



Department of Energy
 Yucca Mountain Site Characterization
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WBS 1.2.9.3

JUL 06 1992

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 Technical Project Officer
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 Site Characterization Project
 Science Applications International Corporation
 The Valley Bank Center, Suite 407
 101 Convention Center Drive
 Las Vegas, NV 89109

**EVALUATION OF RESPONSE AND CLOSURE OF CORRECTIVE ACTION REQUEST (CAR)
 YM-92-042 RESULTING FROM YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION (YMQAD)
 AUDIT YMP-92-16 OF SCIENCE APPLICATIONS INTERNATIONAL CORPORATION**

The YMQAD staff has evaluated the response to CAR YM-92-042. The response has been determined to be satisfactory. Completion of the corrective action was verified and the results were satisfactory. As a result, the CAR is considered closed.

If you have any questions, please contact either Robert B. Constable at 794-7945 or Richard L. Maudlin at 794-7290.

Richard E. Spence, Director
 Yucca Mountain Quality Assurance Division

YMQAD:RBC-4309

Enclosure:
 CAR YM-92-042

cc w/encl:
 K. R. Hooks, NRC, Washington, DC
 S. W. Zimmerman, NWFO, Carson City, NV
 D. K. Chandler, SAIC, Las Vegas, NV, 517/T-04
 J. R. Gonzales, SAIC, Las Vegas, NV, 517/T-28

cc w/o encl:
 J. W. Gilray, NRC, Las Vegas, NV
 N. J. Brogan, SAIC, Las Vegas, NV, 517/T-12

100059

9207130087 920706
 PDR WASTE
 WM-11

PDR

YMP-5

ADD: Ken Hooks
 Mr. Encl.

102-7
 WM-11
 NTH03

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

8 CAR NO.: YM-92-042
DATE: 5/27/92
SHEET: 1 OF 2
QA

CORRECTIVE ACTION REQUEST

1 Controlling Document
SP 1.31, Revision 5, Para. 5.1.8

2 Related Report No.
Audit Report YMP-92-16

3 Responsible Organization
SAIC

4 Discussed With
K. Harbert/R. Lee

5 Requirement:

SP 1.31, Initial Evaluation, Qualification, Indoctrination, and Training of T&MSS Personnel, Revision 5, Para. 5.1.8 states: "Employee completes assigned training specified on Training Assignment Form within 30 working days. May perform activities affecting quality before completing all assignments provided employee has documented guidance of training to the applicable documents governing the work prior to performing the work."

6 Adverse Condition:

Contrary to the above, the Software Librarian implemented the requirements of SP 1.52 prior to documenting the required reading assignment. Work to SP 1.52 was performed on 05/18/92; however, training was not documented until 05/19/92.

Example:

The following entries were made in the CML:

Page 1	SCF-92Y	5/18/92
Page 3	SCF-92	5/18/92

9 Does a significant condition adverse to quality exist? Yes ___ No X
If Yes, Circle One: A B C

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

11 Response Due Date:
20 Days From Issuance

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

13 Recommended Actions:

- Identify the remedial actions taken to resolve the noted conditions with the Configuration Management Log (CML).
- Determine the cause as to why the Software Librarian was allowed to perform work prior to receiving the required training.

7 Initiator
R. L. Maudlin *R. L. Maudlin* Date 05/27/92

14 Issuance Approved by:
QADD *R. C. Spence* Date 5/29/92

15 Response Accepted
QAR *R. L. Maudlin* Date 06/27/92

16 Response Accepted
QADD *R. C. Spence* Date 7/2/92

17 Amended Response Accepted
QAR _____ Date _____

18 Amended Response Accepted
QADD _____ Date _____

19 Corrective Actions Verified
QAR *R. L. Maudlin* Date 06/27/92

20 Closure Approved by:
QADD *R. C. Spence* Date 7/2/92

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CORRECTIVE ACTION REQUEST (Continuation Page)

13 Recommended Action(s) (continued)

3. Develop a plan that provides measures to assure that individuals will complete the necessary training before the performance of quality-related activities.
4. Evaluate personnel training to determine the extent of the condition.

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RESPONSE TO CAR # YM-92-042

1. REMEDIAL ACTIONS

During the audit the acting Software Librarian, was directed not to process any paper work or perform any activities under SPs 1.52, 1.53, 1.55, and 1.56 (reference attached interoffice memorandum) until investigative actions could be completed. Based on the investigative actions in B below, no other remedial actions are required to resolve conditions on the Software Configuration Management Log (CML).

2. INVESTIGATIVE ACTION

A review of quality affecting activities and documentation processed by the acting Software Librarian was conducted. The period of time covered was May 4, 1992 (when the previous Software Librarian left) through May 20, 1992. During this period, one Software Classification Form (SCF), that was quality-related, was processed and logged by the acting Software Librarian (SCF #92.042Q). No other quality-related activities were conducted. The processing of SCF #92.042Q was found to be in compliance with governing procedures. The requirements for processing the SCF included the entry into the Software Configuration Management Log (CML), No. SCF-92Q (noted in the CAR as SCF-92Y). Contrary to the stated adverse condition, training to SP 1.52, Revision 1, was documented (see attached SCF # 92.042Q) prior to 5/19/92. SP 1.31, Revision 5, allows for Real-Time Training (Section 3.2.10) for documenting required training. CML SCF-92, Page 3 noted on the CAR, is a redundant log that lists all SCFs, both Q and non-Q software. This log is used for administrative purposes and does not implement the QA requirements for the logging of SCFs for quality-related software.

In addition, SP 1.31, Section 5.2.2, requires the Responsible Manager to monitor employee's performance and evaluate and assess the need for additional indoctrination and training. This assessment is based on the employee's effectiveness in accomplishing quality affecting activities. Due to the change over of personnel, the ISD Manager directed the SQA Analyst to review all quality affecting activities conducted by the Software Librarian for compliance to procedures and indicate this review by countersigning appropriate documentation. This measure was initiated by the ISD Manager to monitor performance and ensure compliance to procedures by the acting Software Librarian.

Personnel performing the duties of lead Software Librarian, backup Software Librarian and SQA Analyst are fully qualified for these positions.

dstc dtd 6/16/92 - L 92-5322

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3. ROOT CAUSE DETERMINATION

Not applicable based on the CAR and as a result of the investigation.

4. CORRECTIVE ACTION TO PRECLUDE RECURRENCE

CAR recommended corrective actions to preclude recurrence and SAIC responses:

- o Develop a plan that provides measures to assure that individuals will complete the necessary training before the performance of quality-related activities.

As a result of the investigation, it is SAIC's position that SP 1.31 sufficiently covers the requirements for completion of necessary training prior to performance of quality-related activities. Therefore, no further action is required.

- o Evaluate personnel training to determine the extent of the condition.

As a result of the investigation and the direction indicated on the CAR, no further action is required.

PREPARED BY: *Vigil M Rochester*

DATE: 6/26/92

RESPONSE APPROVED: *D.K. Chamber*
RESPONSIBLE MANAGER

DATE: 6/26/92

I N T E R O F F I C E M E M O R A N D U M

Date: 20-May-1992 09:59am PDT
From: Kevin Harbert
HARBERTK
Dept: Planning & Information
Tel No: FTS544/(702)794-7637 Room

.04

O: Yvonne Miskech
C: Virgil Rochester
C: James B. Harper
subject: Software Librarian

(MISKECHY)
(ROCHESTERV)
(HARPERJ)

Yvonne,

Until informed otherwise by Virgil Rochester, do not process any paper work or perform any activities under the following SPs 1.52, 1.53, 1.54, 1.55, and 1.56. Continue your work under SP 1.45 as Software Librarian.

Keivn Harbert

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT SOFTWARE CONFIGURATION MANAGEMENT LOG (CML)

QA: UA

1 ENTRY DATE	2 SCMS BASELINE UNIQUE IDENTIFIER		3 PROJECT SCI #	4 BRIEF CHRONOLOGY	5 DOC. DATE	6 SOFTWARE TYPE	7 RECORD #	8 (SDF) FOLDER #	9 DATE IN SDL	10 DATE V/V DONE	11 DATE IN SPL	12 INITIALS/ MARK OF LIBRARIAN
	Name-Release Version	Rev. / Product-Yr-XXX										
1-16-92	Conversion	SCF-92.008	N/A	received approved SCF for development	1-2-92	AUX		Conversion	N/A	N/A	N/A	UAH
1-4-92	BEENET-1.0.A	SCF-92.014	N/A	received approved SCF for acquisition	1-31-92	SS		BEENET-1.0.A	N/A	N/A	N/A	UAH
				submitted to records								
	Conversion	SCF-92-008	N/A	submitted to records								
2-19-92	WROSE-1.0.A ^{A.C.I.B. 2/19/92}	SCF-92.017	N/A	received approved SCF for acquisition	2-5-92	SS		WROSE-1.0.A	N/A	N/A	N/A	UAH
	" "	" "	"	submitted to records								
5-18-92	Conversion 1.0.A	SCF-92.042		received approved SCF for Development	5-14-92	EC		Conversion	N/A	N/A	N/A	YAH

TECHNICAL & MANAGEMENT SUPPORT SERVICES
SOFTWARE CLASSIFICATION FORM (SCF)

SECTION I SOFTWARE CLASSIFICATION (completed by Prime User)

1. Prime User/PI: Larry D. Craft EFPD 7724
Name Organization Phone

2. Software Activity:
 Development
 Acquisition

3. Summarize Software Activity: Convert data into useable format

4. Software Name: (proposed or existing) CONVERSION TO A

5. Software activity will support: Charge No.: 01-1256-23-0856 YMP Plan: N/A
Other activity or plan: (describe briefly) 030 Meteorological Monitoring Plan's & Plan for Meteorological Data Collection at the Yucca Mount

6. SP 1.51 Prerequisites completed Yes No 7. Date Required: N/A

8. QA PROGRAM APPLICABILITY:		Yes	No
a.	Software activity supports Q-List Item (AP-6.17Q)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Software activity is on the Quality Activities List (AP-6.17Q)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Software activity is on the Project Requirements List (AP-6.17Q)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Software activity has been graded (AP-5.28Q)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Criterion 19 of the OCRWM QARD is applicable (AP-5.28Q)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f.	Activity will produce Quality-Related Software?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

9. Quality Assurance Grading Report No.: T12542 B

10. SOFTWARE TYPE DETERMINATION: (complete per the criteria in Exhibit 1 of SP 1.52)

Group I	Yes	No	Group II	Yes	No	Group III	Yes	No
SS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SES?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			TDB?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	ES?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
			ADB?	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
			RTS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
			AUX?	<input type="checkbox"/>	<input checked="" type="checkbox"/>			

11. Software Type is indeterminate? Yes No

12. Justification for Selected Software Type: Software is less than 200 lines
Software does not generate primary data

* Attach additional sheets if necessary

TECHNICAL & MANAGEMENT SUPPORT SERVICES
SOFTWARE CLASSIFICATION FORM (SCF)

13. CERTIFICATION: (Answer the following questions)

- | | Yes | No |
|--|-------------------------------------|--------------------------|
| a. The Software Type selected reflects an accurate and conservative determination regarding the software function, complexity, importance, and intended end-use application? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. The planned software activity has been identified and defined in a Quality Assurance (QA) Grading Report accepted in accordance with AP-5 28Q? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. The QA controls to be applied to this software activity are consistent with the QA criteria provided on the QA Grading Report? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

14. Signature of Prime User/PI: *Jerry D. Coft* Date 5/14/92

I have read, understood and complied with SP 1.52, Rev. 1, ICN # 0 in accomplishing my responsibilities in this procedure.

SECTION II. ISD REVIEW (completed by SQA Analyst)

15. Answer the following questions:

- | | Yes | No |
|---|-------------------------------------|--------------------------|
| a. Work authorization approvals obtained? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. Software activity is correctly identified and described? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. Activity will produce Quality-Related Software? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d. All Software Types have been addressed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e. The Software Type has been selected and justified? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f. Section I of the SCF has been verified and is in conformance with SP 1.52? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

16. Signature of SQA Analyst: *[Signature]* Date 5/14/92

I have read, understood and complied with SP 1.52, Rev. 1, ICN # 0 in accomplishing my responsibilities in this procedure.

SECTION III. APPROVAL OR DISAPPROVAL (completed by ISD Manager and Prime User)

17. The Software Type selected is inappropriate or indeterminate and the Prime User, ISD Manager, and SQA Analyst have assigned a conservative Software Type Yes No

18. The Software Type approved for implementation is: N/A Software Type approved

19. The SCF is approved? Yes No

20. Signature of ISD Manager: *Virgil Orchester* Date 5/14/92

I have read, understood and complied with SP 1.52, Rev. 1, ICN # 0 in accomplishing my responsibilities in this procedure.

21. Justification for disapproval in Item 19: _____

TECHNICAL & MANAGEMENT SUPPORT SERVICES
SOFTWARE CLASSIFICATION FORM (SCF)

SECTION IV. RECLASSIFICATION OF EXISTING SOFTWARE (ES)

22. The Software Type selected in Section I or III has been re-evaluated and reclassified based on new information. The Software Type is changed to:

Group I	Yes	No	Group II	Yes	No	Group III	Yes	No
SS?	<input type="checkbox"/>	<input type="checkbox"/>	SES?	<input type="checkbox"/>	<input type="checkbox"/>	EC?	<input type="checkbox"/>	<input type="checkbox"/>
			TDB?	<input type="checkbox"/>	<input type="checkbox"/>			
			ADB?	<input type="checkbox"/>	<input type="checkbox"/>			
			RTS?	<input type="checkbox"/>	<input type="checkbox"/>			
			AUX?	<input type="checkbox"/>	<input type="checkbox"/>			

23. Justification for Selected Software Type:*

24. Prime User/PI

Signature _____ Date _____
I have read, understood and complied with SP 1.52, Rev. _____
ICN # _____ in accomplishing my responsibilities in this procedure.

25. SQA Analyst

Signature _____ Date _____
I have read, understood and complied with SP 1.52, Rev. _____
ICN # _____ in accomplishing my responsibilities in this procedure.

26. ISD Manager Approval

Signature _____ Date _____
I have read, understood and complied with SP 1.52, Rev. _____
ICN # _____ in accomplishing my responsibilities in this procedure.

27. ISD Manager Disapproval

Signature _____ Date _____
I have read, understood and complied with SP 1.52, Rev. _____
ICN # _____ in accomplishing my responsibilities in this procedure.

28. Justification for Disapproval:*

RECEIVED MAY 18 1992

ENTERED MAY 18 1992

* Attach additional sheets if necessary

29. SCF entered into Configuration Management Log.

Software Librarian's Signature: [Signature] Date: 5/18/92
I have read, understood and complied with SP 1.52, Rev. _____ ICN # NA in accomplishing my responsibilities in this procedure.

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CORRECTIVE ACTION REQUEST (Continuation Page)

CORRECTIVE ACTION VERIFICATION

Based on the response and the objective evidence purposed in the response, the condition adverse to quality is considered closed.

 06 29 92
Richard L. Maudlin

**INSTRUCTIONS FOR PREPARATION OF
TECHNICAL & MANAGEMENT SUPPORT SERVICES
SOFTWARE CLASSIFICATION FORM (SCF)
TMSS/216/3
(Continued)**

SECTION IV. RECLASSIFICATION OF EXISTING SOFTWARE (ES)

Prime User

22. Reclassify Existing Software Types using the following instructions:
 - a. Mark the box "Yes" next to each Software Type entry.
 - b. Address all Software Types listed on the form as defined in Exhibit 1 of SP 1.52.
 - c. Mark the "No" box next to the Software Type that does not meet the criteria in Exhibit 1.
23. Provide a justification for the Software Type selection.
24. Sign and date showing concurrence with selected Software Type.

SQA Analyst

25. Review for concurrence. Sign and date showing concurrence with the reclassified Software Type.

ISD Manager

26. Approve reclassification by signing and dating.
27. Disapprove reclassification by signing and dating.
28. Provide a written justification for a disapproval and return the SCF to the Prime User for resolution.

Software Librarian

29.
 - a. Assign unique identifier to the SCF.
 - b. Sign and date the SCF when entered into the software Configuration Management Log.
 - c. Print or type the SCF unique identifier in the upper margin and complete other blanks in margin.
 - d. Enter N/A in all blank parts of the SCF.