OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION

QUALITY ASSURANCE SURVEILLANCE REPORT OF

REYNOLDS ELECTRIC AND ENGINEERING COMPANY

SURVEILLANCE YMP-SR-94-003

CONDUCTED AT YUCCA MOUNTAIN SITE

OCTOBER 7 THROUGH 15, 1993

ACTIVITIES SURVEILLED:

WATER USAGE AT THE YUCCA MOUNTAIN SITE

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ENCLOSURE

1.0 EXECUTIVE SUMMARY

This surveillance of Reynolds Electrical and Engineering Company, Incorporated (REECo) at the Yucca Mountain Site was conducted on October 7-15, 1993 to verify monitored water usage in accordance with Technical Directive 93-YM-107. During this surveillance, effectiveness of implementation of Design Specification YMP-025-1-SP09, Revision 2, Section 02225, "Water Use for Construction and Operation" was evaluated. It was determined that requirements governing water use were being implemented in a satisfactory manner and the supporting documentation was found to be in compliance.

2.0 PURPOSE AND SCOPE

Surveillance YMP-SR-94-003 was conducted at the REECo facilities at the Yucca Mountain Site, on October 7-15, 1993 to determine implementation of Design Specification YMP-025-1-SP09, Revision 2, Section 02225.

3.0 SURVEILLANCE TEAM

Steven P. Nolan, Surveillance Team Leader, Yucca Mountain
Quality Assurance Division, Quality Assurance Technical
Support Services

4.0 PERSONNEL CONTACTED DURING THE SURVEILLANCE

Paul Bryant, REECo, Quality Control, Field Operations Center (FOC)
Kanti Patel, REECo, Engineering, FOC
Robert Rommell, REECo, Engineering, FOC
Larry Engwall, TRW, Management and Operating Contractor

5.0 SURVEILLANCE RESULTS

This surveillance was conducted by means of interviews and documentation reviews to determine compliance to YMP-025-1-SP09, Revision 2, Section 02225, "Water Use for Construction and Operations". Water expended for construction and operations is being monitored to conform to the requirements as stipulated in the following design specification:

3.01 A. "All water used for construction and dust control shall be measured."

All water distribution trucks are equipped with meters in order to provide this monitoring service. In addition, all drivers are required to complete the necessary water accountability report in which the following data is filled out: truck or equipment number, meter setting, fill location, application site, gallons used, date, and any general remarks.

B. "The contractor shall control and record the amount of water used for each application and location."

Reviewed a sampling of water accountability records located in the field operation center and being maintained by the Reynolds Electric and Engineering Company, Engineering Department. All records reviewed had the necessary information, which is detailed in section 5.1 of this report.

C. The contractor shall be required to add tracers to construction water used underground in accordance with an approved design to be developed by the A/E. Tracers will be applied prior to the water being transported into the underground openings. REECo Quality Control personnel escorted the surveillance team to the North Portal Pad where this activity takes place in the following fashion:

- Water is delivered on as needed basis in order to support the tunnel activity. One tank that is used for mixing is then hooked up to a water delivery truck which pumps in the water with this activity being metered to determine how much water was added.

- The tracer used, lithium bromide, is then added to the mixing tank which is dedicated for this purpose only. Although this activity did not take place during this surveillance the tank was in the mixing phase during this visit. The water is tested until it meets the target concentration of 20 ppm ± 10 percent of lithium bromide prior to any transfer to the portal dedicated tank containing the appropriately mixed tracer water.

  No testing of water took place during this surveillance.

Monthly reports are generated by REECo to the U. S. Department of Energy Site Manager to show how much water is being used in support of site characterization. A sampling of these reports provide the following information:

Month	Total Gallons Used	Tracer Water
February 1993	2,090,600	
March 1993	2,459,300	
April 1993	2,696,200	
May 1993	2,145,300	
June 1993	2,455,900	65,220
July 1993	1,983,500	91,485
August 1993	2,323,800	98,679
September 1993	2,842,774	63,774

This information establishes that for the eight month period represented, a total of 21,453,274 gallons of water was used in support of site characterization with 319,158 of that total being utilized (tracer added) for underground use.

5.1 Sample of Records Reviewed

Equipment #	Fill Location	Application Site	Gallons Used	Date
81395	B-T	NP Mixing tank	4,000	6-17-93
81395	B-T	NP Pad	500	6-17-93
81395	B-T	NP Mixing tank	4,000	6-17-93
81395	B-T	NP Pad	500	6-17-93
81395	B-T	NP Pad	4,500	6-17-93
83370	B-T	ESF Pad	40,000	6-21-93
83370	B-T	Batch Plant	5,000	6-21-93
81395	B-T	NP Mixing Tank	4,000	6-22-93
81395	B-T	NP Pad	500	6-22-93
81395	B-T	NP Mixing Tank	4,000	6-22-93
81395	B-T	NP Pad	500	6-22-93
81395	B-T	NP Pad	4,500	6-22-93
83370	B-T	YM Road Dust Control	4,500	5-15-93
83370	B-T	Trench 14	4,500	5-15-93
83370	B-T	Tower Road	4,500	5-15-93
83370	B-T	YM	4,500	5-15-93
83370	B-T	YM	4,500	5-15-93
83370	B-T	YM	4,500	5-15-93
83370	J-13	Sub Dock	4,575	6-4-93
83370	J-13	NRG-2A	4,575	6-4-93
83370	J-13	NRG-5	4,575	6-4-93
83370	J-13	UZ-14	4,575	6-4-93
83370	J-13	Sub Dock	4,575	6-4-93
81395	B-T	NP ESF Pad	4,500	6-23-93B
81395	B-T	NP ESF Pad	4,500	6-23-93
81395	B-T	NP ESF Pad	4,500	6-23-93
81395	B-T	NP Pad	3000	5-17-93
81395	B-T	NP ESF Pad	4,500	5-17-93
81395	B-T	ESF Pad	4,500	5-17-93
81395	B-T	NP Mixing tanks	4,000	5-18-93
81395	B-T	NP Pad	500	5-18-93
81395	B-T	NP Pad	4,500	5-18-93
81395	B-T	NP Mixing tanks	4,000	5-20-93
81395	B-T	NP Pad	500	5-20-93
81395	B-T	NP Mixing tanks	4,000	5-20-93
81395	B-T	NP Pad	500	5-20-93
84689	18	UZ-14 LM300	4,500	4-26-93
84689	18	Trench 14/Tower Road	4,500	4-26-93

84689	18	Old LM 300 Site	4,500	4-26-93
84689	18	YM Road	4,500	4-26-93
84689	18	YM Road	4,500	4-26-93
84689	18	YM Road	4,500	4-26-93
84689	18	YM Road	4,500	4-26-93
81395	B-T	NP Pad	4,500	3-29-93B
81395	B-T	NP Pad	4,500	3-29-93B
71512	B-T	ESF Pad	9000	4-12-93
71506	B-T	NRG-5	8000	4-12-93
71506	B-T	NRG-5	8000	4-12-93
71506	B-T	NRG-5	8000	4-12-93
71506	B-T	NRG-5	8000	4-12-93

NOTE: B-on the end of the date, equals 2nd shift

Legend:

B-T - Baker Tanks
ESF - Exploratory Shaft Facility
NP - North Portal
NRG - North Ramp
YM - Yucca Mountain Road

6.0 RECOMMENDATIONS

None

7.0 ATTACHMENTS

None