Department of Energy
Washington, DC 20585

QA: L

JUL 10 1997

L. D. Foust, Technical Project Officer
for Yucca Mountain Site
Characterization Project
TRW Environmental Safety Systems, Inc.
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Las Vegas, NV 89134

ISSUANCE OF SURVEILLANCE RECORD M&O-SR-97-029 RESULTING FROM THE OFFICE OF QUALITY ASSURANCE (OQA) SURVEILLANCE OF THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT SYSTEM MANAGEMENT AND OPERATING CONTRACTOR (CRWMS M&O) UNIVERSITY OF NEVADA AT RENO (UNR) OFF-SITE LOCATION

Enclosed is the Quality Assurance Surveillance Record M&O-SR-97-029 conducted by the OQA of the CRWMS M&O UNR off-site location April 24-June 3, 1997.

The purpose of the surveillance was to verify implementation of procedures controlling seismic network activities.

There was one Deficiency Report (DR) issued as a result of the surveillance. DR YM-97-D-057 addresses quality affecting activities that are being performed without a controlled document. Response to the DR, which was submitted via separate letter, is due by the date indicated in Block 12.

This surveillance is considered completed and closed as of the date of this letter. A response to this surveillance record is not required; however, the above DR will continue to be tracked until it is closed to the satisfaction of the quality assurance representative and the Director, OQA.

If you have any questions, please contact either James Blaylock at (702) 794-1420 or Richard L. Weeks at (702) 794-1431.

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Donald G. Horton, Director
Office of Quality Assurance

OQA:JB-1826

Enclosure:
Surveillance Record M&O-SR-97-029

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OFFICE OF CIVILIAN
RADIOACTIVE WASTE MANAGEMENT
U.S. DEPARTMENT OF ENERGY
WASHINGTON, D.C.

Surveillance No. M&O-SR- 97-029

QUALITY ASSURANCE SURVEILLANCE RECORD

SURVEILLANCE DATA

1. ORGANIZATION/LOCATION:	2. SUBJECT:	3. DATE:
Civilian Radioactive Waste Management System Management and Operating Contractor (CRWMS M&O)/ University of Nevada, Reno (UNR)/Offsite Location	Seismic Network	April 24 - June 3, 1997

4. SURVEILLANCE OBJECTIVE:
Verify implementation of procedures controlling seismic network activities.

5. SURVEILLANCE SCOPE:

Evaluate implementation of selected requirements described in Nevada Work Instruction (NWI)-UNR-001Q, Revision 0, "Operation of the Yucca Mountain Digital Seismic Network." This surveillance will be conducted at a remote site located off the Nevada Test Site (NTS). This activity is in support of Work Breakdown Structure No. 1.2.3.2.8.4.1, Historical and Current Seismicity and further described in Study Plan 8.3.1.17.4.1, Historical and Current Seismicity.

6. SURVEILLANCE TEAM:
Team Leader:

Richard L. Weeks

Additional Team Members:

N/A

7. PREPARED BY:		8. CONCURRENCE:	
Richard L. Weeks	4/22/97	Donald G. Horton	4/23/97
Surveillance Team Leader	Date	Director, OQA	Date

SURVEILLANCE RESULTS

9. BASIS OF EVALUATION/DESCRIPTION OF OBSERVATIONS:

The purpose of this surveillance was to evaluate the implementation of selected requirements that control the operation of the Yucca Mountain Digital Seismic Network which is part of the Southern Great Basin Seismic Network. Requirements identified in NWI-UNR-001Q, Revision 0, "Operation of the Yucca Mountain Digital Seismic Network" were evaluated to verify adequacy of implementation. In addition, this surveillance evaluated the methods implemented to establish the geographic location (coordinates) for seismic stations.

See Page(s) 2-4

10. SURVEILLANCE CONCLUSIONS:

Based on interviews with UNR personnel, observation of individuals completing work tasks, and examination of documentation, it is concluded that for those activities evaluated, except as documented in Deficiency Report (DR) YM-97-D-057, UNR is complying with procedural requirements and effectively implementing the Quality Assurance Program. All UNR personnel contacted during the surveillance were very cooperative and demonstrated a thorough understanding of their work tasks. I am especially appreciative to John Torisi for keeping me informed of his site visits so that I could complete the surveillance.

11. COMPLETED BY:		12. APPROVED BY:	
Richard L. Weeks	6/26/97		7/9/97
Surveillance Team Leader	Date	Director, OQA	Date

ENCLOSURE

Block 9 (continued) BASIS FOR EVALUATION/DESCRIPTION OF OBSERVATIONS:

The purpose for gathering this information is to support site characterization activities to determine the earthquake potential near Yucca Mountain. These activities include evaluations of historical and current seismicity. This surveillance evaluated data gathering activities for current seismicity and was limited to the system checks that are conducted at the field location.

A visit was made on April 24, 1997 to seismic station Amargosa Digital (AMD), which is located approximately 20 miles south of the town of Amargosa Valley in Nye County, Nevada. The actual location is described as Mt. Diablo Meridan, Township 17 South, Range 51 East, Section 30, NE¼, NW¼, NW¼. This seismic station was recently installed and at the time of the surveillance was in the initial startup process. Due to an instrument failure, the surveillance was postponed until a replacement instrument could be obtained. According to UNR personnel, quality affecting data will not be obtained until the replacement instrument is installed and system checks performed in accordance with NWI-UNR-001Q.

The surveillance was resumed and completed on June 3, 1997. A second visit was made to the location of the seismic station and the required system checks were observed. The following seismometer was installed: GURALP Systems, Model No. CMG-T40-0022, Serial No. T4047.

During the surveillance, an inquiry was made as to how the location of the seismic station was determined. UNR personnel stated that they obtained this quality affecting data with Global Positioning System (GPS) methodology. Because the activity of collecting this data is not performed in accordance with a controlled document, DR YM-97-D-057 was issued. DR YM-97-D-057 addresses quality affecting activities that are being performed without a controlled document. Specifically, location data for the seismic station is collected using GPS methodology; however, there is no technical procedure describing the collection process or the processing of the collected data. Additionally, there was no documentation of required training to conduct GPS data gathering activities.

NWI-UNR-001Q, Revision 0

Section 3.2.2

1. *Set the voltmeter to read voltage across the* [Digital Acquisition System] *DAS system check voltage output.*

   Voltmeter was set to read voltage across the DAS system and voltage output was checked.

2. *Short the EXT. Trigger terminals, and proceed with Subsection 3.2.3.*

   The field technician shorted the EXT. Trigger terminals and proceeded to Subsection 3.2.3.

Block 9 (continued) BASIS FOR EVALUATION/DESCRIPTION OF OBSERVATIONS:

Section 3.2.3

1. *Following Subsection 3.2.1 or 3.2.2, immediately program DAS to start the system check.*

   The system check was begun as required.

2. *Monitor the repetitions of the positive/negative system check voltage, which should remain the same to within one percent of nominal value being observed.*

   The system was allowed to cycle several times and voltage readings were within one percent of nominal value being observed.

   - *Record the nominal positive and negative voltage values in Block 2 on the site maintenance form.*

     Examined Digital Site Maintenance and System Check Report dated 6/3/97 for station AMD. Appropriate voltages were documented.

     If observed voltages are not within a one percent range, report in the comment field on the site maintenance form that the DAS is malfunctioning and will be replaced.

     Voltages were within a one percent range. DAS was functioning as required.

3. *Program the DAS to stop the system check.*

   DAS was programmed to stop system check.

Section 3.3.1

1. *Record the following on a site maintenance form each time the site is visited for reasons described in Subsection 3.1:*

For the following data, Digital Site Maintenance and System Check Report dated 6/3/97 was examined.

- ***Station:*** *Station code*

  Station code recorded as AMD.

- ***Date/time:*** *Date and time, to the minute in Greenwich Mean Time (GMT)*

  GMT time recorded as required.

- ***Voltmeter:*** *Model, Serial No. and calibration Due Date*

  Model - 8060A
  Serial No. - 3735827
  Calibration due date - 5/12/98

- ***Reason for visit***

  Initial installation.

- ***Action taken***

  Site installation.

- ***Actions that could affect system's system check***

  None

- *Note, as a remark, the* ***status of station at time of departure***

  Operational upon departure.

- *Print* ***name, sign,*** *and date upon completion of system check*

  Report was signed and dated.

Miscellaneous activities verified:

It was verified that field technicians had an information copy of the current revision of NWI-UNR-001Q at the work site.

It was verified that measuring and test equipment was properly labeled and calibration was current. This was verified for the Fluke 8060A True Root Mean Square Multimeter, Identification Number 8060A-3735827. See Section 3.3.1 above.

The following personnel were contacted during the surveillance:

John Torisi, UNR, Development Technician
David Von Seggren, UNR, Prinicipal Investigator
Austin Wilson, UNR, Development Technician