

**OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT**  
**YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION**  
**QUALITY ASSURANCE SURVEILLANCE REPORT OF**  
**REYNOLDS ELECTRICAL AND ENGINEERING COMPANY, INC.**  
**SYSTEM FOR TRAINING, QUALIFICATION AND CERTIFICATION**  
**SURVEILLANCE YMP-SR-93-025**  
**CONDUCTED AT AREA 25, NEVADA TEST SITE**  
**AND LAS VEGAS, NEVADA**  
**JUNE 2-14, 1993**

**ACTIVITIES SURVEILLED:**

**REYNOLDS ELECTRICAL AND ENGINEERING COMPANY, INC. TRAINING,  
QUALIFICATION, AND CERTIFICATION OF PERSONNEL TO PARTICIPATE IN  
UNDERGROUND CONSTRUCTION ACTIVITIES RELATIVE TO THE STARTER  
TUNNEL TO THE YUCCA MOUNTAIN FACILITIES**

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## 1.0 EXECUTIVE SUMMARY

This report contains the results of the Office of Civilian Radioactive Waste Management (OCRWM) Quality Assurance (QA) Surveillance YMP-SR-93-025. This surveillance was performed to evaluate the Reynolds Electrical and Engineering Company, Inc. (REECo) system for training, qualification and certification of personnel participating in underground work relative to the Starter Tunnel. Surveillance YMP-SR-93-025 was conducted by the Yucca Mountain Quality Assurance Division (YMQAD) from June 2-14, 1993 per the Quality Assurance Administration Procedure (QAAP) 18.3, "Surveillance Program." This surveillance was performed both at the REECo office in Area 25 of the Nevada Test Site and in Las Vegas, Nevada.

Relative to the training and qualification of REECo personnel to participate in the Yucca Mountain Site Characterization Project (YMP), it appears that the quality program, for the areas examined, is being implemented in an effective and satisfactory manner.

## 2.0 SCOPE

This surveillance was performed to examine compliance to procedural requirements as related to REECo's system to train, qualify, and certify personnel to perform quality-related work on the YMP.

## 3.0 SURVEILLANCE TEAM PERSONNEL

Fred H. Lofftus, Surveillance Team Leader, Quality Assurance Technical Support Services

## 4.0 PERSONNEL CONTACTED

W. J. Glasser, Quality Assurance Manager, REECo  
D. J. Hemgree, Project Manager, REECo  
Edward Mouser, Lead Quality Control Inspector, REECo  
C. M. Barker, Training Administrator, REECo  
R. H. Leske, Safety Professional III, REECo  
P. J. Wilson, Senior Quality Assurance Specialist, REECo

## 5.0 SURVEILLANCE RESULTS

No Deficiencies were noted. However, it must be understood that the crafts are hired out of the union halls and with the exception of Welders, Blasters, and Nozzlemen; certifications plus supporting documentation is not a requirement. Procedure MC-02.4.2 (Personnel Qualification and Certification), Revision 2, Paragraph 6.0 states: "For craft personnel.... The Job Classification Requirements will only list experience requirements."

The following items were examined:

- A. **Personnel Training:** Procedure TC-580-SP-0001 (Starter Tunnel Portal Access Control) Paragraph 6.2.1 requires all persons to receive training prior to entering the tunnel. This is a safety requirement which is outside the realms of this surveillance. However, the question was asked and REECo did supply a list of their personnel to receive the training.
- B. **Blasters:** Although the work procedure, TC-581-WO-0003 (Drilling and Blasting for Underground Construction) is a quality-affecting procedure and Paragraph 4.6 states: "Certified Blasters...", the certification of blasters is performed under REECo's Occupational Safety Code E-3. Blaster certification is a safety, rather than a specification requirement and is thus, not a part of this surveillance.
- C. **Welders:** At this time, REECo does not employ welders to perform quality-affecting work at the Yucca Mountain site. See REECo memorandum, Glasser to Pugmire, dated November 1, 1991.
- D. **Shotcrete Applicators (Nozzlemen):** Shotcrete examinees are required to demonstrate their ability to correctly and successfully apply shotcrete for which he or she will be certified. Laboratory test records indicating the results of compression samples taken from demonstration and test control panels dated May 1993, were verified by the writer. Results were found to be acceptable per the requirements of the American Concrete Institute (ACI 506.3R-9) referenced in Section 03361 of Specification YMP-25-1-SP09, Article 4.01, Paragraph E. To date, three REECo employees have been certified as Nozzlement. They are: J. Hastings, R. Schutt, and H. DiCamillo. See REECo memorandum, Bryant to Leonard, dated June 10, 1993, Subject: Certification of Shotcrete Applicators.

## 6.0 RECOMMENDATIONS

None