



Department of Energy
Office of Civilian Radioactive Waste Management
Yucca Mountain Site Characterization Office
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QA: L

OCT 18 1994

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Technical Project Officer
for Yucca Mountain
Site Characterization Project
TRW Environmental Safety Systems, Inc.
101 Convention Center Drive, Suite P-110
Las Vegas, NV 89109

VERIFICATION OF CORRECTIVE ACTION AND CLOSURE OF CORRECTIVE ACTION REQUEST (CAR) YM-94-069 RESULTING FROM YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION (YMQAD) AUDIT YMP-94-01 OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT SYSTEM MANAGEMENT AND OPERATING CONTRACTOR (SCPB: N/A)

The YMQAD staff has verified the corrective action to CAR YM-94-069 and determined the results to be satisfactory. As a result, the CAR is considered closed.

If you have any questions, please contact either Robert B. Constable at 794-7945 or Kenneth O. Gilkerson at 794-7738.

Richard E. Spence, Acting Director
Yucca Mountain Quality Assurance Division

YMQAD:RBC-309

Enclosure:
CAR YM-94-069

cc w/encl:
T. A. Wood, HQ (RW-14) FORS
~~W. L. Zimmerman~~, NRC, Washington, DC
S. W. Zimmerman, NWPO, Carson City, NV
R. L. Robertson, M&O/TRW, Vienna, VA
R. P. Ruth, M&O/TRW, Las Vegas, NV
Richard Jiu, M&O/Duke, Las Vegas, NV

cc w/o encl:
W. L. Belke, NRC, Las Vegas, NV
D. G. Sult, YMQAD/QATSS, Las Vegas, NV

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WASHINGTON, D.C.**

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CORRECTIVE ACTION REQUEST

1 Controlling Document OCRWM QARD, DOE/RW-0333P, Revision 01		2 Related Report No. YMP-94-01	
3 Responsible Organization M&O		4 Discussed With P. Hastings/R. Saunders	
5 Requirement: QARD, Section 3.2.1.A states: "Design inputs shall be identified and documented, and their selection reviewed and approved by those responsible for the design." (Continued on next page)			
6 Adverse Condition: CTS TBM proposal and CTS Operations and maintenance Manual are used as design input and are not being controlled. Additionally, the changes to the manual are not controlled.			
9 Does a Significant Condition Adverse to Quality exist? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, Check One: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E		10 Does a stop work condition exist? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> ; If Yes - Attach copy of SWO If Yes, Check One: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C	
3 Response Due Date: 20 Working Days From Issuance			
11 Required Actions: <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Extent of Deficiency <input checked="" type="checkbox"/> Preclude Recurrence <input checked="" type="checkbox"/> Root Cause Determination			
12 Recommended Actions: 			
7 Initiator Robert L. Howard <i>Robert L. Howard</i> 8/3/94		14 Issuance Approved by: QADD <i>[Signature]</i> Date 8.5.94	
15 Response Accepted QAR <i>Robert L. Howard</i> Date 8/22/94		16 Response Accepted QADD <i>[Signature]</i> Date 8.24.94	
17 Amended Response Accepted QAR <i>n/a</i> Date		18 Amended Response Accepted QADD Date	
19 Corrective Actions Verified QAR <i>[Signature]</i> Date 10/12/94		20 Closure Approved by: QADD <i>[Signature]</i> Date 10/18/94	

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CORRECTIVE ACTION REQUEST (CONTINUATION PAGE)

5 Requirements (continued)

QARD, Section 3.2.8.F states: "Design changes that impact related implementing documents or training programs shall be communicated to affected organizations."

QARD, Section 6 requires the distribution and use of documents that specify technical requirements, quality requirements, or prescribe work be controlled.

RESPONSE TO CAR NO. YM-94-069

Remedial Action:

- 1). Properly reference the CTS Operating and Service Manual, Yucca Mountain Tunnel Boring Machine Model 760.8 (CTS Manual) in the DIE and Specification 01501.
- 2). Make revision to other hydraulic equipment procurement specifications as required to capture manufacturers' operating and maintenance manuals in the submittal process.

◀ **NOTE:** The CTS Manual is placed under Document Control by the constructor.

Item 1 Responsible Individuals: Robert Saunders
Peter Hastings
Date of Completion: 9/1/94

Item 2 Responsible Individual: Robert Saunders
Date of Completion: 9/30/94

Investigative Action:

Investigative action will consist of reviewing hydraulic equipment procurement specifications to determine if the manufacturers' operating and maintenance manuals are captured in the submittal process. This investigative action will determine the extent of the condition and consider other documents that might reference the CTS Manual.

For the early release of design package 2C, (2 specifications and 4 drawings), the extent of the use of reference to the CTS Manual is only within Specification 01501 titled "Subsurface General Construction", BAB000000-01717-6300-01501.

Submittals such as the CTS Manual and subsequent revisions are reviewed by MGDS for impact on design requirements. However, the impact on design requirements should be minimal. The requirements listed within the DIE (Requirement 3, Section 11.4) and Specification 1501 are generic in nature (i.e., provide a maintenance procedure, use spill and mitigation procedures, etc.). The A/E does not require design input sources to develop Requirement 3. Requirement 3 is placed in the A/E specifications as a requirement to the constructor. The constructor would use the CTS Manual more specifically to provide detail within the procedures required by the specifications.

The CTS Manual is not considered a design input to the DIE since the requirement derived for maintenance (Requirement 3) and placed in design specifications is

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generic. It is agreed that the text of the DIE does describe in some detail, items that were in the CTS proposal. However, this text is not considered design input as the DIE Requirement 3 is generic and not specific. If Requirement 3 contained the specific detail as contained in the DIE text, then the CTS Manual would be treated as design input.

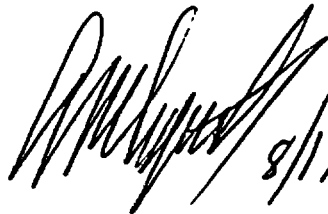
Root Cause Analysis:

The root cause is the failure to capture the manufacturers' operating and maintenance manuals in the submittal process. The CTS Manual has been improperly identified as a design input where it is in fact used as a reference in both cases cited. The intent is to ensure that manufacturers' operating and maintenance manuals for hydraulic equipment are captured during the submittal process (MGP-7-1). The submittals were not adequately identified within the specifications.

Corrective Action to Preclude Recurrence:

- 1). Revise the appropriate specifications to ensure the manufacturers' operating and maintenance manuals are captured by the submittal process. The specific specifications reviewed and revised will be documented upon completion of the investigative action.
- 2). Provide training to specification originators to clarify requirements for submittal identification.

Responsible Individual: Robert Saunders
Date of Completion: 9/30/94 (Anticipated release of 2C)



8/17/94

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CORRECTIVE ACTION REQUEST (CONTINUATION PAGE)

Partial Verification of CAR YM-94-069

The following Remedial Action Commitments have been verified:

- 1) Properly reference the CTS Operating and Service Manual, Yucca Mountain Tunnel Boring Machine Model 760.8 (CTS Manual) in the DIE and Specification 01501.

YMQAD staff reviewed Specification Section BAB000000-01717-6300-01501 "Subsurface General Construction Specification" Specification Inputs List dated 8/31/94. The Specification Input List properly identifies the CTS Operating and Service Manual, Yucca Mountain Tunnel Boring Machine Model 760-8, Rev B, dated July 27, 1994 as an input.

YMQAD staff reviewed Determination of Importance Evaluation for Package 2C DI# BAB000000-01717-2200-00005 Revision 2, approved 9/04/94. The DIE Reference 8.11 identifies CTS Proposal No. 5078 as a reference document. Based on a discussion with the DIE Manager, the proposal was referenced instead of the actual manual because the manual was the document used by the DIE preparer.

YMQAD staff verified that the CTS Operating and Service Manual, Yucca Mountain Tunnel Boring Machine Model 760-8, Rev B, dated July 27, 1994 is under document control.


Robert L. Howard, QAR

9/2/94
Date

MEMO TO FILE

SUBJECT: Verification of Remedial Action for Design Package 2C CARs
YM-94-069
DATE: October 12, 1994
FROM: K. O. Gilkerson

Remedial action committments were verified as follows:

- 1) The CTS Operating and Service Manual were referenced as input to the ESF DIE and Specification 1501 and verified during Surveillance YM-SR-95-005 by R.L. Howard, J.F. Pelletier and K.O. Gilkerson.
- 2) Other hydraulic equipments specifications to capture manufacturer operation and maintenance manuals were reviewed. Only one specification (BABFB0000-01717-6300-11500 "Rock Drills and Assemblies was identified as requiring revision. Revision 5 to this specification resolved this issue.

Corrective action verification:

During the week of 10/3/94 a review of M&O training committments relative to CARs YM-94-068, YM-94-069, and YM-94-072 was undertaken by QATSS (K. O. Gilkerson) to verify conformance. Specific to CAR YM-94-069, it was determined that "Lessons Learned" training of design engineers who develop drawings and specifications was conducted on 9/28/94 and 10/4/94. The requirements of NLP-3-18 was specifically covered during this training regarding submittals of design input. One training session was monitored by QATSS (Sam Horton) who found the depth and breath of the "Lessons Learned" training to be satisfactory. 102 persons in the Engineering organization were trained. Training records of cognizant personnel was verified with M&O Training (Anthony Bryant) on 10/6/94.

Conclusion:

Based on the actions verified as completed by the M&O, CAR YM-94-069 is considered closed by YMQAD/ QATSS.