



**Department of Energy**  
Office of Civilian Radioactive Waste Management  
Yucca Mountain Site Characterization Office  
P.O. Box 98608  
Las Vegas, NV 89193-8608

SEP 21 1995

Robert W. Craig  
Acting Technical Project Officer  
for Yucca Mountain Site  
Characterization Project  
U.S. Geological Survey  
101 Convention Center Drive, Suite 860  
Las Vegas, NV 89109

VERIFICATION OF CORRECTIVE ACTION AND CLOSURE OF CORRECTIVE ACTION REQUEST (CAR) YM-94-050 RESULTING FROM YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION'S (YMQAD) AUDIT YMP-94-06 OF U.S. GEOLOGICAL SURVEY (SCPB: N/A)

The YMQAD staff has verified the corrective action to CAR YM-94-050 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 Donald J. Harris at 794-7356.

Richard E. Spence, Director  
Yucca Mountain Quality Assurance Division

YMQAD:RBC-4637

Enclosure:  
CAR YM-94-050

cc w/encl:

~~J. G. Spence~~, NRC, Washington, DC  
S. W. Zimmerman, NWPO, Carson City, NV  
T. H. Chaney, USGS, Denver, CO  
R. W. Craig, USGS, Las Vegas, NV  
D. D. Porter, SAIC, Golden, CO  
D. G. Horton, OQA (RW-3) NV  
W. E. Barnes, YMSCO, NV

cc w/o encl:

W. L. Belke, NRC, Las Vegas, NV  
D. G. Sult, YMQAD/QATSS, Las Vegas, NV

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CORRECTIVE ACTION REQUEST

1 Controlling Document  
QARD DOE/RW/033P and YMP-USGS QMPs

2 Related Report No.  
YMP-94-06

3 Responsible Organization  
USGS

4 Discussed With  
T. CHANEY

5 Requirement:  
1. QARD, Section 4.0, PROCUREMENT DOCUMENT CONTROL, Para. 4.2.1 states: "Procurement documents issued by each affected organization shall include the following provisions, as applicable to the items being procured." Para. 4.2.1.C.1.1 states: "...A requirement for the supplier to have a documented QA program that implements the applicable QARD requirements prior to the

6 Adverse Condition:  
Contrary to the above requirements:

(1) The USGS procurement procedures fail to translate the QARD requirements into the work process which describes the methodology for accomplishing the activity or task and,

(2) The implementation of the USGS procurement procedures have not provided assurance that the activity results in an acceptable product or service.

The above deficiencies are supported by the following observations:  
Contrary to the QARD requirements, Section 5 Items 2,3,4,7,8 and 9:

a: The procurement procedure YMP-USGS-QMP-4.01, Rev. 6, fails to identify the methodology for determining what QARD requirements apply to any given scope of work identified in the purchase document. The procurement documents fail to be specific as to what QA program requirements pertain to the procurement or specifically identify those USGS QA program procedures that apply.

The Requisition Request and Purchase Orders reviewed,  
PO 164388-93, PO 162578-93, PO 164411-93, 4RQ4889-5738,

9 Does a Significant Condition Adverse to Quality exist? Yes X No       
If Yes, Circle One: A (B) C D E

10 Does a stop work condition exist? Yes      No X; If Yes - Attach copy of SWO.  
If Yes, Circle One: A B C

3 Response Due Date:  
20 Working Days from Issuance

11 Required Actions:  Remedial  Extent of Deficiency  Preclude Recurrence  Root Cause Determination

12 Recommended Actions:  
1. Revise USGS procedures to facilitate translation of QARD requirements into work processes.  
2. Implement procedures to assure procurement activities result in acceptable product or services.

7 Initiator  
Donald Harris C.L. Wanner Jr  
6/30/94

14 Issuance Approved by:  
QADD R. Spence Date 7/5/94

15 Response Accepted  
QAR Donald J. Harris Date 10/12/94

16 Response Accepted  
QADD R. Spence Date     

17 Amended Response Accepted  
QAR Donald J. Harris Date 10/12/94

18 Amended Response Accepted  
QADD R. Spence Date 10/19/94

19 Corrective Actions Verified  
QAR Donald J. Harris Date 9/19/95

20 Closure Approved by:  
QADD R. Spence Date 7/21/95

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5 Requirements (continued)

initiation of the work."

2. Para. 4.2.1C.3: "When deemed appropriate, the purchaser shall permit some or all supplier work to be performed under the purchaser's quality assurance program provided the work is adequately addressed. In these cases, procurement documents shall specify that the purchaser's implementing documents are applicable to the supplier and that the purchaser shall provide these applicable documents to them."
3. Para. 4.2.2 (C) states in part: "Reviews shall assure that all applicable technical and quality program requirements are included."
4. QARD Section 7.0, CONTROL OF PURCHASED ITEMS AND SERVICES, Para. 7.2.1:

Procurements shall be planned and documented to ensure a systematic approach to the procurement process. Procurement planning shall:

- A. Identify procurement methods and organizational responsibilities.
  - B. Identify what is to be accomplished, who is to accomplish it, how it is to be accomplished, and when it is to be accomplished.
  - C. Identify and document the sequence of actions and milestones needed to effectively complete the procurement.
5. Para. 7.2.3:

A. The proposal/bid evaluation process shall include a determination of the extent of conformance to the procurement document requirements. This evaluation shall be performed by designated, technically qualified organizations including the quality assurance organization. The evaluation shall include the following subjects consistent with the importance, complexity, and quantity of items or services being procured:

1. Technical considerations
2. Quality assurance program requirements
3. Supplier personnel
4. Supplier production capability
5. Supplier past performance
6. Alternatives
7. Exceptions

B. Before the contract is awarded, the purchaser shall resolve, or obtain commitments to resolve, unacceptable quality conditions identified during the proposal/bid evaluation.

6. Para. 7.2.4 (A) states in part: "The purchaser of items and services shall establish measures to interface with the supplier and to verify supplier's performance." Para. 7.2.4.A3: "...Reviewing supplier documents that are prepared or processed during work performed to fulfill procurement requirements."

7. QARD, Section 5.0, IMPLEMENTING DOCUMENTS, Para. 5.2.2 states: "Content of implementing documents shall include the following information, as appropriate to the work to be performed: (A) Responsibilities of the organizations affected by the document, (B) Technical and regulatory requirements, (C) states in part: Sequential description of the work to be performed, (D) Quantitative and qualitative acceptance criteria sufficient for determining the activities were satisfactorily accomplished. E Prerequisites, limits, precautions, progress

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5 Requirements (continued)

parameters, and environmental conditions, (F) Quality verification points and hold points, (G) Methods for demonstrating that the work was performed as required, (H) Identification of lifetime and nonpermanent QA records generated by the implementing document and (I) Identification of associated items and activities."

8. QARD, Section 2.0, QUALITY ASSURANCE PROGRAM, Para. 6.2.3 states: "REVIEWING DOCUMENTS. Documents that specify technical requirements, quality requirements or prescribe work shall be reviewed for adequacy, correctness and completeness, according to the requirements of Section 2.0, prior to approval of issuance."
9. Para. 2.2.9 states: "Documents shall be reviewed to the following requirements and for any additional requirements specified by the applicable section of the QARD. (A) Review criteria shall be established before performing the review. These criteria shall consider applicability, correctness, technical adequacy, completeness accuracy, and compliance with established requirements, (B) Pertinent background information shall be made available to the reviewers by the organization requesting the review if information is not readily available to the reviewer, (C) The review shall be performed by individuals other than the originator, (D) Reviewers shall be technically competent in the subject area being reviewed, (E) The scope of the review shall consider all aspects of the document...."
10. QARD Section 18.0, AUDITS  
Para. 18.2.2C: "External audits for compliance shall be performed triennially as a minimum. Pre-award surveys, if applicable, may serve as the first triennial audit if the affected organization is implementing the same quality assurance program for other contracts that is proposed for the purchaser's contract."
11. QMP-7.04, Rev.1, CONTROL OF PURCHASED ITEMS AND SERVICES, Para. 5.2, states in part: "Suppliers on the Approved Suppliers List (ASL) shall receive an annual evaluation any time prior to the scheduled anniversary date at the discretion of the YMP-USGS QA Manager."

6 Adverse Condition (continued)

4RQ4889-5695, and 4RQ4889-5696 only identify that work is to be performed in accordance with either the supplier's QA program or in accordance with the USGS QA Program. (generally non-specific)

- b) YMQAD Corrective Action Request, CAR YM-93-053 was closed on 4/26/94, based on QMP-4.01, Rev. 6. The effectiveness of implementation of the QMP in appropriately passing the QARD requirements down to the Suppliers was not performed at CAR closure. The effectiveness of correction performed during the Audit reflected the following in process Requisition Requests and Requisitions 4RQ4889-5738, 4RQ4889-5695 and 4RQ4889-5695 failed to identify the appropriate QARD requirements.

(Reference DOE Letter YMQAD:RBC-1155, dated December 17, 1993, to Larry R. Hayes, from Richard E. Spence, Subject: Verification of Corrective Action Request (CAR) YM-93-053 Resulting from YMQAD Review)

Contrary to QARD requirements Section 5 Items 2,3,4,5,7,8 and 9:

- c) QMP-4.01, Rev. 6, PROCUREMENT DOCUMENT CONTROL, Paras. 5.4.1.2 and 5.4.1.3 in part states: "When a proposal is selected and meets all the requested requirements the Contracting Officer

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6 Adverse Condition (continued)

(C.O.) shall forward the document to the Requester and QA Manager for review to ensure the procurement document include the appropriate provisions identified in Para. 5.4.1 (restatement of QARD requirements) and attachment 4. The procedure fails to provide the methodology for performing the reviews and attachment 4 is identified as 'Supplier Performance Evaluation' and does not contain information on Proposal evaluations.'

Contrary to QARD requirements, Section 5 Items 3,4,7,8 and 9:

- d) QMP-7.04, Rev. 1, CONTROL OF PURCHASED ITEMS AND SERVICES, Para.5.3, Source Verification, states in part: "YMP-USGS may accept an item or service by monitoring, witnessing, or observing activities performed by the supplier. This method of acceptance is called Source Verification. Attachment 2 (Source Verification Form) or equivalent shall be used. Para. 5.3.2 states: "Documented evidence of acceptance or rejection of source verified items or services shall be furnished to the requester, the supplier and included in the procurement records package." The procedure fails to contain any methodology for planning source inspections, determining what quantitative and qualitative acceptance criteria to include or on the actual performance of the source inspection. Currently two source inspections have been performed utilizing a Source Verification Plan which does at least provide a description of what was inspected and the results. Attachment 2, Source Verification Form provides very limited information. The Source Verification Form or Source Verification Plan are not sent to the supplier as required by the procedure.

Contrary to QARD requirements, Section 5 Items 1,2,3,4,7,8 and 9:

- e) USGS QDR 93-011-2 was initiated against a series of procurement documents initiated by USGS Support Contractor. The QDR was dispositioned to require the QA implementation advisor to assure the deficiencies in the procurement documents are corrected by a change order. The inprocess Change Order R6028657, to PO 45-930092 generated only invokes that: "Work performed under this contract shall meet all YMP-USGS QA Program Requirements in effect for the duration of this Contract." This Change Order fails to identify specific requirements.

The existing contract fails to invoke any technical or quality requirement, therefore it would not stand the test of any judgement (law) against the supplier. Subsequently a letter was generated on 9/5/90, essentially specifying USGS QAPP-01, Rev. 5, Section 4, PROCUREMENT DOCUMENT CONTROL, Paras. 4.3.4. and 4.3.6 which were to be met, Right of Access Control and what constitutes a nonconformance. This letter failed to provide appropriate technical and quality assurance requirements or reference the Purchase Order.

- f) YMQAD evaluation of Security Archives Storage Facility (SAIC/USGS contractor) during Audit YMP-94-06 two deficiencies of Security Archives were found (i.e.: Security Archives instruction was not referenced in the purchasing document with Security Archives). The first related to penetrations through the vault. It was observed that a Halon pipe penetration through the vault was not sealed to as required. Secondly, the temperature and humidity strip recorder indicated for a seven week period that the temperatures in the vault were below the minimum set forth in the Security Archives instruction which is based on the manufactures

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6 Adverse Condition (continued)

recommendations. No corrective action documents were generated by USGS to address this condition. USGS had just performed a requalification audit of Security Archives (USGS-94052-SA) on May 24, 1994 and failed to identify these conditions. As a result of the audit, Security Archives was maintained as a supplier of services on the USGS ASL.

Contrary to QARD requirements, Section 5 Items 6 and 11:

- g) QDR 94-063, initiated 5/23/94, addressed the failure of USGS to perform their Annual Supplier Evaluations in accordance with QMP-7.04 which is the basis for retention on the ASL. These suppliers were not suspended from the ASL. They are retained on a managerial risk basis.

Contrary to QARD requirements, Section 5 Items 1,2,3,4,6,7,8,9 and 10:

- h) YMP-USGS-QMP-7.04, Rev. 1, CONTROL OF PURCHASED ITEMS AND SERVICES, Para. 5.4, Triennial Audits in accordance with this paragraph is only three years after a supplier is placed on the ASL. The QMP fails to address the requirement or the methodology required by the QARD. The QARD requires that after qualification of a Supplier by History, Quality Records Review, or Survey when the supplier is using a QA program other than the QA program with requirements specifically required by USGS procurement document, an audit must be performed after commencement of USGS's work. This audit is used to set the triennial audit date and provides a degree of confidence the supplier is performing as required.

Contrary to QARD requirements, Section 5 Items 2,3,4,5,7,8 and 9:

- i) The contract 1434-93-C-40098 Desert Research Institute (DRI) Quality Assurance Agreement between DRI Quarternary Science Cetner and USGS Geological Survey for Yucca Mountain Project Data Collection. (approved by USGS3/94) fails to address: 1) what Ymp-USGS-QMPs DRI is responsible to implement; 2) allows DRI to generate written procedures for sample tracking and data collection without being performed in accordance to YMP-USGS-QMP-501; 3) fails to invoke a Document Control requirement, based on a statement of 'Employee Awareness'; 4) fails to invoke YMP-USGS procedures QMP-2.08 PERSONNEL QUALIFICATION, QMP 6.01 DOCUMENT CONTROL, QMP 8.01 IDENTIFICATION AND CONTROL OF SAMPLES or QMP 16.04 CONTROL OF DEFICIENCY REPORTS (Note: based on the Attachment I statement It appears that DRI is augmented staff to USGS.)

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**1. CORRECTIVE ACTION RESPONSE FOR CAR No. YM-94-050**

**A. REMEDIAL ACTION:**

- (1) The USGS will reevaluate its procurement procedures as described under Section D below. This evaluation will include the different procedure conditions identified in b, c, d, g, and h. These conditions will be corrected as appropriate.
- (2) The deficient procurement document conditions identified in Section 6, Adverse Conditions, parts 2.a, b, c, f, and i will be investigated and corrected as appropriate. The USGS will provide a supplemental response to YMQAD identifying the activities to be taken and a schedule for completion.

**B. EXTENT OF THE DEFICIENCY:** All YMP-USGS procurement documents issued since the effective date of QMP-4.01, R6 will be assessed to determine if the procurement language is adequate, and if there is a potential adverse impact on the quality of the service being procured. If there is a potential adverse impact, then for active procurements the language in the document will be amended and for completed procurements a Quality Deficiency Report (QDR) will be issued.

**C. ROOT CAUSE DETERMINATION:** QARD requirement 4.2.1C.1.:2s which states: "The extent of the quality assurance program shall depend on the scope, nature, or complexity of the item or service being procured." had been interpreted by the USGS to mean that for some procurements QA controls could be selected as applicable. This apparent misinterpretation contributed to the finding that not all QARD procurement requirements were passed on to the supplier depending on the nature of the item or service being procured.

**D. CORRECTIVE ACTION TO PRECLUDE RECURRENCE:** The USGS will reevaluate its procurement process to identify how to revise its procurement procedures to better meet the QARD requirements and to effectively implement those requirements. The procurement procedures will then be revised to reflect the new procedure process.

**2. For each action above, identify the name of the individual assigned responsibility for completion of the action and the anticipated (or actual, if complete) completion date.**

1.A.(1) L.L. McInroy, Verification Supervisor	11/01/94
1.A.(2) A.E. Lykins, YMP-USGS Quality Assurance Specialist	09/15/94
1.B. A.E. Lykins, YMP-USGS Quality Assurance Specialist	09/15/94
1.D. L.L. McInroy, Verification Supervisor	11/01/94

8/19/94 *Str. Hayes to Spence*

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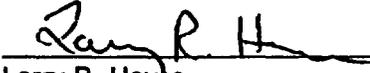
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**3. RESPONSE APPROVED:**

  
\_\_\_\_\_

Thomas H. Chaney  
YMP-USGS Quality Assurance Manager

8/9/94  
Date

  
\_\_\_\_\_

Larry R. Hayes  
Chief, Yucca Mountain Project Branch

8/9/94  
Date

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**1. REVISED CORRECTIVE ACTION RESPONSE FOR CAR No. YM-94-050**

Background The deficiencies identified in the CAR are summarized and paraphrased in the following to ensure that this response adequately addresses all issues. The numbering is keyed to the numbering in the CAR.

- 6(1) The procurement procedures fail to translate the QARD requirements into methods for accomplishing the work.
- 6(2) The implementation of the procurement procedures demonstrates that the intended results are not being achieved.
- 6(2)a) QMP-4.01, Rev. 6, does not include the methods for determining which QARD requirements apply to specific procurements. A review of several procurement documents confirmed that the PO language indicated that the work was to be performed in accordance with the supplier's QA program or in accordance with the USGS's QA program. In neither situation are specific QA program requirements addressed.
- 6(2)b) CAR YM-93-053, dealing with similar procurement deficiencies identified herein, was closed by DOE with the revision to QMP-4.01 but the effectiveness was not evaluated. Reviewing for effectiveness during this audit, confirmed that the procurement documents failed to incorporate appropriate QARD requirements.
- 6(2)c) QMP-4.01 fails to provide the methods for performing QA and requestor reviews of Proposals. In addition, Attachment 4, intended for documenting Proposal reviews is titled Supplier Performance Evaluation and does not address proposal evaluations.
- 6(2)d) QMP-7.04 fails to contain the methods to be used: 1) for planning Source Verifications; 2) for determining what quantitative and qualitative acceptance criteria are to be included; or 3) for performing the verification. The Source Verification Form provides limited information and the documentation for two verification actions were not sent to suppliers, as required by the procedure.
- 6(2)e) USGS QDR-93011 identified the failure for a USGS subcontractor to incorporate both technical and QA requirements in the contractor's PO to a subtier supplier. The subcontractor's corrective action modified the PO but it, again, failed to incorporate appropriate requirements.
- 6(2)f) A review of Security Archives (SA) a subtier contractor, determined that: 1) the USGS PO to SA did not specify the SA instructions for performing work; 2) a Halon pipe penetration was not sealed; 3) a temperature and humidity instrument recorded values that were below the recommended minimums; and 4) a recent USGS audit failed to recognize the preceding issues.
- 6(2)g) USGS QDR-94063 identified certain annual supplier evaluations which were performed but were not finalized by the due date. The suppliers were not suspended from the ASL.

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- 6(2)h) QMP-7.04 fails to identify the methods for incorporating the QARD requirement for performing a supplier audit after the initial supplier qualification. The audit is used to set the triennial audit date and is intended to provide a degree of confidence in the supplier.
- 6(2)i) The agreement between DRI/Reno and the USGS fails to address: 1) which QMPs DRI is to use; 2) how DRI can generate sample tracking and data collection procedures which are not in compliance with QMP-5.01; 3) the requirements for Document Control based on a Statement of Employer Awareness; and 4) the following QMPs:  
QMP-2.08 - Personnel Qualifications  
QMP-6.01 - Document Control  
QMP-8.01 - Identification and control of Samples  
QMP-16.04 - Control of Deficiency Reports.

(Note: DRI appears to be augmented staff.)

**A. REMEDIAL ACTION:**

Not all of the identified deficiencies require Remedial Action. Some only require Corrective Action to Preclude Recurrence. Those that do not require Remedial Action are identified accordingly. Those that do require Remedial Action are addressed as follows:

- (1) CAR items 6(1), 6(2), 6(2)a), 6(2)b), and 6(2)e) address the issue of inadequacies in the procedures along with ineffective implementation concerning the requirement to incorporate specific QA program requirements into procurement documents. The long term solution, of course, is to revise the procedures and to train the staff. This is addressed in item D(1), Corrective Actions to Preclude Recurrence.

The Remedial Action will consist of a review of current Purchase Orders, Contracts, Purchase Orders by Major Contractors (such as SAIC) and Memoranda of Agreement to determine the adequacy of the incorporated QA requirement language. Following the review, the procurement documents will, when appropriate, be amended to incorporate applicable QA language.

- (2) CAR item 6(2)c) - No Remedial Action is necessary to back-fit or adjust for the failure to fully document the requestor review of proposals. The QA review is documented by the final QA review of all Purchase Orders. Disposition of the issue is covered under D(2), Corrective Actions to Preclude Recurrence.
- (3) CAR item 6(2)d) - This issue deals with the inadequacies in QMP-7.04 as it relates to planning and performing Source Verifications. It also concerns failure to send copies of documentation to suppliers as required by procedure.

Remedial Action will consist of sending copies of the necessary documentation to the suppliers. The longer term disposition is covered in D(3), Corrective Action to Preclude Recurrence.

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(4) CAR item 6(2)e) - This issue relates to a subcontractor (SAIC) failing to pass on appropriate quality requirements to a sub-tier supplier. This issue is addressed in QDR-93011 which still remains open pending satisfactory resolution. In this situation, SAIC working as extended staff to the USGS, submitted the procurement document through the process established by the procurement QMPs. The approach taken was therefore, the same as that for all procurements. Remedial Action will be accomplished through QDR-93011. The longer term disposition is covered in D(1) Corrective Actions to Preclude Recurrence.

(5) CAR item 6(2)f) - This issue deals with Purchase Order QA language problems, as well as problems with physical storage conditions at the supplier, Security Archives (SA).

Remedial Action will consist of: a) a revision to the Purchase Order to correct the QA language; b) necessary coordination with SA to ensure that their QA program satisfies applicable QARD requirements; and c) a revisit to SA in the form of a surveillance to address the storage condition issue.

(6) CAR item 6(2)g) - This issue deals with supplier evaluations not completed on time.

Remedial Action will consist of an evaluation of QDR-94063 to determine if any of the suppliers should be suspended from the ASL. This effort will consider the status of the delayed supplier evaluation reports and the circumstances surrounding each. The product of the effort will be in the form of an expedited resolution to QDR-94063.

(7) CAR item 6(2)h) - No Remedial Action Required. The disposition of this issue related to performing supplier audits following initial supplier qualification is addressed under D(5), Corrective Actions to Preclude Recurrence.

(8) CAR item 6(2)i) - The DRI Agreement will be re-examined for appropriate quality requirements and an amendment will be issued in an expedited manner.

(9) General - Failure to pass on specific QA program requirements to suppliers also has a secondary impact on the manner in which suppliers are evaluated and added to the Approved Supplier List (ASL).

Remedial Action will consist of evaluating the suppliers currently listed on the ASL to identify those which will require a requalification effort. The product of this effort will be a brief written report to the QA Manager identifying those which will require requalification, the criteria for determining which of those requires requalification, and a proposed schedule.

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**B. EXTENT OF THE DEFICIENCY:**

The identified deficiencies encompass both procurement actions, as well as the evaluation of suppliers. Procurement action involves Purchase Orders, Contracts, Purchase Orders by Major Contractors (such as SAIC) and Memoranda of Agreement.

The planned Remedial Action will evaluate all procurement actions issued since the effective date of OMP-4.01, R4, in which the procurement document is still open. The determination to requalify approved suppliers will be made for those suppliers which are currently included on the ASL.

**C. ROOT CAUSE DETERMINATION:**

The Root Causes of the identified deficiencies are attributed to the following:

- (1) QARD requirement 4.2.1C.1.:2S states: "The extent of the quality assurance program shall depend on the scope, nature, or complexity of the item or service being procured." This has been interpreted to mean that for some procurements, QA controls could be selected as applicable. This interpretation contributed to the finding that not all applicable QARD procurement requirements were passed on to the suppliers.
- (2) Implementing procedures, in some cases, do not translate the QARD requirements into the work process (methodology).

**D. CORRECTIVE ACTION TO PRECLUDE RECURRENCE:**

The long term resolution of many of the identified deficiencies is to revise the procurement related procedures. The procedures will be revised to address the identified deficiencies as follows:

- (1) CAR items 6(1), 6(2), 6(2)a), 6(2)b), 6(2)e), 6(2)f) and 6(2)i) require a general revision to include the specific methodology to pass quality requirements on to the suppliers. The general revision will very likely require changes to QMPs 4.01, 4.02, 7.01 and 7.04.
- (2) CAR item 6(2)c) - OMP-4.01 will be revised to address the documentation of QA and requestor reviews of proposals in more detail.
- (3) CAR item 6(2)d) - OMP-7.04 will be revised to address Source Verification in more detail.
- (4) CAR item 6(2)g) - The disposition of QDR-94063, regarding late supplier evaluations, will be expedited and will include Corrective Action to Preclude Recurrence.
- (5) CAR item 6(2)h) - OMP-7.04 will be revised to incorporate the QARD requirements related to supplier audits to be performed after the initial supplier qualification.

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A team composed of individuals from the QA Office, the technical staff, the Administrative Office (Procurement) and the QA Verification Group has been assigned to examine the QARD requirements relating to procurement and supplier selection and to develop comprehensive revisions to QMPs 4.01, 4.02, 7.01, and 7.04, as appropriate. The approach will specifically address the methods of implementation and will not simply be a play back of QARD requirements. (The team effort is currently in progress.)

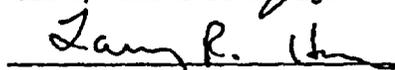
2. For each action above, identify the name of the individual assigned responsibility for completion of the action and the anticipated (or actual, if complete) completion date.

1.A(1)	A.E. Lykins, QA Specialist	11/31/94
1.A(3)	D. Valega, QA Auditor	10/17/94
1.A(4)	D. Valega, QA Auditor	11/5/94
1.A(5)	D.D. Porter, SAIC Project Manager L.L. McInroy, Verification Supervisor	10/31/94
1.A(6)	D.J. Sinks, QA Auditor	10/31/94
1.A(8)	A.E. Lykins, QA Specialist	11/31/94
1.A(9)	J.M. Ziemba, QA Auditor	11/15/94
1.D(1)	L.L. McInroy, Verification Supervisor	1/15/95
1.D(2)	L.L. McInroy, Verification Supervisor	1/15/95
1.D(3)	L.L. McInroy, Verification Supervisor	1/15/95
1.D(4)	D.J. Sinks, QA Auditor	10/31/94
1.D(5)	L.L. McInroy, Verification Supervisor	1/15/95

3. RESPONSE APPROVED:

  
Thomas H. Chaney, YMP/USGS  
Quality Assurance Manager

10/10/94  
Date

  
Larry R. Hayes, Chief,  
Yucca Mountain Project Branch

10/11/94  
Date

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

CAR NO. YM-94-050  
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QA

**CORRECTIVE ACTION REQUEST (Continuation Page)**

**1. AMENDED CORRECTIVE ACTION RESPONSE FOR CAR No. YM-94-050**

A. **REMEDIAL ACTION:** As stated in the 10/10/94 CAR Response

B. **EXTENT OF THE DEFICIENCY:** As stated in the 10/10/94 CAR Response

C. **ROOT CAUSE DETERMINATION:** As stated in the 10/10/94 CAR Response

**D. CORRECTIVE ACTION TO PRECLUDE RECURRENCE:**

(1) YMP-USGS-QMP-4.01; QMP-4.02; and QMP-7.04 have been revised as required to address corrective actions 6(1), 6(2), 6(2)a), 6(2)c), and 6(2)d) and their current status are as follows:

- QMP-4.01, R7 Approval pending
- QMP-4.02, R6 In QA review
- QMP-7.04, R2 In QA review

(2) Desert Research Institute, Quaternary Sciences Center Contract 1434-93-C-40098 will be revised to incorporate the applicable quality assurance requirements. The revision is currently in review.

(3) The YMP-USGS QA Office is re-evaluating suppliers currently on the YMP-USGS Approved Suppliers List (ASL) to ensure that they have and work to a documented QA Program. All scheduled supplier audits have been suspended pending evaluation completion. As a result of this ongoing re-evaluation, thirteen (13) supplier QA Plans have been approved for YMP-USGS quality-affecting work and four (4) suppliers have been removed from the ASL. Once a documented QA Plan is approved by the USGS for a supplier, the DOE will be notified to facilitate the scheduling of a supplier audit.

(4) Impact analysis will be performed as required for those suppliers removed from the ASL as a result of this re-evaluation effort.

(5) The supplier audit function is scheduled to transition to the OCRWM Office of Quality Assurance. Based on the results of the YMP-USGS ASL re-evaluation effort, a list of suppliers for ASL retention will be provided to DOE on an ongoing basis and a final list prepared by 8/25/95.

OFFICE OF CIVILIAN  
RADIOACTIVE WASTE MANAGEMENT  
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WASHINGTON, D.C.

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**CORRECTIVE ACTION REQUEST (Continuation Page)**

2. For each action above, identify the name of the individual assigned responsibility for completion of the action and the anticipated (or actual, if complete) completion date.

1.D(1) A.E. Lykins, QA Specialist	07/07/95
1.D(2) R. Scavuzzo, QA Specialist	07/07/95
1.D(3) L.L. McInroy, Verification Supervisor	08/18/95
1.D(4) L.L. McInroy, Verification Supervisor	08/25/95
1.D(5) T.C. Chaney, QA Manager	08/25/95

3. RESPONSE APPROVED:

  
\_\_\_\_\_  
Thomas H. Chaney  
YMP-USGS Quality Assurance Manager

6/14/95  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Larry R. Hayes  
Chief, Yucca Mountain Project Branch

6/14/95  
\_\_\_\_\_  
Date

For

VERIFICATION OF CORRECTIVE ACTION FOR CAR YM-94-050

Block 19, Corrective Action Verification -  
Adverse Condition: Action to Preclude Recurrence

- 6(2)a Verified YMP-USGS-QMP-4.01, Revision 7, effective 7/21/95, provide the methodology for determining which QARD requirements apply to specific types of procurements. In addition, it address the requirements for work under the USGS QA Program.
- 6(2)b Verified the procurement documents issued in fiscal year 1995 contained the appropriate QA requirements of QMP-4.01, Revision 7. Those Purchase Order documents reviewed were:
- |                    |                    |
|--------------------|--------------------|
| 95-PO-0021, Mod I  | 95-SA-0544, Mod II |
| 95-FS-0199, Mod I  | 95-SA-0610, Mod I  |
| 95-SA-0426, Mod II | 95-SA-0030, Mod I  |
| 95-SA-0752, Mod II | 95-SA-0273, Mod I  |
| 95-SA-0275, Mod I  | 95-930040-04-76    |
| 95-SA-0242, Mod I  | 95-4889-5638       |
| 95-SA-0211, Mod I  |                    |
| 95-SA-0227, Mod I  |                    |
| 95-SA-0279, Mod I  |                    |
- 6(2)c Verified YMP-USGS-QMP-4.01, Revision 7, Paragraph 5.1.8 addresses Request for Quotations and Solicitation Packages and their subsequent Technical and QA reviews. The forms included in the QMP are appropriate to the procedure.
- 6(2)d Verified QMP-7.04, Revision 2, effective 7/3/95, only addresses supplier evaluations. QMP-4.01, Revision 7, Paragraph 5.2.1 and attachment 4, Quality Assurance procurement option criteria, addresses source verification.
- 6(2)e Verified the Security Archives 1434-92-C40020 was modified by purchase order 45-930090-04-76, Change Order #4, which extends the PO to 9/31/95 and included Attachment A, that included technical requirements per NQA-1 (89), Supplement 17S-1, NFPA 232(86), and appropriate QA requirement.
- 6(2)f Verified that Security Archives was subsequently surveilled after the purchase order modifications. USGS Surveillance Report 95014SS verified the reported fire path was corrected around the penetration and the temperature and humidity indicator were calibrated and the vault area was within the prescribed limits.

- 6(2)g Verified that the supplier annual evaluations which were performed but not finalized by the due dates were subsequently removed (twenty-one suppliers) from the QSL by USGS letter to R. E. Spence from T. H. Chaney, dated 7/21/95; subject: Qualified Supplies List (QSL) Information. Subsequently, five suppliers were re-evaluated by USGS and Supplier Evaluation Reports were completed for; 1) the University of Saskatchewan, Department of Geological Sciences, 2) Certified Balance Services, Incorporation, 3) State of Colorado Department of Agriculture, 4) SATEC System, Inc., and 5) Campbell Scientific, Inc.
- 6(2)h The initial supplier facility survey and audits have been transitioned to the Office of Quality Assurance, effective 7/3/95. Verified AP 7.4Q, revision 1, Maintenance of the OCRWM Qualified Suppliers List, QAP 7.2, Revision 1, Supplier Evaluation and QAP 18.3, Revision 0, Suppliers surveys/audits were effective 7/3/95. The USGS procedure YMP-USGS-QMP 7.04, Revision 2, Supplier Evaluations, effective 7/3/95, reflected the transition of responsibilities in the AP 7.4Q revision.
- 6(2)i Verified USGS Contract 1434-93-C-40098 with Desert Research Institute--Quaternary Science Center, QA program was approved by DRI's P. E. Wigand, Associate Research Professor, QSC and D. Ritter, Executive Director, QSC on 7/20/95. Subsequently USGS approved DRI's QA Program as evidenced by the YMP-USGS-QA stamp on the front of DIR's QA Program signed and dated by T. Chaney on 8/4/95.

Remedial Action:

- (1) Verified YMP-USGS-QMP 4.01, Revision 7, QMP 4.02, Revision 6, and QMP 7.04, Revision 2 were approved and effective (See 6(2)a). In addition, verified that all FY 95 memorandum of agreements in accordance with YMP-USGS-QMP-4.02, reflected the appropriate QA requirements for the defined scope of works.
- (2) No remedial action required. The action to preclude recurrence is addressed in 6(2)d and 6(2)e.
- (3) Verified YMP-USGS-QMP-4.01, Revision 7, address source verifications and the distribution of the Source Verification Report after approval by the QA Manager to the requestor and the USGS Administrative Management Section. The previous Source Verification Reports were sent to Headway Industries and North West Welding (See 6(2)c).

- (4) & (5) Verified Security Archives PO 45-930090-04-76 Change Order #4 included attachment A which extended the contract to 9/31/95. It also includes the technical and quality requirements for records and resolved outstanding deficiencies with security archives facilities which were verified by USGS Surveillance 95014SS.
- (6) Verified QDR-94063 was closed based on issuance of CAR YM-94-050. Consequently, USGS was required to suspend suppliers (21 each) from the QSL (See 6(2)g) and perform an Impact Analysis on each of the suppliers to determine if any adverse affects on USGS operation had occurred. The following supplier impact evaluations were performed and documented. National Ocean Science Acceleration Mass Spectrometry Facility, New Mexico Bureau of Mines, Huffman Laboratories, University of Houston Well Logging Laboratory, University of Saskatchewan Department of Geological Sciences, USGS Ocala Water Quality Services Unit, National Water Quality Laboratory, USGS Brach of Geochemistry, Radiation and Energy Balance Systems, E.G.&G. Geometrics, Mountain States Micrographic, Druck Incorporated, Certified Balance Service, Inc., Wavetek-Datron Instrument, State of Colorado, Scott Specialty Gases, Inc., Dupont Chemical Fluorocarbons Division, VICI Metronics, Hewlett Packard, SATEC Systems, Inc., and Campbell Scientific., Inc. The Impact Analysis for these 21 suppliers determined that no adverse conditions affecting USGS work had occurred.
- (7) No remedial action required--This issue related to audits of suppliers, subsequent to the initial supplier evaluations. All audits and surveys have been transitioned to OQA.
- (8) Desert Research Institute (DRI) QA Program was verified to be approved by DRI and reviewed and approved by USGS QA organization (See 6(2)i).
- (9) Verified that appropriate QA requirements were included in FY 1995 issued purchase documents (See 6(2)b) and the suppliers on USGS AVL were evaluated and those suppliers requiring requalification were identified and 21 suppliers were removed (Sec. 6(2)g) and remedial action #(6). The suppliers removed require a supplier evaluation prior to reincorporating the suppliers on the QSL. Five suppliers have been re-evaluated as of 6/14/95 (See 6(2)g).

Conclusion: Based on the Corrective Action to Preclude Recurrence and the Remedial Action completed for this CAR YM-94-050, the procurement process of USGS should become effective. Therefore, this CAR is considered closed.

Donald J. Harris  
Donald J. Harris, QAR

9/19/95  
Date