

MINUTES
U.S. NUCLEAR REGULATORY COMMISSION/U.S. DEPARTMENT OF ENERGY
QUARTERLY MANAGEMENT MEETING
September 4, 1997

On September 4, 1997, the U.S. Nuclear Regulatory Commission, Division of Waste Management met with representatives of the U.S. Department of Energy (DOE), Office of Civilian Radioactive Waste Management for a quarterly management meeting. The meeting was held at NRC headquarters in Rockville, Maryland and the Yucca Mountain Site Characterization Office in Las Vegas, Nevada with a video conference connection to DOE headquarters in Washington, DC and the Center for Nuclear Waste Regulatory Analyses (CNWRA), in San Antonio, Texas. Other attendees at these locations represented the State of Nevada; Nye County and Clark County, Nevada; the CNWRA, Nuclear Energy Institute, U.S. Geological Survey, and the U.S. Nuclear Waste Technical Review Board. This periodic meeting provides a forum for management level discussions of issues and concerns associated with the Yucca Mountain Site Characterization project and other aspects of the Civilian Radioactive Waste Management System program. Attachment A provides the meeting agenda and Attachment B lists the attendees.

OPENING REMARKS: The meeting was opened with comments by Margaret Federline, Deputy Division Director, Division of Waste Management, NRC emphasizing the importance of NRC and DOE maintaining open communication. Specifically, the Total System Performance Assessment (TSPA) technical exchange was highlighted. The NRC staff felt that the exchange provided new information and help define the course of action towards issue resolution. The DOE indicated that the technical exchange was very good; allowed for frank and pointed exchanges with constructive, unhampered dialog; and showed a marked improvement in maturity level of the technical discussions. With regard to the Quality Assurance (QA) program, the NRC indicated that a new QA staff had been hired and would be starting work in the near term.

NEVADA NUCLEAR WASTE TASK FORCE (NWTF) PROPOSAL: Ms Judy Treichel restated her proposal for two open and easily accessible meetings be held each year, one in Nevada and another in a transportation corridor city, so NRC and DOE can hear and consider the public's ideas and viewpoints regarding the high-level waste program. This proposal was originally made in a May 7, 1997, letter to Chairman Jackson and the NRC's June 5, 1997 response indicated that the proposal was worthy of further consideration and committed to place it on the next management meeting agenda. In general, the concept of exploring better ways to communicate and more effective public participation was supported by the parties in attendance, however, differing views were expressed regarding the mechanism for implementing the concepts. DOE and the NRC representatives from SFPO expressed the opinion that transportation corridor meetings were premature given the current budget limitations and the fact that activity in this area was at least 10 years in the future. NRC and DOE agreed in principal with the concept of a meeting in the Las Vegas area on Yucca Mountain and agreed to consult with the State, units of local government and NWTF in planning for such a meeting.

STATUS OF DRY TRANSFER SYSTEM TOPICAL SAFETY ANALYSIS REPORT (TSAR), CENTRALIZED INTERIM STORAGE FACILITY (CISF) TSAR, AND BURNUP CREDIT TOPICAL REPORT: Eric Leeds, Spent Fuels Project Office, provided DOE with the status of each of these documents. With regard to the topical report on burnup credit, SFPO indicated the document was undergoing in-house review and a status would be available in January, along with a request for additional information (RAI). DOE specifically requested a review schedule to facilitate its planning. Mr. Leeds indicated that SFPO would have a better idea once the RAI was issued in January and agreed discuss the schedule with DOE in this time frame. DOE indicated, however, that it was not aware that SFPO was submitting a RAI. With regard to the CISF TSAR, SFPO indicated that an RAI

would also be issued in the January time frame. Once again, DOE requested a review schedule, but was informed that SFPO would have to get into the review before a concrete schedule could be discussed. DOE requested the schedule by the time first round questions were issued. The staff again indicated that it would discuss scheduler issues once the RAI was issued.

Mr. Leeds indicated that the review of the DTS had not begun or been placed with a contractor to date because of conflict of interest and funding problems. At the present time, SFPO is exploring the potential of using CNWRA to conduct the review. SFPO indicated that they expected to have a solution in 2 - 3 weeks and would get back to DOE. DOE was concerned to learn that these issues were not resolved and the review taking place. DOE indicated that it would gladly assist in the resolution of the problems and volunteered to write a letter to the NRC in this regard. Since SFPO indicated that resolution was expected soon, DOE indicated it would hold off on sending a letter to NRC in this regard.

NRC STATUS OF ISSUE RESOLUTION STATUS REPORT (IRSR) /DOE COMMENTS ON CLIMATE IRSR AND ANNUAL REPORT: King Stablein, NRC reviewed the revised IRSR table and explained the expansion of the format such that it includes a discussion of all key technical issues (KTI) sub-issues (Attachment C). Steve Brocoun, DOE expressed appreciation that the Igneous Activity IRSR would be issued in November, but wondered why it was the last being issued considering the large number of interactions. NRC indicated that the later date was due simply to the amount of information being covered and the need to get a clear picture presented in the IRSR. With regard to Radionuclide Transport, DOE indicated that it was disappointed that no IRSR would be issued in Radionuclide Transport KTI and expressed the concern as to whether NRC would be able to backup the far field transport issues raised at the TSPA technical exchange. NRC reiterated that the elimination of this KTI was the result of the reduced budget, but reminded DOE that some RT issues were being handled under other KTI's. Lastly, DOE wanted to know NRC expectations with regard to a DOE response to the IRSRs. NRC indicated that DOE is under no obligation to reply to the IRSRs. The IRSRs provide DOE with an opportunity to know where NRC is at in their review and where NRC and DOE need to resolve differences. NRC stated that the April revision to the IRSRs would provide the results of the on-going sensitivity analysis and unless DOE sees a concern, there is no need to respond between the two sets of IRSRs.

With regard to the Climate IRSR, DOE indicated that it would be sending a letter indicating its pleasure with the results and the fact that it had no questions on the methodologies presented. In addition, DOE indicated that it planned to send the NRC a letter on the NRC's Annual Report with an attachment providing detailed comments.

PROGRAMMATIC REVIEWS: NRC indicated concern that the flow of information has essentially stopped over the last six months (received four documents in the last six months) and that the TSPA/Viability Assessment (VA) review will be impacted if the situation is not corrected. The NRC had already reviewed DOE document list and indicated those documents that NRC needed to prepare for the upcoming VA review. As a result of interactions with the NRC's On-site representatives, DOE indicated its awareness of the concern and was proposing a solution to this problem. Specifically, the review in question is a programmatic and policy review required on all documents prior to publication. To keep information moving, In order to provide the information on an expedited schedule, DOE proposed sending these documents, all of which have had technical and quality assurance reviews, to NRC with a cover letter with a disclaimer noting the pedigree of the document. NRC indicated that the solution was acceptable. NRC noted that on September 3, 1997, it received a list of documents that have completed the review from DOE. In addition, NRC offered to have the staff prioritize the list of documents they had already requested if it would help DOE.

WASTE ISOLATION AND CONTAINMENT STRATEGY (WICS) STATUS: DOE indicated that new site information and engineering enhancements have resulted in revisions to the WICS. However, only minor modifications have been made to the hypothesis contained in WICS. The highlights document is being revised and the goal is to get a preliminary draft of the revised document to DOE in next few weeks. Since DOE's waste isolation and containment strategy supports its TSPA/VA, NRC reiterated the need for DOE to keep NRC informed of changes and the status of the document. NRC requested that DOE provide a verbal briefing on the WICS if the document is not out in November, as currently planned.

STATUS OF DOE'S DECISION DOCUMENTATION INITIATIVE: DOE gave a presentation on the status of the process for Documenting Decisions in the HLW program (see Attachment D). In FY97, DOE has documented decisions as part of the change control of their baseline work. NRC indicated that they will be looking at the document decision process as part of the vertical slice process. NRC's focus is on implementation of the process and will raise concerns when they arise. DOE indicated that they are having a team do vertical slice review of TSPA95 to test their documenting and write procedures. In addition, DOE is actively plugging into industry and lessons learned from the Waste Isolation Pilot Project (WIPP) in this area.

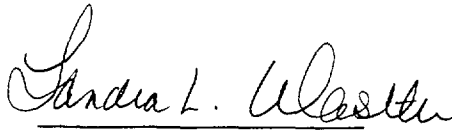
DOE PLANS TO STREAMLINE AND ENHANCE THE UTILITY OF THE PROGRESS REPORTS: DOE gave a presentation on proposed reformatting of the Semiannual Site Characterization Progress Report. The new format will allow the size to be reduced to manageable proportion by relying on a executive summary format and maintaining the technical detail in available references and result in a focus on significant progress. The first progress report in this format will be issued in April, 1998 with a goal of the document to be available on the Internet in 2 to 3 years. NRC indicated that it supports a more timely and better integrated document.

PROCEDURAL AGREEMENT STATUS: DOE's revised procedural agreement is with Lake Barrett for review. DOE expects to provide it to NRC in mid-October for review and comment. DOE indicated that the procedure may need to be run by Spent Fuel Project Office at NRC and other DOE programs, possibly even Environmental Management (EM). DOE indicated that the procedural agreement is currently silent on the Environmental Impact Statement (EIS). DOE recognizes that there is a concern in that NRC's openness policy applies to all interactions including the EIS and, therefore, the EIS should be specifically called out in the procedural agreement. DOE indicated that the EIS will be explicitly called out in procedural agreement and recognized that NRC would act consistent with its openness policy.

NRC/DOE INTERACTIONS IN VA: NRC and DOE exchanged views on interactions during the VA review. NRC shared with DOE the plan to produce draft staff guidance for the VA review. DOE indicated that it would be willing to meet with NRC to summarize DOE's four management plans for the VA. DOE wants to brief NRC on all inputs to the VA with the goal of being on common ground at the time of VA. DOE supports continuation of the issue resolution process to show progress. DOE plans to complete the VA in September, 1998, so NRC's April IRSR will not be much use. Communication over the next few months will be critical, however.

CLOSING REMARKS: NRC raised the question of when it might expect a letter from DOE with revised Part 960 and a revised schedule for review of Part 960. DOE indicated that it didn't know

at this point in time, but it would be provided as soon as it could, but not earlier than December.
No further closing remarks were made by the participants.



Sandra L. Wastler
High-Level Waste and Uranium
Recovery Projects Branch
Division of Waste Management
Office of Nuclear Material
Safety and Safeguards
U.S. Nuclear Regulatory Commission



Nancy H. Slater
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Division
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Waste Management
U.S. Department of Energy

**FINAL AGENDA
NRC/DOE MANAGEMENT MEETING**

Video Conference
September 4, 1997

Hillshire Blue Room; NRC Headquarters; DOE Headquarters

10:00 AM PST (1:00 EST)

● **OPENING REMARKS**

ALL

● **PROGRAM STATUS**

Status of DTS TSAR, CISF TSAR, and
the burnup credit topical report.

SFPO

Nevada Nuclear Waste Task Force proposal for
public meetings (discussion)

NNWTF/NV

NRC Status of IRSR's/DOE Comments on the NRC's Climate
IRSR and Annual Report

DOE/NRC

Availability of Project Documents (YMP 30.12 Reviews)

DOE/NRC

WICS Status

DOE

Status of DOE's decision documentation initiative

DOE

DOE's plans to streamline and enhance the
utility of the progress reports

DOE

Procedural Agreement Status

DOE

NRC/DOE's Interactions in VA
(mutual expectations for VA and DOE's expectations
for sufficiency review for SR)

DOE/NRC

● **CLOSING REMARKS**

ALL

● **ADJOURN**

2:00 PM PST (5:00 PM EST)

NRC-DOE MANAGEMENT MEETING ATTENDANCE LIST - Page 1**September 4, 1997****Videoconference between
DOE DC/Forrestal - Las Vegas/YMSCO
NRC/Rockville - CNWRA/San Antonio**

PRINTED NAME	ORGANIZATION/COMPANY	PHONE
Nancy Slater	DOE	202-586-9322
Alan Brownstein	DOE	202-586-4973
John Greeves	NRC/NMSS	301-415-7358
Steve Frishman	NV/NWPO	702-687-3744
Judy Treichel	NV/NW Task Force	702-248-1127
Michael Bell	NRC/NMSS/DWM	301-415-7286
Margaret Federline	NRC/NMSS/DWM	301-415-6708
Nick Stellavato	Nye County	702-295-6142
Mike Lugo	M&O/TRW	702-795-4761
Mal Murphy	Nye County	360-943-5610
Ken Ashe	M&O	702-295-5563
Robert Barton	DOE/YMP/AML	702-794-7957
Stephen Brocoum	DOE/YMP	702-794-1359
Ray Wallace	USGS	202-589-1244
Steve Hanauer	DOE	202-586-3547
Thomas Bruno	M&O JKRA	703-862-9400
Ralph Anderson	NEI	202-739-8100
Steve Unglesbee	NEI	202-739-8100
Lake Barrett	DOE	202-586-6850
King Stablein	NRC	301-415-7252
Chris Einberg	DOE/HQ	202-586-8869
Carol Hanlon	DOE/YMP	702-794-1324
Bill Lake	DOE/HQ	202-586-9322
April Gil	DOE/YMPO/AMSL	702-794-5578

NRC-DOE MANAGEMENT MEETING ATTENDANCE LIST - Page 2**September 4, 1997****Videoconference between****DOE DC/Forrestal - Las Vegas/YMSCO****NRC/Rockville - CNWRA/San Antonio**

PRINTED NAME	ORGANIZATION/COMPANY	PHONE
M. Cline	BAH	702-794-5481
Jean Yonkers	M & O/ TRW	702-295-5647
Wes Patrick	CNWRA	210-522-5158
Ali Hagi	M&O	702-794-4873
Jack Bailey	M & O	702-794-4251
Dennis R. Williams	DOE/AML	702-794-1417
Sandra Wastler	NRC/DWM	301-415-6724
Bob Gamble	CRWMS M7O/WOFS	202-488-6730
Dan Fehringer	NWTRB	703-235-4473
Robert Johnson	NRC/DWM	301-415-7282
Eric Leeds	NRC/SFPO	301-415-8540
Jim York	Booz, Allen & Hamilton	202-484-8375
Tim Sullivan	DOE/AML	702-794-5589
Dennis Bechtel	Clark Co, Nevada	702-455-5175
Chad Glenn	NRC	702-388-6125
Bill Belke	NRC	702-388-6125
Catherine Hampton	DOE/OGN	702-794-1387
Sheryl Morris	DOE/AML	702-794-5487
B. Murray	MTS/BAH	702-794-5566
Abe Van Luik	DOE/AML	702-794-1424
Eric Smistad	DOE/AML	702-794-1479
Chris Kouts	DOE	202-586-5722
Budhi Sagar	CNWRA	210-522-5252

ISSUE RESOLUTION STATUS REPORTS BY KTI
(estimated schedule as of September 1997)

TITLE OF KEY TECHNICAL ISSUES Title of Subissues	Planned Completion Date
IGNEOUS ACTIVITY 1. Probability of future igneous activity* 2. Consequences of igneous activity 3. Data Viability	11/30/97 (Rev. 0) 04/98 (Rev. 1)
STRUCTURAL DEFORMATION AND SEISMICITY 1. Fault Slip* 2. Seismic Motion 3. Fracture and Site Discontinuities 4. Tectonics and Crustal Properties*	09/30/97 (Rev. 0) 04/98 (Rev. 1)
EVOLUTION OF THE NEAR FIELD ENVIRONMENT Effects of Coupled Processes on: 1. Seepage* 2. Waste Package Lifetime* 3. Rate of Release* 4. Radionuclide Transport*	09/30/97 (Rev. 0) 04/98 (Rev. 1)
ACTIVITIES RELATED TO DEVELOPMENT OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY YUCCA MOUNTAIN STANDARD AND NRC RULE No IRSRs planned, since rulemaking is product.	

***FY97 FOCUS**
****COMPLETED 6/97**

TITLE OF KEY TECHNICAL ISSUES Title of Subissues	Planned Completion Date
REPOSITORY DESIGN AND THERMAL EFFECTS 1. Effectiveness of design control process.* 2. Design of Geological Repository Operations Area (GROA) to withstand seismic events.* 3. Thermal/Mechanical effects on underground facility. 4. Design of repository seals to enhance performance.	09/30/97 (Rev. 0) 04/98 (Rev. 1)
RADIONUCLIDE TRANSPORT No IRSRs planned due to budget reduction	
CONTAINER LIFE AND SOURCE TERM 1. Effects of corrosion on engineered barrier system (EBS) design and performance* 2. Effects of materials stability and mechanical failure on EBS design and performance 3. Effects of spent fuel performance on EBS source term 4. Effects of glass performance on EBS source term	09/30/97 (Rev. 0) 04/98 (Rev. 1)

*FY97 FOCUS
 **COMPLETED 6/97

TITLE OF KEY TECHNICAL ISSUES Title of Subissues	Planned Completion Date
THERMAL EFFECTS ON FLOW (TEF) 1. Is the DOE thermal testing program , including performance confirmation testing, sufficient to evaluate the potential of thermal reflux that occurs in the near field? * 2. Is the DOE thermal modeling approach sufficient to predict the nature and bounds of TEF in the near field? * 3. Does the DOE total system performance assessment (TSPA) adequately account for TEF? *	09/30/97 (Rev. 0) 04/98 (Rev. 1)
TOTAL SYSTEM PERFORMANCE ASSESSMENT AND INTEGRATION 1. Model abstraction in TSPA (will include joint development of sensitivity study plan) * 2. Relative importance of issues to performance 3. Presentation/documentation of TSPA inputs-outputs	10/22/97 1/16/98 04/98

***FY97 FOCUS**

****COMPLETED 6/97**

TITLE OF KEY TECHNICAL ISSUES Title of Subissues	Planned Completion Date
UNSATURATED AND SATURATED FLOW UNDER ISOTHERMAL CONDITIONS <ol style="list-style-type: none"> 1. What is the likely range of future climates at YM? ** 2. What are the likely hydrologic effects of climate change? ** 3. What is the estimated amount and what is the spatial distribution of present-day shallow groundwater infiltration? * 4. What is the estimated amount and what is the spatial distribution of present-day groundwater percolation through the proposed repository horizon? 5. What is the estimated amount and what is the spatial distribution of groundwater percolation through the proposed repository horizon during the period of repository performance? 6. What are the ambient flow conditions in the saturated zone? 	09/30/97 (Rev. 0) 04/98 (Rev. 1)

***FY97 FOCUS**

****COMPLETED 6/97**

YUCCA MOUNTAIN PROJECT



Studies

Documenting Decisions

Presented to:
DOE/NRC Management Meeting

Presented by:
Sheryl A. Morris
Physical Scientist, AML
Yucca Mountain Site Characterization Office

September 4, 1997



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

Documenting Decisions

PROBLEM

**How do we ensure we have adequately documented
YMP decisions to support licensing process ?**

EVALUATION

**DOE evaluated the adequacy of documentation
regarding statutory decisions made both inside
and outside of existing processes**

Status

Documenting Decisions

- DOE developed a position paper on “Decision Documentation in a Licensing Environment” (Nov 96) that included:
 - evaluation of existing processes for documenting decisions
 - defined the level of detail required for documentation
 - an evaluation of the adequacy of documentation within existing processes

Documenting Decisions

- final recommendation, Phase II -

1 Develop Decision Documenting Procedure

- to ensure decisions not covered by the currently approved technical baseline process or existing procedures are documented in a manner to provide records traceability for decisions that may be related to licensing

2 Using the Procedure:

- to review documentation adequacy of past decisions, and supplement documentation as needed

3 Strengthen the Decisionmaking Process

- Enhance existing change control process
- Define life cycle baselines focused on the licensing argument
- Provide online viewing of the decisions designated by the Program Manager

Documenting Decisions

... summary, Phase I and Phase II ...

- Step 1
 - Policy Letter
 - Creating Decision Documentation Procedure
 - Minor addition to Records Procedure
 - Complete procedure modifications from Phase I
- Step 2
 - Implement Procedure
 - Self-Assessment of documentation of past Decisions
- Step 3
 - Streamline Change Control Process
 - Define Life Cycle Technical, Cost and Schedule Baselines

YUCCA
MOUNTAIN
PROJECT

Studies

Reformatting the Semiannual Site Characterization Progress Report

Presented to:
DOE/NRC Management Meeting

Presented by:
Carol L. Hanlon
Physical Scientist, AML
Yucca Mountain Site Characterization Office

September 4, 1997



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

Semiannual Site Characterization Progress Report

- Required by:
 - Nuclear Waste Policy Act
 - NRC's 10 CFR 60

Report on nature and extent of site characterization activities and information developed; progress of waste form and package research and development; the identification of new issues; plans for additional studies to resolve issues; elimination of planned studies no longer necessary; identification of decision points reached and modifications to schedules where appropriate.

Semiannual Site Characterization Progress Report (Continued)

- **Sixteen Progress Reports Produced**
 - 1st April 1, 1989 - September 30, 1989
 - 16th October 1, 1996 - March 31, 1997

Existing Report Format

- Reports Against Site Characterization Plan Hierarchy
 - Investigation
 - Studies
 - Activities
- Executive Summary; 7 Chapters; 12 Appendices
- Progress Report 16 is Approximately 800 Pages

Concerns with Current Progress Report Format

- Under-utilization of Document
- Resource Duplication
- Information Duplication
- No Direct Tie with Program Objectives and Focus

Reformatting of Site Characterization Progress Report

- Significant Size Reduction: < 100 Pages
- Reliance on High-level “Executive Summary” Format
- Focus on Significant Progress
- Availability of Detailed Technical Information in References

Reformatting of Site Characterization Progress Report (Continued)

- Maintenance of Appendix A, Documentation of Change to the Program, as the First Reference
- Progress Report Distributed to Mailing List - References Available from Technical Information Center Upon Request
- Eventual Internet Availability

Purpose of Reformatting

- Increase Effectiveness of Reporting
- Improve Audience Utility
- Increase Resource Efficiency
- Continue to Maintain Compliance with Reporting Requirements

New Outline:

- I. Introduction**
- II. Performance Assessment**
- III. Design**
- IV. Site Characterization**
- V. Progress Toward Future Objectives**
- VI. References**

Advantages

- Readability
- Timeliness
- Resource Efficiency
- Continued Compliance with Statutory and Regulatory Requirements

Implementation for Progress Report 17, April 1, 1997 - September 30, 1997

- Planning and Guidance - September 1997
- Issuance - April 1998