



Department of Energy

Washington, DC 20585

QA: L

SEP 16 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 AMENDED RESPONSE TO CORRECTIVE ACTION REQUEST
(CAR) YM-97-C-001 RESULTING FROM OFFICE OF QUALITY ASSURANCE
(OQA) AUDIT M&O-ARC-97-09 OF THE CIVILIAN RADIOACTIVE WASTE
MANAGEMENT SYSTEM MANAGEMENT AND OPERATING CONTRACTOR

The OQA staff has completed the evaluation of your amended response, dated
September 2, 1997, to CAR YM-97-C-001. The response was found to be satisfactory as
identified in the evaluation enclosed. Verification of satisfactory completion and
implementation of the corrective actions will be performed after the completion date
provided. Any extension to this date must be requested in writing, with appropriate
justification, prior to that date. Please send a copy of your extension request to
Deborah G. Sult, OQA/QATSS, P.O. Box 30307, Mail Stop 455, North Las Vegas,
Nevada 89036-0307.

If you have any questions regarding this extension or the due date, please contact either
me at (702) 794-5568 or Robert W. Clark at (702) 794-5583.

Handwritten signature: R.W. Clark
for Donald G. Horton, Director
Office of Quality Assurance

OQA:RWC-2312

Enclosure:
Evaluation of Amended Response to
CAR YM-97-C-001

NH33
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WM-11
102.7

9709230041 970916
PDR WASTE PDR
WM-11

220064 Recp: Nmss/PAH



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  
E. J. McDonnell, M&O, Vienna, VA  
B. R. Justice, M&O, Las Vegas, NV  
R. A. Morgan, M&O, Las Vegas, NV  
G. S. Abend, M&O, Las Vegas, NV  
R. G. Helms, M&O, Las Vegas, NV  
R. W. Henderson, M&O, Las Vegas, NV  
W. D. Schutt, M&O, Las Vegas, NV  
R. E. Spence, DOE/YMSCO, Las Vegas, NV

cc w/o encl:

W. L. Belke, NRC, Las Vegas, NV  
H. T. Greene, OQA/QATSS, Las Vegas, NV  
L. W. Wagner, OQA/QATSS, Las Vegas, NV  
D. G. Sult, OQA/QATSS, Las Vegas, NV  
R. W. Clark, DOE/OQA, Las Vegas, NV  
W. E. Barnes, DOE/YMSCO, Las Vegas, NV

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

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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 SWO  
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: *Les Wagner*      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: *R.W. Clapp*      Date: **3/3/97**

22 Corrective Actions Verified: **QAR**      Date:      23 Closure Approved by: **AQAM**      Date:

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

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RDA  
6-2-97

CAR/SWO CONTINUATION PAGE

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.

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

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CAR/SWO CONTINUATION PAGE

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.

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

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**CAR/SWO CONTINUATION PAGE**

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)

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

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CAR/SWO CONTINUATION PAGE

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

CAR Block 10, "Recommended Actions:"

Your amended response to recommended action 3, in which you state the Interoffice Correspondence issued as part of the remedial action in your original response will be modified and reissued by 9/12/97, is acceptable. However, it should be noted that this action was offered by the CRWMS M&O and is not required by the CAR. Therefore, the Interoffice Correspondence need only be modified to clarify that only the Director of OQA can provide an interpretation of the QARD. There is no QARD requirement nor any OQA direction for the CRWMS M&O to establish a new process or group to accomplish this action.

CAR Block 14, "Remedial Actions:"

Your amended response item 1 is acceptable in that it identifies those specific organizations considered part of the CRWMS M&O Contractor. OQA understands this to mean any other organization is considered a "Supplier" and Quality Affecting items and or services will be procured in accordance with the requirements of the QARD and the CRWMS M&O QAP-7-X series procurement procedures.

Your amended response item 2 is acceptable in that it identifies those known organizations who were performing quality affecting work in accordance with a Non-Q procurement document. OQA understands that the Quality Affecting activities performed by these organizations, from the time the CRWMS M&O was directed by DOE to manage and integrate their work through the end of FY-97, will be evaluated as stated in your amended response. In addition it is understood that, because it will take until 12/1/97 to correct the procurement documents with these organizations, the CRWMS M&O will assure these organizations are provided adequate management, control and oversight for any Quality Affecting work started or extended past 10/1/97.

CAR Block 15, "Extent of Condition and Impact:"

Your amended response completion date of 9/26/97 for item 1 and 10/10/97 for item 2 is acceptable. OQA understands these evaluations will include not only those "Suppliers" identified in your amended response but also their suppliers/subcontractors, who were performing Quality Affecting work for OCRWM (e.g., Activation Labs, McMasters University, etc.).

CAR Block 16, "Root Cause Determination:"

Your amended response to reevaluate the Root Cause Determination by 9/26/97 is acceptable.

CAR Block 17, "Action to Preclude Recurrence:"

Your amended response items 2, 3 and 4 with a completion date of 12/12/97 are acceptable. However, it should be noted that in relation to item 1 that there is no QARD requirement nor any OQA direction for the CRWMS M&O to have or revise the CRWMS M&O Quality Assurance Policy Statement. The action being accomplished by item 1 is adequately covered in the updating of the CRWMS M&O Organizational Description Document (item 2).

Civilian Radioactive Waste Management System  
Management & Operating Contractor

TRW Environmental  
Safety Systems, Inc  
Page 3 of 3

**QUALITY ASSURANCE POLICY STATEMENT**  
Revision 3 (Draft) Effective TBD

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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

<b>YMP-USGS TRAINING ASSESSMENT</b>	
<b>I. Procedure(s):</b>	QMP-3.16, RD, Scientific Expert Elicitation
<b>II. YMP-USGS Course Number:</b>	<input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> 97C-01 97C-02
<b>III. Recommendation:</b>	<input type="checkbox"/> Instruction Not Required (Complete Parts I through IV, IX, and X.) <input checked="" type="checkbox"/> Instruction Required (Complete Parts I through III, and V through X.) Number of Days Required for Instruction: Justification for Days Required: 30 days or before the first workshop attended, whichever comes first
<b>IV. Justification:</b>	<input type="checkbox"/> Changes do not significantly affect procedure implementation. <input type="checkbox"/> Other (Explain.):
<b>V. Applicable Personnel:</b>	<input type="checkbox"/> Baseline Personnel <input checked="" type="checkbox"/> Other (Explain.): The following categories should become baselined: members of the methodology teams experts PI and also Martha Mustard and Patricia Sheaffer and Bruce Parks
<b>VI. Method of Instruction:</b>	<input checked="" type="checkbox"/> Reading Assignment <input checked="" type="checkbox"/> Classroom Instruction <input type="checkbox"/> Other (Explain.): <i>MHM 10-16-96</i>
<b>VII. Training Materials Impact:</b>	<input checked="" type="checkbox"/> Not applicable. <input type="checkbox"/> Make minor changes. Completed: _____ Initials: _____ <input type="checkbox"/> Revise existing materials. Completed: _____ Initials: _____ <input type="checkbox"/> Develop new materials. Completed: _____ Initials: _____
<b>VIII. Additional Information Not Addressed Above:</b>	<input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Other (Explain.):
<b>IX. Subject Matter Expert Consulted:</b>	<input checked="" type="checkbox"/> Not Applicable _____ Name
<b>X. Approval:</b>	<i>Martha R Mustard</i> for Thomas H. Chaney YMP-USGS QA Manager 10-3-96 Date

# PROJECT ORGANIZATION

Yucca Mountain Seismic Hazards Evaluation Project

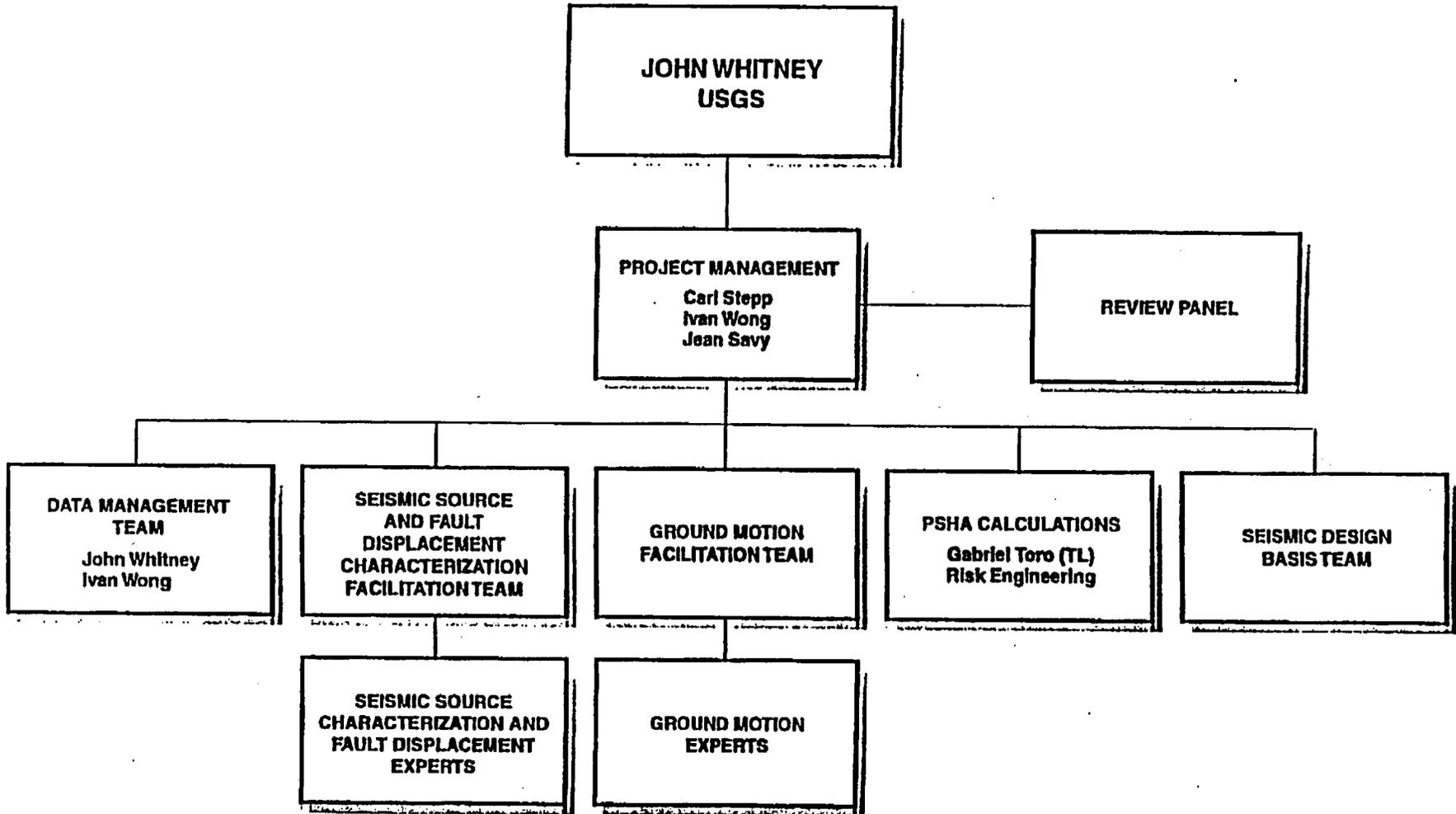
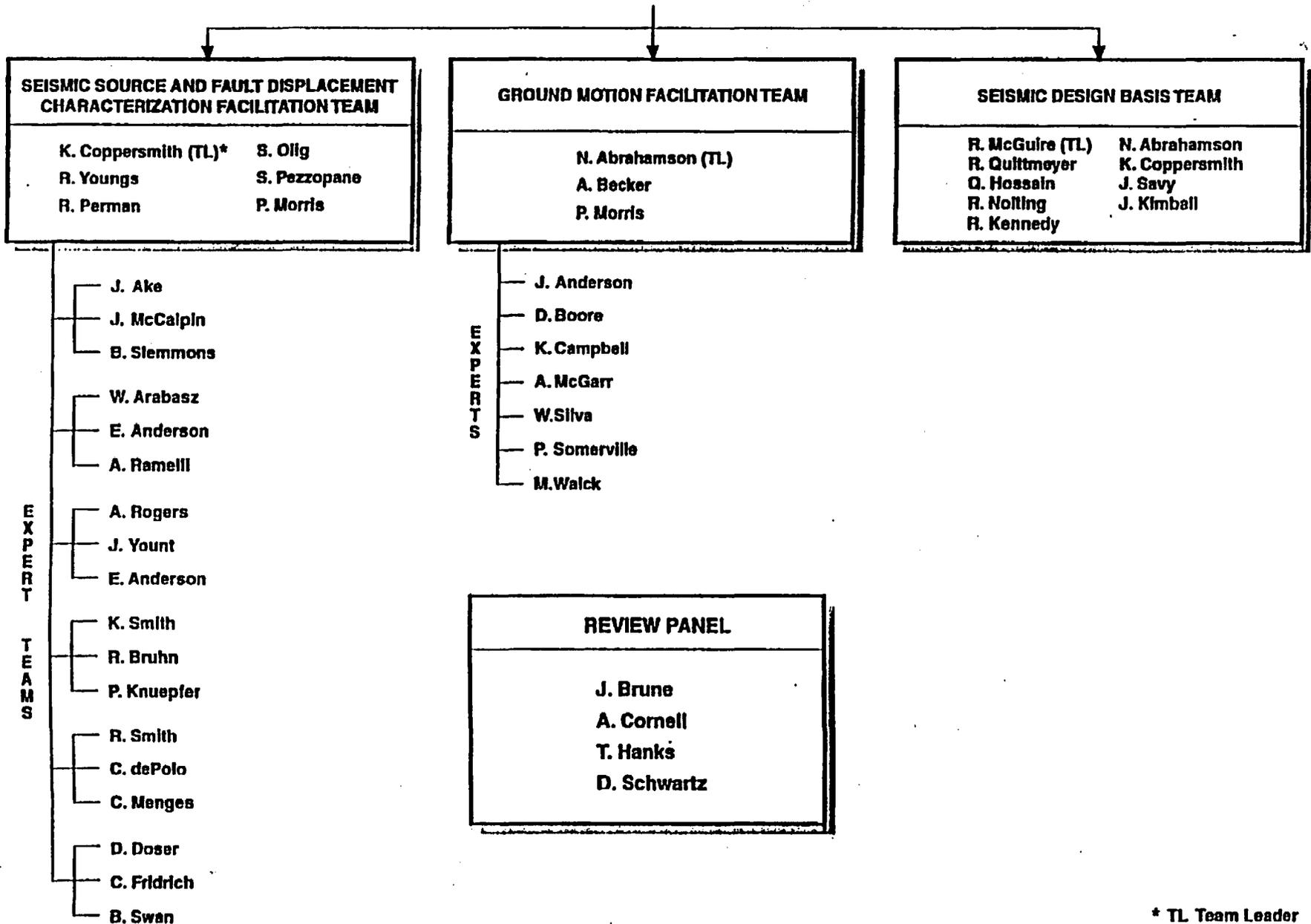


Figure 1

PS 0124

# TEAMS/EXPERT PANELS



\* TL Team Leader

Figure 2

**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

CAR YM-97-0-001

ATTACHMENT 6

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# CONFIDENTIAL

## 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. Ake	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. McCaipin	Class	10/18/96
C.M. Menges	Class	10/18/96
S.S. Olig	Class	10/18/96
R.C. Porman	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. Stopp	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 Nelson

Date: 11/05/96

# YMP-USGS Training Completion Report

YMP-USGS-QMP-2.07, R2  
Attachment 9

PAGE 15 OF 2

January 31, 1997  
Page 1 of 1

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

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT  
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.

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

Page 2 of 4

- 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 Brocoum 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:



Date:

6/2/97

**OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT  
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 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

**OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT  
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

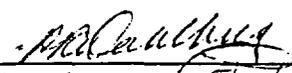
Telephone No.:  
(702) 295-5603

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

(5/27/97)

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ROOT CAUSE DETERMINATION QUESTIONNAIRE**

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Root Cause Code: 3, Management System	CAR No./DR No.: YM-97-C001	
Root Cause: A, a. No Standards, Policies, Administrative Controls (SPAC).		
<p>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&amp;O resulted in procurements of services as non Q when OCRWM felt they should be Q.</p> <p>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.</p>		
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.

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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".

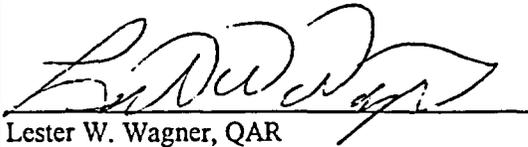
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Following the issuance of this CAR, OQA performed audits on the following organizations: University of Nevada, Reno (UNR); Bechtel Nevada (BN), and Pacific Northwest National Laboratory (PNNL) in which it was identified that these organizations were 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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CORRECTIVE ACTION REQUEST RESPONSE

14 Remedial Actions:

SEE AMENDED RESPONSE ON THE CAR/SWO CONTINUATION PAGE.

15 Extent of Condition and Impact:

SEE AMENDED RESPONSE ON THE CAR/SWO CONTINUATION PAGE.

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

17 Action to Preclude Recurrence:

SEE AMENDED RESPONSE ON THE CAR/SWO CONTINUATION PAGE.

18 Corrective Action Completion Due Date:

12/12/97

19 Response by:

Ronald G. Helms

Date 09/02/97

Phone (702) 295-5599

20 Response Accepted

QAR

Date

9/3/97

21 Response Accepted

DOQA

R.W. CAP

Date

9/16/97

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AMENDED RESPONSE (September 2, 1997)

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

Action No. 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:

The Interoffice Correspondence identified as attachment 1 in the original response will be modified to state that requests for interpretations to the QARD will be formally submitted to the Director, OQA and a written response will be provided to the M&O by the Director, OQA. (Revised Interoffice Correspondence scheduled to be issued to all M&O Responsible Managers by September 12, 1997)

The following Amended Response is provided for the required Remedial Actions (Block 14):

1. In order to resolve the confusion that exists relative to the specific organizations that are part of the M&O Contractor, a revised CRWMS M&O Quality Assurance Policy Statement will be issued. The revised QA Policy Statement will identify the following organizations:

M&O Prime Contractor

TRW Environmental Safety Systems Inc.

M&O Original Teammates

Babcock & Wilcox Federal Services  
Duke Engineering & Services, Inc.  
Framatome Cogema Fuels  
Fluor Daniel, Inc.  
E. R. Johnson Associates, Inc.  
JK Research Associates, Inc.  
Morrison Knudsen Engineers, Inc.  
Woodward-Clyde Federal Services

DOE OCRWM Directed Contractor Consolidation and Contract Changes

Los Alamos National Laboratory  
Lawrence Berkeley National Laboratory  
Lawrence Livermore National Laboratory  
Sandia National Laboratories  
Science Applications International Corporation  
Science & Engineering Associates, Inc.

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DOE OCRWM Directed Construction Contractor Consolidation

Kiewit/Parsons Brinckerhoff

Legal Organization Added to the M&O

Winston & Strawn

All procurement of quality affecting services that are currently within the M&O scope of work, capability, and normally performed by the M&O from the above listed organizations will continue to be prepared utilizing a Non-Q procurement process.

(The revised CRWMS M&O Quality Assurance Policy Statement is scheduled to be completed by September 30, 1997)

2. For FY 1997 the following organizations were issued Non-Q procurement for the quality affecting services that were provided for the M&O. Subcontractors to these organizations will also be considered.

University of Nevada at Las Vegas  
University of Nevada at Reno  
Desert Research Institute  
Argonne National Laboratory  
Pacific Northwest National Laboratory  
Oak Ridge National Laboratory  
Bechtel Nevada

All quality affecting items or services procured from these organizations for FY 1998 will be prepared in accordance with the OCRWM QA program and utilize the approved M&O QAP 7-x procurement procedure series. (The necessary Q procurement will be in place by December 1, 1997.)

**The following Amended Response is provided for the Extent of Condition and Impact (Block 15):**

Given the adjustments the M&O will now be using for the procurement of quality affecting services, the scheduled completion dates previously provided for actions Nos. 1 and 2 in Block 15 need to be modified to September 26, 1997 and October 10, 1997 respectively.

**The following Amended Response is provided for the Root Cause Determination Prepared in Accordance With AP-16.4Q (Block 16):**

The M&O will reevaluate the Root Cause Determination provided in the original response and provide an updated determination considering the specific changes that have been incorporated into this amended response. (The updated Root Cause Determination will be completed by September 26, 1997)

**The following Amended Response is provided for the Action to Preclude Recurrence (Block 17):**

The actions to preclude recurrence will include the following:

1. Revise the M&O Quality Assurance Policy Statement (see action no.1 in Block 14).

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2. Revise the M&O Organizational Description Document to include the list of specific organizations that are part of the M&O Contractor and a statement that all other groups providing quality affecting services are considered suppliers/subcontractors to the M&O Contractor and that their procurement shall be prepared in accordance with the OCRWM QA program.

3. Revise the procedure QAP-7-0, "M&O Procurement Process" to include the following provision: "The requirements of the M&O QAP 7-x procurement procedure series does not apply to the procurement of services from those contractors and/or individuals providing direct support to the M&O and who will be working to the M&O quality assurance implementing documents. This exception is only applicable for the purposes of peer review, expert elicitation, and other quality related activities or functions that are currently within the M&O scope of work, capability, and normally performed by the M&O".

4. All M&O managers responsible for the procurement, implementation, and oversight of quality affecting items or services will complete the necessary training in those M&O procedures that implement the procurement requirements of the OCRWM QA program.

The following Amended Response is provided for the Corrective Action Completion Due Date (Block 18):

December 12, 1997