



OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
QUALITY ASSURANCE PROGRAM QUARTERLY TREND REPORT
FOR
JANUARY 1994 THROUGH DECEMBER 1994

SUBMITTED BY:


DIVISION DIRECTOR
YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION

CONCURRENCE:


DIVISION DIRECTOR
HEADQUARTERS QUALITY ASSURANCE DIVISION

APPROVED:


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EXECUTIVE SUMMARY

1.0 INTRODUCTION

Quality Assurance (QA) procedure QAP 16.3, QA Program Trend Evaluation, Revision 0, requires that the Office of Civilian Radioactive Waste Management (OCRWM) Office of Quality Assurance (OQA) evaluate, at quarterly intervals, all significant Corrective Action Requests (CARs) and quality affecting Yucca Mountain Site Characterization Office (YMSCO) Nonconformance Reports (NCRs) issued within the last twelve months. The purpose of this trend evaluation is to determine if any adverse trends or generic adverse trends are evident in the OCRWM QA Program and take prompt corrective action where such trends exist.

This report covers the period from January 1, 1994 through December 31, 1994 and evaluates all significant CARs reported by Headquarters Quality Assurance Division (HQAD) and Yucca Mountain Quality Assurance Division (YMQAD) during this period. This evaluation incorporates new data from CARs issued during the quarter October 1994 through December 1994.

2.0 SUMMARY

A total of Thirty Three (33) CARs and Twenty Seven (27) NCRs were evaluated during the reporting period.

The results of the evaluation of the CARs and NCRs referenced in Table 1 reflect a repetitive condition associated with the manufacture of steel sets and accessories. These repetitive conditions were the result of nonconforming conditions as identified in the following NCRs.

| | | |
|--------------|--------------|--------------|
| YMSCO-95-015 | YMSCO-95-020 | YMSCO-95-022 |
| YMSCO-95-023 | YMSCO-95-024 | YMSCO-95-033 |

An evaluation of this condition was performed and the results are described below.

During the period between October 18, 1994 and November 23, 1994, six (6) NCRs were generated as a result of a management risk procurement to an unreleased specification BABEAB000-0171706300-0283, called "Steel Sets and Accessories Subsurface" for the North Ramp of the Exploratory Studies Facility. In a review of CARs YM-95-008, YM-95-009, and YM-95-010, it was determined these conditions were isolated to the initial procurement of 21 steel sets and accessories and that the actions required by these specific CARs should essentially resolve the conditions surrounding the repetitive conditions. No further action is considered necessary

because the evaluation indicates an adverse trend does not exist.

In addition, it should be noted that CARs YM-94-037 and YM-95-007 were not included in the trend evaluation since they were generated as the result of an adverse trend from previous quarters.

See Table 1, Data Used for Trend Evaluation, for a list of CARs and NCRs evaluated.

DETAILED REPORT

3.0 STATUS OF PREVIOUSLY REPORTED TRENDS

The CAR issued to the M&O (YM-93-070), that was generated as a result of an adverse trend for inadequate procedures identified on July 14, 1993, is still open. OCRWM Headquarters Quality Assurance Division, in December 1994, attempted to verify completion of corrective actions, however, due to the amount of time that had transpired since the acceptance of the response and the generation of M&O CAR 94QV-C-045 which identified the same issues as in YM-93-070, verification was found unsatisfactory. An amended response has been submitted by the M&O redefining the corrective action to resolve YM-93-070 based on current requirements. YMQAD has reviewed the response and has found it to be acceptable. HQAD is preparing to perform verification and closeout.

A response to the CAR issued to the M&O (YM-95-007), that was generated on November 23, 1994 as a result of an adverse trend for failure to implement procedures related to design activities, has been received. The response was evaluated by OCRWM Yucca Mountain Quality Assurance Division and determined to unacceptably resolve the noted condition. YMQAD subsequently accepted the amended response and will perform the corrective action verifications the week of March 6th 1995.

4.0 CURRENT ADVERSE TRENDS

No adverse trends identified during this period.

5.0 PROBLEMS CONSTITUTING CURRENT ADVERSE TRENDS

No adverse trends identified during this period.

6.0 SUMMARIES OF IDENTIFIED CAUSES AND ACTIONS REQUIRED TO CORRECT CURRENT ADVERSE TRENDS

No adverse trends exist.

TABLE 1: DATA USED FOR TREND EVALUATION

| CAR Number | CAR Issue Date | Response Org. | Adverse Condition |
|-------------------|-----------------------|----------------------|--|
| YM-94-032 | 05/94 | YMSCO | YMSCO has a repetitive deficiency regarding the controls and implementation applied to packaging, storing, and preservation of samples obtained from drilling activities. This is based on four nonconformance reports issued between January 1, 1994, through March 31, 1994. |
| YM-94-033 | 05/94 | YMSCO | Control of tracers, fluids and materials (TFMS) are not prescribed in implementing documents. |
| YM-94-046 | 07/94 | USGS | Conditions adverse to quality not identified on deficiency documents. |
| YM-94-050 | 07/94 | USGS | Procurement procedures do not include QARD requirements; implementation does not provide for acceptable products or services. |
| YM-94-052 | 07/94 | M&O | Errors and omissions were found in the document review record for the Design Review of Package 1B. |
| YM-94-053 | 07/94 | M&O | Various design verification documentation related to the Design Review was not available or not generated for Design Package 1B. |
| YM-94-056 | 07/94 | M&O | ILPs not prepared in accordance with QAP-5.2. |
| YM-94-057 | 07/94 | M&O | Problem reports not integrated into configuration management system. |
| YM-94-064 | 08/94 | M&O | Activities for Q items designated Non-Q. |

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| CAR Number | CAR Issue Date | Response Org. | Adverse Condition |
|-------------------|-----------------------|----------------------|---|
| YM-94-065 | 08/94 | M&O | Improper checking of specifications and drawings. |
| YM-94-067 | 08/94 | M&O | Specification not identified as "Q" as required. |
| YM-94-073 | 08/94 | M&O | Design Validation not performed as required. |
| YM-94-075 | 08/94 | M&O | Appropriate standards not identified in design documents. |
| YM-94-087 | 09/94 | SNL | Inadequate information on SNL CARs. |
| YM-94-100 | 09/94 | YMSCO | Lack of adequate flowdown and traceability of 10CFR60 requirements to the ESFDR. |
| YM-94-103 | 10/94 | M&O | M&O performed an inadequate procedure review. |
| YM-94-104 | 10/94 | REECO | Inadequate procedures for material identification and storage. |
| YM-95-005 | 10/94 | SNL | Deficiencies not documented on CARs. |
| YM-95-007 | 11/94 | M&O | Implementation of QA program documents for the control of design activities is ineffective. |
| YM-95-009 | 11/94 | REECO | Kiewit/PB utilized Hayes Testing Laboratory for the qualification of welders, however, Hayes Testing Laboratory was not approved for supplying these services, subsequently, welders quals invalid. |
| YM-95-010 | 11/94 | REECO | CPS did not utilize Kiewit/PB MCP Procedures in the manufacture of steel sets as stipulated in P.O. 1785-0311. |
| YM-95-022 | 12/94 | USGS | Unsaturated Zone (UZ) Modeling is not controlled by either technical procedures or a scientific notebook. Acquired software is being modified by UZ modeling and is not controlled per QMP-3.03. |

TABLE 1: DATA USED FOR TREND EVALUATION

| CAR Number | CAR Issue Date | Response Org. | Adverse Condition |
|-------------------|-----------------------|----------------------|---|
| HQ-94-004 | 3/94 | M&O | M&O did not verify education and experience for two QA auditors prior to performing quality affecting work and verification of highest level of education not performed for two personnel. |
| HQ-94-006 | 3/94 | M&O | M&O concurred with responses to CAR 93-QL-003 without considering root cause and planned remedial actions. Verification of corrective action inadequate. M&O CARs 93-QN-C-027 and 045 did not address investigative action. |
| HQ-94-008 | 3/94 | M&O | M&O audit and surveillance reports did not contain all objective evidence to support reviews and interviews during audits. |
| HQ-94-010 | 4/94 | M&O | M&O used draft source document during the preparation of the M&O RFP. |
| HQ-94-011 | 4/94 | M&O | M&O did not have a defined process to release TBD/TBR for SRD. |
| HQ-94-013 | 4/94 | M&O | M&O preparation of the MPC RFP not in accordance with the QARD and M&O QAPs 2.0, 3.5, and 7.1. |
| HQ-94-017 | 7/94 | M&O | Trend program ineffective in obtaining correction of identified trends. |
| HQ-94-018 | 7/94 | M&O | QAP-3-9, Design Analysis requirements not met. |
| HQ-94-019 | 7/94 | M&O | 1) No objective evidence that design verification occurred per QAP-3-2 reqmts; 2) Design Input Data Request form not used; 3) Block 9 blank; 4) Design Input Data not identified as "Verification Pending". |
| HQ-94-021 | 7/94 | EM-323 | Verification of Education and Experience is not adequate. |
| HQ-95-001 | 10/94 | M&O | QAP-19 series procedures do not adequately describe sequential steps as required to implement the QARD. |

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| NCR Number | NCR Issue Date | Response. Org. | Adverse Condition |
|-------------------|-----------------------|-----------------------|--|
| YMPO-94-0004 | 01/94 | RSN | Boreholes not secured as required. |
| YMPO-94-0006 | 02/94 | M&O | Failing grout cubes for cement grouted rock bolts. |
| YMPO-94-0009 | 02/94 | USGS | Core samples not stored to PI specifications. |
| YMPO-94-0010 | 02/94 | M&O | No inspection documentation for compressive test reports for fibercrete. Conflict with construction documentation. |
| YMPO-94-0012 | 03/94 | LANL | Two bags of ream cuttings, intervals 386.0-387.0, from borehole UZW UZ-14 were not properly bagged. Ream cuttings from borehole UB-25 UNZ-39 were contaminated with lexan shavings. |
| YMPO-94-0013 | 03/94 | USGS | ESF borehole, ESF-AL 1, interval 11.7'-12.2', was improperly sealed and allowed water to contaminate sample. |
| YMPO-94-0015 | 03/94 | USGS | Core samples from borehole UB-25 NRG 7/7A were not stored to PI specifications. |
| YMPO-94-0024 | 03/94 | M&O | Rockbolt grout not meeting unit weight requirements. |
| YMPO-94-0034 | 05/94 | USGS | Temperatures inside certain sample containers exceeded requirements of ESF/LANL Sample Plan SP 92-20B. A permanent record of temperature for some samples was not produced due to inoperable, non-calibrated or missing temperature recording equipment. |
| YMPO-94-0036 | 05/94 | M&O | Jack and gauge used to perform rockbolt testing in the ESF starter tunnel were calibrated individually then calibrated as an integrated system producing discrepancies in the test results. |

TABLE 1: DATA USED FOR TREND EVALUATION

| NCR Number | NCR Issue Date | Response. Org. | Adverse Condition |
|-------------------|-----------------------|-----------------------|--|
| YMPO-94-0039 | 05/94 | YMSCO | At borehole USW-UZ-14, for core run No. 284, a determination cannot be made with any degree of certainty for additional 0.5 ft. of core recovered. |
| YMPO-94-0042 | 06/94 | USGS | Core from borehole USW-UZ-14 may be compromised by perched water and the injection of air/water mist. |
| YMPO-94-0056 | 07/94 | RSN | Compaction tests not completed while constructing lifts at pad for Borehole SD-7. |
| YMPO-94-0057 | 07/94 | SNL | Core samples from Boreholes USW SD-9 and SD-12 possibly contaminated with condensation water. |
| YMSCO-94-007 | 10/94 | REBCo | Vendor not qualified to perform steel set fabrication work and related weld qualification |
| YMSCO-95-014 | 11/94 | K/PB | Jacking equipment not calibrated as a system |
| YMSCO-95-015 | 11/94 | K/PB | Assembly of steel sets were not in accordance with drawings. |
| YMSCO-95-017 | 11/94 | K/PB | Steel set studs exceed ASTM tensile strength requirement. |
| YMSCO-95-020 | 11/94 | REBCo | Cable received from supplier was not in accordance with the specification. |
| YMSCO-95-022 | 11/94 | REBCo | Material sampling and testing was not performed in accordance with revision 3 of the design specification. |
| YMSCO-95-023 | 11/94 | REBCo | Nuts and washers used for steel sets not in accordance with revision 3 of the specification. |
| YMSCO-95-024 | 11/94 | REBCo | Magnetic particle inspection on steel sets not performed in accordance with revision 3 of the specification. |

TABLE 1: DATA USED FOR TREND EVALUATION

| NCR Number | NCR Issue Date | Response. Org. | Adverse Condition |
|-------------------|-----------------------|-----------------------|--|
| YMSCO-95-026 | 11/94 | REECO | Steel sets not cold rolled as required in accordance with specification. |
| YMSCO-95-030 | 12/94 | K/PB | Vendor unable to provide certified material test reports for weld filler material. |
| YMSCO-95-031 | 12/94 | M&O | Commercial grade dedication testing does not meet specification requirements. |
| YMSCO-95-032 | 12/94 | M&O | Capacity of jacking equipment used for steel set installation not tested as required by specification. |
| YMSCO-95-033 | 10/94 | REECO | Reinforcing steel was not installed in accordance with design specification. |

* Note: Non-significant CARs YM-94-037, YM-94-068, YM-94-068, and YM-94-069 were inadvertently included in the previous trend report and have been deleted from this report.