

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, DC 20585

January 22, 1997

SUBJECT: MINUTES OF THE JANUARY 15, 1997, NRC/DOE MEETING ON THE U.S. NUCLEAR REGULATORY COMMISSION FY96 ANNUAL PROGRESS REPORT

Dear Mr. Milner:

On January 15, 1997, a short meeting was held between the staff of the U. S. Nuclear Regulatory Commission and representatives of the U.S. Department of Energy (DOE). The purpose of the meeting was to provide an overview of the "NRC High-Level Radioactive Waste Program Annual Progress Report Fiscal Year 1996," as described in the enclosed slides (Enclosure 1 and 2). The annual report was transmitted to DOE under separate cover letter on January 15, 1997, after the meeting.

The meeting was a videoconference between DOE headquarters in Washington, D.C., NRC headquarters in Rockville, Maryland, two DOE offices in Las Vegas, Nevada, and the Center for Nuclear Waste Regulatory Analysis in San Antonio, Texas. The meeting was also attended by representatives of the State of Nevada; Clark County, Nevada; United States Nuclear Waste Technical Review Board (NWTB); and DOE contractors. The attendance list is provided as Enclosure 3.

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

Sincerely,

John H. Austin, Chief
 Performance Assessment and HLW
 Integration Branch
 Division of Waste Management
 Office of Nuclear Material Safety
 and Safeguards

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Enclosures: As stated
 cc: See attached list

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LIST FOR LETTER TO R. MILNER DATED January 22, 1997

cc: W. Barnes, YMPO
S. Brocoum, YMPO
A. Gil, YMPO
C. Einberg, DOE/Wash, DC
W. Barnard, NWTRB
B. Russo, EPA
D. Weigel, GAO
R. Holden, NCAI
T. Burton, NIEC
J. Lyznicky, AMA
B. Mettam, Inyo County, CA
V. Poe, Mineral County, NV
L. Fiorenzi, Eureka County, NV
J. Regan, Churchill County, NV
R. Loux, State of Nevada
C. Johnson, State of Nevada
B. Price, NV Leg. Committee
J. Meder, NV Leg. Counsel Bureau
M. Murphy, Nye County, NV
L. Bradshaw, Nye County, NV
P. Niedzielski-Eichner, Nye County, NV
N. Stellavato, Nye County, NV
M. Baughman, Lincoln County, NV
D. Bechtel, Clark County, NV
R. Williams, Lander County, NV
W. Cameron, White Pine County, NV
J. Hoffman, Esmeralda County, NV
R. Arnold, Pahrump, NV

ENCLOSURE 1

COMMENTS BY MR. JOHN GREEVES



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**HIGH-LEVEL WASTE PROGRAM
FY96 ANNUAL PROGRESS REPORT**

Presented to:

U.S. Department of Energy

January 15, 1997

By:

**John Greeves, Director
Division of Waste Management
Office of Nuclear Material Safety and Safeguards**



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OVERVIEW

- **NRC High-Level Radioactive Waste Program Annual Progress Report Fiscal Year 1996, NUREG/CR-6513, No. 1.**
- **First of what is expected to be an annual report.**
- **An advanced pre-publication copy of the report will be transmitted today. Official NUREG/CR published and distributed in late February.**
- **Provides status of NRC-HLW work conducted in FY96 and an assessment of progress toward resolution of the 10 Key Technical Issues**



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OVERVIEW - Continued

- **For each individual KTI, the specific path to resolution is unique and reflects both the nature of the issue and progress of the DOE and NRC technical work to date.**

- **The path to resolution takes into consideration:**
 - **the DOE data and analysis**
 - **independent data and analysis by NRC and its contractors**
 - **non-DOE data and analyses available in the literature**
 - **future investigations proposed by the DOE**
 - **an understanding of the impact of the subissue on the overall performance of the repository.**



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OVERVIEW - Continued

- **Not a licensing document.**
 - **Conclusions are not NRC findings or requirements for future action.**
 - **DOE remains ultimately responsible for developing an integrated safety case and may choose to adopt a different path to issue resolution than NRC**

- **Purpose is to document progress and facilitate a dialog between NRC and DOE.**



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OVERVIEW - Continued

- **The purpose of today's communication is to give a management overview and clearly define the purpose of the document. Responses from DOE are not anticipated until your staff have had a chance to review the document.**
- **At the next management meeting, we would like to discuss the next course of action (which could be a series of meetings/phone calls on individual topics or a meeting on the complete document).**

ENCLOSURE 2

COMMENTS BY MS. MARGARET FEDERLINE



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**HIGH-LEVEL WASTE PROGRAM
FY96 ANNUAL PROGRESS REPORT**

Presented to:

U.S. Department of Energy

January 15, 1997

By:

**Margaret Federline, Deputy Director
Division of Waste Management
Office of Nuclear Material Safety and Safeguards**



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FY96 REPOSITORY PROGRAM SUMMARY

- **NRC Repository Program Refocused and Reorganized**
- **NRC KTI's Closely Related to DOE's WCIS**
- **KTI's Investigated by Detailed Examination of Vertical Slice**
- **Objective: Define a Path to Resolution, Including Acceptance Criteria, for NRC Review of DOE Submittals**



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FY96 REPOSITORY PROGRAM SUMMARY
Continued

- **Significant Progress in Groundwork for Subissue Resolution**
- **Issue Resolution Status Report (IRSR) and Annual Reports**
 - **Primary NRC Documentation of NRC/DOE Prelicensing Process**
 - **Vehicles for Discussion and Integration**
- **FY97-98 Sensitivity Analyses to Evaluate Performance Impact**
- **Reduced FY97 Budget Eliminated CNWRA Support in 3 KTI's**



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ANNUAL REPORT ACCOMPLISHMENTS

- **Summarizes Significant Progress in Developing Paths to Resolution for Various Subissues**
- **Outlines Technical Basis for Issue Resolution Status Reports**
- **Reflects Improved Understanding of Processes by Discussion of Data and Analyses**
- **Summarizes Refinement and Completion of Models and Computer Codes Representing Processes or Subsystems**
- **Discusses Sensitivity and Importance Analyses at Subsystem and Process Level**
- **Summarizes Current Strengths and Weaknesses in DOE TSPA Methodology - Basis for Developing a Complete Safety Case**
- **Summarizes NRC Activities Relevant to Development of Environmental Standards and Implementing Regulations**



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PATH TO RESOLUTION

- **Summarizes Significant Progress in Developing Paths to Resolution for Various Subissues**
 - **Narrowing the Range of Tectonic Models**
 - **Agreeing on Acceptable Seismic Design Methodology**
 - **Resolving Design Control Process Concerns**



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IRSR TECHNICAL BASIS

- **Outlines Technical Basis for Issue Resolution Status Reports**
 - **Estimates of Annual Probability of Igneous Activities Provides Basis for Subissue Resolution**
 - **DOE Seismic Topical Report #2 Resolved in Principal**
 - **Demonstrates Applicability of Repassivation Potential as a Bound for Initiation of Corrosion**
 - **Changes in Climate May Be Bounded Using Available Paleoclimate Data**



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PROCESSES

- **Improved Understanding of Processes by Discussion of Data and Analyses**
 - **52 Type I faults were differentiated from 400 Mapped Faults**
 - **Retardation Processes were evaluated using CNWRA U and Np Sorption Data**
 - **Evaluated Saturated Zone Mixing Using Hydrochemical Data**



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MODELS/COMPUTER CODES

- **Summarizes Refinement and Completion of Models and Computer Codes Representing Processes or Subsystems**
 - **Benchmarking of NRC/DOE Codes Related to Thermal Effects on Flow Showed No Major Differences**
 - **Developed a "Smart Kd" Approach to Sorption Modeling**
 - **New EBSPAC Version to Facilitate Evaluation of DOE's Container Life Predictions**



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SENSITIVITY ANALYSIS

- **Discusses Sensitivity and Importance Analyses at Subsystem and Process Level**
 - **Showed Cooling Effects of Fracture Flow and Ventilation**
 - **Showed pH and Chloride Concentrations Important in THC effects**
 - **Showed Dose from Igneous Activity affected by Number of Waste Canisters, Fuel Particle Size, Incorporation Ratio**
 - **Showed Galvanic Coupling Could Greatly Change WP Life**



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DOE TSPA

- **Summarizes Current Strengths and Weaknesses in DOE TSPA Methodology - Basis for Developing a Complete Safety Case**
 - **Highlights Value of Focused NRC/DOE Interactions with Clear Objectives**
 - **Describes NRC Concerns Identified in TSPA95 Audit Review**
 - * **Infiltration and Percolation Model**
 - * **Groundwater Dilution**
 - * **Waste Package Failure Models**
 - **Review of TSPA/VA Plan Indicates DOE Implementing NRC Recommendations**



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STANDARDS AND REGULATIONS

- **Summarizes NRC Activities Relevant to Development of Environmental Standards and Implementing Regulations**
 - **Determination that Potential Consequences of Stylized Human Intrusion Scenarios are Very Low**
 - **Analyzed Magnitude and Relative Importance of Disruptive Events over Various Periods**
 - **Evaluated Relative Radiological Hazard to Uranium Ore Body**



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SUMMARY

- **NRC Annual Report Focuses on Providing Timely Feedback to DOE on Issues Most Important to Repository Performance**
 - **Documents Progress Towards Resolving 10 KTI's**
 - **Outlining Areas of Agreement**
 - **Identifies Areas of Differences**
- **Objective is to Facilitate Dialogue**
- **Recommendation on Next Steps?**

ENCLOSURE 3
ATTENDANCE LIST

NR DOE MANAGEMENT MEETING ATTENDANCE LIST

October 23, 1996

Videoconference between
DOE DC/Forestal - 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 Thoma	NRC	301-415-7293
John Greeves	NRC/NMSS	301-415-7358
Steve Frishman	NV/NWPO	702-687-3744
Judy Treichel	NV/NW Task Force	702-248-1127
Margaret Federline	NRC/NMSS/DWM	301-415-6708
Ken Ashe	M&O	702-295-5563
Tim Hawe	DOE	702-794-1411
Stephen Brocoum	DOE/YMP	702-794-1359
William Boyle	DOE/YMP/AML	702-794-5578
Jean Yonkers	DOE/YMP/AML	702-794-5506
Bob Barton	DOE	702-794-1455
Dick Snell	M&O	702-295-5168
Bob Clark	DOE/OQA	702-794-5583
Dennis Williams	DOE/YMP/AML	702-794-1417
Mike Luge	M&O/TRW	702-295-4761
Jim Gardiner	DOE	702-794-1320
Larry R. Hayes	M&O	702-795-5152
Abe Van Luik	DOE	702-794-1424
Michael Cline	DOE	702-794-5481
Chris Einberg	DOE	202-586-8869

NRC-DOE MANAGEMENT MEETING ATTENDANCE LIST
October 23, 1996
Videoconference between
DOE DC/Forestal - Las Vegas/YMSCO
NRC/Rockville - CNWRA/San Antonio

PRINTED NAME	ORGANIZATION/COMPANY	PHONE
April Gil	DOE/YMPO/AMSL	702-794-5578
Chad Glenn	NRC/OR	702-388-6125
Lake Barrett	DOE	202-586-6850
Wes Patrick	CNWRA	210-522-5158
Ali Hagi	M&O	702-794-4873
Tim Sullivan	DOE/YMP	702-794-7915
Bob Gamble	CRWMS M70/WOFS	202-488-6730
Dan Fehringer	NWTRB	703-235-4473
Steve Hanauer	DOE	202-586-5847
Martha Pendelton	M&O/WSFS	702-295-5550
F. Von Teisenhausen	Clark Co.	702-455-5184
Bill Belke	NRC	702-388-6125
Bob Andrews	M&O	702-295-5549
Nancy Chappell	DOE	702-794-4501
Sam Rousso	DOE	202-586-6056
Stan Echols	Winston & Strawn	202-371-5777
Debbie Bryan	DOE/YMSCO	702-794-1419
Wes Patrick	CNWRA	210-522-5158
Robert Johnson	NRC	301-415-7282
Rick Weller	NRC	301-415-7287
Sandra Wastler	NRC	301-415-6724
Buhdi Sagar	CNWRA	210-522-5252