



# Department of Energy

Washington, DC 20585

QA: L

APR 10 1998

D. R. Wilkins, Technical Project Officer  
for Yucca Mountain Site  
Characterization Project

TRW Environmental Safety Systems, Inc.  
1180 Town Center Drive, M/S 423  
Las Vegas, NV 89134

## VERIFICATION OF CORRECTIVE ACTION AND CLOSURE OF DEFICIENCY REPORT (DR) LVMO-98-D-006 RESULTING FROM THE OFFICE OF QUALITY ASSURANCE (OQA) SURVEILLANCE M&O-SR-97-064

The OQA staff has evaluated the corrective action of DR LVMO-98-D-006 and determined the result to be satisfactory. As a result, the DR is considered closed.

If you have any questions, please contact either James Blaylock at (702) 794-1420 or John R. Doyle at (702) 295-2822.

Donald G. Horton, Director  
Office of Quality Assurance

OQA:JB-1482

Enclosure:  
DR LVMO-98-D-006

cc w/encl:

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

8 ☐ Performance Report  
☒ Deficiency Report  
NO. LVMO-98-D-006  
PAGE 1 OF 2  
QA: L

PERFORMANCE/DEFICIENCY REPORT

1 Controlling Document:  
Field Work Package (FWP) -SB-97-005, Rev. 0, Quality Assurance Requirements and Description (QARD), Department of Energy/RW-0333P, Rev. 7

2 Related Report No.  
Surveillance Report M&O-SR-97-064

3 Responsible Organization:  
Civilian Radioactive Waste Management System  
Management and Operating Contractor (CRWMS M&O)

4 Discussed With:  
Eddie Wright, Alan Mitchell

5 Requirement/Measurement Criteria:

**QARD Sub-Section 12.2.1A, Calibration, states in part:**  
"Measuring and test equipment including equipment that contains software or programmable software shall be calibrated, adjusted, and maintained as a unit at prescribed intervals, or prior to use, against reference calibration standards ..."

**Field Work Package (FWP)-SB-97-005, Rev. 0, page 17, second general item, states:**  
"QA: The INJECTION COORDINATOR or DESIGNEE will halt drilling/coring operation when the cylinder pressure drops below 500 psig."

6 Description of Condition:

Contrary to the above requirement, Matheson gauges (1-1000 psig P/N 63-3113 and 1-4000 psig P/N 63-3143) measuring tracer gas injection pressure were not calibrated during drilling operations at USW WT-24. The FWP mandates that this is a Q control and require calibration.

7 Initiator *John R. Doyle*  
John R. Doyle Date 10/08/97

8 Is condition an isolated occurrence?  
☒ Yes ☐ No ☐ Unknown; Must be Yes if PR

10 Recommended Actions: (Not required for PR)

Calibrate gauges described in Block 6 and determine any impact on quality of data collected.

11 QA Review: *John R. Doyle*  
QAR John R. Doyle Date 10/09/97

12 Response Due Date  
20 working days from issuance

13 Director, OQA Issuance Approval: (QAR for PR)

Printed Name DG Horton Signature *Sam Blaylock* Date 12/5/97

22 Corrective Actions Verified  
QAR *John R. Doyle* Date 3/24/98

23 Closure Approved by: (R/A for PR)  
*[Signature]* Date 4/8/98

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WASHINGTON, D.C.

PR/DR NO. LVMO-98-D-006

PAGE \_\_\_\_\_ OF \_\_\_\_\_

QA: L

PERFORMANCE/DEFICIENCY REPORT RESPONSE

14 Remedial Actions:

The statement directing replacement of the SF6 tank when pressure drops to 500 psig is based on non-Q environmental needs, not QA scientific needs. Field Work Package FWP-SB-97-005 will be revised by the TCO to change the 500 psig statement from QA to QA:N/A. Due 12/20/97.

Gages PN 63-3113 & 63-3143 will be obtained and recalibrated to determine if they are within tolerances.

15 Extent of Condition: (Not required for PR)

FWP-ESF-96-003, FWP-ESF-96-004, FWP-ESF-96-006, FWP-ESF-96-011, FWP-ESF-97-002, and FWP-SB-97-002 also incorrectly identify the 500 psig item as a Q requirement. The TCO will ensure calibrated gages are provided for air SF6 injections until such time as the FWPs are revised. Q gages have been installed for surface -based activities. Q gages will be available for all ESF injections of SF6 prior to air injections, but no later than by 3/16/98.

No adverse impacts have resulted from the use of non-Q gages as the amount of tracer injected into the boreholes has no impact on scientific data. Instrumentation used to ensure the absence of the tracer prior to gas sampling are controlled and calibrated.

16 Root Cause Determination: (Not required for PR)

Required: ☐ Yes ☒ No

17 Action to Preclude Recurrence: (Not required for PR)

Required: ☐ Yes ☒ No

18 Corrective Action Completion Due Date:

03/16/98

19 Response by: Andrew Burningham

*Andrew Burningham*

Date 02/18/98

Phone 5-5070

20 Response Accepted

QAR

*John Doyle*

Date

*2/27/98*

21 Response Accepted (N/A for PR)

DOQA

*R.W. Cal*

Date

*3/7/98*

Exhibit AP 16.10.2

*2/20/98 LV.SCO.AGB.02/98-006*

Rev. 06/02/97

*P. 6 of 3*

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NO. LVMO-98-D-006  
PAGE 3 OF 3  
QA: L

PR/DR CONTINUATION PAGE

VERIFICATION OF CORRECTIVE ACTIONS TO DR LVMO-98-D-006

Block 14 Remedial Actions:

- A. Verified control copy (102450.1) of FWP-SB-97-005 "Drilling and Testing of USW WT-24 " Rev. 1 located in the K/PB Document Control Trailer that the requirement for 500 PSI tank replacement was revised to QA:NA.
- B. Verified Bechtel Nevada Calibration Reports (312072 and 312073) dtd. 10/29/97 for manifold regulator R90862 gauges PN 63-3113 and 63-3143. Gauges were within tolerances.

Block 15 Extent of Condition:

- A. Verified that calibrated gauges at the following Surfaced Based Testing locations:

Borehole	Manifold Regulator	Gauge	Calibration Cert. #	Date
USW WT-24	R90873	0 - 1000 PSI	312051	10/17/97
		0 - 4000 PSI	312052	10/17/97
USW SD-6	CF003834E	0 - 1000 PSI	998877	10/06/97
		0 - 3000 PSI	998875	10/06/97

- B. No Q gauges are presently utilized for ESF tracer operations. If gauges are required for tracer boreholes, they are calibrated and available for use. Calibrated gauges are located in a locked Sample Management trailer at the ESF verified additional calibration reports 998878, 998876, 310429, 310250, 998573, 998570 and 998572 for these gauges.

Block 16 Root Cause Determination:

None Required

Block 17 action to Prevent Recurrence:

None Required

The Above Corrective Actions have been satisfactorily verified:

This Deficiency Report is considered closed.

QAR

*John R. Doyle*

Date:

*3/24/98*

John R. Doyle