

July 12, 1995

0407

Mr. Ronald A. Milner, Director
for Program Management and Integration
Office of Civilian Radioactive Waste Management
U.S. Department of Energy, RW 30
1000 Independence Avenue, S.W.
Washington, D.C. 20585

SUBJECT: MINUTES OF THE JUNE 2, 1995, BI-MONTHLY MANAGEMENT MEETING

Dear Mr. Milner:

Enclosed are the minutes of the June 2, 1995, bi-monthly management meeting between the staff of the U.S. Nuclear Regulatory Commission and representatives of the U.S. Department of Energy (DOE) which was held by videoconference at DOE headquarters in Washington, D.C. and DOE offices in Las Vegas, Nevada.

The meeting included a discussion of DOE's contractor realignment which is in progress. This realignment will place most of the current contractors under the Management and Operations (M&O) contractor; however, DOE will maintain responsibility for quality assurance oversight. NRC management agreed to review DOE's proposed Multi-purpose Canister Designs Considerations Report to be issued early in 1996, but emphasized that technical data on disposal aspects should be included in the License Application Annotated Outline as soon as practical after this report is issued.

If you have any questions regarding this letter, please contact John Thoma of my staff. Mr. Thoma can be reached at (301) 415-7293.

Sincerely,

(Original signed by John O. Thoma for)

Joseph J. Holonich, Chief
High-Level Waste and Uranium Recovery
Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosure: As stated

cc: See attached list

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DATE	07/12/95	H	07/12/95	H	07/12/95	H			

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CG LIST FOR LETTER TO R. MILNER DATED July 12, 1995

cc: R. Loux, State of Nevada
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C. Schank, Churchill County, NV
L. Bradshaw, Nye County, NV
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R. Holden, NCAI
A. Melendez, NIEC
S. Brocoum, YMPO
R. Arnold, Pahrump, NV
M. Stellavato, Nye County, NV

MINUTES

U.S. NUCLEAR REGULATORY COMMISSION/U.S. DEPARTMENT OF ENERGY

BI-MONTHLY MANAGEMENT MEETING

JUNE 2, 1995

On June 2, 1995, staff from the U.S. Nuclear Regulatory Commission met with representatives of the U.S. Department of Energy (DOE), Office of Civilian Radioactive Waste Management (OCRWM) for a bi-monthly management meeting. The meeting was held by videoconference at DOE headquarters in Washington, D.C. and DOE offices in Las Vegas, Nevada. These management meetings provide an opportunity for items of mutual concern in the high-level waste program to be discussed by NRC and DOE management in an open public forum. Attendees represented the NRC, OCRWM, NRC and DOE contractors, the State of Nevada, and Nye County, Nevada. Attachment 1 lists the attendees at the two videoconference locations.

In the opening remarks, NRC management indicated that they appreciated the style in which these meetings are evolving. These meetings are focusing more on management issues in informal discussions and away from formal presentations. Accomplishments by NRC over the last several months included a technical exchange on licensing, issuance of a letter on pneumatic pathways, and conducting an in-field verification on quality assurance issues affecting the exploratory studies facility design.

After the opening remarks there was a general discussion concerning the June 9, 1995, DOE briefings to the Commission providing an overview of the High-Level Waste (HLW) Program and an overview of the multi-purpose canister (MPC) program. NRC offered DOE the opportunity to raise any questions DOE believed needed to be resolved or clarified before the meeting. DOE stated that there were no issues that needed to be clarified before the meeting.

NRC then asked DOE when the white paper on thermal loading strategy would be made available to NRC. DOE replied the document was undergoing internal review and should be available in several weeks.

DOE wanted to know if all of the Center for Nuclear Waste Regulatory Analyses (CNWRA) documents were publicly available. NRC replied that not all of the documents produced by CNWRA were publicly available. Some documents are predecisional and are not released. However, any document dealing with a technical issue where CNWRA is simply providing their technical expertise in a given area should be listed on the products list and be publicly available. NRC management will review the criteria for making CNWRA documents publicly available to insure that all appropriate documents are released. DOE reiterated the need to have all CNWRA documents related to the high-level waste program listed and available to interested parties.

DOE then made a presentation on its contractor realignment, which is in-progress and will be completed this year. Attachment 2 contains the organizational slide DOE used for this presentation. Basically, all

subcontractors except USGS will report to the Management and Operating (M&O) contractor. However, DOE recognizes its responsibilities for the high-level waste program and will maintain a separate, independent Quality Assurance (QA) group. NRC replied that the issue of QA was their principal concern. Based on several recent DOE commitments and an in-field verification conducted in April, the NRC staff believe that DOE is on track for resolving past QA concerns. NRC urged DOE to maintain an independent QA program responsible directly to DOE. In response to a question from the NRC, DOE stated that the contractor realignment will not result in programmatic changes to the QA program but will result in some functional reporting changes.

NRC then reported on the status of its review of the OCRWM Quality Concerns Program as it relates to the issue of harassment and intimidation of employees. NRC stated that DOE's response to the NRC letter of April 10, 1995, appeared reasonable. Two NRC managers have made site visits under the provisions of Appendix 7 to review the associated records. Some changes are needed in the program, but DOE was aware of the issues involved and were making improvements. The DOE Quality Concerns staff was very helpful during the site visits. NRC will continue to monitor DOE's efforts in this important area.

Attachment 3 contains the slides from the DOE presentation on the MPC Part 60 Design Consideration Report. In previous management meetings, the NRC had stated that data typically found in this design considerations report should be contained in the Annotated Outline (AO) for better efficiency in the NRC staff review. DOE acknowledged the previous discussions on the AO but due to the preliminary nature of the data, requested NRC staff to review this technical report when it was submitted in 1996. DOE desires NRC to identify any fatal flaws in its MPC program, if any, early in the program so appropriate corrective action can be planned. NRC management agreed to accept and provide comments on this technical report as an exception this one time, but NRC management emphasized that DOE must make a commitment that future technical data be contained in the AO. In addition, shortly after this MPC technical report is issued, the NRC expects that appropriate sections of the AO would be updated with the relevant information. NRC also stated it will use its licensing review plans as a basis for comments on any potential fatal flaws identified in this technical report. Therefore, any NRC comments would come from a licensing perspective. However, any comments the NRC provides will not be a licensing decision and final acceptance of the MPC for disposal depends on data in the complete license application.

The NRC raised a concern about the timing of when DOE would make design decisions on fairly significant issues in the HLW program. For example, a decision on a thermal loading strategy could significantly affect collection of site characterization data. By waiting until late in the program to make this important decision, DOE may not collect the necessary data at the appropriate time. DOE replied that it views the situation as a matter of risk management over time. There are many unknowns and uncertainties in the program. However, when DOE releases its white paper on thermal loading strategy, it should address some of the NRC concerns about when important design decisions will be made and what data should be available for the licensing review.

There was a brief discussion on NRC's schedule for development of specific chapters of its License Application Review Plan (LARP). NRC committed to provide DOE a projected schedule for completing LARP chapters when it is available in about a month.

The next discussion was about technical acceptance criteria NRC is developing for its LARP concerning the issue of substantially complete containment (SCC). NRC had presented a proposed position at the last Advisory Committee for Nuclear Waste (ACNW) meeting. DOE believed they had made considerable progress over the last year and thought that as a result the NRC staff had discontinued its efforts to develop more detailed quantitative guidance due, in part, to the fact that the Site Characterization Analysis (SCA) open items related to this issue had been resolved. Therefore, DOE was somewhat surprised by the ACNW presentation. Specifics of the technical position were not discussed, however, DOE management wanted to make two points. First, DOE believes that this specific guidance is premature and should wait on the issuance of Environmental Protection Agency (EPA) standards which may radically change the position. Second, DOE believes that since this is a first of a kind facility with no precedents established for the review that the regulator should wait until DOE determines what can be done before standards are developed. NRC replied that both NRC and DOE were making progress on the issue of SCC. NRC is not developing set standards but is developing review acceptance criteria for the LARP. NRC wanted to share its preliminary views with DOE and engage in further discussions. DOE replied that part of the issue is a matter of timing and that perhaps NRC should delay its actions until a later date depending on legislation under current discussion. A technical exchange is tentatively planned for July 20, 1995, in which DOE and NRC will further discuss the management concerns raised by DOE as well as specific technical concerns with the acceptance criteria.

The next discussion focused on interactions with the National Academy of Sciences (NAS). NRC will interact with NAS by providing relevant documents as background material and making presentations on selected issues. All documents NRC provides to NAS will be publicly available. The NRC liaison to the NAS will be Margaret Federline. The DOE liaison to NAS will be Jane Summerson.

NRC has been observing the DOE expert elicitation process and in particular attended a May 16-17, 1995 DOE expert elicitation. NRC was aware that a meeting, which NRC believed to be a training session, was held on May 15, 1995, and was not open to the public. NRC encouraged DOE to make as much of the process as practical open to the public to increase public confidence in the results. DOE replied that the May 15, 1995, meeting was held at the request of the experts and was not a training session. DOE said that all training was held in public sessions. DOE provided information on their policy on expert judgement. Attachment 4 provides the slides used in the DOE presentation. A letter to NRC on this subject had been transmitted to the NRC on June 1, 1995.

The next discussion involved the release of data collected by DOE. DOE began by summarizing the Procedural Agreement on the release of data. DOE has a requirement to notify NRC of the availability of data collected. DOE does

this through a catalog which is published quarterly. Recently, DOE has provided NRC on-line access to a computer catalog of available data. In addition, DOE is working to provide NRC CD rom access to available data. DOE prefers not to release the data until a full QA check is completed, which requires an independent review. However, DOE acknowledged that the Procedural Agreement requires DOE to make the data available 45 days after it is collected if NRC specifically requests access. However, if the QA process on the data has not been completed, DOE determines the location where the data will be made available. In any case, NRC needs to specifically request any data desired. One issue still to be resolved concerns the collection of continuously recorded data. The question is when does the 45 day availability commitment apply. DOE prefers to define a period of data collection and the 45 days would occur after that period is completed. NRC is not opposed to this DOE proposal, but there needs to be clearly defined and reasonable cut-off dates for the period of data collection. A technical exchange has been proposed where this matter will be discussed in more detail.

The discussion then lead to the issue of pneumatic pathways where the availability of data is an important subelement. NRC initiated the discussion by stating that although NRC had issued a letter stating that it had no objection to DOE lifting their voluntary hold on TBM operations, its no objection letter does not mean the issue of pneumatic pathways is resolved. DOE agreed with the NRC statement. Nye County, one of the principal objectors to lifting the TBM hold, stated that they could not determine if they agreed with the DOE decision because appropriate data was not made available. DOE had been collecting data under a continuous process and made a decision that sufficient data had been collected before the 45 day period ended for making data available. So DOE made a decision and acted on it before basic data had been made available to outside groups. NRC had reached its decision not based on a review of the data collected, but on a review of the entire DOE process. NRC basically concluded that even after the Paintbrush Tuff barrier was penetrated DOE would have the capability to collect appropriate data. The State and County wanted a review and analysis of the data collected. A technical exchange is scheduled for July 10, 1995, between all parties involved and DOE will make the data available before the meeting. DOE also stated that they have tasked their M&O to develop a process to make data available in a more efficient process for high interest, short time frame issues such as pneumatic pathways.

DOE then made a presentation on its priority list of documents to be submitted. Attachment 5 contains the slides for this discussion. DOE stated that it is preparing a letter discussing the submittal of study plans. Basically, DOE acknowledged that NRC would not necessarily review the study plans as independent documents but DOE intends to submit the study plans as informational documents. Some study plans are required to be submitted to close outstanding Site Characterization Analysis open issues. DOE acknowledged previous discussions about reducing the types of submittals to NRC and placing most of the technical discussions in the AO. But DOE would like to have some flexibility to propose the documentation it believes is necessary. At the last management meeting, NRC had agreed to review two topical reports on seismic issues and one topical report on criticality control. NRC has also agreed to complete a review of the first topical

submitted on extreme erosion since it was partially completed. DOE desires NRC to be flexible and consider a third topical on seismic issues. NRC replied that the third proposed seismic topical, as NRC understands the proposed issues to be discussed, was an implementation of the other two seismic topicals which NRC has already committed to review. Therefore, the material in this third proposed seismic topical is more appropriate to be included in the AO. NRC agreed to be somewhat flexible and consider the proposed third seismic topical report at a later date if DOE produces convincing arguments why the issue should not be resolved in the AO.

In closing remarks, both NRC and DOE management stated that they were satisfied that these meetings were focusing more on management issues and away from formal presentations. DOE requested that at the next meeting at least a summary of the most important interactions scheduled for the next few months be presented as an agenda item. The State of Nevada representative had two comments. First, the State was not satisfied with NRC's justification for lifting the hold placed on TBM operations due to pneumatic pathways concerns. The State will be sending a letter to NRC documenting their concerns. Second, the State is concerned with the apparent DOE request that NRC not develop detailed review standards until DOE determines what it can accomplish. The State is interested in NRC's decision on this matter. NRC said that they would provide a response to DOE's suggestion at a later date.

After agreeing that the next bi-monthly management meeting is scheduled for August 1995 at NRC headquarters, the meeting was adjourned.

John O. Thoma

John O. Thoma
High-Level Waste and Uranium
Recovery Projects Branch
Division of Waste Management
Nuclear Material Safety
and Safeguards
U.S. Nuclear Regulatory Commission

Priscilla Bunton

Priscilla Bunton
Regulatory Integration Division
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy

NRC-DOE MANAGEMENT MEETING ATTENDANCE LIST
June 2, 1995

Videoconference

PRINTED NAME	ORGANIZATION/COMPANY	PHONE
Priscilla Bunton	DOE	202-586-8365
Joe Holonich	NRC	301-415-7238
John Greeves	NRC	301-415-6673
Margaret Federline	NRC	301-415-6708
Jim Bresee	DOE	202-586-9173
John L. Russell	CNWRA	703-416-1129
Paul M. Krishna	M&O/TRW	202-488-2303
Steve Hanauer	DOE	202-586-3547
Michael Bell	NRC	301-415-7286
Lester Berkowitz	DOE	202-488-2309
Jim York	Weston	202-646-6650
Ray Wallace	USGS	202-586-1244
Bill Reamer	NRC	301-415-1640
Rick Weller	NRC	301-415-7287
John O. Thoma	NRC	301-415-7293
Alan Brownstein	DOE	202-586-4973
Lake Barrett	DOE	202-586-6850
V.A. Dulock, Jr.	M&O/TRW	702-794-7256
April Gil	DOE	702-794-7622
Hugh N. Benton	M&O/B&W	702-646-6695
Dennis R. Williams	DOE	702-794-7968
Nancy J. Chappell	M&O/Duke	702-794-1928

NRC-DOE MANAGEMENT MEETING ATTENDANCE LIST
June 2, 1995

Videoconference

PRINTED NAME	ORGANIZATION/COMPANY	PHONE
Claudia Newberry	DOE	702-794-7942
Russel Patterson	DOE	702-794-7691
Ronald M. Linden	M&O/SAIC	702-794-5160
Donald G. Horton	DOE/OQA	702-794-7675
Mal Murphy	Nye County, Nevada	360-943-5610
Steve Frishman	NV NWPO	702-687-3744

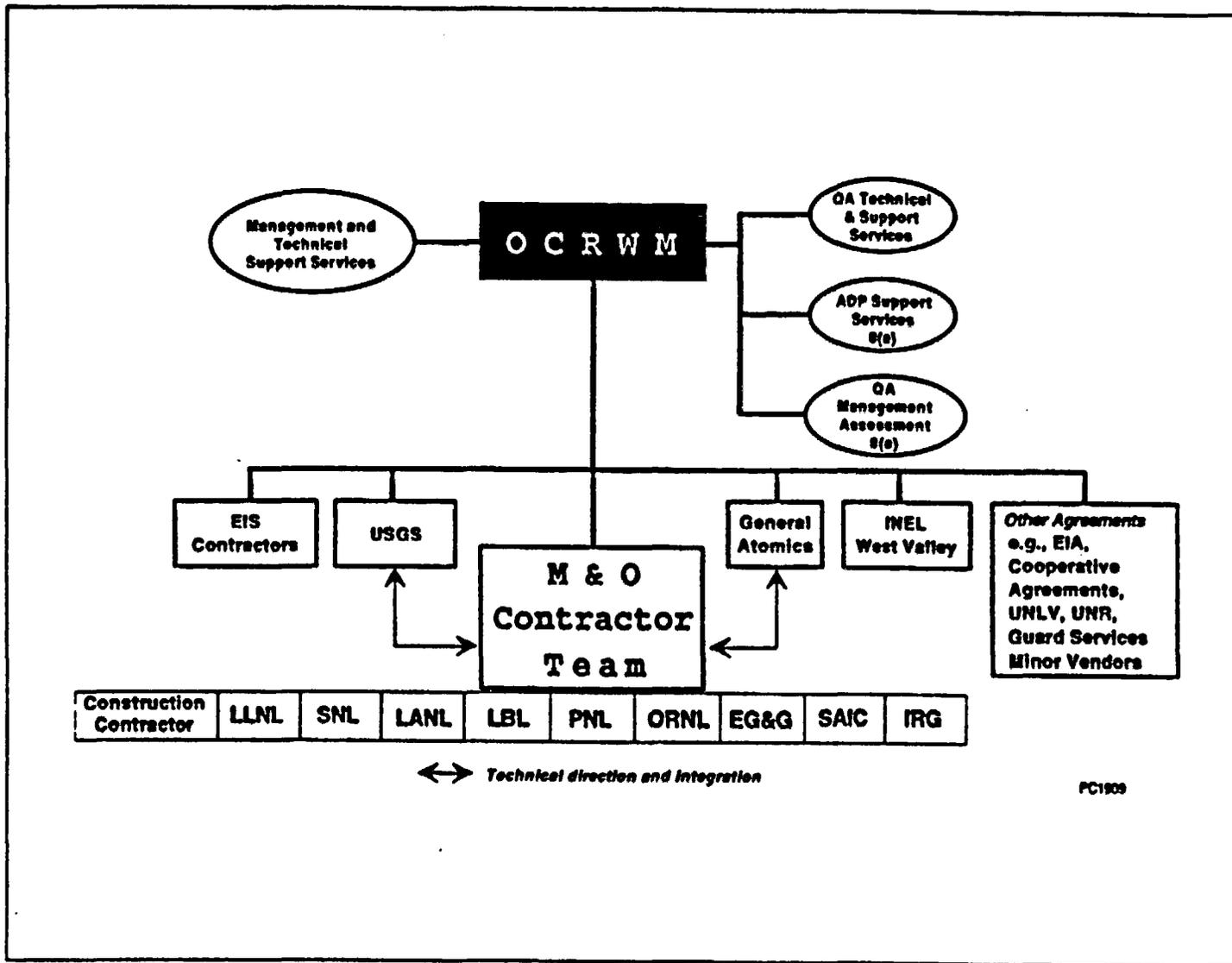
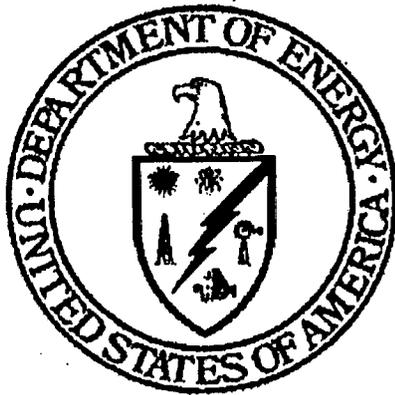


Figure 4-1. OCRWM Participant Team



MPC PART 60 DESIGN CONSIDERATIONS REPORT

**Jeff Williams
Steve Brocoum
Richard Craun**

Office of Civilian Radioactive Waste Management

U.S. Department of Energy

DOE/NRC Bi-Monthly Management Meeting

June 2, 1995



Office of Civilian Radioactive Waste Management

Purpose of Submittal

- **To apprise NRC staff working on repository-related issues of DOE's proposed designs for an MPC that can be used as a component in the disposal package**
- **To obtain NRC staff feedback on proposed designs**
- **To obtain from NRC staff a "letter of no objection" concerning the use of the MPC as a component in the disposal package (no "fatal flaws")**



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Limitations

- **Proposed designs based on current state of knowledge of natural and engineered systems**
 - **Site characterization not yet completed**
 - **Enveloping parameters will be assumed in some instances**
 - **Waste package design not yet finalized**
 - **Alternative designs will be described, as appropriate**

DOE understands that the findings resulting from review of the technical report by NRC staff in the repository prelicensing period are preliminary and are not binding upon future staff reviews or the Commission



Office of Civilian Radioactive Waste Management

Benefits of Staff's Review

- **Allows NRC staff working on repository issues to get early preview of potential disposal package designs and comment on them prior to final selection and emplacement of chosen design in the license application annotated outline**
- **Allows NRC staff to "...conduct concurrent technical reviews of storage, transportation, and disposal issues." (Bernero to Rousso letter, 2/15/95)**
- **Assists Commission in ensuring that storage, transportation, and disposal systems are compatible (72.236(m))**
- **Allows DOE to move ahead with MPC development with greater confidence that MPC can be used for storage, transportation, and disposal**

MPC Part 60 Design Considerations Report Long-Term Schedule

1995										1996								
Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Identify Issues and Develop Arguments ΔNRC Interaction ΔFinal Outline & Storyboard ΔNRC Meeting █ Preliminary Draft █ Review & Comment Resolution ΔNRC Meeting █ Final Draft █ Review & Comment Resolution ΔNRC Meeting █ Finalize Document █ DOE Concurrence ΔSubmit to NRC																		



Office of Civilian Radioactive Waste Management

Types of Information DOE Will Provide

- **Background and descriptive information**
 - The framework for evaluating the effect of the MPC on the ability of the waste package and repository to comply with requirements
 - Contained in documents previously provided to NRC
 - Properly summarized, focused, and referenced in the TR
- **Results of new analyses and descriptions of plans to obtain required information**



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Background/Descriptive Information - Example

- **MPC Design Basis (Westinghouse SAR)**
 - Spent Fuel Characteristics
 - MPC Capacities
 - Confinement Criteria: seals, welding, leakage
 - Thermal Requirements
 - MPC Opening/Resealing Requirements
 - Weight Limitations
 - Materials
 - Service Life
 - Structural Requirements
 - Shielding Criteria

MGDS Support to the MPC Part 60 Design Consideration Report

- Provide information to show the MPC design is not incompatible with MGDS designs.
 - This submittal will contain both complete and incomplete sections based on the maturity of MGDS design.
 - For incomplete sections, the current status of the design and the plans for completion will be outlined.
- Two examples will be presented to demonstrate our approach for incomplete sections
 - The examples are not intended to be complete listing of applicable subsections.

Example Approach: Underground Facility Description

- **The designs and analyses from the Initial ACD Summary Report, with working draft modifications (The latest available data)**
 - **General description of a possible subsurface repository layout options**
 - **Nuclear related subsurface facilities to support MPC waste packages (Geologic Repository Operations Area)**
 - **Operations near and in the emplacement drifts**
 - **Emplacement Strategy & Equipment**
 - **Retrieval Concept**
 - **Backfill Concepts**

Example Approach: Criticality Control

- Analyses which demonstrate the impact of the MPC on long-term Criticality Control
 - Assumptions Used
 - Results to date of Analyses of the current MPC design
- In addition, our plan for demonstrating compliance will be included.
 - Burn up credit
 - Chemical Assay Testing of Principal Isotopes

SUMMARY OF YMSCO SUPPORT

- **YMSCO will provide the following support:**
 - **Regulatory**
 - **Waste package design**
 - **Repository design**
 - **Performance assessment**
 - **EBS release rates**
 - **Long-term repository performance (TSPA 95)**
 - **Engineered barrier system performance**
 - **Systems engineering support**
 - **design basis events**



Office of Civilian Radioactive Waste Management

Summary

- **NRC staff have agreed to review information in the MPC Part 60 technical report, consistent with staff's interest in providing early feedback in prelicensing consultation, and document findings in a letter to DOE**
- **NRC staff have provided DOE with guidance on the scope and content necessary for the staff to perform its review**
- **DOE believes the information it will provide will be comprehensive and sufficient to provide a basis for NRC review and a finding of "no objection", consistent with previous DOE/NRC discussions**



Office of Civilian Radioactive Waste Management

Summary (cont'd)

- **NRC and DOE have agreed to a review schedule and concurrent technical reviews of the Parts 71 and 72 applications and the MPC Part 60 technical report that will support deployment of MPCs beginning in late 1998**

**DOE PRINCIPLES AND GUIDELINES FOR
FORMAL USE OF EXPERT JUDGMENT**

Presented by

**Stephan J. Brocoum
Assistant Manager, Suitability and Licensing**

June 2, 1995

INTRODUCTION

- **DOE developed a document that presents the DOE position on the formal application of expert judgment methods by the Yucca Mountain Site Characterization Project**
- **This document was transmitted to the NRC staff on June 1:**
 - **To support resolution of the NRC open item, related to comment 3 of the SCA, on the DOE's plans for formal use of expert judgment**
 - **For information prior to completion of staff of guidance on the use of expert elicitation in the high-level waste program**
- **DOE and NRC have agreed to hold a technical exchange on expert judgment in September, after the staff's draft guidance on expert elicitation is issued for public comment**

PURPOSE AND SCOPE OF THE DOE DOCUMENT

- **Present the DOE position on the formal application of expert judgment methods**
- **Set forth general principles and guidelines that provide the framework for formal application of expert judgement wherever such methods are deemed appropriate**
 - **Not intended to serve as a management plan or a procedure for such applications**
 - **Each formal application expert judgement methods will be carried out under a procedure or plan appropriate to the application and in accordance with the *OCRWM Quality Assurance Requirements and Description (QARD)***

GENERAL CONSIDERATIONS

- **General observations on the use of expert judgement**
 - **A fundamental component of the scientific method and inherent in all complex technical analyses**
 - **Not a substitute for the best data that are reasonably available, however, data must always be interpreted in light of judgment-based models**
- **Interpretation of data in a consistent framework, with adequate treatment of assumptions and uncertainties, creates the technical basis required to aid management decision-making**
- **Formal use of expert judgment is most appropriate in cases where information is not reasonably available, or when uncertainties are significant**
 - **Expert elicitation and technical peer review are both formal methods for obtaining expert judgment**

APPLICATION OF FORMAL METHODS

- **The most significant application is expected to be in dealing with the technical issues and inherent uncertainties associated with characterizing and predicting the performance of a geologic disposal system for thousands of years into the future**
- **DOE intends to make formal use of expert judgment one mechanism for quantifying uncertainty and ensuring that diverse viewpoints and interpretations are considered in developing or evaluating the technical basis for management decision-making**
 - **DOE has no plans to make use of formal methods for dealing with the judgments made by DOE managers in the decision-making process**
 - **Management decisions related to regulatory compliance or programmatic issues need to consider the results of technical analyses, but other factors, such as programmatic risk, cost, and schedule, may need to be considered**

DOE/YMSCO Priority List

- **Study Plan 8.3.1.17.3.6, "Probabilistic Seismic Hazards Analyses"**
- **License Application Annotated Outline (March 1995)**
- **Erosion Topical Report Supplemental Responses (April 1995)**

Topical Reports

- **Erosion**
- **Seismic Topical I**
- **Seismic Topical II**
- **Seismic Topical III**
- **Long-Term Criticality**

Upcoming Submittals

- **Seismic Topical Report II - Seismic Design Methodology for Yucca Mountain (September 1995)**
- **Comments on the NRC Proposed Rule Change to 10 CFR Part 60 on Design Basis Events (June 1995)**
- **Study Plan 8.3.1.17.4.12, “Tectonic Models and Synthesis”**
- **Study Plan 8.3.1.15.1.3, “Laboratory Determination of the Mechanical Properties of Intact Rock”**
- **Study Plan 8.3.1.2.2.4 “Characterization of Yucca Mountain Percolation in the Unsaturated Zone”**