



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

Reply to:  
301 E. Stewart Ave., #203  
Las Vegas, NV 89101

Tel: (702) 388-6125

TO: Joseph Holonich, Director, HLPD, M/S 4 H 3  
FROM: Sr. On-Site Licensing Representatives Office, Las Vegas  
DATE: MAY 26, 1993  
SUBJECT: OFFICE OF GEOLOGIC DISPOSAL (OGD) WEEKLY HIGHLIGHTS FOR THE  
WEEK ENDING MAY 21, 1993 and YUCCA MOUNTAIN SITE OFFICE (YMSO)  
FIELD ACTIVITY REPORT FOR THE WEEK OF MAY 14, 1993

Please find enclosed the above-referenced reports.

There is nothing requiring specific management attention in the reports.

cc: w/enc.: Charlotte Abrams, M/S 4 H 3  
Rosetta Virgilio, M/S 3 D 23  
Dean Kunihiro, Region 5

JSP:nan  
Enclosures as stated

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PDR WASTE PDR  
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**Department of Energy**  
Yucca Mountain Site Characterization  
Project Office  
P. O. Box 98608  
Las Vegas, NV 89193-8608

WBS 1.2.9.2  
QA: N/A

**MAY 24 1993**

Lake H. Barrett, Acting Director, Civilian Radioactive Waste Management,  
HQ (RW-1) FORS

OFFICE OF GEOLOGIC DISPOSAL (OGD) WEEKLY HIGHLIGHTS FOR THE WEEK ENDING  
MAY 21, 1993 (SCP: N/A)

I. CRITICAL ITEM STATUS - YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT (YMP)

A. Site Characterization Planning

Exploratory Studies Facility (ESF)

Construction

Excavation continues on the Tunnel Boring Machine (TBM) Starter Tunnel at the North Portal. The pilot drift is in approximately 29 meters and the north and south slashes are in 1.5 meters each, as of May 14, 1993. Construction is continuing on drainage improvements to the North Portal access road.

The following milestones represent the near-term plan for ESF activities:

Award TBM Contract	May 25, 1993
Award Subcontract for Underground Construction	June 1993
Begin 90 percent design review, Package 1B	July 19, 1993
Begin 90 percent design review, Package 2	August 11, 1993
Complete 60 meters of TBM Starter Tunnel	September 15, 1993

Design

The 50 percent management and independent technical reviews of Design Package 1B (Surface Facilities, North Portal) and Design Package 2 (North Ramp - Surface to Topopah Spring Level) are nearing completion. The final comment resolution process is in progress. Design continues on both packages for 90 percent reviews scheduled for July and August 1993.

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Field Operations

On Job Package (JP) 92-17, UZ-14 drilling with the LM-300 drill rig, Reynolds Electrical & Engineering Co., Inc. (REECO), has cored to a depth of 361.69 feet with the 12 1/4-inch reamed hole down to 355 feet, as of May 14, 1993.

As of May 14, 1993, on NRG-2A, the depth cored with the CME-850 drill rig was 151.62 feet with the five-inch casing at 105.21 feet.

The Site Manager has prepared and issued the JP authorization letter for construction of the access road for NRG-4, JP 93-02.

On JP 92-20, North Portal Pad and Facilities, REECO continues to drill the various shots and muck out. They continue to install the ten-foot Williams bolts, as well as the six-foot split sets. They shot fibercrete test panels and have performed a pull test on several Williams bolts. Work also continues on the sub-base for the access road in preparation for the aggregate coarse.

The Site Manager and Field Operations Center (FOC) staff participated in and provided logistical support for three major tours this reporting period.

Sample Management Facility (SMF)

Drilling Support (DS) sampled and logged core from 856.4 feet to 955.9 feet on UE-25 NRG-5. Drilling was completed on May 11, 1993, to a total depth of 955.9 feet.

The staff continued to support drilling of USW UZ-14. The borehole was cored and reamed from 141.9 feet to 361.7 feet. The ending depth on May 14, 1993, was 342.1 feet in Topopah Springs Caprock. The DS sampled and logged 219.8 feet of core.

The SMF received 230 feet of core and 106.6 feet of cuttings from Boreholes USW UZ-14 and UE-25 NRG-5.

Drilling of UE-25 NRG-2A began on May 10, 1993. The DS sampled and logged 133.3 feet of core and cuttings. Drilling is currently being performed in Rainier Mesa.

The SMF received three non-borehole outcrop samples from Sandia National Laboratories (SNL) and Lawrence Livermore National Laboratory (LLNL).

A total of 350 boxes of core (1994.5 feet) from UE-25 NRG-3, UE-25 NRG-6, and USW UZ-16 was laid out for three examinations conducted by SNL and the U.S. Geological Survey (USGS).

Forty-three specimens from core were removed and 59 specimens were shipped to USGS.

Personnel from DS and SMF supported the public update meetings in Las Vegas, Nevada, and Reno, Nevada.

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Site Investigations

The following is a listing of site characterization field activities that are currently active.

SCP ACTIVITY	TITLE	COMMENTS
8.3.1.3.2.1	Mineralogy, Petrology & Rock Chemistry of Transport Pathways	Outcrop sampling
8.3.1.3.2.2	Mineralogic & Geochemical Alteration	Outcrop sampling
8.3.1.4.2.2	Structural Features within Site Area	Surface mapping, ESF mapping
8.3.1.8.5.1	Characterization of Volcanic Features	Test pits, trenching
8.3.1.14.2	Soil & Rock Properties of Potential Location of Surface Facilities	Test pits, trenching, ramp exploration holes
8.3.1.17.4.2	Location & Recency of Faulting Near Prospective Surface Facilities	Trench mapping
8.3.1.17.4.3	Quaternary Faulting within 100 km of Yucca Mountain	Surface mapping
8.3.1.17.4.4	Quaternary Faulting in NE-Trending Fault Zones	Surface mapping
8.3.1.17.4.10	Geodetic Leveling	Traversing
8.3.1.17.4.6	Quaternary Faulting within Site Area	Trench mapping
8.3.1.2.1.1	Precipitation & Meteorological Monitoring for Regional Hydrology	Ongoing measurements
8.3.1.2.1.2	Runoff & Streamflow	Ongoing measurements
8.3.1.2.2.1	Unsaturated Zone Infiltration	Drilling/logging of neutron-access holes; ponding tests
8.3.1.2.2.2	Water Movement Tracer Tests	C1-36 measurements
8.3.1.2.2.3	Percolation in Unsaturated Zone	UZ drilling/testing
8.3.1.2.2.6	Gaseous Phase Movement in Unsaturated Zone	UZ drilling/testing
8.3.1.2.2.7	Unsaturated Zone Hydrochemistry	UZ drilling/testing
8.3.1.2.3.1	Site Saturated Zone Groundwater Flow System	Ongoing monitoring
8.3.1.2.3.2	Saturated Zone Hydrochemistry	Ongoing sampling
8.3.1.15.1.8	In Situ Design Verification	Construction monitoring/testing

Regulatory InteractionsSite Characterization Progress Report (PR)

The draft of PR 8 was distributed for review on May 10, 1993. Comments are due to the Yucca Mountain Site Characterization Project Office (YMPO) by May 21, 1993. Production is on schedule and the concurrence draft will be sent to the U.S. Department of Energy (DOE)/Headquarters (HQ) on June 4, 1993.

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Mined Geologic Disposal System (MGDS) Annotated Outline (AO)

Resolutions to comments from the DOE review of MGDS AO, Revision 2, have been incorporated into the document. Comments on the Draft Regulatory Guide DG-3003, "Format and Content for the License Application for the High-level Waste Repository," have been consolidated and are being reviewed in preparation for their transmittal to the U.S. Nuclear Regulatory Commission (NRC), expected in June 1993.

Issue Resolution

The Issue Resolution Steering Group met on May 12, 1993, to discuss the status of high-priority issues and budget for Issue Resolution. The Seismic Hazards working group is completing an AO for the topical report they are preparing. The AO will be completed by the end of May 1993.

The next Steering Group meeting is scheduled for June 16, 1993, from 8 a.m. to 12 noon; the meeting will be a videoconference.

Technical Analysis

Technical Analysis Branch (TAB) staff conducted a workshop on data management for Quality Assurance (QA) staff addressing interfaces between Records Management, Configuration Management, and Technical Data Management (TDM). They also attended the Geological Society of America Cordilleran Section Meeting in Reno, Nevada. Performance Assessment (PA) staff from DOE and the participants met to discuss plans and major milestones for PA for fiscal year (FY) 1994 and beyond. The TAB chief attended a mid-year review of the Civilian Radioactive Waste Management System Management and Operating Contractor (CRWMS M&O)/Intera PA Team's work for the YMP, and participated in a debate at Eureka High School between YMPO staff and State of Nevada personnel.

The PA staff continued work on waste isolation analyses and on exploring several models to expand their capability to support waste isolation analyses. They also provided support to resolution of comments on the MGDS License Application AO, review of requirements documents, and revision of the Quality (Q)-List.

Site Characterization Plan (SCP)/Study Plan (SP) Status

No new SPs were approved by YMPO this week.

STUDY PLAN BREAKDOWN

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In Screening Review .....	0
In YMPO Review .....	3
Awaiting Comment Resolution .....	8
Awaiting Author Revision .....	0
In YMPO Verification Audit .....	8
Preparing to Submit or Awaiting YMPO Approval .....	1
Awaiting Submission to the NRC .....	0
NRC Phase 1 Review .....	11
NRC Acceptance .....	46
Total .....	77

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SCP/SP Status:

Total SPs Assigned to Cover 106 Studies .....	104
SPs Not Yet Submitted for Review .....	40
SPs Submitted for Initial Review .....	64
Revised SPs Submitted for Review .....	5
Revised ESF SPs Submitted for Review .....	8
Total SPs Submitted for Review .....	77

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State of Nevada Comments Status:

Received Comments from the State of Nevada .....	18
Responses Transmitted to the State of Nevada .....	18

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NRC Comments Status:

Received Comments from NRC .....	21
Responses Transmitted from OGD to DOE/HQ .....	18

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B. Project Planning and Control

Development of the Program Summary Schedule was completed.

The staff supported and participated in the UZ-14 process evaluation.

Detailed schedule development and coordination began for SRG-5/SD-11.

Participant Planning and Control System (PACS) cost and schedule status data were received for April 1993. The status was uploaded from the participant work stations to PACS, and the new data were calculated through the PACS rollup in all participant data bases. The participant data were combined in the central PACS project-level data base.

Planning and Scheduling Account Variance Analysis Reports (VAR01) were produced and distributed to the participants.

C. QA Implementation

The Yucca Mountain Quality Assurance Division (YMQAD) staff is currently reviewing the comment resolution package submitted by the Office of QA on Quality Assurance Procedures 5.1 and 6.2. Contact has been made with the appropriate line organization staff to ensure that comment responses are distributed to the appropriate reviewers.

The YMQAD staff attended a TDM workshop on May 18, 1993. The four-hour workshop provided QA staff with information to assist in the understanding of TDM processes. The workshop should allow QA to conduct future audits and surveillances with an understanding of the system.

A meeting was held with a representative of the Project Control Branch to discuss modifications to the technical directive procedure. As the requested change would have factored nonquality processes within a quality procedure, the changes were not endorsed by YMQAD.

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Efforts to establish a Requirement Traceability Network baseline continues to be a priority action for YMQAD staff. Raytheon Services Nevada's (RSN) input was received and is undergoing YMQAD review.

The audit of USGS, which was scheduled for May 17-21, 1993, was postponed due to the sudden illness of the Audit Team leader. The new schedule is June 14-18, 1993.

#### Determination of Importance and Grading Enhancement

##### Q-List and Q-List Procedure Development

Draft D of Implementing Line Procedure 1.3/Office of the Project Manager (YMP Matrix of Controls, Development, and Maintenance) has been modified and is currently being reviewed by YMPO management.

##### Implementation

Phase-out of Administrative Procedure (AP) 6.17Q continues with the emphasis on development and implementation of CRWMS M&O processes. Based on YMPO management direction to retain all natural barriers on the Q-List, development of necessary revisions is occurring. The CRWMS M&O continues with development of necessary processes to replace those in AP 6.17Q.

The Assessment Team (AT) continued support of ongoing YMP efforts, including modification of the Q-List, to incorporate YMPO approved Q- and Management Control- items to the lists. They also continued support of monitoring of responses to AT comments on the ESF Starter Tunnel Determination of Importance Evaluations, RSN classification analyses of roads and pads, and comments on the ESF 50 percent design reviews.

#### D. Public Outreach and Institutional Activities

Carl Gertz, Project Manager, gave a presentation on the new developments in high-level waste management to 100 attendees of the National Conference on Radiation Control in San Francisco, California, on May 17, 1993.

Gregory Fasano, Technical and Management Support Services (T&MSS), gave a general overview of the YMP to 15 members of the International Right of Way Association on May 19, 1993.

A. C. Robison, YMPO, gave a general overview of the YMP to 30 members of the Green Valley Kiwanis Club on May 17, 1993, in Green Valley, Nevada. Jacqueline Brandt, T&MSS, assisted.

A. C. Robison, Jeremy Boak (YMPO), and Paul Standish (a consultant) participated in a Yucca Mountain debate with the State of Nevada on May 19, 1993, in Eureka, Nevada. Christopher Binzer, T&MSS, accompanied.

Effie Harle, T&MSS, and April Gil, YMPO, along with Linda Linden (T&MSS), Jeanne Cooper (YMPO), and Martha Pendleton and Robin St. Clair (CRWMS M&O), participated in a Girl Scouts Geology Workshop on May 15, 1993. There were 20 Girl Scouts and 5 leaders.

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There were several educational presentations provided this week. Brad Schultz, EG&G Energy Measurements, Inc., gave an environmental presentation to 100 students at Booker Sixth Grade Center on May 17, 1993. James Blink, LLNL, gave a science presentation to 100 students at Burkholder Middle School on May 21, 1993, in Henderson, Nevada. John Hartley, T&MSS, gave a Yucca Mountain presentation for 50 students at C. C. Ronnow Elementary on May 20, 1993. Todd Kaish, CRWMS M&O, gave an electricity presentation to 10 students from Crestwood Elementary on May 20, 1993. Paul Snyder, T&MSS, assisted. Mary Jo Dorsey, REECo, gave an environmental presentation to 50 students at Sunrise Acres on May 19, 1993. Jacqueline Brandt assisted. John Peck, T&MSS, participated in a geology field trip for 50 students of the Las Vegas Day School on May 18, 1993. John Peck also gave a general overview of the YMP for 50 members of the Mayor's Youth Council on May 19, 1993.

The Twenty-seventh Public Open House tour of Yucca Mountain, Nevada, was conducted on May 19, 1993, for approximately 200 people. Tour participants visited the Las Vegas Yucca Mountain Information Office, the FOC, two laboratories, the LM-300 drill rig, and the top of Yucca Mountain. They also drove through Midway Valley to view the ESF North Portal construction.

Two other tours to Yucca Mountain were conducted. These included a tour on May 15, 1993, for 40 guests of the Native American Consultation Program, and a tour for two guests of Earth Magazine on May 20, 1993.

Institutional and External Affairs (IEA) staff attended the U.S. Council on Energy Awareness (USCEA) Focus '93 Conference in St. Petersburg, Florida, May 16-18, 1993. A general exhibit was also set up at the conference and YMP materials were presented to approximately 120 attendees.

The IEA staff accompanied the White Pine County Commission on a tour of the Waste Isolation Pilot Plant in Carlsbad, New Mexico, on May 20, 1993.

## II. ANALYSIS & VERIFICATION DIVISION

The staff participated in the following: the dry run for the National Academy of Sciences (NAS) meeting on development of standards for Yucca Mountain under Section 801 of the Energy Policy Act on May 19, 1993, in Washington, D.C.; a meeting on Multi-Purpose Canisters (MPC) on May 19, 1993, in Washington, D.C.; the Hydrology Integration Task Force quarterly meeting on May 18, 1993, in Denver, Colorado; and the Business Management Review Self-Assessment, May 18-22, 1993.

The staff attended the Advisory Committee on Nuclear Waste (ACNW) 53rd Meeting May 19-20, 1993, in Bethesda, Maryland. Topics of interest to the Office of Civilian Radioactive Waste Management (OCRWM) included the following: Office of Nuclear Material Safety and Safeguards and Center for Nuclear Waste Regulatory Analysis presentation on Systematic Regulatory Analysis and License Application Review Plan; NRC high-level waste research program plan; NRC standard review plan for SPs; and NRC responses to SCP PRs.

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The comment resolution and verification of the following SPs were initiated: SP 8.3.1.2.2.9, Revision 0, "Site Unsaturated Zone Modeling and Synthesis;" and SP 8.3.1.15.1.4, Revision 1, "Laboratory Determination of the Mechanical Properties of Fractures."

Technical review of the review draft of PR 8 was initiated; review comments are to be submitted to RW-20 by May 21, 1993. Also, the review of Draft DOE Order 6430, 1b, "General Design Criteria," was initiated; comments and/or concurrence are to be provided to RW-13 by June 3, 1993.

#### MGDS

The staff reviewed and submitted comments on the Transportation Systems Requirements Document, coordinated review of draft presentations for the NAS meeting on the U.S. Environmental Protection Agency Standard, and began review of PR 8.

### III. GENERAL INFORMATION ITEMS

#### CRWMS M&O

Systems Engineering staff reviewed surface facilities (Package 3) currently proposed for the South Portal. A meeting with DOE personnel resulted in the goal to identify two project areas for Value Engineering (VE) studies to start within a month, and to perform three VE studies before the end of FY 1993.

Waste Package Development sent a representative to a meeting of the Edison Electric Institute U Waste Committee in Washington. There was considerable interest by the members of the committee in the capability of the MPC to meet disposal requirements and additional costs that might be incurred. Information was presented on criticality and thermal issues, and the status of waste package conceptual design.

The staff prepared a draft DOE presentation on key issues to be presented at the first meeting of the NAS Committee on Technical Bases for Yucca Mountain Standards May 27-28, 1993, in Las Vegas. A dry run for DOE presentations was held on May 19, 1993, in Washington, D.C.

#### LLNL

Regarding Work Breakdown Structure 1.2.2.2.2 (Hydrologic Properties of the Waste Package Environment), analytical and model calculations have been conducted for areal mass loadings (AML) of 27.1, 49.2 (the SCP-Conceptual Design Report [CDR]) value, and 154.7 metric tons of uranium per acre (MTU/acre) and for a range of bulk permeabilities,  $k_b$ , between  $10^{-18}m^2$  (1 microdarcy) and  $8 \times 10^{-10}m^2$  (840 darcy). The threshold for large-scale, buoyant, gas-phase convection dominance of the hydrological performance is in the 10-20 darcy range for 27.1 MTU/acre, and in the 1-5 darcy range for 49.2 MTU/acre. For 154.7 MTU/acre thermal buoyancy influences, but does not dominate, hydrological performance for  $k_b$  is less than 5 darcy. The signature for hydrological influence is a vertical asymmetry of the temperature profile. Thermal performance is significantly affected by buoyancy-driven flow for  $k_b$  values 5 to 10 times higher than the threshold stated above. Convection effects are a balance between buoyancy-driven flow and boiling-induced pressures. Because the SCP-CDR design is marginally boiling, it is more affected by convection than are the lower and higher AMLs.

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Los Alamos National Laboratory (Los Alamos)

President Clinton visited Los Alamos on May 17, 1993. He toured two laboratory sites and was informed about in-progress technology transfer programs. The President was accompanied by the New Mexico Congressional delegation and DOE Secretary Hazel O'Leary.

The staff submitted three summaries to Focus '93: Site Characterization and Validation. These are as follows: "Far-Field Transport of Carbon Dioxide: Retardation Mechanisms and Possible Validation Experiments," by Arend Meijer; "Summary of Cl-36 Work," by June Fabryka-Martin; and "Natural Alteration in the Cooling Topopah Spring Tuff, Yucca Mountain, Nevada, as in Analog to a Waste-Repository Hydrothermal Regime," by Schon Levy.

SNL

The staff attended the Technical Workshop on Near-Field PA at Cadarache, France, May 11-13, 1993. Attendees included representatives from the United States, Sweden, Switzerland, Germany, France, Finland, United Kingdom, and the Netherlands waste-disposal programs. The purpose of the meeting was to identify areas common to the programs that might be appropriate for collaboration. Topics included near-field environment, releases, transport, modeling, and PA integration. The workshop participants were divided into interest groups that discussed the topics in detail and developed recommendations. Most of the emphasis was on European programs (and their design and environmental conditions); consequently, most of the discussion concerned saturated repositories with bentonite backfill and reducing groundwater conditions. The YMP was represented by Dr. Ralston Barnard in the PA integration group, so YMP interests were included in their recommendations.

Areas of mutual interest include many of the scenario classes (e.g., near-field hydraulic, radiolytic, and chemical processes, volcanic processes, repository operations), some aspects of the geochemistry (e.g., alteration of near-field hydraulic properties by the Engineered Barrier System [EBS]), glass-waste dissolution, and salt-repository characteristics.

A survey and review document and a workshop summary are being prepared by the organizers. These will be published within a few months.

USGS

The U.S. Bureau of Reclamation/USGS mapping team completed underground mapping to REECo station 0+70. This mapping included stereophotography, full-periphery mapping, and detailed line surveys. The Starter Tunnel is entirely in the upper lithophysal subunit of the Tiva Canyon Member of the Paintbrush Tuff. At the heading, the size and relative volume of the lithophysae have decreased, with lithophysal content estimate at less than 10 percent and generally less than 10 centimeters in size (formerly, lithophysae of up to 80 centimeters were observed in the tunnel).

The mapping team also completed plan-view field mapping of the drainage channel above the ramp portal. The drainage channel was excavated in the caprock, upper cliff, and upper lithophysal subunits of the Tiva Canyon Member of the Paintbrush Tuff. The two faults exposed in the north slope of the portal cut have been traced to the drainage channel and mapped.

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Unsaturated zone hydrology staff report that a vertical gas sampling profile of USW UZ-16 using tubing without packers was conducted to determine background gas composition and to help select intervals for packer settings. The gas sampling tubing, steel and electrical cables were cut for the eight selected intervals that will be tested using a pack system.

Work continued in preparation for cross-hole testing at the C-Well Complex by testing equipment and methods at the Raymond, California, quarry test well site. The site, part of the International Program, is a joint effort between the United States and Canada. Last week, cross-hole radar surveys were completed and cross-hole seismic surveys were begun. The large packer string was removed and disassembled and the data acquisition system was further refined. Preparations are going sufficiently well that limited testing at the C-Well complex can begin in mid-July 1993.

#### IV. UPCOMING EVENTS CALENDAR

Please note that the usage of "(P)" in the calendar indicates that the event is open to the public. Educational presentations and State and Public Interactions are coordinated by the Speakers Bureau; contact Jacqueline Brandt at (702) 794-7896 or Theresa Hirsch at (702) 794-7759 for additional information. Exhibits and Public Update Meetings are coordinated by Joanna Magruder at (702) 794-7056, and Tours are coordinated by Carleen Hill at (702) 794-7375.

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
<u>A. DOE/HO Meetings</u>			
Tuesday- Wednesday, June 8-9	OCRWM Quarterly Program Review	Televideo	C. Gertz
<u>B. CRWMS M&amp;O/DOE Meetings</u>			
Tuesday, May 25	CRWMS M&O Program Management Review	Televideo	C. Gertz
Thursday, May 27	Cost Performance Management Meeting	Las Vegas, NV	C. Gertz
Wednesday, June 30	CRWMS M&O Quarterly Integration Meeting	Televideo	C. Gertz
<u>C. Internal and DOE Nevada Operations Office Meetings</u>			
Wednesday, June 16	NV Monthly Program Review	Las Vegas, NV	C. Gertz
<u>D. NRC Interactions</u>			
Tuesday- Wednesday, May 25-26	NRC Site Visit (P)	Las Vegas, NV	T. Bjerstedt

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<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
D. <u>NRC Interactions</u> (Continued)			
Monday, June 7	NRC Management Meeting for Interactions Scheduling (P)	Las Vegas, NV	T. Bjerstedt
Tuesday, June 8	Technical Exchange - Geophysics Integration (P)	Las Vegas, NV	T. Bjerstedt
Wednesday, June 9	Technical Exchange - Volcanism (P)	Las Vegas, NV	T. Bjerstedt
Wednesday, July 28	Technical Exchange - ESF Title II Design (P)	TBD	T. Bjerstedt
E. <u>Nuclear Waste Technical Review Board (NWTRB) Interactions</u>			
Tuesday-Saturday, June 1-12	NWTRB International Trip	United Kingdom, France, Belgium	J. Cooper
Tuesday-Wednesday, July 13-14	NWTRB Full Board Meeting (P)	Denver, CO	J. Cooper
Tuesday-Thursday, September 28-30	NWTRB Joint T&S/EBS Panel Workshop	TBD	J. Cooper
Tuesday-Friday, October 19-22	NWTRB Full Board Meeting (P)	Las Vegas, NV	J. Cooper
Monday-Wednesday, January 10-12, 1994	NWTRB Full Board Meeting (P) (Tentative)	Arlington, VA	J. Cooper
Wednesday-Friday, May 11-13, 1994	NWTRB Full Board Meeting (P) (Tentative)	Reno, NV	J. Cooper
Monday-Wednesday, July 11-13, 1994	NWTRB Full Board Meeting (P) (Tentative)	Denver, CO	J. Cooper
Wednesday-Friday, October 12-14	NWTRB Full Board Meeting (P) (Tentative)	Las Vegas, NV	J. Cooper

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<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
F. <u>ACNW Interactions</u>			
Wednesday- Thursday, July 21-22	ACNW 55th Meeting (P)	TBD	A. Gil
Wednesday- Thursday, August 25-26	ACNW 56th Meeting (P)	TBD	A. Gil
Wednesday- Thursday, September 22-23	ACNW 57th Meeting (P)	TBD	A. Gil
Wednesday- Thursday, October 27-28	ACNW 58th Meeting (P)	Las Vegas, NV	A. Gil
Monday- Tuesday, November 22-23	ACNW 59th Meeting (P)	TBD	A. Gil
Wednesday- Thursday, December 15-16	ACNW 60th Meeting (P)	TBD	A. Gil

G. NAS Interactions

Thursday- Saturday, May 27-29	NAS Committee on Technical Bases for Yucca Mountain Standards	Las Vegas, NV	A. Gil
Thursday, June 24	NAS Board on Radioactive Waste Management	Las Vegas, NV	C. Gertz

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Speaker</u>
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H. State and Public Interactions

Saturday, May 22	President's Tea of the Sunrise Council (PTA)	Henderson, NV	E. Harle A. Gil
Sunday, May 23	Yucca Mountain Lecture Series (P)	Beatty, NV	J. Weigand
Tuesday, May 25	Twin Lakes Elementary	Las Vegas, NV	J. Peck
Tuesday, May 25	Pittman School	Las Vegas, NV	T. Kaish C. Tung
Tuesday, May 25	Greenspun Junior High School	Las Vegas, NV	R. Arnold

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<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Speaker</u>
H. <u>State and Public Interactions</u> (Continued)			
Tuesday, May 25	Yucca Mountain Lecture Series (P)	Las Vegas, NV	J. Weigand
Wednesday, May 26	Sandy Valley Elementary	Sandy Valley, NV	T. Kaish L. Anderson
Thursday, May 27	American Business Women's Association	Las Vegas, NV	J. Younker B. Reilly
Thursday, May 27	Martin Luther King School	Las Vegas, NV	J. Hartley
Friday, May 28	Public Relations Society of America	Las Vegas, NV	D. Bradford J. Brandt
Friday, May 28	Professional Analysis, Inc.	Las Vegas, NV	A. Gil
Monday, June 14	Rapid Excavation & Tunneling Conference	Boston, MA	C. Gertz
Wednesday, June 16	Palo Verde Generating Station	Phoenix, AZ	G. Fasano E. Harle
Sunday, June 20	Vanishing Desert Greater Opportunity Group	Las Vegas, NV	A. Gil
Sunday, June 20	Yucca Mountain Lecture Series (P)	Pahrump, NV	W. Dixon
Tuesday, June 22	Yucca Mountain Lecture Series (P)	Las Vegas, NV	W. Dixon
Friday, June 25	Diablo Canyon Nuclear Power Plant	Avila Beach, CA	G. Fasano
Wednesday, July 7	University of California, Santa Barbara	Santa Barbara, CA	C. Gertz
Thursday, July 15	Spring Valley Library	Las Vegas, NV	T. Bjerstedt
Monday, August 2	USCEA Energy Information Centers	Chicago, IL	C. Gertz
Tuesday, August 17	1993 American Institute of Chemical Engineers Summer National Meeting	Seattle, WA	C. Gertz

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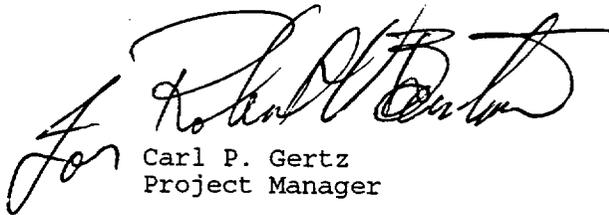
<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Speaker</u>
H. <u>State and Public Interactions</u> (Continued)			
Tuesday-Friday, August 17-20	Second International Mixed Waste Symposium	Baltimore, MD	C. Gertz
Wednesday-Thursday, September 1-2	C.P. Squires Elementary	N. Las Vegas, NV	R. Arnold
Monday-Tuesday, September 6-7	C.P. Squires Elementary	N. Las Vegas, NV	R. Arnold
Friday, September 10	Public Gas Service Gas Company	TBD	C. Gertz
Sunday, September 26	Children's Discovery Museum	Las Vegas, NV	R. Arnold
Monday-Friday, November 15-19	American Nuclear Society	San Francisco, CA	C. Gertz
Sunday, February 27, 1994	Waste Management Symposia	Tucson, AZ	C. Gertz

<u>Date</u>	<u>Event</u>	<u>Location</u>
I. <u>Exhibits Scheduled</u>		
Saturday, June 19	Public Open House (P)	Las Vegas, NV
Saturday, July 24	Public Open House (P)	Las Vegas, NV
Friday-Saturday, August 20-21	Home Show (P)	Las Vegas, NV
Saturday, August 21	Public Open House (P)	Las Vegas, NV
Tuesday-Monday, August 24-30	Nevada State Fair Reno (P)	Reno, NV
Thursday-Tuesday, September 2-7	Elko Fair (P)	Elko, NV
Saturday, September 25	Public Open House (P)	Las Vegas, NV

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<u>Date</u>	<u>Event</u>	<u>Location</u>
I. <u>Exhibits Scheduled</u> (Continued)		
Tuesday- Saturday, September 28- October 2	Nevada Library Association	Elko, NV
Friday- Monday, October 1-11	Jaycee State Fair (P)	Las Vegas, NV
Saturday, November 6	Boy Scouts Expo	Las Vegas, NV
<u>Date</u>	<u>Event</u>	<u>Escorts</u>
J. <u>Tours Scheduled</u>		
Tuesday- Wednesday, May 25-26	NRC	T. Bjerstedt
Saturday, June 19	Public Open House (P)	Various Escorts
Monday, June 21	Girl Scouts Wider Opportunity Program	TBD
Saturday, July 24	Public Open House (P)	Various Escorts
Tuesday, August 17	Senior Tripsters	TBD
Saturday, August 21	Public Open House (P)	Various Escorts
Saturday, September 25	Public Open House (P)	Various Escorts

YMP:VFI-4289


  
 For Carl P. Gertz  
 Project Manager



Department of Energy  
Yucca Mountain Site Characterization  
Project Office  
P. O. Box 98608  
Las Vegas, NV 89193-8608

WBS:1.2.7.3  
QA: N/A

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Carl P. Gertz, Project Manager, YMP, NV

YUCCA MOUNTAIN SITE OFFICE (YMSO) FIELD ACTIVITY REPORT

The following are the significant field activities for the week ending May 14, 1993:

1. Field Operations Center, (YMSO)

A. Management and Administration

- a. The Site Manager and FOC staff participated in and provided operational and logistical support to several tours conducted during this period. These were: LANL; DOE Contractor Classification Officers Meeting; Keith Rogers, Las Vegas Review-Journal; Kit Carson JHS; EPA; Native American Consultation Program.
- b. The Site Manager prepared the Job Package (JP) Authorization Letter for JP 93-02, Construction of Access Road for Borehole UE 25 NRG-4.
- c. The Site Manager prepared and distributed the Weekly YMSO Field Activity Report to the Project Manager for week ending May 7, 1993.
- d. Provided operations, administrative, and security support to the Yucca Mountain Site Manager and his DOE staff.
- e. Prepared and transmitted daily operations reports to NORSOC, and the biweekly reports to HQ OCRWM.
- f. Prepared fifty-five (55) badging request for site visitors and daily field work, including 3 foreign national requests.
- g. Provided duty officer support for ESF swing and graveyard shift operations.
- h. Processed five (5) Work Order Requests, providing for communications, equipment calibration and building maintenance activities.

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- i. Continued planning for office reorganization within the FOC building.
  - j. Continued providing round the clock photographic coverage for ESF North Portal operations.
  - k. Staff attended 4 day DOE Emergency Management Course.
  - l. Swing and Graveyard duty personnel attended training to qualify to train visitors for access to ESF.
  - m. Completed "Operations Controller Procedures Handbook", this handbook provides names, numbers, and procedures to followed when handling "Ranch Control" duties.
  - n. Provided Site Manager with list of accomplishments for April.
  - o. The Bullfrog Planning Commission continuing with development of data base for Facilities Management Program.
  - p. Met with Site Development Plan committee and representatives from Nye County concerning siting of common facilities.
  - q. Reviewed and approved 8 "Facility Use Permits" for facilities.
- B. Project Safety and Health, (DOE/SAIC)
- a. Reviewed and commented on draft Project S&H Self-Assessment Plan.
  - b. Sent letter to Participants who were not present at S&H Advisory Committee meeting requesting comments on revising the YMP S&H Plan.
  - c. Developed PAC Sheet and budget calculations to validate workscope for FY 94.
  - d. Continued REECO Safety & Health functional appraisal.
  - e. Coordinated "ESF Starter Tunnel Visitor Training" with Project Training Department to ensure 24 hour coverage.
  - f. Reviewed Surface Based Testing document, no comments.
  - g. Wrote and distributed S&H Advisory Committee minutes.

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- h. Reviewed JP 93-03 (NRG-4) and responded to Field Test Facility Support Department's questionnaire..
- i. Created Federal Register (FR) Abstract form to disseminate information to participants. Distributed FR Abstract on New OSHA rule "Lead Exposure in the Construction Industry."
- j. Drafted letter for S&H Officer's signature informing M&O of S&H functional appraisal schedule for June.
- k. Completed fire extinguisher inspection, Bldg 4015 and 4117.
- l. Coordinated with REECO S&H concerning safety concerns on lifting chiller for bldg 4015.
- m. Completed one surveillance: UZ-16 grounding problem, informed USGS of problem.
- n. Monitored dust, noise levels and gasses at Starter Tunnel during fibercrete mixing and application operations.
- o. Occurrence Reports - one waiting for FM Signature.
  - 1. REECO - six outstanding: 1 awaiting FM Signature; 2 awaiting Program Manager signature; 3 rejected (09/22/92 and 2 on 4/15/93).
  - 2. SAIC - 2 outstanding: 2 10 notification (04/29/93 and 05/11/93).

2. Raytheon Services Nevada, (RSN)

A. Field Support

- a. Geologic mapping is ongoing in the Starter Tunnel.
- b. Survey continues to monitor movement of Box Cut.
- c. Phase 3 of Ghost Dance Fault started 05/12.
- d. NRG-5 as-built survey completed, calculations remain.
- e. SRG-5 Topographic Survey initiated.
- f. YMP Survey Control Net is completed and published.
- g. Eight (8) Work Initiations issued.

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- h. Field Engineering continues to provide support to JP: 92-2; 92-5; 92-8; 92-12; 92-17; 92-20 A, B, and D; 93-02 and 93-04.

B. Quality Control

- a. Completed verification activities on NRG-5 borehole utilizing the Joy #1 drill rig.
- b. Continued verification of activities on UZ-14 borehole, utilizing the LM-300 drill rig.
- c. Starter verification activities on NRG-2A borehole, utilizing the CME-850 drill rig.
- d. Closed Nonconformance Report RSN-Y-0008. Sent records package to RSN Records Coordinator.
- e. Performance surveillance on trenches on Stagecoach Road (SCR T1, T2, T3) and in Crater Flats (SCF T1, CF-2) and Trench 8.

3. Sample Management Facility, (SMF/SAIC)

- a. Support drilling operations and continued processing core on NRG-5 and UZ-14.
- b. Began Drilling NRG-2a, processing core and cuttings.
- c. Removed 43 specimens from core and shipped 59 specimens to USGS.
- d. Laid out 350 boxes of core from UZ-16, NRG-6, and NRG-3 for three examinations by SNL and USGS.
- e. SMF received 3 non-borehole outcrop samples from SNL and LLNL.

4. YMP Hydrologic Research Facility, (USGS)

The following activities were accomplished by USGS Staff:

Geologic Studies Program:

- a. Completed current phase of Ghost Dance Fault mapping.
- b. Geologic mapping of ESF tunnel and drainage channel.
- c. Logging core from UZ-16 at Sample Management Facility.

- d. Conducted mapping of Stagecoach Road Trenches.
- e. Performed field work in Rock Valley.
- f. Look at spring deposits in Crater Flats, Amargosa Valley and Death Valley.
- g. Examine and sample Quaternary Pluvial deposits.
- h. Monitor excavation of Trench SMT-2 across the Bear Mountain Fault,, west site of Crater Flats.
- i. Examined soil pits and field check previous surficial geologic mapping in northern Midway Valley.
- j. Collect data and perform calibration at seismic sites.

**Saturated Zone:**

- a. Conduct water level measurement and calibrated USW H-1 tubes 3 and 4. Data recovered at WT-11, H-6 and H-1.

**Unsaturated Zone:**

- a. Monitor tracer gas injection during drilling UZ-14.
- b. Log core for Deep UZ Project from UZ-16.
- c. Set up sample bottles and preservation solutions for perched water collection during excavation of ESF.

5. Reynolds Electrical and Engineering Co., Inc., (REECO)

A. Drilling

- a. JP 92-17, UZ-14, LM-300 drill rig, cored to 322.03 feet, reamed to 307.22 feet. Unstuck pipe, cleaned hole. Deviation surveys: 150 feet - 25 minutes; 250 feet - 26 minutes.
- b. JP 92-11, NRG-5, Joy #1 drill rig, cored to 955.94 feet (total depth). Deviation surveys; at 890 feet - 3 degrees 30 minutes; 945 feet - 4 degrees.
- c. JP 93-05, NRG-2a, CME 850 drill rig, moved on location; cored to 105.21 feet, drove casing to 80.59 feet.

B. Logistics

- a. Continued requisitioning supplies, materials, and services for YMP Field Operations Center.
- b. Supported tours during the week.
- c. Supported construction efforts in Area 25.

C. Construction

- a. JP 92-20, "ESF North Portal Pad and Facilities...REECO continued preparing subgrade and placing and compacting aggregate base on ESF access road; drilled for and blasted for and blasted round NP-PD-014, NP-PD-015, NP-PD-016; shot six fibercrete panels; drilled for and installed 9 each 10' Williams rockbolts; commenced drilling round NP-PD-017; pull tested eight rockbolt and four failed; installed temporary ground supports as required.

6. Los Alamos National Laboratory, (LANL)

- a. Continued monitoring construction activities at the box cut.
- b. Continued to blast in Starter Tunnel. Mapping, photography and surveying continue. Shotcreting of crown commenced right after mapping.
- c. Continue to obtain list of individuals available for shift work for the Field Test Coordinator.
- d. PI's placed their geophones and recorded data from blasts and peak particle velocity was determined. Agreed to location for rockbolt load cell, installed and pull tested, test failed.
- e. LANL Motor Home location on pad, power provided and it is being used by various organizations.

7. Documents and Records Center, (CRWMS M&O)

- a. Received and Issued to following Controlled Documents:

Work Programs

YMP/WP/03-07, Rev. 1, "UE-25 NRG-5 North Ramp Borehole Work Program."

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FCRs

FCR 93/298, "Reinforcement Pattern."  
FCR 93/299, "Reinforcement & Concrete Geometry."  
FCR 93/300, "Reinforcement Pattern."  
FCR 93/301, "Wingwall Geometry."  
FCR 93/325, "Remove Incorrect FCR Posting from Dwg."  
FCR 93/326, "Remove Incorrect FCR Posting from Dwg."  
FCR 93/328, "Remove Incorrect FCR Posting from Dwg."  
FCR 93/330, "Remove Incorrect FCR Posting from Dwg."  
FCR 93/324, "Spec 09 Section 02310 Deletion of Submittal Requirements."  
FCR 93/331, "Remove Incorrect FCR Posting form Dwg."  
FCR 93/315, "Replacement of FCR 93/097 & FCR 93/266."  
FCR 93/308, "Specification Modification of Drawing List and Related Documents."

b. Reproduction

17,067 pages copied.  
585 drawings copied.

c. Documents Issued

1,678 controlled documents.  
1,156 FCRs  
406 DWGs  
62 WPs  
32 JPs  
22 SPECS  
213 information copies.

d. DTAR logoffs

288

8. Field Training, (SAIC)

- a. Twenty (20) people attended the ESF Visitor Training.
- b. Radiological Control Technician Test conducted. A total of 9 took the testing.

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- c. GET 1.5 Refresher Training, 2 people were tested, and all passed.

*Winfred A. Wilson*

Winfred A. Wilson  
Site Manager

YMP:WAW-93/128

cc:

R. M. Cameron, CRWMS M&O/YMSO, Mercury, NV  
M. D. Voegele, SAIC, Las Vegas, NV  
R. R. Schneider, SAIC/YMSO, Mercury, NV  
G. K. Beall, SAIC, Las Vegas, NV  
C. L. Lugo, SAIC, Mercury, NV  
E. M. Gardiner, SAIC, Las Vegas, NV  
C. J. Cotten, SAIC, Las Vegas, NV  
G. D. Milligan, SAIC, Mercury, NV  
M. B. Blanchard, YMP, NV  
R. V. Barton, YMP, NV  
J. R. Dyer, YMP, NV  
S. B. Jones, YMP, NV  
D. R. Williams, YMP, NV  
J. T. Sullivan, YMP, NV  
R. B. Baumeister, YMP/YMSO, Mercury, NV  
W. R. Tunnel, YMP/YMSO, Mercury, NV  
R. J. White, YMP/YMSO, Mercury, NV  
Phil Justus, NRC, Las Vegas, NV

bcc:

A. C. Bonk, REECO, Las Vegas, NV