



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

Mr. Steven Brocoum, Assistant Manager
for Licensing and Regulatory Compliance
Yucca Mountain Site Characterization Office
Office of civilian Radioactive Waste Management
U.S. Department of Energy
P.O. Box 30307
North Las Vegas, NV 89036-0307

SUBJECT: MINUTES OF THE SEPTEMBER 27, 2000, MANAGEMENT MEETING

Dear Mr. Brocoum:

Enclosed are the minutes of the September 27, 2000, Management Meeting between the U.S. Department of Energy (*DOE) and the U.S. Nuclear Regulatory Commission to discuss the status of various management and programmatic issues concerning Yucca Mountain, Nevada. The meeting minutes consist of the meeting minutes summary, agenda, attendance list, and the presentation material noted as enclosures 1, 2, 3 and 4, respectively.

The meeting was held at the DOE Yucca Mountain Site characterization Office, Las Vegas, Nevada with participation by video conference at DOE facilities in Washington, DC, NRC Headquarters, Rockville, MD and the Center for Nuclear Waste Regulatory Analyses in San Antonio, TX.

The meeting resulted in a good exchange of information and views between DOE and NRC. No response to this letter is required. If you have any questions regarding the enclosed meeting minutes, please contact Ken Chang of my staff. He can be reached on (301) 415-6612.

Sincerely,

C. William Reamer, Chief
High-Level Waste Branch
Division of Waste Management
Office of Nuclear Material Safety
And Safeguards

Enclosures: Summary Highlights
Agenda
Attendance List
Briefing Materials

cc: See attached list

Mr. Steven Brocoum, Assistant Manager
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OFFICE	HLWB	HLWB	HLWB	HLWB
NAME	DHiggs	KChang	NKStablein	CWReamer
DATE	121/ /00	12/ /00	12/ /00	12/ /00

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ACNW: YES NO Delete file after distribution: YES NO

- 1) This document should be made available to the PUBLIC.
- 2) This document is related to the HLW program. It should be placed in the LSS.

cc:

R. Loux, State of Nevada
S. Frishman, State of Nevada
L. Barrett, DOE/Washington, DC
A. Brownstein, DOE/Washington, DC
S. Hanauer, DOE/Washington, DC
C. Einberg, DOE/Washington, DC
J. Carlson, DOE/Washington, DC
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D. Wilkins, M&O
M. Voegele, M&O
S. Echols, Winston & Strawn
B. Price, Nevada Legislative Committee
J. Meder, Nevada Legislative Counsel Bureau
D. Bechtel, Clark County, NV
E. von Tiesenhausen, Clark County, NV
A. Kalt, Churchill County, NV
G. McCorkell, Esmeralda County, NV
L. Fiorenzi, Eureka County, NV
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R. Massey, Lander County, NV
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L. Bradshaw, Nye County, NV
M. Murphy, Nye County, NV
J. McKnight, Nye County, NV
D. Weigel, GAO
W. Barnard, NWTRB
R. Holden, NCAI
A. Collins, NIEC
R. Arnold, Pahrump County, NV
J. Larson, White Pine County
R. Clark, EPA
F. Marcinowski, EPA
R. Anderson, NEI
R. McCullum, NEI
S. Kraft, NEI
J. Kessler, EPRI
D. Duncan, USGS
R. Craig, USGS
W. Booth, Engineering Svcs, LTD
J. Curtiss, Winston & Strawn
S. Besser, NV Congressional Delegation
N. Rice, NV Congressional Delegation
T. Story, NV Congressional Delegation
J. Reynoldson, NV Congressional Delegation
J. Pegues, City of Las Vegas, NV

ENCLOSURE 1

NRC/DOE Management Meeting Summary

Las Vegas, NV, (Atrium & Blue Room), NRC Headquarters, Rockville MD.

DOE Headquarters, Washington DC, CNWRA, San Antonio TX

September 27, 2000, 9:00 am to 11:00 am PDT

The U.S. Nuclear Regulatory Commission (NRC) and the U.S. Department of Energy (DOE) met on September 27, 2000 to discuss the status of various management and programmatic issues. This meeting summary includes a brief description of the presentations, the meeting agenda (attachment 1), the attendance list (attachment 2), and a copy of handouts used at the meeting (attachment 3).

Opening Remarks

Mr. John Greeves (NRC) acknowledged that he was pleased with the Quarterly QA meeting held 9/26/00 and stated that he preferred that Quarterly QA meetings be closely aligned with the Management Meetings. Mr. Lake Barrett (DOE) expressed his appreciation of everyone's efforts towards Key Technical Issues (KTIs) resolution as well as NRC staff dedication in reviewing the DOE's technical products.

There were no opening remarks by the Affected Units of Local Government or other Interested Parties.

NRC Program Status

Mr. Bill Reamer (NRC) provided an update on the status of the proposed 10 CFR Part 63, the Yucca Mountain Review Plan (YMRP) and the NRC's concurrence on 10 CFR Part 963. He stated that the Commission is reviewing the draft 10 CFR Part 63, comments received on the proposed rule and the recommended changes to the rule. The draft YMRP (post-closure section only) was provided to the Commission in April, 2000 with an update provided in the summer. The update included a pre-closure section and changes to the post-closure section to ensure that the rule conveys the Commission's interpretation of a Performance Based Risk Informed program. The Commission has the staff recommendation on concurrence of 10 CFR Part 963.

Mr. Mal Murphy (Nye County) asked if the Commission had received their letter requesting a public meeting on 10 CFR Part 63 prior to issuance. Mr. Reamer indicated that the Commission had received the letter; however, no decision on holding a public meeting has been made at this time.

DOE Program Update

Mr. Barrett highlighted the improvements to the Quality Assurance Program, including closure of Corrective Action Reports, and progress in verifying and qualifying data used in direct support of Analysis and Modeling Reports and Process Model Reports. Mr. Greeves stated that DOE had agreed at the Quarterly QA meeting to provide an update to the NRC on the status of Data and Software qualification in March 2001. Mr. Barrett

discussed the status of the Draft Environmental Impact Statement and stated that DOE is evaluating more than 11,000 comments received during the public comment period.

Yucca Mountain Project Status

Mr. Russ Dyer (DOE) highlighted FY 2000 accomplishments, including the testing program, development of the total system performance assessment for site recommendation, progress in data and software qualification and the FY 01 planning process. He discussed the role of the Site Recommendation Consideration Report (SRCR) and DOE's forthcoming request for the NRC to provide sufficiency comments by May 25, 2001.

QA Metrics

Mr. Don Horton (DOE) discussed the QA related Monthly Performance Indicators. He discussed the status of Data & Software Qualification indicated that DOE will meet the goals set for the Site Recommendation. He provided trending data that showed a reduction in open nonconformance report backlog. In addition, Mr. Horton indicated that the supplier procurement issues were resolved in the Quarterly QA meeting on September 26, 2000.

Site Recommendation Status

Mr. Tim Sullivan (DOE) provided the status of technical basis documents used for the development of the SRCR and an update on the status of the SRCR and Site Recommendation. Mr. Reamer emphasized that NRC will review existing project information and planned information as the basis for making their sufficiency determination and that the sufficiency review is not a licensing review.

KTI Resolution Progress and Observations

Ms. April Gil (DOE) discussed the process developed to aid in the closure of KTIs and summarized the outcome of the KTI meetings held to date, indicating 10 of the 12 subissues discussed have been either closed or are closed pending. It was emphasized that follow-up on closure of issues is necessary and agreed that a KTI status meeting would be held prior to the next quarterly management meeting.

Remarks by Interested Parties

Ms. Judy Treichel (Nevada Nuclear Waste Task Force) indicated that the public is interested in how their comments on 10 CFR Part 63 and 10 CFR Part 963 will be addressed prior to any public hearings on the SRCR. She is concerned that the public's comments have not been incorporated and that they will be asked to comment on the SRCR without knowing the basis for a site recommendation decision.

Mr. Steve Kraft (Nuclear Energy Institute) and Mr. Reamer discussed the degree to which issues must be closed at time of the sufficiency report. Mr. Reamer responded that the goal is to have all issues closed for License Application and progress toward closure needs to be made by sufficiency. Mr. Kraft, Mr. Steve Frishman (Nevada Nuclear Waste Project Office), and Mr. Reamer discussed whether a subissue status of "closed

pending” is adequate for sufficiency. Mr. Reamer indicated that the NRC would consider the progress made by DOE on fulfilling agreed upon closure actions. Mr. Frishman expressed his opinion that “closed pending” does not mean sufficiency.

Mr. Frishman (NV NWPO) commented that the SRCR and the sufficiency determination are premature without the finalized 10 CFR Part 63 & 963 regulations. He stated that if these regulations are not promulgated then sufficiency and site recommendation must be based on the existing regulations of 10 CFR Part 60 & 960.

Summary /Closing Remarks

No closing statements were made by the DOE, NRC, Affected Units of Local Government, or other Interested Parties.

Action Items

1. DOE will provide in writing to NRC, the status of Data Qualification and Verification and Software Qualification in March of 2001.
2. DOE will evaluate whether the 24 System Description Documents (SDDs) should be included in the NRC's review prior to the development of sufficiency comments.
3. DOE and NRC will schedule a KTI status meeting prior to the next quarterly management meeting.
4. DOE will provide the date when Repository Safety Strategy Revision 4 would be available for review.
5. DOE will provide the NRC with a copy of the Preliminary Pre-closure Safety Assessment prior to the next management meeting. (complete)



Manny M. Comar
Division of Waste Management
Office of Nuclear Material
Safety and Safeguards
U.S. Nuclear Regulatory Commission



Nancy H. Slater-Thompson
Regulatory Coordination Division
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy

ENCLOSURE 2

**AGENDA
NRC/DOE MANAGEMENT MEETING**

**U.S. Department of Energy
Yucca Mountain Site Characterization Office
1551 Hillshire Drive
Las Vegas, NV 89134**

and via videoconferencing

**U.S. Nuclear Regulatory Commission
Conference room O5B-2
11545 Rockville Pike
Rockville, MD 20852
September 27, 2000
9:00 a.m. - 11:00 a.m. (PDT)**

9:00 a.m.	Introductory Comments and Welcome	ALL
9:15 a.m.	NRC Program Update	NRC
9:30 a.m.	DOE Program Update	DOE
9:45 a.m.	Status of: <ul style="list-style-type: none">• SRCR• PMRs/AMRs• NRC Sufficiency Review	DOE DOE NRC
10:00 a.m.	KTI Issue Status	NRC/DOE
10:30 a.m.	Action Items	DOE/NRC
10:40 a.m.	Closing Remarks	ALL
11:00 a.m.	Adjourn	ALL

ENCLOSURE 3

ENCLOSURE 4



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

Yucca Mountain Project Update

Presented to:

NRC-DOE Management Meeting

Presented by:

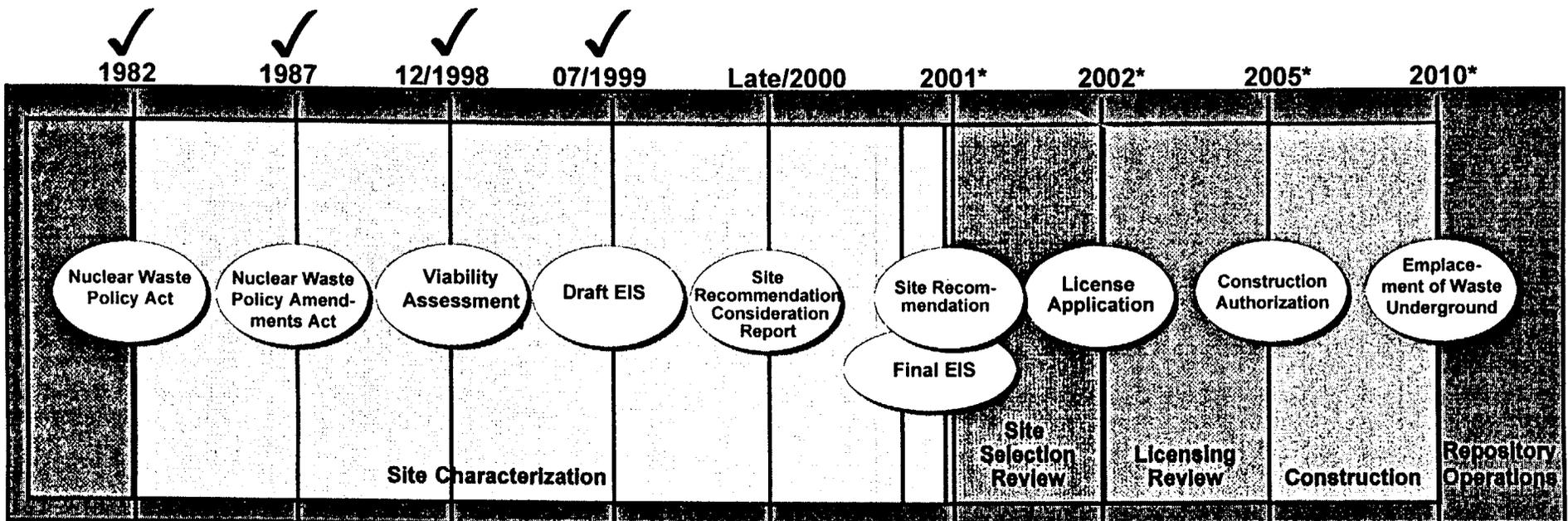
J. Russell Dyer, Project Manager

Yucca Mountain Site Characterization Project Office

September 27, 2000

**YUCCA
MOUNTAIN
PROJECT**

Repository Milestones



*If site is recommended and approved; if budget supports schedule.

FY 2000 Accomplishments

- **Testing**
 - Hydraulic testing of alluvium has begun; tracer testing planned for FY 2001
 - Hydraulic properties and seepage testing initiated in cross-drift in lower lithophysal unit (primary host horizon for potential repository)
 - Drift to drift seepage test (cross drift to ESF) underway
 - EBS ventilation model validation test started
 - Geotechnical investigation of north portal (surface facility area) underway
- **Total System Performance Assessment (TSPA)**
 - Base-case calculations for TSPA-SR are completed and in checking; sensitivity calculations are nearly complete

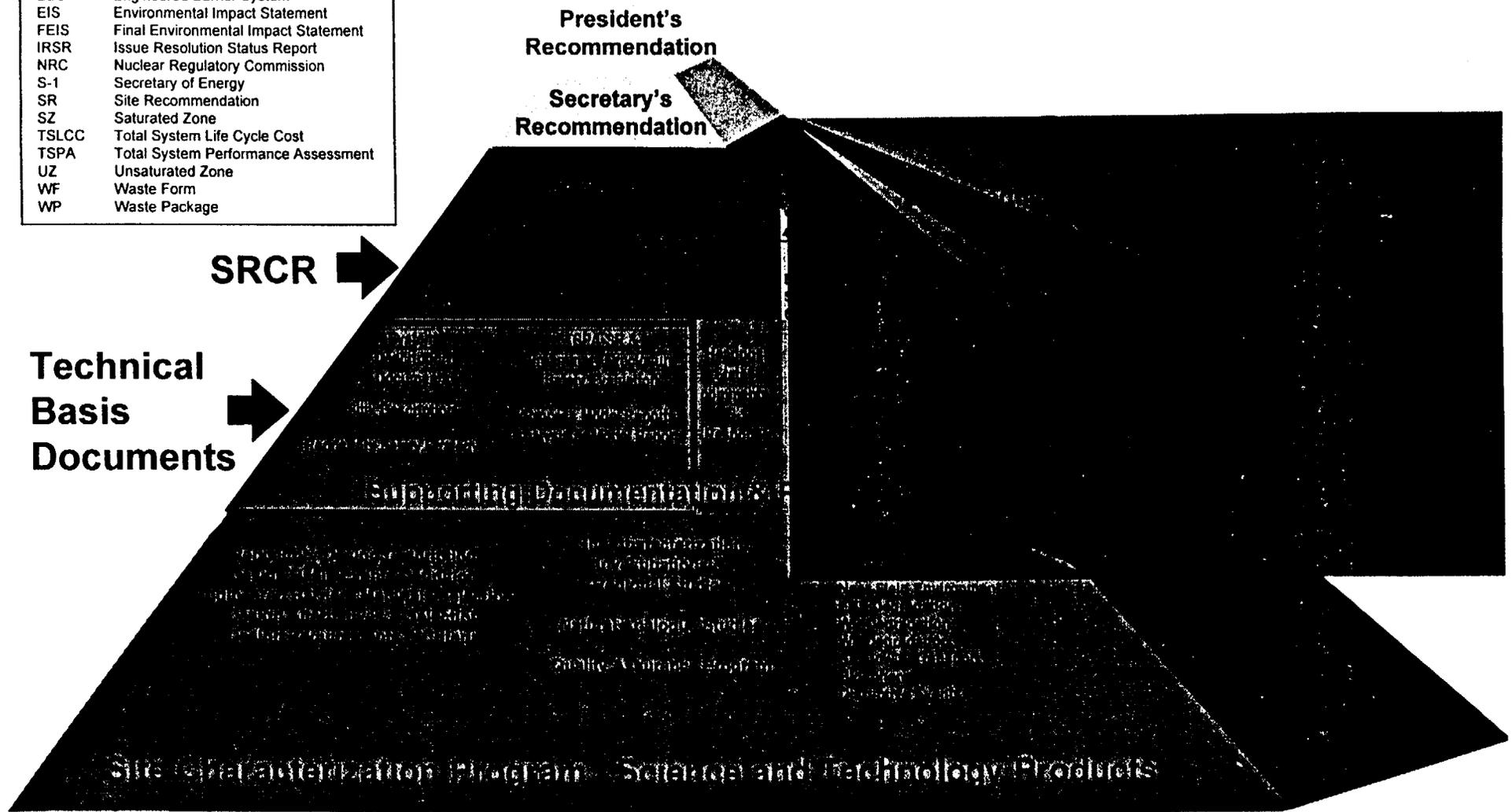
FY 2000 Accomplishments

(continued)

- **Data and software qualification progress**
 - 67% of project data qualified (8/31/00) - on target to meet goal (80%) for SRCR completion
 - 88% of software qualified (8/31/00) - ahead of goal for SRCR completion
- **Regulatory items**
 - DOE draft final rule, Yucca Mountain Site Suitability Guidelines, 10 CFR 963, submitted to NRC for concurrence 5/4/00
- **Planning process**
 - DOE guidance for FY 2001 planning completed
 - FY 2001 plan implementation dependent on funding

Site Recommendation Structure and Supporting Documentation

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
S-1	Secretary of Energy
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



Role of the SRCR

- **SRCR is scheduled for release in late 2000**
 - Summarizes technical basis for consideration of a possible recommendation
 - Intended to facilitate public review and comment process
- **DOE will hold public hearings to receive comments on its consideration of a possible site recommendation**
- **The subset of technical documents relevant to postclosure design and performance, and used in preparing the SRCR, not the SRCR itself, provide basis for NRC sufficiency comments**
 - DOE will request that NRC provide its sufficiency comments by 5/25/01

Project Outlook

- **Funding uncertainty**
 - FY 2001 appropriation has not been set
 - Marks set by both House (\$413 million) and Senate (\$351 million) are below DOE request (\$437 million)
 - Work supporting Site Recommendation schedule has highest priority
 - At lower funding level, Site Recommendation schedule may be at risk
- **Schedule for licensing milestones is uncertain due to funding uncertainties**
 - LA submittal may be delayed

Summary

- **Primary focus continues to be completion of the SRCR and technical basis documents to ensure progress toward a decision on site recommendation**
- **Funding limitations may delay LA submittal and could put the SR schedule at risk**



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

Site Recommendation Status

Presented to:

NRC-DOE Management Meeting

Presented by:

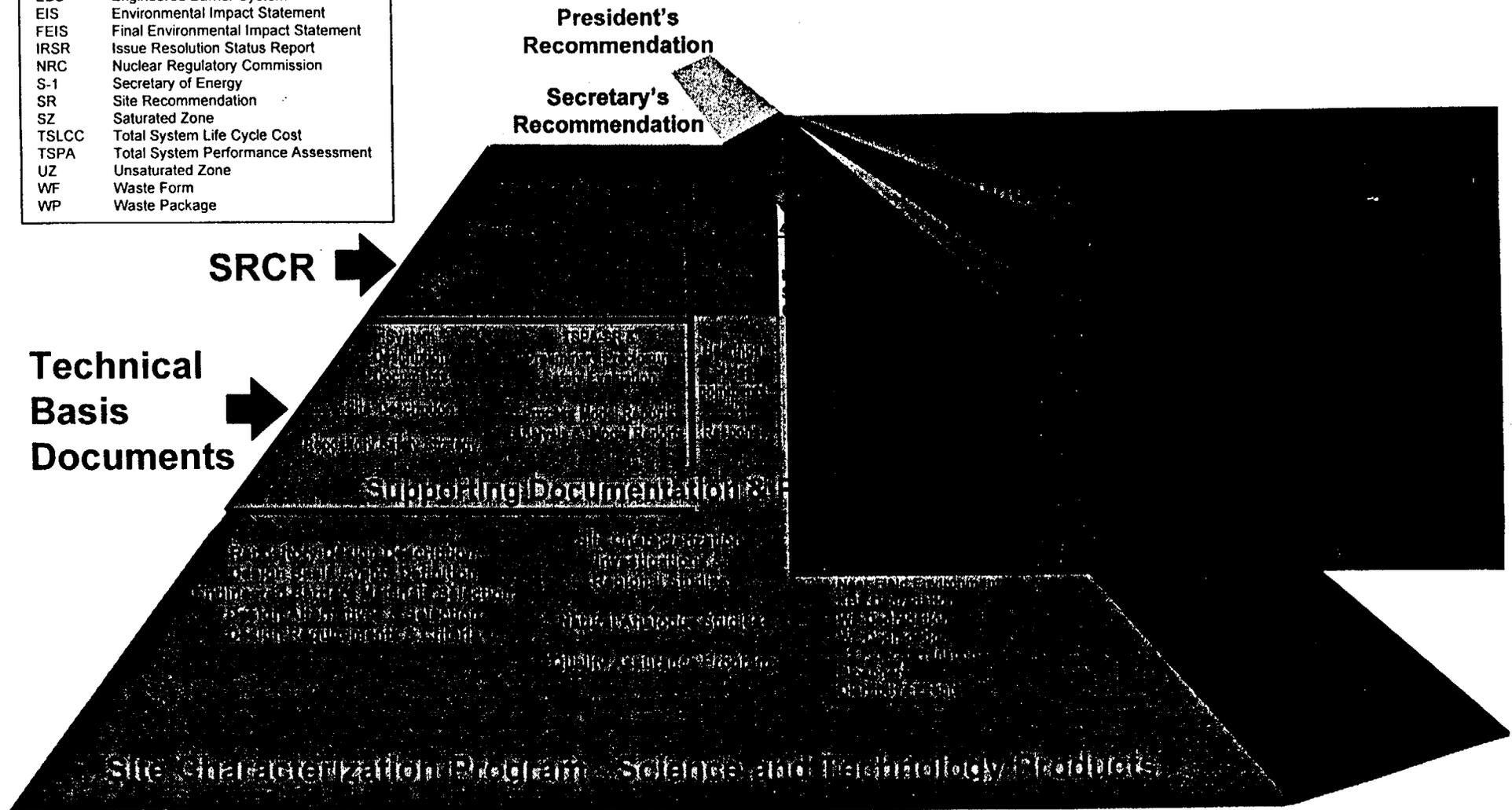
**Stephan J. Brocoum, Assistant Manager
Office of Licensing & Regulatory Compliance
Yucca Mountain Site Characterization Project Office**

September 27, 2000

**YUCCA
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Site Recommendation Structure and Supporting Documentation

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
S-1	Secretary of Energy
SR	Site Recommendation
SZ	Saturated Zone
TSLCC	Total System Life Cycle Cost
TSPA	Total System Performance Assessment
UZ	Unsaturated Zone
WF	Waste Form
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Technical Basis Documents for SRCR

- **Completed technical documents**
 - **7 of 9 Rev. 0 Process Model Reports (PMRs) accepted by DOE**
 - ♦ **remaining 2 PMRs accepted with conditions**
 - **120 of 121 supporting Analysis and Model Reports (AMRs) completed**
 - **24 (all) System Description Documents (SDDs) needed for SRCR completed**
 - ♦ **34 supporting Engineering Analyses completed**
 - **Preliminary Preclosure Safety Assessment accepted by DOE**

Technical Basis Documents for SRCR

- **Documents in DOE review**
 - TSPA-SR Rev. 0
 - Yucca Mountain Site Description, Rev. 1
- **Documents in preparation**
 - Repository Safety Strategy (RSS) Rev. 4 is scheduled to be submitted to DOE in 10/00
 - Updates of 8 of 9 PMRs, together with updates to appropriate supporting AMRs, will be available by the time the SRCR is issued

Status of Documents to be Provided for NRC Sufficiency Review

- **11/24/99 DOE letter proposed to make specific documents available to support sufficiency review**
 - NRC agreed in principal to proposed approach at 4/25-26/00 Technical Exchange
- **Documents provided to NRC**
 - 7 of 9 Rev. 0 PMRs
 - ◆ 120 of 121 supporting AMRs also provided
 - 11 SDDs covering design basis for systems and components identified in DOE letter
- **Documents in preparation/DOE review**
 - TSPA-SR, Rev. 0
 - Yucca Mountain Site Description, Rev. 1
 - Repository Safety Strategy (RSS) Rev. 4

Status of SRCR and SR

- **SRCR**

- Draft SRCR is in DOE review
- SRCR on schedule to support issuance at the end of calendar 2000

- **SR**

- Planned activities will support preparation of a comprehensive report that may be used by the Secretary as the basis for a site recommendation in 7/01
- NRC sufficiency comments needed by 5/25/01

Summary

- **Primary focus continues to be completion of the SRCR and technical basis documents to ensure progress toward a decision on site recommendation**
 - **Key technical basis documents supporting SRCR, including updates, are provided to NRC as they are completed and accepted by DOE**
- **DOE is putting a high priority on interactions to close KTIs and support NRC sufficiency review based on the technical documents provided**



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

KTI Resolution Progress and Observations

Presented to:

NRC-DOE Management Meeting

Presented by:

**Stephan J. Brocoum, Assistant Manager
Office of Licensing & Regulatory Compliance
Yucca Mountain Site Characterization Project Office**

September 27, 2000

**YUCCA
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Background

- **DOE understands that an important consideration for NRC sufficiency comments is progress toward resolution of KTIs**
 - Resolution will be documented in NRC Issue Resolution Status Reports (IRSRs)
- **A series of DOE/NRC technical exchanges is now underway to discuss and resolve, in so far as possible, the KTIs**
 - 3 technical exchanges have been held to date, with generally successful results
- **Each technical exchange is resulting in a documented summary of issue resolution status and includes NRC/DOE agreements for further work, if any, as a path forward for LA**

Scheduled Interactions to Close KTIs

UZ Flow Under Isothermal Conditions*	8/16-17 ✓	Berkeley
Igneous Activity	8/29-31 ✓	Las Vegas
Container Life and Source Term	9/12-13 ✓	Las Vegas
Structural Deformation and Seismicity	10/11-13	Las Vegas
In-Package Criticality (Subissue)	10/24-26	Las Vegas
SZ Flow Under Isothermal Conditions*	10/31-11/2	Albuquerque
Thermal Effects on Flow	11/14-16	Berkeley or LV
Radionuclide Transport	12/5-7	Berkeley
Evolution of Near-Field Environment	1/9-11	Berkeley or LV
Rep. Design & Thermal-Mech. Effects	1/23-25	Las Vegas
TSPA and Integration	2/6-8	Las Vegas

✓ Interaction complete

*UZ and SZ Flow are covered under the same KTI

NRC/DOE Interaction Outcome

KTI	No. of Subissues	Subissues closed or closed pending	Subissues open	Overview of remaining issues
Unsaturated Zone Flow	5*	4	1	DOE needs to justify infiltration model to support closure
Igneous Activity	2	1	1	One consequence acceptance criterion open pending NRC review of DOE documents
Container Life Source Term	6	5	1	Criticality subissue open (subject of future interaction)

***Unsaturated and Saturated Flow Under Isothermal Conditions, KTI has 6 subissues. Only the 5 subissues relating to unsaturated zone flow were addressed at the interaction.**

Observations on Process

- **DOE and NRC management presence at the meetings has helped focus the discussions and facilitate agreement on the path to resolution**
 - Meeting minutes and agreements on the path forward are documented and signed at the conclusion of the meetings
- **Providing adequate time for discussion and productive interaction has been essential**
 - All future meetings are scheduled for 3 days
- **NRC and CNWRA staff review of DOE technical products has facilitated discussion of issues**
- **Discussion of QA aspect of KTIs has been deferred**
 - The path to resolution of QA issues needs to be defined

Observations on Process

(continued)

- **To make meetings as effective and productive as possible**
 - All relevant information needs to be exchanged well in advance of the meeting to permit consideration before the meeting
 - Issues need to be discussed and a clear understanding of differences reached prior to the meeting so that discussion can be focused
- **Follow-up on closure is needed**
 - Status work on actions agreed to and issue closure at DOE-NRC Management Meetings
 - Periodic Technical Exchanges to review status of all KTIs and close issues based on new information provided
 - Follow-up communications should be controlled and consistent with the scope of the agreements

Summary

- **DOE is putting a high priority on interactions in early FY 2001 to close KTIs and support NRC's proposed approach to sufficiency review**
- **DOE is waiting for Commission approval of the staff approach to confirm our understanding of the sufficiency review process**
- **DOE is also waiting for staff review guidance to enhance our understanding of the basis for NRC sufficiency comments**