



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: November 18, 1993  
SUBJECT: OFFICE OF GEOLOGIC DISPOSAL (OGD) WEEKLY HIGHLIGHTS FOR THE  
WEEK ENDING OCTOBER 22, 1993

Please find enclosed the above-referenced information. There is nothing requiring specific management attention.

cc: w/enc.: Charlotte Abrams, M/S 4 H 3  
Anne Garcia, M/S 4 H 3  
Dean Kunihiro, Region 5

Enclosure as stated

NOTE TO CHARLOTTE: Also enclosed is the REECo YMP Status Report for October 1993 and the Sandia National Laboratories YMP Monthly Highlights and Status Report for September 1993.

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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

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Daniel A. Dreyfus, Director, Civilian Radioactive Waste Management,  
HQ (RW-1) FORS  
THRU: Linda M. Smith, Acting Associate Director, OGD

OFFICE OF GEOLOGIC DISPOSAL (OGD) WEEKLY HIGHLIGHTS FOR THE WEEK ENDING  
OCTOBER 22, 1993 (SCP: N/A)

I. FORECAST SIGNIFICANT EVENTS

A. Site Characterization Activities

Exploratory Studies Facility (ESF)

Design activities will continue with preparations for a U.S. Department of Energy (DOE) Acceptance Review of the Basis For Design (BFD) document for Packages 1B and 2A. This is subsequent to the Civilian Radioactive Waste Management System Management and Operating Contractor (CRWMS M&O) Change Control Board (CCB) baselining of the document.

Construction will continue on the 69 kV power distribution system with the installation of the grounding grid for the temporary transformer.

Surface-Based Testing

Coring and reaming will continue at NRG-7. Coring and reaming operations are expected to continue at UZ-14. Phased removal of casing and downhole video camera logging is tentatively scheduled for boreholes NRG-2A and NRG-2B. Cleanup of the bedrock pavement along a portion of the Ghost Dance fault will continue. Additional hydrochemistry tests are scheduled in the alcove. Excavation of a drill pad and access road for borehole SD-12 will continue. Geologic mapping of the Bare Mountain Trench BMT-1 and Test Pits BMTP-8 and BMTP-9 is scheduled to begin.

B. Public Outreach and Institutional Activities

A tour to Yucca Mountain (YM), Nevada, will be conducted on October 26, 1993, for 20 guests of the National Association of Regulatory Utility Commissioners (NARUC).

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

A. Site Characterization Activities

ESF

Construction

Excavation is continuing on the test alcove. The face of the test alcove is at 11 meters (00+36 feet), measured from the starter tunnel wall, as of October 22, 1993.

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On Job Package (JP) 92-20, ESF North Portal Pad and Facilities, the survey layout of the ESF raw water line continues, as well as verification of the existing six-inch water line. Grading of the right of way for the water line has begun.

The face of test alcove 1 is at 8.5 meters measured from the starter tunnel wall. The total length of test alcove 1 will be between 60 feet and 110 feet as measured from the starter tunnel wall, with the final determination being based on geologic information and test considerations.

The first test alcove has been excavated to construction station 0+43. Hydrochemistry testing is in progress as the alcove excavation progresses.

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

Complete Excavation of Test Alcove #1	October 29, 1993
69kVA power available at the North Portal	December 22, 1993

#### Design

Design activities continued on Packages 1B and 2A. Both packages are being prepared for verification. The BFD has been verified and submitted to CRWMS M&O CCB for baselining. Continuing design activities for Packages 1C, 2B, and 2C.

Exploratory drilling operations progress is summarized as follows:

<u>Borehole</u>	<u>Current Core Depth 10/22/93</u>	<u>Current Ream Depth 10/22/93</u>	<u>Total Planned Depth</u>
UZ-14	1,422.1 feet	1,421.6 feet	2,000 feet
NRG-7	13.50 feet	7.05 feet	1,445 feet

The Site Manager prepared and issued the JP authorization together with the field operations permit for JP 93-15, Drilling and Testing of Borehole USW NRG-7. Drilling equipment is fully mobilized; double shifts are planned for this borehole.

On JP 93-10, Fran Ridge Large Block Test, drilling continues on blast holes for the large block excavation.

On JP 93-12, Ghost Dance Fault Roadcuts, excavation and exposure of the Ghost Dance Fault continues. Rock has been exposed along the 650-foot-long excavation. Excavation cleaning using hand labor, compressed air, and water began on September 27, 1993, and is continuing. Cleaning of the western portion of the excavation is complete. The eastern portion is approximately 80 percent complete. The fault, stratigraphy, and fractures will be geologically mapped and analyzed following the pavement cleaning.

On JP 93-13, SD-12 Access Road and Drill Pad, the construction of the access road and drill pad continues.

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Drilling the NRG-7 borehole on a two-shifts-per-day basis was started on October 21, 1993. The borehole is to be advanced to a total depth of 1,445 feet. The NRG boreholes are being drilled to investigate the geology along the north ramp of the ESF.

On JP 92-17, UZ-14 Drilling, sealing of the second water-bearing zone has been initiated. The two-shifts-per-day drilling operations, which started October 11, 1993, were terminated October 20, 1993. Water was encountered during the most recent core and reaming cycle. At the direction of the Principle Investigator (PI), the interval from 1,270 feet to the bottom of the borehole at 1,422.14 feet was cement grouted on October 21, 1993. The cement grout will be allowed to set up and the effectiveness of the seal will then be evaluated on October 25, 1993. The bottom of the hole is reported to be in Calico Hills tuffs. The primary purpose of the UZ-14 borehole is to develop baseline unsaturated zone hydrologic data.

On JP 92-3, UZ-16, an unsuccessful attempt was made on October 21, 1993, to remove a lodged packer from the borehole. A downhole camera will be used to examine the borehole, and further evaluation as to how to proceed will then be made.

On Bare Mountain Trenches, BMT-1, BMT-8, and BMT-9 have been approved for geologic mapping.

The C-Well Complex Soil Remediation (diesel contaminated soil) environmental coordinator has released the site for backfilling.

Environmental clearance surveys are in progress for additional boreholes and trenches proposed in the vicinity of NRG-2. A small access road was upgraded to facilitate seismic testing in the vicinity of WT-2.

On WT-2, magnetometer and magnetic susceptibility logs were run in the borehole by the U.S. Geological Survey (USGS) on October 21-22, 1993.

Supported multiple shifts drilling efforts for USW NRG-7 which began on October 21, 1993, during the evening shifts. Drilling Support sampled and collected core and cuttings from 0.0 feet to 13.5 feet; currently drilling in the Tiva Unit.

Conducted geophysical logging activities (Dual Induction Log, Compensated Density Log, Sidewall Neutron Porosity Log, and Magnetic Susceptibility Log) on USW WT-2.

Created approximately 20 specimens from core samples for analysis by various PIs.

Conducted five core examinations at the Sample Management Facility by the USGS PIs.

Completed work on converting Branch Technical Procedures to Line Procedures and Administrative Procedures (AP) to Yucca Administrative Procedures (YAP) to incorporate new Quality Assurance Requirements Document requirements (100 percent completed). Revising procedures and developing a procedure to address ESF sample collecting activities.

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Continued to provide monitoring and oversight of prototype drilling tool development activities currently being conducted at Colorado School of Mines (CSM). CSM is analyzing data collected from EXLOG vibration sub studies and is continuing work on development of the Core Rod Deviation Simulator.

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, Nevada	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 Perched water testing
8.3.1.2.2.4	Characterization of YM Percolation in UZ-ESF Investigation	Perched water
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

Environmental Safety and Health Programs

Six environmental compliance surveillances were conducted at the YM site ensuring compliance with permit and programmatic requirements.

Approval was received from the Nevada Division of Environmental Protection for the use of tracers in the ESF ramp alcoves.

Received verbal approval from the State of Nevada for C-Well Remediation Plan.

Provided input to Lehman and Associates on precipitation data, relative to State of Nevada water monitoring concerns.

Provided meteorological information to University of Nevada, Las Vegas (UNLV), for their DOE sponsored solar energy studies.

Presented several posters and technical papers at the Wildlife Shrub and Arid Land Restoration Symposium held in Las Vegas, Nevada, on October 20, 1993. Several of these presentations were based on reclamation work being conducted for the YMP. As part of the symposium, conducted a tour of reclamation studies at YM for symposium participants.

Results were received from the Centers for Disease Control on the rodent blood samples drawn in August 1993 to test for the presence of hanta virus antibodies. All samples from the YM area were negative.

Performed six surveillances: ESF portal and tunnel; NRG-7 (twice); UZ-16 (twice); and Ghost Dance Fault.

Conducted fire extinguisher inspection at the Field Operations Center (FOC) and other buildings in Area 25; submitted Revision 2 of the draft YMP Safety and Health Plan to the Plans and Procedures Department for comments and resolution; reviewed and commented on draft revision of AP-6.18, "Environment, Safety, and Health Concerns;" and competed all reports on the AP-5.7, "Safety and Health Compliance Inspection" of USGS and the Bank of America Building.

Large Block Test

Drilling around the perimeter of the large block is continuing. Layout of horizontal blasthole locations to be drilled along the top of the block is in progress. This activity is preparatory work for the Large Block Experiment - Phase I, to be conducted at the Fran Ridge site.

Regulatory InteractionsIssue Resolution

A teleconference to set the agenda for the U.S. Nuclear Regulatory Commission (NRC)/DOE technical exchange on the Seismic Hazards Methodology Topical Report was held October 21, 1993. The technical exchange is scheduled for November 17, 1993, in Bethesda, Maryland. The meeting is important to get early feedback from NRC staff on the approach DOE is proposing to determine seismic hazards potential at the YM site.

Advisory Committee on Nuclear Waste (ACNW)

Discussions with ACNW staff continue regarding the working group on Unsaturated Zone Hydrology planned for December 14, 1993. Feedback from ACNW staff has yet to be received on the proposed working group agenda the Yucca Mountain Site Characterization Project Office (YMPO) provided September 17, 1993.

Site Characterization Progress Report (PR)

Preparations continue on PR 9. We are on target for the scheduled November 5, 1993, delivery of review draft to participants, YMPO, and DOE/Headquarters (HQ). Discussions are being conducted with HQ personnel to make sure process is in place for efficient review and concurrence cycle.

Nuclear Waste Technical Review Board (NWTRB) Interactions

Preparations for the October 19-20, 1993, Full Board meeting are nearly complete. A dry run teleconference was held on October 14, 1993, for the November 1-2, 1993, workshop on Interim Storage. An agenda is being developed for the November 22, 1993, briefing on the environmental program.

Technical Analysis

The Technical Analysis Branch (TAB) and Performance Assessment staff held a meeting on Total System Performance Assessment-II in Las Vegas on October 21-22, 1993. Discussions were held on the Sandia National Laboratories (SNL) and the CRWMS M&O's varying approaches to analyzing aqueous and gaseous flow at YM. Differences and common approaches to the analysis were evaluated and recommendations for future activities made.

The TAB staff led and attended the Hydrology Integration Task Force (HITF) meeting on October 21, 1993, at the FOC. Discussions included an overview of the recent NWTRB exchange, an update on UZ-14 activities, and thermal loading issues. The HITF members spent the afternoon touring the ESF starter tunnel, Fran Ridge, the C-Well Complex, and UZ-14.

The Geochemistry Integration Team met on October 18, 1993, to discuss preparation of the Geochemistry White Paper, and plans for a model validation meeting.

Site Characterization Plan/Study Plan (SP) Status

No new SPs were approved by YMPO this week.

## STUDY PLAN BREAKDOWN

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	Initial Plans	Major Revisions
Not Submitted to YMPO.....	38	0
In Screening Review .....	0	0
In YMPO Review .....	0	0
Awaiting Comment Resolution .....	6	3
In Verification Audit .....	3	1
Awaiting YMPO Approval .....	0	0
Awaiting Submission to NRC .....	0	0
Awaiting NRC Phase 1 Review .....	11	5
Accepted by NRC .....	46	5
Totals .....	<u>104</u>	<u>14</u>
Total Submitted to NRC .....	57	10

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## State of Nevada Comments Status:

Received Comments from the State of Nevada..... 19  
 Responses Transmitted to the State of Nevada ..... 19

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## NRC Comments Status:

Received Comments from NRC .....

Responses Transmitted from DOE to NRC .....	26
	24

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B. Project Planning and Control

Finalized participant uploads of September 1993 cost and schedule status data. Integrated the data to the project level data base and prepared reports to be distributed to DOE Managers, and the CRWMS M&O Functional Integrators.

Attended a meeting held in Vienna, Virginia, on October 20-21, 1993, to develop an implementation plan for the program level Planning and Control System.

Concentrating all planning and effort on the fiscal year (FY) 1993 close out. Emphasis is on identifying money available for carry-over from FY 1993 to FY 1994, and on identifying FY 1993 tasks not completed in FY 1993.

Processing and evaluating FY 1994 planning data as submitted by participants.

C. Quality Assurance (QA) ImplementationQ-List Procedure Development

The draft Q- and Management Control (MC)-List Maintenance and Implementation Plan was completed and provided to the Assessment Team (AT) for review.

An Interim Change Notice on AP-6.17Q to resolve a Corrective Action Request has completed Quality Assurance Procedure (QAP) 6.2 review.

Q-List and MC-List Implementation

Revisions to the Q-List and the MC-List to incorporate the natural barriers has completed QAP 6.2 draft B verification.

The AT Controlled List, Revision 18, has completed QAP 6.2 review.

Cancellation of the Quality Activities List and the Project Requirements List is in QAP 6.2 review.

III. GENERAL INFORMATION ITEMS

Created a draft report of significant YMP activities that have occurred since October 1, 1989, for YMPO. This report will be updated biannually and provided to R. Barton, YMPO, for his use.

Created a revised format for the CRWMS M&O/Las Vegas weekly report to reflect the current reorganization. Also streamlined the reporting process for the weekly and monthly reports by creating files on the "h" drive. This will save time and be more convenient for all individuals involved in the reporting process; especially the individuals who are responsible for providing input to the reports.

Prepared Work Breakdown Structure (WBS) dictionary extension for First Repository Support, WBS 9.3.8.

Regarding WBS 1.2.2.2.5 (Characterization of the Effects of Man-Made Materials on Chemical & Mineralogical Changes in the Post-Emplacement Environment), diesel fuel stability experiments continue. The 200°C experiment was operated for three months and has now been deactivated. A 250°C experiment is in the initiation phase (pressurization and testing).

The following six Los Alamos National Laboratory (Los Alamos) milestone reports were submitted to YMPO this week.

- Milestone 3152, "Estimates of Standard Error Associated with Quantitative XRD Analyses of Phase Abundance" by L. Moore, et al. (WBS 1.2.3.2.1.1.1)
- Milestone 3353, "The Distribution of Airborne Minerals around UZ-16" by G. Guthrie, et al. (WBS 1.2.3.2.1.1.1)
- Milestone 4001, "Trace Minerals for Sorption Studies" by S. Chipera, et al. (WBS 1.2.3.2.1.1.1)
- Milestone 4003, "Mineralogy of the Upper Paintbrush Tuff in Drill Core UE-25 UZ-16" by S. Chipera, et al. (WBS 1.2.3.2.1.1.1)
- Milestone 4012, "Diagenetic Alteration of Tuffs in Yucca Wash and Northern Crater Flat" by D. Broxton, et al. (WBS 1.2.3.2.1.1.2)
- Milestone 3406, "Geochronology Studies" (WBS 1.2.3.2.5)

Los Alamos attended a project meeting on concerns about Tunnel Boring Machine operations in shallow, nonwelded vitric tuff on October 18, 1993, in Las Vegas.

Reynolds Electrical & Engineering Co., Inc. (REECo) completed drilling the vertical holes required to explosively excavate the surface of the outcrop prior to installation of the large saw.

SNL staff continued design verification activities in the ESF north ramp starter tunnel. These activities are being conducted under Study Plan 8.3.1.15.1.8, In Situ Design Verification. Current activities include planning the monitoring activities and instrumentation necessary for the Starter Tunnel Alcove, and continued monitoring of instrumentation installed in the tunnel. This week the holes for the multi-point extensometers (MPBX) were drilled and the rock bolts designated for installation of load cells were pull tested. Next week SNL field crews will begin installation of the MPBXs and load cells. Installation of junction boxes and conduit for instrumentation cables and the data acquisition system will also be started.

The SNL YMP QA manager participated in a comment resolution meeting at the Yucca Mountain Quality Assurance Division (YMQAD) concerning draft procedure YAP 15-1, Control of Nonconformances. Resolution of all participant organization comments was achieved, and conducted a "customer interview" with the Director of YMQAD, in order to establish or validate customer expectations and requirements.

The USGS presented the final version of the ESF north ramp geologic cross-sections to the CRWMS M&O engineering staff on October 18, 1993. All available data were reviewed on the NRG, RF, and UZN boreholes inclusion in the structure contour maps and isopach maps to be used in Revision 1 of the 3-D lithostratigraphic model. A database has been developed by USGS to automate the posting of thickness values at borehole locations on the isopach maps. The USGS continued to work on lithologic and stratigraphic logs of drill core from boreholes UE-25 NRG-6 and UE-25 NRG-4. Samples for thin-section petrography were selected from the NRG-4 core.

The USGS began mapping the new trenches in Tarantula Canyon at Bare Mountain this week, and continued cleaning, marking and plotting the new trench exposures on the Solitario Canyon Fault (SCFT-3 and SCFT-1A) in Crater Flat.

#### IV. PUBLIC OUTREACH AND INSTITUTIONAL ACTIVITIES

Tours to YM were conducted on October 18, 1993, for 35 members of the Lincoln County School Board; on October 20, 1993, for 40 guests of the Wildlife Shrub and Arid Land Restoration Symposium; and on October 21, 1993, for Daniel Dreyfus, Director, Office of Civilian Radioactive Waste Management; for three guests from Power Engineers, Inc.; and for five guests from TRW Headquarters.

Several educational presentations were given, including a presentation to 150 students at Durango High School in Las Vegas on October 18, 1993; a science presentation to 150 students at Fitzgerald Elementary School in North Las Vegas, Nevada, on October 18, 1993; a geology presentation to 32 students at Marion Earl Elementary School in Las Vegas on October 19, 1993; and a presentation on Native American Indian culture to 40 members of the public at Basset Book Shop in Las Vegas on October 20, 1993.

Gave a general YMP overview to two classes at the Community College of Southern Nevada on October 19, 1993, in Las Vegas. Approximately 50 students attended these presentations.

Gave a radiation presentation to 25 students at Gibson Middle School on October 19, 1993, in Las Vegas. Gave a presentation on nuclear energy to 25 students at Bridger Middle School on October 20, 1993, in Las Vegas. These presentations are part of the University of Nevada, Reno (UNR) Environmental Educational Program, an after school environmental program for minority and female seventh grade students. Ten of the students will go on the Public Open House tour of YM on October 23, 1993.

Gave a presentation on programs available through Educational Outreach on the YMP to 40 students at C. P. Squires Elementary School on October 21, 1993, in Las Vegas.

The YMP sponsored Part II of a REECo Teachers Workshop on plants and the environment and nuclear energy on October 18, 1993, at Fremont Junior High School in Las Vegas for approximately 25 teachers.

The YMP also sponsored a Critical Thinking Teacher Workshop at the Las Vegas Yucca Mountain Science Center (YMSC) on October 18, October 21, and October 25, 1993, for six teachers. Various YMP staff; Richard Arnold, a consultant; and Christine Chairsell, Nevada Environmental and Energy Education Network Director for Southern Nevada, gave presentations.

The YMP Teacher Steering Committee, formed to help evaluate YMP's educational programs and to help in developing future educational activities, held its first meeting on October 20, 1993, at the Las Vegas YMSC. Six teachers from the Clark County School District attended the meeting. Subcommittees are scheduled to meet again on October 27, November 2, and November 5, 1993.

Institutional and External Affairs (IEA) staff met with Churchill County officials and toured the Fallon Naval Air Station in Fallon, Nevada, on October 19, 1993.

IEA staff updated the New Work Exhibit at the Las Vegas YMSC to include large photos of the completed starter tunnel and other site characterization activities.

#### V. 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 Jackie Brandt at (702) 794-7896 or Theresa Hirsch at (702) 794-7759 for additional information. Exhibits are coordinated by Joanna Magruder at (702) 794-7056, Public Update Meetings are coordinated by Rick Moore at (702) 794-7769, and Tours are coordinated by Carleen Hill at (702) 794-7375 or Kelly Doyle at (702) 794-7133.

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
A. <u>Stakeholders Meetings</u>			
No significant meetings to report.			

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<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
B. <u>DOE/HQ Meetings</u>			
No significant meetings to report.			
C. <u>CRWMS M&amp;O/DOE Meetings</u>			
Thursday, November 4	CRWMS M&O Program Management Review	Las Vegas, NV	R. Dyer
D. <u>Internal and DOE/Nevada Operations Office Meetings</u>			
Friday, October 29	Technical Project Officers Meeting	Las Vegas, NV	R. Dyer
Friday, October 29	Planning and Budget Meeting	Las Vegas, NV	R. Dyer
Friday, October 29	YMPO Monthly Manage- ment Meeting	Las Vegas, NV	R. Dyer
E. <u>NRC Interactions</u>			
Wednesday, November 17	Seismic Hazards Assessment Technical Meeting (P)	Washington, DC	T. Bjerstedt
Thursday, November 18	Interactions Scheduling Management Meeting (P)	Washington, DC	T. Bjerstedt
F. <u>NWTRB Interactions</u>			
Monday- Tuesday, November 1-2	NWTRB Joint T&S/ EBS Panel Workshop (P)	Dallas, TX	J. Nesbit
Monday, November 22	NWTRB Panel on Environmental & Public Health (P)	Washington, DC	J. Nesbit
Monday- Wednesday, January 10-12, 1994	NWTRB Full Board Meeting (P)	Arlington, VA	J. Nesbit
January or February 1994 (Tentative)	NWTRB - SG&G Panel (P)	TBD	J. Nesbit
Monday- Wednesday, April 11-13, 1994	NWTRB Full Board Meeting (P)	Reno, NV	J. Nesbit
Monday- Wednesday, July 11-13, 1994	NWTRB Full Board Meeting (P) (Tentative)	Denver, CO	J. Nesbit

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
F. <u>NWTRB Interactions (Continued)</u>			
Wednesday- Friday, October 12-14, 1994	NWTRB Full Board Meeting (P) (Tentative)	Las Vegas, NV	J. Nesbit
G. <u>ACNW Interactions</u>			
Wednesday- Thursday, October 27-28	ACNW 58th Meeting (P)	Bethesda, MD	A. Gil
Monday- Tuesday, November 15-16	ACNW 59th Meeting (P)	Bethesda, MD	A. Gil
Monday, December 13	ACNW 60th Meeting (P)	Las Vegas, NV	A. Gil
Tuesday, December 14	ACNW Working Group on Unsaturated Zone Hydrology (P)	Las Vegas, NV	A. Gil
Wednesday, December 15	ACNW Site Tour at YM (P)	Las Vegas, NV	A. Gil
H. <u>National Academy of Sciences (NAS) Interactions</u>			
Tuesday- Wednesday, November 9-10	NAS Committee on YM Standards (P)	Las Vegas, NV	S. Jones
Thursday- Friday, December 16-17	NAS Committee on YM Standards (P)	Washington, DC	S. Jones
Monday- Tuesday, February 7-8, 1994	NAS Committee on YM Standards (P)	TBD	S. Jones
Thursday- Friday, April 28-29, 1994	NAS Committee on YM Standards (P)	TBD	S. Jones
<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Speaker</u>
I. <u>State and Public Interactions</u>			
Saturday, October 23	National Organi- zation for Women - General Overview	Las Vegas, NV	J. Younker
Monday, October 25	Critical Thinking Teacher Workshop	Las Vegas, NV	A. Robison C. Chairsell

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Speaker</u>
I. <u>State and Public Interactions</u> (Continued)			
Tuesday, October 26	Pahrump Junior High School - Volcanoes & Earthquakes	Pahrump, NV	J. Nesbit
Tuesday, October 26	J. S. Park Elementary - Careers Through the YMP	Las Vegas, NV	E. Harle
Tuesday, October 26	YM Speaker Series (P) - "Water: Where It Comes From and Where It Goes"	Las Vegas, NV	C. Savard
Wednesday, October 27	Paradise Elementary School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Thursday, October 28	Las Vegas Breakfasters Lions Club - General Overview	Las Vegas, NV	P. Standish
Thursday, October 28	Pahrump Intermediate School - YM Johnny	Pahrump, NV	J. Hartley
Thursday, October 28	Remediation Opportunities Conference - General Overview	McLean, VA	J. Peck
Thursday, October 28	YM Speaker Series (P) - "Water: Where It Comes From and Where It Goes"	Beatty, NV	C. Savard
Tuesday, November 2	UNLV Natural Resources Class - General Overview and Geology	Las Vegas, NV	A. Gil
Wednesday, November 3	Pahrump Intermediate School - Native American Indian Culture	Pahrump, NV	R. Arnold
Thursday, November 4	Discover Southern Nevada - General Overview	Las Vegas, NV	TBD

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Speaker</u>
I. <u>State and Public Interactions</u> (Continued)			
Friday, November 5	Fitzgerald Elementary School - Science	N. Las Vegas, NV	J. Blink
Friday, November 5	Clyde Cox Elementary School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Friday, November 5	International Brotherhood of Electrical Workers - General Overview	Las Vegas, NV	D. Bradford J. Peck
Saturday, November 6	Derfelt Elementary School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Monday, November 8	Cannon Middle School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Monday, November 8	International Brotherhood of Electrical Workers - General Overview	Las Vegas, NV	D. Bradford J. Peck
Tuesday, November 9	Clark High School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Tuesday, November 9	Pahrump 5th & 6th Grade School - Earth & Fossils	Pahrump, NV	A. Gil
Wednesday, November 10	Lowman Elementary School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Thursday, November 11	International Brotherhood of Electrical Workers - General Overview	Las Vegas, NV	D. Bradford J. Peck
Tuesday, November 16	Society for Min- ing, Metallurgy, and Exploration - General Overview	Pomona, CA	TBD
Wednesday, November 17	Republican Women - General Overview	Boulder City, NV	J. Younker

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Speaker</u>
I. <u>State and Public Interactions</u> (Continued)			
Wednesday, November 17	American Society of Civil Engineers - General Overview	Long Beach, CA	J. Replogle
Thursday, November 18	American Nuclear Society Results of In-Situ Testing at Geologic Disposal Sites	San Francisco, CA	TBD
Monday, November 22	George Harris Elementary School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Tuesday, November 23	Variety School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Wednesday, November 24	Will Beckley Elementary School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Monday, November 29	Beatty Elementary School - Fossils	Beatty, NV	M. Pendleton
Tuesday, November 30	YM Speaker Series (P) - "Archaeology in Perspective"	Las Vegas, NV	W. Johnson
Thursday, December 2	Yucca Mountain Speaker Series (P) - "Archaeology in Perspective"	Pahrump, NV	W. Johnson
Friday, December 3	G. C. Wallace Engineers & Architects - General Overview	Las Vegas, NV	J. Peck
Monday, December 6	George Harris Elementary School - YM Johnny	Las Vegas, NV	J. Hartley
Saturday, December 11	Girl Scouts - Geology Merit Badge Workshop	Las Vegas, NV	Various
Friday, December 31	Widowed Persons Group - General Overview	Las Vegas, NV	J. Peck

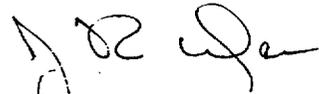
<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Speaker</u>
I. <u>State and Public Interactions</u> (Continued)			
Tuesday, January 25, 1994	YM Speaker Series (P) - "Constructing a Tunnel to Study a Mountain"	Las Vegas, NV	D. McKenzie J. Peck
Thursday, January 27, 1994	YM Speaker Series (P) - "Constructing a Tunnel to Study a Mountain"	Beatty, NV	D. McKenzie J. Peck
Saturday, February 12, 1994	Girl Scouts - Geology Merit Badge Workshop	Las Vegas, NV	Various
Sunday, February 27, 1994	Waste Management Symposia - TBD	Tucson, AZ	TBD
Sunday, March 20, 1994	Risk Management Quarterly Association - TBD	San Diego, CA	TBD
Saturday, April 2, 1994	Girl Scouts - Geology Merit Badge Workshop	Las Vegas, NV	Various
Saturday, June 4, 1994	Girl Scouts - Geology Merit Badge Workshop	Las Vegas, NV	Various
<u>Date</u>	<u>Event</u>	<u>Location</u>	
J. <u>Exhibits Scheduled</u>			
Saturday, October 23	Public Open House (P)	Las Vegas, NV	
Monday- Thursday, October 25-28	Geological Society of America	Boston, MA	
Monday, November 8	Public Update Meeting	Pahrump, NV	
Tuesday, November 9	Public Update Meeting	Las Vegas, NV	
Wednesday, November 10	Public Update Meeting	Reno, NV	
Thursday- Sunday, November 11-14	American Indian Science and Engineering Society	Spokane, WA	

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<u>Date</u>	<u>Event</u>	<u>Location</u>
J. <u>Exhibits Scheduled (Continued)</u>		
Saturday, November 13	Boy Scouts Expo '93	Las Vegas, NV
Sunday- Tuesday, November 14-16	UNR Environmental Conference	Reno, NV
Sunday- Wednesday, November 14-17	American Nuclear Society	San Francisco, CA
Saturday, November 17	Public Open House (P)	Yucca Mountain, NV
Saturday, December 4	Public Open House (P)	Yucca Mountain, NV
Monday- Friday, December 6-10	American Geophysical Union	San Francisco, CA
Monday- Friday, December 13-17	Migration '93	Charleston, SC
<u>Date</u>	<u>Event</u>	<u>Escorts</u>
K. <u>Tours Scheduled</u>		
Saturday, October 23	Public Open House (P)	Various Escorts
Tuesday, October 26	NARUC	TBD
Wednesday, October 27	Dadaelians	M. Voegele
Thursday- Friday, October 28-29	Native American Program Update	G. Fasano V. Best
Monday, November 1	Japanese Radioactive Waste Management	TBD
Wednesday, November 3	CRWMS M&O Headquarters	TBD
Wednesday, November 17	Public Open House (P)	Various Escorts
Tuesday, November 23	Sun City B'nai Brith	TBD
Monday, November 29	NAS Tunnel Technology Committee	TBD

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<u>Date</u>	<u>Event</u>	<u>Escorts</u>
K. <u>Tours Scheduled</u> (Continued)		
Saturday, December 4	Public Open House (P)	Various Escorts
Monday, December 6	Stoller Corporation	TBD
Wednesday, December 15	ACNW	A. Gil
Saturday, January 22, 1994	Public Open House (P)	Various Escorts
Saturday, February 26, 1994	Public Open House (P)	Various Escorts
Thursday, March 31, 1994	National Council, State Garden Club Specific Region Convention	TBD



J. Russell Dyer  
Acting Project Manager

YMP:RVB-578

Task: USW NRG-7/7A, North Portal Ramp Borehole (Job Package 93-15)

Began operations October 21, 1993. The borehole was cored to 120 feet with 5 1/5-inch odex casing driven to 81 feet. The Failing 1500 Rig is being utilized to core/drill this hole. Scheduled total depth is 1445 feet.

**REPOSITORY (1.2.4)**

WBS 1.2.4.2.1.1.4

Task: Construction Monitoring Test Support (Job Package 92-20)

Set up the core drill and drilled 15 meters (50 feet) of NQ hole for MPBX gauges. Supported load cell and convergence pins installation for the investigators.

**EXPLORATORY STUDIES (1.2.6)**

WBS 1.2.6.1

Task: Exploratory Studies Facility (ESF)

Continued administrative support for ESF activities to include planning, scheduling and management.

Task: ESF North Portal Pad & Facilities (Job Package 92-20)

Waterline - J-13 to Booster: Began clearing and grubbing waterline right-of-way, waterline trench excavation, stockpiling and bedding sand at J-13 Stockpile and hauling trench soil to waste area. Completed locating the existing 6-inch water and accepted delivery of two loads of 8-inch waterline.

Starter Tunnel Rockbolts/Shotcrete: Pull tested 44 Williams (pattern) rockbolts, three of which failed. Pull tested 4 split set rockbolts, all of which passed. Pumped 9.6 cubic meters (339 cubic feet) of HLN(cc); grout returned on 17 rockbolts.

Test Alcove #1 Excavation: Drilled for and installed 55, 10-foot split set and 4 Williams (pattern) rockbolts for the Test Alcove. Hung 6 inch welded wire in the Test Alcove as required. Drilled, blasted, and mucked rounds NP-TA-001 through NP-TA-005, advancing the Test Alcove to CS 0+14 meters (0+45 feet). Drilled round NP-TA-007. Applied 25 bags of fibercrete to the brow of the Test Alcove.

Procurement Actions

Procurement of the batch plant is in process; expected award in early November with estimated delivery in mid-January. Draft Request for Proposal for the ESF Surface Conveyor System has been reviewed and is in final preparation. Assisted Kiewit Construction Company in the development of a mini-Purchasing System.

**TEST FACILITIES (1.2.7)**

Task: Field Operations Support

Continued support services to participants and maintenance of YMP utilized facilities, utilities, equipment and roads in Area 25.

Continued logistical and tour support for DOE Yucca Mountain Site (YMSO) staff. Eighteen tours and one Open House were held during this period. Support included but was not limited to arrangements for buses, registration of guests, coordination of lunches/beverages, medical service, furniture, and mechanical service. Continued preparations for upcoming tours.

#### **PROJECT MANAGEMENT (1.2.9)**

##### WBS 1.2.9

##### Task: Technical Project Office Management/Project Control

Continued normal administrative level of effort support. Continued status and update of Planning and Control System (PACS); supported ESF Construction activities, drilling activities and completed cost estimates as required.

#### **QUALITY ASSURANCE (1.2.11)**

##### WBS 1.2.11

##### Task: Quality Assurance (QA)

Continued normal administrative level of effort support. Received formal comments on the submitted REECo QARD matrix. Comments are being evaluated for resolution.

Issued the 1993 Third Calendar Quarter Trend Evaluation Report. Lack of attention to detail was cited as a problem which warrants attention by management.

Conducted a surveillance of Construction Tunneling Services (CTS) and their Subcontractors (EBCO and Nicholson) was performed to evaluate compliance to Tunnel Boring Machine QA specification requirements.

Issued REECo Corrective Action Report CA-94-001 addressing a negative trend in failure to either take adequate test samples, control test samples, or account for test results to meet specification requirements.

Issued REECo Corrective Action Report CA-93-002 addressing a negative trend in proceeding with work activities beyond required quality control hold points.

Because additional evaluation was determined necessary, an extension was requested and an amended response provided for DOE Corrective Action Request (CAR) YM-93-061.

#### **ENVIRONMENT, SAFETY & HEALTH (1.2.13)**

##### WBS 1.2.13

##### Task: Safety & Occupational Health

Provided medical, occupational safety, industrial hygiene and fire protection support.

Occupational safety personnel completed all safety recommendations for the OCRWM Regulatory Compliance Audit of May 1993. A bottled gas sample for verification of the absence of explosive gas

REYNOLDS ELECTRICAL & ENGINEERING CO., INC.  
(REECo)

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT (YMP)

OCTOBER 1993 - STATUS REPORT

Reeco has no reportable Level 0 or Level 1 Milestones.

**WASTE PACKAGE (1.2.2)**

WBS 1.2.2.2.4

Task: Fran Ridge Prototype Saw Support (Job Package 93-10)

Completed drilling for the third blast at Fran Ridge for the Large Block Test.

**SITE (1.2.3)**

WBS 1.2.3.5

Task: USW UZ-14 Drilling (Job Package 92-17)

Continued operations. Borehole was cored and reamed to 12 1/4-inch diameter to 1422 feet, plugged back with Howco Micro Matrix cement to 1305 feet and subsequently drilled out to 1326 feet. A downhole video camera run revealed a slight water influx (approximately 3 to 4 gallons per hour) into the borehole from 1280 feet to 1282 feet. Currently preparing to place cement plug from 1325 feet to 1240 feet.

Task: C-Well Soil Remediation (Job Package 93-11)

Backfilled soil remediation excavations at C-Well Complex.

Task: Ghost Dance Fault Roadcuts (Job Package 93-12)

Continued exposure work at Ghost Dance Fault.

Task: SD-12 Drill Pad/Access Road (Job Package 93-13)

Continued working on access road and drill pad for SD-12 including blasthole drilling and hoe ram excavation.

Task: UE-25 NRG-7, North Ramp Borehole (Job Package 93-14)

Completed earthwork and grading of NRG-7 drill site.

in the tunnel, as required by Mine Safety and Health Act regulations, is under analysis by Industrial Hygiene. Reviewed Kiewit Construction Company safety manuals, provided comments which were resolved and incorporated.

Industrial Hygiene personnel supported the following project activities: conducted air quality and relative humidity measurements in the North Portal Starter Tunnel and Test Alcove; conducted special illumination surveys of the NRG-7 drilling operation area and equipment during three-shift operations; conducted measurements or sample collection for noise, total dust, or respirable silica on personnel performing "air lance" cleaning operations on Ghost Dance fault pavement study and drilling operations at SD-12; participated in the YMP User's Safety & Health Advisory's subcommittee review and recommendation of safety and health guidelines for use of lasers on YMP locations.

### **SUPPORT SERVICES (1.2.15)**

#### **WBS 1.2.15**

#### **Task: Administrative Support and Training**

Continued to provide procurement, logistical, and information management administrative level of effort support; continued support services to various YMP participants.

Staffed the YMP Technical Information Display at the Association of Engineering Geologists conference held in San Antonio, Texas, and at the annual meeting of the Geological Society of America held in Boston, Massachusetts.

#### **Task: Site Characterization Plan (SCP) Reference Library and Database**

There were no SCP sets distributed during this period.