



Reynolds Electrical & Engineering Co., Inc.

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IN REPLY REFER TO:

580-01-476

WBS 1.2.9.1

QA: N/A

MAY 17 1994

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YUCCA MOUNTAIN SITE CHARACTERIZATION (YMP) PROGRESS REPORT (SCP: N/A)

Enclosed is the April YMP Progress Report for Reynolds Electrical & Engineering Co., Inc.'s participation in the YMP. The Variance Explanations (Variance Analysis Reports) are not enclosed and will be submitted under separate cover.

If you have any questions, please contact Dean L. Knight at 794-7400.

Daniel L. Koss, Manager
Yucca Mountain Project Division
YMP Technical Project Officer

DLK:SEW:L94151:mff

Enclosures

1. Progress Report (8 pages)
2. Cost/Full-Time Equivalent Report (1 page)

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Information Services Center, M/S 408
M. M. Martin, M&O, M/S 423

cy w/encls. 1

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**REYNOLDS ELECTRICAL & ENGINEERING CO., INC.
(REECO)**

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT (YMP)

APRIL 1994 - PROGRESS REPORT

REECO has no reportable Level 0 or Level 1 Milestones.

WASTE PACKAGE (1.2.2)

PROGRESS DURING REPORTING PERIOD:

WBS 1.2.2.2.4

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

Supported Sandia to saw a large block approximately 16 feet high, 6-8 feet wide, and 10-12 feet long. Excavated the block and banked the block for stability. Bolt testing completed and mobilization initiated.

DELIVERABLES:

None.

ISSUES AND CONCERNS:

None.

SITE (1.2.3)

PROGRESS DURING REPORTING PERIOD:

WBS 1.2.3.5

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

Presently coring ahead at 2197.27 feet. Monitoring fluid level and water pH daily.

Task: USW NRG-7 (Job Package 93-15)

Pulled 5 ½ inch casing and opened hole with auger. Ran 6 ¾ inch casing to 25.36 feet. Attempting to clean out hole to total depth.

Task: USW NRG-6 (Job Package 92-11)

Ran in hole with internal casing spear. Attempted to pull remaining casing with hydraulic jacks and mechanical jars. Unable to move casing. Pulled out of the hole, left grapples off of spear in hole. Ran TV camera to locate grapples. Knocked grapples to bottom. Ran in hole with spear to attempt to remove casing, spear would not go into casing. Rigged down and moved off location.

Task: USW SD-12 (Job Package 94-04)

Presently reaming 12 ¼ inch hole at 560.49 feet with 4 ⅝ inch core hole at 580.74 feet.

Task: USW UZ-7 (Work Program 94-05)

Rigged up Oscillating tool and pulled 6 ⅝ inch casing free. Moved oscillating tool off of location. Continued pulling casing with rig and hydraulic jacks. Pulled casing out of hole, left two joints at surface. Installed air tight cap.

Task: Maintenance & Operations

Continued to provide technical support, equipment checks, and repairs to the USGS Integrated Data Acquisition System (IDAS) Prototype System.

<u>Deliverable</u>	<u>Due Date</u>	<u>Expected Date</u>	<u>Completed Date</u>	<u>Comments</u>
Drilling of SD-12 Borehole				Operations ongoing.
Drilling of NRG-7/7A Borehole				Completed March 10, 1994.
Drilling of Ramp Boreholes NRG-8A, 8B, 8C				No activity at this time.
Drilling of Ramp Boreholes NRG-2C and NRG-2D, Phase I				Phase I completed February 10, 1994.
Drilling of SD-9 Borehole				Expected start date early May 1994.
Support testing and completion on UZ-16 and UZ-14				Testing support ongoing on UZ-16. Drilling/coring operations currently ongoing on UZ-14.
Support pump testing activities at the C-Hole Complex				Phase I completed January 21, 1994.
Drilling of UZ-7A Borehole				No activity at this time.

ISSUES AND CONCERNS:

None.

EXPLORATORY STUDIES (1.2.6)

PROGRESS DURING REPORTING PERIOD:

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)

Dry Core Drilling in Test Alcove #1: Supported Investigators doing an as-built photo mapping of drill hole HC#2 up and cleaned out the hole. Supported the clean out of the top Radial Borehole Test hole; prepared and set up rig and platform for drilling on the lower Radial Borehole Test hole. Clean out the lower left Radial Borehole was completed. Supported investigators doing an as-built photo mapping of drill hole HC#1 lower left and cleaned out the hole. Drill rig standing by on hole HC#1 lower left ready to provide support. Drill rig was moved to the lower right hole. Supported Investigators doing an as-built photo mapping of drill hole HC#1; lower left completed. Drill Rig standing by on hole HC#3; lower right. Cleaning back 60 feet of HC#3; lower right.

Trenches and Duct Bank: Completed backfilling the area over the ductbanks southeast of the switchgear building. Completed all ductbanks entering switchgear building main cable trench. Completed duct bank run from manhole CD to CK (105 feet). Began excavation of ductbank run from manhole CD to Switchgear Building. Completed ductbank run from manhole CG to CH (180 feet). Completed excavation of ductbank run to manhole PH from the existing encased duct banks, and excavated the remaining trench from PH to CH. Completed placing bottom stirrups in the above trenches.

Sanitary Sewer Line: Completed laying pipe from manhole No. 6 to manhole No. 7. Surveyed and began the excavation of the two lateral sewer lines (100 feet long each) from manhole No. 5 and manhole No. 6. Installed 65 feet of lateral sewer line. Continued working on lateral connections to change house building. Surveyed clean outs from point 21 and 22, which required A/E change to drawing to correct cited locations.

Water line - J-13 to Booster: Installed flushing hydrant, Baker clamps on leaking section of existing 6 inch waterline C-Well; placed and compacted select material in 40 Mile Wash waterfill stand road and road to top of Yucca Mountain; began placing center load material over pipe at station 192+00; began assembly of piping for J-13 Water Well tie-in.

Isolation Grounding Grid: Completed excavation of the grounding grid, including the northwest corners and sides which required the removal of 12 feet of rock. This removal of rock was not in the original estimate. Backfilled excavated area to the required finished grade. This backfilling was also not included in the original estimate. Completed installing grounding rods. REEC electrical testing completed. Waiting for manufacturer literature on cadwelds before we can begin backfilling and final testing.

Switchgear Building: Mobilized underground plumbing for building; continued installation of electrical ducts. First and second reinforcing iron mat placed in cable trench on west side. First mat placed in east side. Finished excavation of the ductbank for manhole CZ to the switchgear building stub up; Rebar and conduit placed, and concrete encasement is planned to be placed on April 28, 1994. Completed excavation of the ductbank from manhole CD to switchgear trench and placing rebar; Completed excavation and placing rebar in north side 10 foot stub ups (2).

Subsurface Grounding Grid: Completed drilling of holes for the underground isolation electrical grounding grid.

Task: Construction of C-Well Complex (Job Package 92-21)

C-Well Discharge Pipeline: Flushed line and air tested line from C-Well complex to metering valve box. Completed fusion welding pipe from Baker tanks to the incipient leach pad per design issued. Initiated repairs on fiberglass water line, began setting up for pressure testing of line from J-13 to metering vault.

NRT-1 Trench, Slot & Trail: Supported RSN Material Test Lab in performing plate bearing tests.

Procurement Actions

Purchase Order (PO) No. 954-YCA-01-4 for Power Center Switchgear: This PO was awarded on April 8, 1994, with a scheduled delivery of 90 calendar days after approval of submittals.

Purchase Order No. 956-YCA-01-4 for Switchgear: This PO was awarded on April 6, 1994, with a scheduled delivery date of August 30, 1994.

Purchase Order No. 265-YN-01-4 for Manhole Components: This PO was awarded on April 8, 1994, with delivery scheduled 42 calendar days after the seller's receipt of approved submittals.

RFP 83-BG-94 Rotary Drill Rig: Closed at 4 p.m. on April 5, 1994. Three proposals were received and forwarded to the Project Control Department for technical evaluation. The suspense date is April 29, 1994.

RFP 63-MM-94 Water Storage Tanks: A letter was sent to the DOE/Nevada Operations Office (NV) Contracting Officer requesting that the small business set-aside for construction under \$3 million be removed. The P&PMD has also been notified by Bruce Gardella, Manager Project Control Department, that due to funding he would like to be able to award this requirement as late as October 1994. This matter will be further discussed with the Project Control Department once the DOE/NV replies to our letter.

Capital PO 924-YCA-01-3 Tunnel Boring Machine (TBM): Construction and Tunneling services, Inc. (CTS), has shipped 47 TBM component loads as of April 27, 1994. Thirty-seven of these loads have been received at Area 25. This leaves ten loads en route and two to three more loads to be loaded out by Thursday night, April 28, 1994. All loads should be at Area 25 by Monday, May 2, 1994. By using good loading procedures, CTS has been able to reduce the number of truckloads to 49 or 50 versus the original proposed 57.

A proposal for TBM Trailing Gear was received from CTS on April 21, 1994. A copy has been provided to all interested individuals for review.

\$2.1 million in capital equipment funding was approved for Kiewit/PB. Procurements are in process for rolling stock and survey equipment.

DELIVERABLES:

Completion of the 69KV power line to the ESF is changed from May 5, 1994, and is now projected for May 16, 1994.

ISSUES AND CONCERNS:

No programmatic impact is expected from the delay of the 69KV power line.

TEST FACILITIES (1.2.7)

PROGRESS DURING REPORTING PERIOD:

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 Characterization Office (YMSCO) staff. Twenty two 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.

DELIVERABLES:

None.

ISSUES AND CONCERNS:

None.

PROJECT MANAGEMENT (1.2.9)

PROGRESS DURING REPORTING PERIOD:

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 and drilling activities; and, completed cost estimates as required.

DELIVERABLES:

None.

ISSUES AND CONCERNS:

None.

QUALITY ASSURANCE (1.2.11)

PROGRESS DURING REPORTING PERIOD:

WBS 1.2.11

Task: Quality Assurance (QA)

Issued the 1994 first calendar quarter Trend Evaluation Report. No adverse trends were indicated.

Travelled to Reno, Nevada to perform a supplier audit of the State of Nevada, Department of Agriculture, Weights and Measures. Based upon the audit results, the Department was approved for use by REECO/YMP as a calibration source.

Verified and closed Corrective Action Report CA-94-003 and associated Stop Work Notification issued to the YMP Division office concerning field survey activities.

Conducted REECO Audit No. REECO-006-94 of YMP Document Control activities. The audit resulted in issuance of one Deficiency Notice concerning a failure to maintain controlled documents.

DELIVERABLES:

No specific QA Department deliverables were indicated for the month of April. Activities in support of Work Package/Work Authorization Directive FY 94 are ongoing.

ISSUES AND CONCERNS:

None.

ENVIRONMENT, SAFETY & HEALTH (1.2.13)

PROGRESS DURING REPORTING PERIOD:

WBS 1.2.13

Task: Safety & Occupational Health

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

Full Industrial Hygiene services continue to be provided for the Yucca Mountain Project. Daily work activities are evaluated and monitored for health hazard concerns.

Conducted an illumination survey at the UZ-14 drill site which included the Failing Stratmaster Drill Rig and associated equipment. Six locations were identified with the shift and two were uncorrected because the area is not used.

Air quality and related humidity measurements were taken in the work areas of the Test Alcove #1 in support of the Los Alamos National Laboratory (LANL) Hydrochemistry Test in the Exploratory Studies Facility (ESF) North Ramp Starter Tunnel Alcove #1. Operations included installation of collar plate on HC-2 top radial borehole, preparation of the invert to re-rig the Longyear 38 drill rig, conditioning/cleaning out HC-1 lower left and HC-3 lower right radial boreholes in preparation for TV/camera logging by USGS.

Measured air quality during measurements of pin distances by Sandia National Laboratory (SNL) personnel at the Main CS1+80 and CS 1+40 of the North Portal using and JLG 40H Manlift.

Conducted noise level measurements at and around a generator, NTS 512317, located about 30 feet from the Portal Access/Check-in Shack at the North Portal Starter Tunnel. Noise levels at the generator were 88 to 104 dBA with the 85 dBA distance at 8 to 9 feet from the generator, Noise at the shack was <77 dBA. "Caution Ear Protection Required" decals were affixed to the generator at this time.

Inspected multi-gas monitors and hand pumps at the Mine Rescue equipment and Training Facility Storage Room 138 in R-Mad, Bldg 3110. Two each Industrial Scientific Corp. CMX 271, six each TMX 410, and four each Draeger pumps are available. Discussed certificates and frequency of calibration of the equipment with J. P. Hedlund (REECO), Mine Rescue Coordinator.

DELIVERABLES:

None.

ISSUES AND CONCERNS:

None.

SUPPORT SERVICES (1.2.15)

PROGRESS DURING REPORTING PERIOD:

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.

Exhibited the one-booth Technical Information Display and spoke to five 10th-grade classes at Boulder City High School as part of the Boy Scouts of America Learning for Life Program; escorted thirteen representatives from White Pine County on a tour of the Palo Verde Nuclear Generating Power Plant in Phoenix, Arizona; and staffed the Office of Public Affairs Outreach Exhibit at the Clark County Fair in Logandale, Nevada.

Continued escorting shipments of the Tunnel Boring Machine parts from Gate 510 to the ESF Pad and made special arrangements for escorts of the excessively wide loads. A total of 24 shipments have been received to date. Provided tour support to DOE and continued to support SAIC and USGS with craft personnel.

Lead a task group responsible for development of a comprehensive underground work training program.

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

Continued distribution and database maintenance for the SCP and Progress Reports. Distributed six copies of Progress Report #9.

DELIVERABLES:

None.

ISSUES AND CONCERNS:

None.