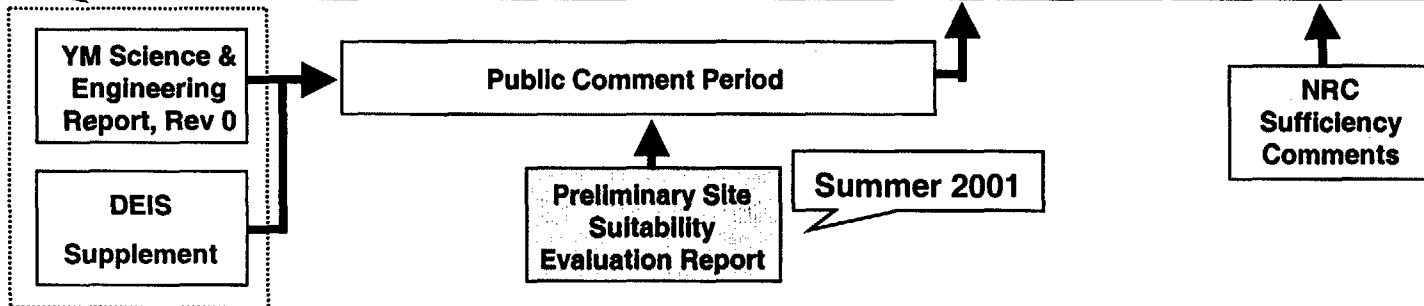
Path Forward to Possible SR Decision

- **After release of PSSE, SR consideration hearings will be held - Location TBD**
- **After public comment period and SR Consideration Hearings, DOE will prepare materials to support a Secretarial decision whether to recommend the site**
- **Our planning basis is to provide materials to support a possible Secretarial decision in early FY 02**

Proposed SR Documentation Concept



May 2001



EPA Standard (40 CFR Part 197)

- **EPA standard for a potential repository at Yucca Mountain has been finalized**
 - **Compliance point is 18km instead of 20km**
 - **Representative volume is 3000 ac. ft. instead of 1285 ac. ft.**
 - **Treatment of human intrusion different from that in NRC proposed rule (10 CFR Part 63)**
 - **Minor differences in the treatment of REMI**

Summary

- **SR process was expanded to enhance the technical basis for a possible SR decision**
- **The S&ER and Supplement to DEIS are available for public comment**
- **DOE is evaluating impact of final EPA regulation on SR documents**
- **DOE has announced initiation of the comment period for a possible SR decision**
- **PSSA and SSPA will be released during the comment period to support the technical basis for a possible SR decision**

Backup

Site Recommendation Documentation 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

