



Department of Energy

Washington, DC 20585

QA: L

JUL 11 1997

L. D. Foust, 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

EVALUATION OF RESPONSE TO CORRECTIVE ACTION REQUEST (CAR)
YM-97-C-001 RESULTING FROM THE OFFICE OF QUALITY ASSURANCE (OQA)
AUDIT M&O-ARC-97-09 OF THE CIVILIAN RADIOACTIVE WASTE
MANAGEMENT SYSTEM MANAGEMENT AND OPERATING CONTRACTOR
(CRWMS M&O)

The OQA has completed the evaluation of your response, dated June 2, 1997, to
CAR YM-97-C-001. Elements of the response were found to be acceptable; however in
general, the response failed to adequately address the condition.

An amended response to the areas identified in the enclosed evaluation is required to be
submitted to this office within ten working days of the date of this letter. Please send the
original of your amended response to Deborah G. Sult, OQA/QATSS, P.O. Box 30307,
Mail Stop 455, North Las Vegas, Nevada 89036-0307. If an extension to the due date is
necessary, it must be requested in writing, with appropriate justification, prior to that date.

If you have any questions, please contact either myself at (702) 794-5568 or
Robert W. Clark at (702) 794-5583.


Donald G. Horton, Director
Office of Quality Assurance

OQA: DGH-1893

Enclosure:
CAR YM-97-C-001

150154

Recip: WMSS/HWR

NH33

WM-11
102.7



Printed with soy ink on recycled paper



9707160119 970711
PDR WASTE
WM-11 PDR

L. D. Foust

-2-

JUL 11 1997

cc w/encl:

L. H. Barrett, DOE/HQ (RW-1) FORS
T. A. Wood, DOE/HQ (RW-55) FORS
J. O. Thoma, NRC, Washington, DC
S. W. Zimmerman, NWPO, Carson City, NV
R. L. Strickler, M&O, Vienna, VA
B. R. Justice, M&O, Las Vegas, NV
R. A. Morgan, M&O, Las Vegas, NV
R. W. Clark, DOE/OQA, Las Vegas, NV
W. E. Barnes, DOE/YMSCO, Las Vegas, NV

cc w/o encl:

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

OFFICE OF CIVILIAN
RADIOACTIVE WASTE MANAGEMENT
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 Stop Work Order

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EVALUATION OF RESPONSE TO CORRECTIVE ACTION REQUEST (CAR) YM-97-C-001

While elements of this response were found to be acceptable, the response failed to adequately address the identified condition.

The actions proposed in response to actions Nos. 1 & 2 in Block 15 are acceptable.

The Office of Quality Assurance (OQA) will verify the documented actions upon completion. (Completion Dates: Action No. 1 - 6/27/97 ; Action No. 2 - 7/11/97)

Action No. 3 in Block 15 requires no further action.

For clarification purposes, it should be noted that the Activity Evaluation provided to the auditor during the course of the audit was later identified by Civilian Radioactive Waste Management System (CRWMS) Management and Operating (M&O) Contractor staff as not being applicable to the procurement documents under review. In post-audit discussions with R. Berlin and R. Helms, a replacement Activity Evaluation was provided. The document was found to be in compliance with applicable procedures. The preparation date for the replacement document was March, 18, 1997 (Two months following audit).

Response to recommended action No. 3 in Block 10 requires an amended response.

The Interoffice Correspondence identified as attachment 1 in your response needs modification to state that requests for interpretations to the QARD must be formally submitted to and will be provided by the Director, OQA.

Remedial actions in Block 14 and Actions to Preclude Recurrence in Block 17 require an amended response.

The response failed to address the CAR condition as to why "Q" procurements are being procured as "non-Q". The draft CRWMS M&O Policy Statement, Revision 3 is not acceptable in that it references a nonexistent, "CRWMS M&O QA Program", and companies considered by DOE OCRWM to be CRWMS M&O suppliers. The CRWMS M&O maintains procedures to implement the QARD which is the governing document for the OCRWM QA Program. The CRWMS M&O team is considered to be the original Teaming Members at the initiation of the contract (TRW Environmental Safety Systems, Inc., Duke Engineering Services, Inc., Framatome Cogema Fuels, Flour Daniel, Inc., E. R. Johnson Associates, Inc., Morrison-Knudsen Corporation, J. K. Research Associates, Inc. and Woodward-Clyde Federal Services), the four Labs (LANL, LBNL, LLNL, SNL) and the additional members (Science Applications International Corporation, Integrated Resources Group, Kiewit/PB) added due to DOE OCRWM directed consolidation and contract changes. Groups other than those listed are considered suppliers or subcontractors to the CRWMS M&O team. When quality affecting items or services are procured from suppliers or subcontractors, the procurement shall be in accordance with the OCRWM QA program.

Root Cause determination in Block 16 indeterminate.

Until the remedial actions and actions to prevent recurrence are adequately delineated, OQA cannot evaluate the acceptability of the root cause determination. OQA recommends that the CRWMS M&O reevaluate the root cause determination based on their amended response.

The two definitions provided in Attachment 5 require an amended response.

The definition of "Civilian Radioactive Waste Management System (CRWMS) Management and Operating (M&O) Contractor needs modification to eliminate the global references. The definition is to include only those team members agreed to by DOE OCRWM.

The definition "M&O Procurement" is not necessary since the QARD Glossary already defines Procurement Document as "Purchase orders, contracts, specifications, or other documents used to define technical and quality assurance requirements for the procurement of items or services".

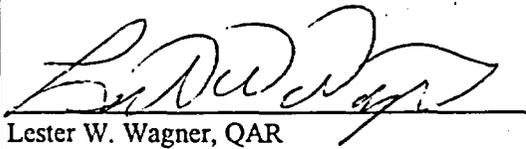
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Following the issuance of this CAR, OQA performed audits on the following organizations: University of Nevada, Reno (UNR); Bechtel Nevada (BN), and Pacific Northwest National Laboratory (PNNL) in which it was identified that these organizations were not working in accordance with the CRWMS M&O QA procedures as required through the CRWMS M&O procurement documents. The CRWMS M&O needs to ensure the investigative actions committed in Block 15 for "Extent of Condition and Impact", includes: 1) identifying all individuals and organizations working to the M&O procedures at the direction of Memorandum Purchase Orders, Statements of Work or Subcontracts; 2) determining which individuals or organizations are not fully implementing the M&O procedures as required; and 3) evaluating the impact on quality affecting activities for those individuals or organizations who have not adequately implemented the M&O QA procedures.


Lester W. Wagner, QAR

7/10/97
Date

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8
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CORRECTIVE ACTION REQUEST

1 Controlling Document: QARD
2 Related Report No.: M&O-ARC-97-09

3 Responsible Organization: M&O
4 Discussed With: Bob Sandifer, Bob Morgan, Jack Bailey

5 Requirement:
QARD, Rev. 5, Section 2.2.3 B states in part "The QA Program shall apply to activities related to the items on a Q-List (such as...procurement...)"
QARD, Rev. 5, Section 4.2.1 states in part "Procurement documents issued by each Affected Organization shall include the following provisions, as applicable to the item or service being procured:
A. A statement of the scope of work to be performed by the supplier.
B. Technical Requirements...
C. Quality Assurance Program Requirements..."

6 Description of Condition:
Contrary to the above the following noncompliant conditions were noted:

1 - Procurement of Quality Affecting services from the below identified suppliers were carried out as Non-Q in violation of the QARD requirements identified in Block #5. In discussion with M&O personnel it was discovered that the reason for this was M&O identification of the procurement as "Staff Augmentation", which is not subject to section 7 of the QARD. However, staff augmentation is only for activities or functions within the current scope of work, capability and normally performed by the M&O.

University Systems (UNLV, UNR, DRI)
University Systems Subcontractors (Activation Labs, USML,
McMaster University - these independent organizations did not have
M&O procurement documents which control the work, available for
review)
Kiewit
Argonne National Laboratory
Pacific Northwest Laboratory* (Continued on page 3)

7 Initiator: Les Wagner Date 2/20/97
9. Does a stop work condition exist?
Yes ___ No ; If Yes, Attach copy of SWD
If Yes, Check One: A B C

10. Recommended Actions:
1. Perform investigative actions resulting in documented identification of all related deficiencies.
2. Determine the impact on quality affecting activities performed under the procurement documents which were not controlled in accordance with QARD Sections 4 & 7 requirements.
3. Provide training/instruction to M&O line management/tasks managers that if they identify an area in the QARD in which a requirement is not clear or is not understood, they need to formally request clarification from the Director, OQA to eliminate the possibility of making the wrong interpretation.

11 QA Review: [Signature] Date 2/24/97
12 Response Due Date: 20 working days from issuance

13 Affected Organization QA Manager Issuance Approval:
Printed Name Donald G. Horton Signature [Signature] Date 3/3/97

22 Corrective Actions Verified: QAR Date
23 Closure Approved by: AQQAM Date

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CORRECTIVE ACTION REQUEST RESPONSE

14 Remedial Actions:

15 Extent of Condition and Impact:

16 Root Cause Determination prepared in accordance with AP-16.4Q is attached.

17 Action to Preclude Recurrence:

18 Corrective Action Completion Due Date:

19 Response by:

Initial

Amended

Date

Phone

20 Response Accepted

QAR

Date

21 Response Accepted

AQQAM

Date

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Block 6 - Description of Condition: (Continued from page 1)

*Note that in May 1996 LLNL sent documented notification to PNL withdrawing all subcontract responsibility including the LLNL Quality Assurance Requirements Specification (QARS). Since that time, the CRWMS M&O has not completed actions to close the gap with the initiation of a "Q" Procurement Document which provide quality assurance requirements for the services supplied by this Supplier.

2 - Review of the Non-Q procurement documents for personal services of Ronald L. Bruhn and Walter J. Arabasz, PH.D. state that these two individuals are to perform work in accordance with USGS' QA Program with any additional training necessary provided by the M&O. USGS training records for these individuals revealed that they had received training in "YMP-USGS Orientation for Expert Elicitation," "Elicitation Process Training," and "Expert Elicitation" - QMP 3.16, Rev. 0. However, the Activity Evaluation covering the work to be performed by these two individuals stated this activity is subject to the requirements of the QARD as implemented by the following M&O procedures QAP-1-0, QAP-2-0, QAP-2-1, QAP-2-2, QAP-3-1, QAP-3-5, QAP-6-1, QAP-17-1, AP-16.1Q, AP-16.2Q, NLP-3-15, NLP-3-18. No M&O training records were available to indicate the additional training as identified by the Activity Evaluation covering the task "Update Preliminary Seismic Hazard Analysis for Yucca Mountain," was completed.

Note also that USGS QMP-3.16, Rev. 0 is currently under comment resolution with DOE with major problems needing to be resolved prior to DOE acceptance of the procedure.

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6-2-97

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Block 6 - Description of Condition: (Continued from page 1)

*Note that in May 1996 LLNL sent documented notification to PNL withdrawing all subcontract responsibility including the LLNL Quality Assurance Requirements Specification (QARS). Since that time, the CRWMS M&O has not completed actions to close the gap with the initiation of a "Q" Procurement Document which provide quality assurance requirements for the services supplied by this Supplier.

2 - Review of the Non-Q procurement documents for personal services of Ronald L. Bruhn and Walter J. Arabasz, PH.D. state that these two individuals are to perform work in accordance with USGS' QA Program with any additional training necessary provided by the M&O. USGS training records for these individuals revealed that they had received training in "YMP-USGS Orientation for Expert Elicitation," "Elicitation Process Training," and "Expert Elicitation" - QMP 3.16, Rev. 0. However, the Activity Evaluation covering the work to be performed by these two individuals stated this activity is subject to the requirements of the QARD as implemented by the following M&O procedures QAP-1-0, QAP-2-0, QAP-2-1, QAP-2-2, QAP-3-1, QAP-3-5, QAP-6-1, QAP-17-1, AP-16.1Q, AP-16.2Q, NLP-3-15, NLP-3-18. No M&O training records were available to indicate the additional training as identified by the Activity Evaluation covering the task "Update Preliminary Seismic Hazard Analysis for Yucca Mountain," was completed.

Note also that USGS QMP-3.16, Rev. 0 is currently under comment resolution with DOE with major problems needing to be resolved prior to DOE acceptance of the procedure.

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In response to the Recommended Actions (Block 10) listed below, the M&O provides the following responses:

1. Perform investigative actions resulting in documented identification of all related deficiencies.

M&O Response: See response provided in Block 15, "Extent of Condition and Impact" for proposed actions and schedule for completion.

2. Determine the impact on quality affecting activities performed under the procurement documents which were not controlled in accordance with QARD Sections 4 and 7 requirements.

M&O Response: See response provided in Block 15, "Extent of Condition and Impact" for proposed actions and schedule for completion.

3. Provide training/instruction to M&O line management/task managers that if they identify an area in the QARD in which a requirement is not clear or is not understood, they need to formally request clarification from the Director, OQA to eliminate the possibility of making the wrong interpretation.

M&O Response: A letter will be prepared and distributed to M&O Responsible Managers (RMs) that defines the process to be used by the M&O for requesting clarification of QARD requirements. (Action completed on May 28, 1997 - see Attachment 1)

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WASHINGTON, D.C.**

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CORRECTIVE ACTION REQUEST RESPONSE

14 Remedial Actions:

1. Prepare and issue a revised CRWMS M&O Quality Assurance Policy Statement that defines the M&O Contractor. The revised QA Policy Statement will resolve the concerns that exists between the M&O and OQA relative to the organizations that are part of the M&O Contractor. A draft QA Policy Statement is shown in Attachment 2 for consideration. (Action scheduled to be completed by June 27, 1997)
2. Prepare and issue a letter to the University System (UNLV, UNR, and DRI) that clarifies the subcontracting limitations and/or restrictions that are applicable to their subcontracts. (Action schedule to be completed by June 13, 1997)

15 Extent of Condition and Impact:

1. All M&O Operations Managers will perform investigative actions within their respective quality affecting scope of work resulting in the following: Identification of the name of the M&O RM having oversight responsibilities for the quality affecting activities or functions being performed; Identification of the specific organizations/individuals in the M&O Contractor who are performing the quality affecting activities or functions; and Identification of where this scope of work is being performed. (Action scheduled to be completed by June 27, 1997)

16 Root Cause Determination prepared in accordance with AP-16.4Q is attached.

17 Action to Preclude Recurrence:

The actions to preclude recurrence will include the following: Revise the M&O Quality Assurance Policy Statement; Revise procedure QAP-1-0, "M&O Organization" to include the definition of M&O Contractor; and Revise procedure QAP-7-0, "Procurement Control Process" to include the definition of M&O Procurement Document. Additional actions will be identified upon completion of actions previously described in Block 15 and a AMENDED RESPONSE will be provided that will detail the actions required to complete remediation. A date for completion will be established during the preparation of the AMENDED RESPONSE.

18 Corrective Action Completion Due Date:

07/11/97

19 Response by:

Ronald G. Helms

Ronald G. Helms

Date 06/02/97

Phone 295-5599

20 Response Accepted

QAR

Date

21 Response Accepted

DOQA

Date

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U.S. DEPARTMENT OF ENERGY
WASHINGTON, D.C.

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Extent of Condition and Impact (Block 15): (Continued from page 4)

2. Each M&O RM identified in item #1 above, having responsibilities subject to QARD requirements, shall prepare an assessment of the organizations/individuals and their associated scope of work to ensure the following actions have been satisfactorily completed: Preparation of an activity evaluation when the activity is initially assigned or when the scope of activities changes to determine if the activity is subject to QARD requirements; Approved controlled implementing documents are available to prescribe the process for accomplishing the work subject to QARD requirements; Personnel assigned to work activities subject to the QARD requirements are qualified and appropriately trained to perform the work in accordance with the specified OCRWM-approved Quality Assurance program; Personnel conduct work subject to the QARD in accordance with the governing procedures; and QA records required by the governing procedures are submitted to the M&O Records Processing Center.

This assessment will include: (1) the documented results of the previous actions, (2) the identification of all related deficiencies, and (3) the determination of the impact on quality affecting activities performed under those M&O Procurement Documents which were not controlled in accordance with QARD Sections 4 and 7 requirements. (Action scheduled to be completed by July 11, 1997)

3. The QAP-2-0 Activity Evaluation referenced in the CAR for the training requirements for Dr. Ronald L. Bruhn and Dr. Walter J. Arabasz was for the M&O workscope of updating the preliminary Seismic Hazard Analysis that was carried out for the Exploratory Studies Facility. The workscope that Dr. Bruhn and Dr. Arabasz was tasked to perform under the USGS QA Program was to participate in a final probabilistic seismic hazard analysis to support design and performance assessment for a geologic repository at Yucca Mountain. The USGS responsible manager defined Dr. Bruhn and Dr. Arabasz training requirements and they satisfactorily completed these requirements as shown by the USGS documentation provided in Attachment 3. No further actions required.

Root Cause Determination Prepared in Accordance With AP-16.4Q (Block 16): (Continued from page 4)

1. The M&O Operations Managers, M&O Purchasing Manager, M&O COTR Manager, and M&O Quality Assurance Manager identified representatives from their respective organizations to participate in a team to determine the root cause(s) of the deficiencies identified in the Description of Condition (Block 6). This team completed a root cause determination analysis in accordance with AP-16.4Q and is provided in Attachment 4. One of the outcomes of the root cause determination analysis is a new definition of the terms M&O Contractor and M&O Procurement Document as shown in Attachment 5. In addition, the team compiled a list of the organizations that are part of the M&O Contractor as shown in Attachment 6.

Interoffice Correspondence
Civilian Radioactive Waste Management System
Management & Operating Contractor



TRW Environmental
Safety Systems, Inc.

QA: N

Subject
Policy on QARD Clarifications

Date
May 28, 1997
LV.QA.RAM.03/97-100

From *mm*
R. A. Morgan

To
Distribution

cc
B.R. Justice

Location/Phone
SUM1/1253
(702) 295-5462

In response to DOE Corrective Action Report YM-97-C-001 it is necessary for the M&O Contractor to establish a process for requesting interpretations/clarifications of the Quality Assurance Requirements and Description (QARD) and documenting responses provided by OQA and their support contractor.

When the requirements of the QARD are determined to be ambiguous, confusing, or applied inconsistently, it is incumbent upon the M&O Contractor to seek clarification. There are three alternatives available:

- a. Informally request interpretation from OQA - use this option when the interpretation of the requirement is believed to be simple and have only a minor impact on the implementation of a procedure.
- b. Formally request clarification in writing through the GM or AGM - use this option when written clarification is necessary to resolve inconsistent interpretation of QARD requirements as applied within the M&O.
- c. Formally request interpretation through OQA's Lessons Learned process - use this option when written clarification is necessary and has implementation considerations which may affect all QARD users.

Interpretations received from each of the above alternatives should be documented in an IOC and distributed to each of the Operations Managers to provide consistent implementation across the M&O Contractor.

cc:
Management 1
Management 2
Chron File

Las Vegas Direct Reports & Managers

Mailstop

Las Vegas Direct Reports & Managers	Mailstop
ADAME, SHERRY A.	423/1206
ANDREWS, ROBERT W.	423/123
ASHE, KENNETH L.	423/124
AVERY, JOHN E.	423/924
BAILEY, JACK N.	423/617
BODNAR, STEPHEN J.	423/127
BODVARSSON, Gudmundur S.	LBNL/LBNL
BOSTIAN, ROBERT S.	423/324
BRADY, MICHAEL C.	423/1249
BURKE, PETER R.	423/325
CANEPA, Julie A.	LANL/LANL
CHANDLER, DOUGLAS K.	423/1261
CLARKE, Willis L.	LLNL/LLNL
CRAIG, ROBERT W.	423/1249
DULOCK, VICTOR A.	423/624
ELKINS, NED Z.	423/828
FOUST, L. D.	423/1277
HANNIGAN, MAGDALENA G.	423/924
HARRIS, MICHAEL W.	423/224
HAYES, LARRY R.	423/1265
HOXIE, DWIGHT T.	423/822
LUGO, CANDACE L.	423/822
LUGO, MIGUEL A.	423/126
MORGAN, Robert A.	25
PARKER, CHARLES W.	423/328
REILLY, Beatrice E.	423/HL-101
SANDIFER, ROBERT M.	423/1261
SCHUTT, W. D.	423/1241
SEGREST, ALDEN M.	423/1025
SMITH, RONALD E.	423/822
SNELL, RICHARD D.	423/1259
STAFFORD, H. C.	423/1102
TOUCHSTONE, TOMMY .	423/1235
VAWTER, R. G.	423/1269
VOEGELE, MICHAEL D.	423/1273
WAGNER, RICHARD C.	423/702
WIGHTMAN, W. D.	456/456
YOUNKER, JEAN L.	423/1259
ZACHAR, DARIA N.	423/324

Civilian Radioactive Waste Management System
Management & Operating Contractor

TRW Environmental
Safety Systems, Inc
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QUALITY ASSURANCE POLICY STATEMENT
Revision 3 (Draft) Effective TBD

The U.S. Department of Energy (DOE) has been authorized by the Nuclear Waste Policy Act, as amended, to site, license, construct, and operate safely a geologic repository and a storage facility, and to provide for safe transportation of radioactive waste to those locations. The Nuclear Waste Policy Act established the Office of Civilian Radioactive Waste Management (OCRWM) to carry out the DOE management responsibility for this program.

OCRWM has contracted with TRW Environmental Safety Systems Inc., herein referred to as the Civilian Radioactive Waste Management System (CRWMS) Management and Operating (M&O) Contractor for systems engineering, development, and management of the Civilian Radioactive Waste Management System. TRW Environmental Safety Systems Inc. has contracted with the companies listed below for scientific and technical studies, construction and support related to the CRWMS Program.

Babcock & Wilcox Federal Services
Duke Engineering & Services, Inc.
Desert Research Institute
Framatome Cogema Fuels
Fluor Daniel, Inc.
The IBEX Group, Inc.
Integrated Resources Group
E. R. Johnson Associates, Inc.
J. K. Research Associates, Inc.
Kiewit/PB
Morrison-Knudsen Corporation
Science Applications International Corporation
University of Nevada Las Vegas
University of Nevada Reno
Woodward-Clyde Federal Services
Winston & Strawn
Argonne National Laboratory
Bechtel Nevada
Lawrence Berkeley National Laboratory
Lawrence Livermore National Laboratory
Los Alamos National Laboratory
Oak Ridge National Laboratory
Pacific Northwest National Laboratory
Sandia National Laboratories

Civilian Radioactive Waste Management System
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QUALITY ASSURANCE POLICY STATEMENT
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As such, these companies, universities, and national laboratories are a recognized part of the M&O organization. Their personnel are recognized as qualified to perform assigned work within the scope of the M&O QA program, and their procedures and work products are endorsed as acceptable for use throughout the M&O following a determination of applicability by responsible management. In addition, the M&O recognizes external organizations (such as USGS) that have an OCRWM-approved Quality Assurance program. Their personnel are considered qualified to perform assigned work within the scope of the M&O QA program, and their procedures and work products are endorsed as acceptable for use throughout the M&O following a determination of applicability by responsible management.

The M&O has committed to implement an effective quality assurance program which is in compliance with the applicable DOE and Federal regulatory requirements. The governing document of the M&O Quality Assurance Program is the OCRWM DOE/RW-0333P, Quality Assurance Requirements and Description (QARD) document. It is from this document that quality assurance controls are written into the M&O implementing procedures used to control M&O assigned work processes that fall under the M&O QA Program. The M&O implementing procedures include Quality Administrative Procedures (QAPs), Implementing Line Procedures (ILPs), Work Instructions (WIs), and equivalent procedures at the national laboratories (e.g., QAIPs, QPs, QIPs, TPs, DPs, and TIPs). In some instances, the M&O implements the QARD requirements through OCRWM Administrative Procedures (APs; YAPs). The choice of type of procedure to be used will depend on the nature and location of the work to be performed. No work subject to the requirements of the QARD shall be started prior to the development, review, approval, and issuance of the appropriate procedures to control the work. Procedures used to perform work under the M&O QA Program shall be controlled and used at the work location. If work cannot be completed as directed in the existing procedures, the work shall be stopped. Work shall not resume until appropriate procedure modifications reflecting the correct work practices are approved and issued.

The OCRWM QARD, applicable OCRWM Administrative Procedures, the M&O implementing procedures, and matrices that document compliance with the QARD collectively establish the M&O QA Program. All assigned work subject to the controls of the QARD is to be performed in accordance with the M&O QA Program unless OCRWM directs the M&O personnel to perform work in accordance with the OCRWM QA Program.

The M&O Quality Assurance Program is based on achievement of quality as a line responsibility where each performer is accountable for the quality of the work assigned. The OCRWM Office of Quality Assurance independently verifies the achievement of quality through surveillances and audits.

Civilian Radioactive Waste Management System
Management & Operating Contractor

TRW Environmental
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QUALITY ASSURANCE POLICY STATEMENT
Revision 3 (Draft) Effective TBD

The M&O conducts its activities in accordance with the highest standards of integrity, openness, technical expertise, and professional excellence, employing technical resources of the highest caliber and integrity.

The M&O Quality Assurance Program shall be implemented from the planning stages to work process implementation for all M&O activities subject to the requirements of the OCRWM QARD. Implementation is also applicable to all organizational levels from the M&O General Manager to subcontractors as deemed appropriate in applicable procurement documents. Compliance with the provisions of the M&O Quality Assurance Program is mandatory.

Date: _____

Robert L. Strickler
General Manager, CRWMS M&O

PROJECT ORGANIZATION

Yucca Mountain Seismic Hazards Evaluation Project

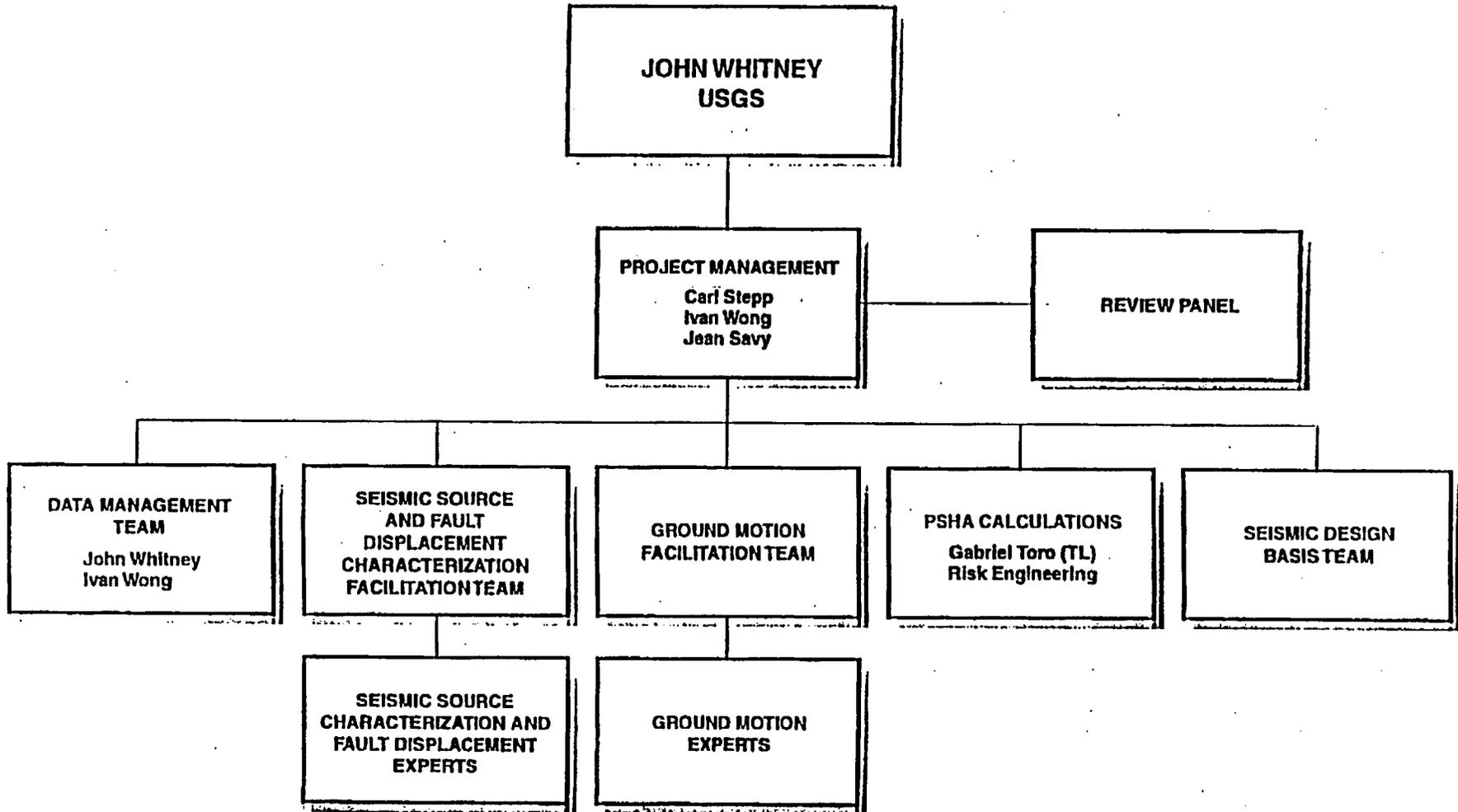
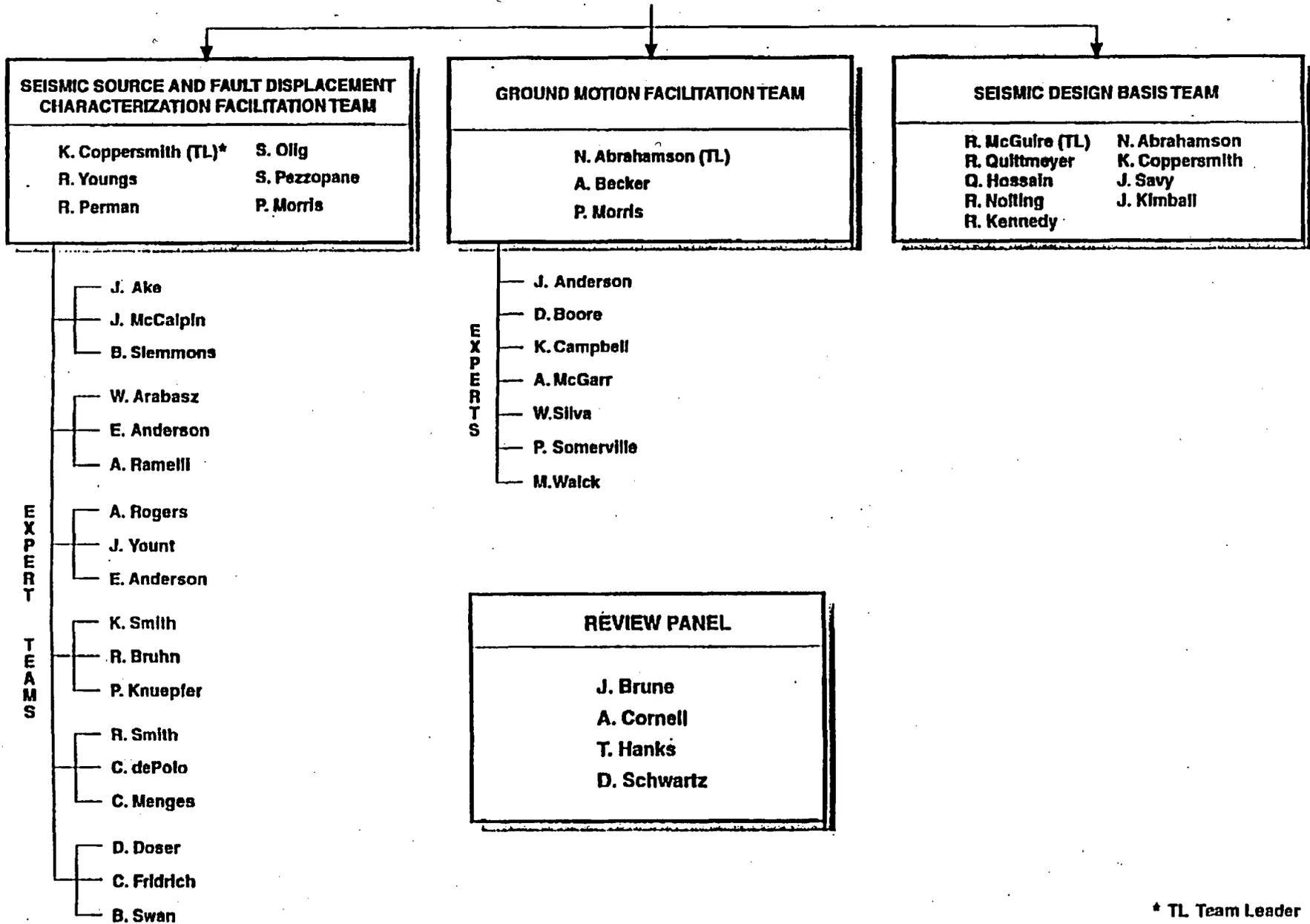


Figure 1

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TEAMS/EXPERT PANELS



* TL Team Leader

Figure 2

CONFIDENTIAL

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YMP-USGS-QMP-2.07, R2
Attachment 9

YMP-USGS Training Completion Report

November 5, 1996
Page 1 of 1

TRAINING NUMBER: 97c-01 - Expert Elicitation - QMP 3.16,R0

METHOD: Classroom Instruction

ASSIGNMENT DATE RANGE: August 23, 1985 through November 5, 1996

Participant	Method	Completion Date
J.P. Aka	Class	10/18/96
L.W. Anderson	Class	10/18/96
R.E. Anderson	Class	10/18/96
W.J. Arabasz	Class	10/18/96
R.L. Bruhn	Class	10/18/96
K.J. Coppersmith	Class	10/18/96
D.I. Doser	Class	10/18/96
C.J. Fridrich	Class	10/18/96
P.L. Kruepfer	Class	10/18/96
J.P. McCalpin	Class	10/18/96
C.M. Menges	Class	10/18/96
S.S. Olig	Class	10/18/96
R.C. Perman	Class	10/18/96
S.K. Pezzopane	Class	10/18/96
A.R. Ramelli	Class	10/18/96
A.M. Rogers	Class	10/18/96
J. Savy	Class	10/18/96
D.B. Stemmmons	Class	10/18/96
K.D. Smith	Class	10/18/96
R.B. Smith	Class	10/18/96
J.C. Stepp	Class	10/18/96
J.T. Sullivan	Class	10/18/96
F.H. Swan	Class	10/18/96
J.W. Whitney	Class	10/18/96
I.G. Wong	Class	10/18/96
R.R. Youngs	Class	10/18/96
J.C. Yount	Class	10/18/96
C.M. dePolo	Class	10/18/96

PRIVACY ACT (PL93-579)-YMP-USGS Instruction
Data Base - Information contained herein is considered confidential. Any disclosure of such information should be made to authorized personnel only. A substantial criminal penalty is provided by law for unauthorized disclosure of these records.

NOTE: Participant's reading/self-study assignments have been accepted as complete by the YMP-USGS Training Program. Signature below verifies the completion and this record is retained in lieu of individual QMP-2.07 attachments and/or evaluation tools (i.e., quiz or worksheet).

YMP-USGS Training Coordinator: Mary NelsonDate: 11/05/96

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YMP-USGS Training Completion Report

January 31, 1997
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NAME: W.J. Arabasz

ASSIGNMENT DATE RANGE: August 23, 1985 through January 31, 1997

<u>Training Number</u>	<u>Description</u>	<u>Method</u>	<u>Completion Date</u>
95c-06a	YMP-USGS Orientation for Expert Elicitation	Class	04/19/95
97c-01	Expert Elicitation - QMP 3.16,R0	Class	10/18/96
97c-03	Elicitation Process Training	Class	01/09/97

NOTE: Participant's reading/self-study assignments have been accepted as complete by the YMP-USGS Training Program. Signature below verifies the completion and this record is retained in lieu of individual QMP-2.07 attachments and/or evaluation tools (i.e., quiz or worksheet).

YMP-USGS Training Coordinator:

Mary C. Nelson

Date: 01/31/97

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ROOT CAUSE DETERMINATION QUESTIONNAIRE

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Refer to Subsection 5.2 and 5.3 of AP-16.4Q for amplification of information.

1. Identify the adverse condition.

See CAR YM-97-C001. Procurements of Quality Affecting services were carried out as non Q. (Specific examples are the University Systems, University Systems Subcontractors, Kiewit, Argonne National Laboratory, and Pacific Northwest Laboratory.)

Note: The condition regarding training for Dr. Bruhn and Dr. Arabasz has been resolved, they were found to be trained by USGS as required.

2. Indicate *Where* the condition was found.

OCRWM Audit M&O-ARC-97-09.

3. Note *When* the condition was first found.

The condition of the procurement of Quality Affecting services had been addressed by M&O surveillances 96-NSS-04 dated 1/96, University of Nevada Scientific Reports; 96-NSS-07 dated 1/96, Work at Other Locations; and 96-NSS-47 dated 6/96, Transition of Work Being Done for the National Labs and USGS to the M&O. The DRs generated by these surveillances regarding implementation issues have been resolved, the condition identified in the CAR (see item 1 above) was considered during the surveillances but it was determined not to be a condition adverse to quality.

4. Select which major program element(s) was affected. (Waste Acceptance, Storage, Transportation, or Repository.)

The condition is applicable throughout the M&O.

5. Denote the specific area(s) or discipline(s) of the major program element the condition occurred.

(e.g., engineering, design, ES&H)

The condition is applicable throughout the M&O.

6. Determine if the condition is isolated or recurring.

Recurring.

7. Determine if the condition is hardware (item) or programmatic (procedures, personnel) related or both.

Programmatic.

8. Denote what organizations are affected by this condition (M&O, USGS, Weston, OCRWM, etc.).

M&O.

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9 Document the changes that have taken place that could have caused the condition.

A contributing factor was the M&O consolidation effective 4/1/95. As a reference, see DOE letter from Stephan Brocoura to Ronald Milner dated August 11, 1995, captioned "Contractor Realignment and Quality Assurance Responsibilities." This letter states that OCRWM directed the M&O to consolidate YMP participants. The consolidation specifically included SNL, LANL, LBL, PNL, ORNL, LLNL, SAIC, IRG, REECo, and EG&G-EM.

10. Determine the need for sketches or photographs.

Not needed.

11. Determine the need for laboratory tests.

Not needed.

12. Identify the physical evidence examined.

Not applicable.

13. Note the relevant documents reviewed.

OCRWM Audit M&O-ARC-97-09; M&O surveillances and associated DRs (see item 3); and QAP-2-0 evaluations, transition plans, MOUs, SOWs, Subcontracts, POs, FWPs, and training records applicable to the specific examples in the CAR.

14. Document any other information that may be pertinent to supporting the selection of the correct root cause.

QARD. M&O Policy Statement. M&O implementing procedures.

15. Interviews conducted: Yes No

If Yes, refer to page 3 of this attachment.

RI or designee: (Print)
Ron Berlien

Signature:

R. Berlien

Date:

6/2/97

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ROOT CAUSE DETERMINATION QUESTIONNAIRE**

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TELEPHONE OR PERSONAL INTERVIEW RECORD

Person Interviewed: (Print)
Bob Morgan

Title:
QA Manager

Organization/Location:
M&O/Las Vegas

Telephone No.:
(702) 295-5462

Date/Time:
05/05/97

CAR No./DR No.:
YM-97-C001

Interview Details:

We reviewed the comments prepared thus far for the Root Cause Determination (RCD), pages 1 and 2. We also discussed the potential root causes the RCD team is considering, per AP-17.4Q Attachment 9.4. Bob felt that identifying the root cause as Code 3 A a was on the right track.

Based on his discussions within M&O management and with OQA, he felt that defining the applicable terms, defining the M&O organization, and communicating our policy (including addressing it procedurally) is necessary in order to resolve the condition.

Ron Berlien



Interviewer

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ROOT CAUSE DETERMINATION QUESTIONNAIRE**

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TELEPHONE OR PERSONAL INTERVIEW RECORD

Person Interviewed: (Print)
Doug Chandler

Title:
Support Operations Manager

Organization/Location:
M&O/Las Vegas

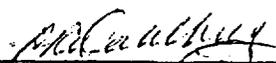
Telephone No.:
(702) 295-5603

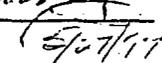
Date/Time:
05/22/97

CAR No./DR No.:
YM-97-C001

Interview Details:

"Presented the draft Root Cause Determination Questionnaire pages 1 through 4 to the Support Operations Manager. Reviewed the comments prepared for the root cause and the potential root causes which the RCD team is considering, per AP-17.4Q Attachment 9.4. Doug indicated that the questionnaire looked ok in what we have stated."

Phil Dahlberg 

Interviewer 

**OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
ROOT CAUSE DETERMINATION QUESTIONNAIRE**

Root Cause Code: 3. Management System	CAR No./DR No.: YM-97-C001
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Root Cause:
 A, a. No Standards, Policies, Administrative Controls (SPAC).

Justification or Rationale for Selected Root Cause:
 Based on the OCRWM audit, the surveillances conducted prior to the audit, and the management discussions during the audit, surveillances, and generation of the CAR, it is fairly clear that the definitions of standard terms and the identification of the organizations considered part of the M&O resulted in procurements of services as non Q when OCRWM felt they should be Q.

When applying the test question to the root cause selected, i.e. if corrective action is instituted against the selected root cause, will that action prevent the condition from happening again, the answer is affirmative.

Designee: (Print) Ron Berlien	Signature: 	Date: 6/2/97
RI: (Print) Ron Helms	Signature: 	Date: 6/2/97

New Definitions

Civilian Radioactive Waste Management System (CRWMS) Management and Operating (M&O) Contractor

A term used to describe TRW Environmental Safety Systems, Inc. and the other organizations (private sector contractors, universities, DOE national laboratories, and other DOE M&O contractors) and individuals performing activities within the *M&O Contractor's* scope of work and have a *M&O Procurement Document*. The organizations that are part of the *M&O Contractor* are listed in the CRWMS M&O Quality Assurance Policy Statement. The *M&O Contractor* also includes supplemental staff performing activities within the *M&O Contractor's* scope of work while under the supervision of *M&O Contractor* management. The supplemental staff are used to augment the *M&O Contractor* and will comply with and perform their quality related activities in accordance with OCRWM implementing documents, M&O implementing documents, other *Affected Organization's* implementing documents, or a combination of these implementing documents as defined by *M&O Contractor* management.

M&O Procurement Document

A generic term used for all formally executed and binding legal instruments containing such things as terms and conditions, scope of work, specifications, or other documents which define the technical and quality assurance requirements and is inclusive of all documents that are referenced or required therein. The following document types are typically used: Contract, Purchase Order, Memorandum Purchase Order, and Memorandum of Understanding.

**Management and Operating (M&O) Contractor
for U. S. Department of Energy (DOE)
Civilian Radioactive Waste Management System (CRWMS) Program
(Revised 5/30/97)**

Name of Organization	Acronym	Type of Contract	Contract Number	Effective Date	Cost Code	QA Work
TRW Environmental Safety Systems Inc.	TRW	DOE Prime Contract	DE-AC01-91RW00134	10/01/92	00	Yes
Argonne National Laboratory	ANL	TRW MPO	A05532LM6X	10/01/95	81	Yes
Bechtel Nevada	BN	TRW MPO	A05537JM6X	01/01/96	71	Yes
Los Alamos National Laboratory	LANL	TRW MPO	EA9014MC5X	03/31/95	73	Yes
Lawrence Berkeley National Laboratory	LBNL	TRW MPO	EA9013MC5X	04/04/95	74	Yes
Lawrence Livermore National Laboratory	LLNL	TRW MPO	HD2979KR5X	11/28/94	76	Yes
Oak Ridge National Laboratory	ORNL	TRW MPO	A02703SN7X	04/01/97	43	Yes
Pacific Northwest National Laboratory	PNNL	TRW MPO	DX1468RT3X	03/01/97	79	Yes
Sandia National Laboratories	SNL	TRW MPO	EA9012LM5X	04/04/95	72	Yes
Babcock & Wilcox Federal Services	BWFS	TRW Subcontract	DZ1886LM5S	10/01/95	58	Yes
Duke Engineering & Services, Inc.	DESI	TRW Subcontract	DX3781BB2S	10/01/92	61	Yes
Desert Research Institute	DRI	TRW Subcontract	A05518ME96S	10/01/95	78	Yes
Framatome Cogema Fuels	FCF	TRW Subcontract	DX3780BB2S	10/01/92	60	Yes
Flour Daniel, Inc.	FD	TRW Subcontract	DX3782BB2S	10/01/92	62	Yes
The IBEX Group, Inc.	IBEX	TRW Subcontract	A02718GD7S	05/01/97	84	Yes
Integrated Resources Group	IRG	TRW Subcontract	HD2978PC4S	10/01/94	70	Yes
E. R. Johnson Associates, Inc.	JAI	TRW Subcontract	AT9128MC2S	10/01/92	63	Yes
JK Research Associates, Inc.	JKA	TRW Subcontract	DX3786KP2S	10/01/92	64	No
Kiewit/Parsons Brinckerhoff	K/PB	TRW Subcontract	A05451JM95S	10/01/96	77	Yes
Morrison Knudsen Engineers, Inc.	MKE	TRW Subcontract	DX3785LM2S	10/01/92	66	Yes
Science Applications International Corporation	SAIC	TRW Subcontract	HD2977PC4S	10/01/94	69	Yes
University of Nevada at Las Vegas	UNLV	TRW Subcontract	A05247ME96S	03/01/96	82	Yes
University of Nevada at Reno	UNR	TRW Subcontract	A05519ME96S	10/01/95	83	Yes
Woodward-Clyde Federal Services	WCFS	TRW Subcontract	DX3788LM2S	10/01/92	68	Yes
Winston & Strawn	W&S	TRW Subcontract	AO6839MC7S	10/01/96	80	No

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ATTACHMENT 6

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