



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

OCT 25 1995

L. Dale Foust
Technical Project Officer
for Yucca Mountain Site
Characterization Project
TRW Environmental Safety Systems, Inc.
101 Convention Center Drive, Suite P-110
Las Vegas, NV 89109

VERIFICATION OF CORRECTIVE ACTION AND CLOSURE OF DEFICIENCY
REPORT (DR) YMQAD-95-D006 RESULTING FROM YUCCA MOUNTAIN QUALITY
ASSURANCE DIVISION'S (YMQAD) AUDIT YM-ARP-95-16 OF THE CIVILIAN
RADIOACTIVE WASTE MANAGEMENT SYSTEM MANAGEMENT AND OPERATING
CONTRACTOR (SCPB: N/A)

The YMQAD staff has verified the corrective action to DR
YMQAD-95-D006 and determined the results to be satisfactory.
As a result, the DR is considered closed.

If you have any questions, please contact either Robert B.
Constable at 794-7945 or Stephen R. Maslar at 794-7762.

Richard E. Spence, Director
Yucca Mountain Quality Assurance Division

YMQAD:RBC-301

Enclosure:
YMQAD-95-D006

cc w/encl:
T. A. Wood, HQ (RW-14) FORS
~~S. G. Spraul~~, NRC, Washington, DC
S. W. Zimmerman, NWPO, Carson City, NV
R. L. Strickler, M&O, Vienna, VA
Richard Jiu, M&O, Las Vegas, NV
R. P. Ruth, M&O, Las Vegas, NV

cc w/o encl:
W. L. Belke, NRC, Las Vegas, NV
D. G. Sult, YMQAD/QATSS, Las Vegas, NV

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YMP-5

9511030228 951025
PDR WASTE
WM-11 PDR

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WM-11
M103

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

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 Deficiency Report
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PERFORMANCE/DEFICIENCY REPORT

1 Controlling Document: QAP 3-9, Revision 5	2 Related Report No. YM-ARP-95-16
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3 Responsible Organization: CRWMS M&O	4 Discussed With: Hugh Benton
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5 Requirement/Measurement Criteria:
Para 5.2.3A: Requires a check of the design analysis for completeness and technical adequacy.

Para 5.2.3B: Requires a check that design inputs were correctly selected and incorporated, are appropriate for use in the design.

6 Description of Condition:
Contrary to the above requirements, the following conditions are noted:

- Document BB0000000-01717-0200-00005, revision 00 and BB0000000-01717-0200-00003, revision 00 - the discipline check copy reviewed does not provide objective evidence that the above requirements were checked. The checklists used did not require a check to verify the above requirements. The checklist used is a compliance (procedure) checklist. One of the checklist questions that was noted as satisfactory could not have been completed at the time of the discipline check. This question is: Are appropriate signatures in place with proper dates on the design analysis review summary?
- Margin and text notations in the initial copy for "Initial Waste Package Probabilistic Criticality Analysis: Unclustered Fuel (TBV-069-WPD)" Document Identifier B00000000-01717-2200-00079, Revision 00A do provide objective evidence that calculations were checked. However, none of the back check copy, Revision 00B; the final check copy, Revision 00D; nor the final version, Revision 00, provide objective evidence that these documents underwent the same careful scrutiny. Changes made as a

7 Initiator <i>S. R. Maslar</i> Stephen R. Maslar	Date: <i>8/2/95</i>	9 QA Review <i>S. R. Maslar</i> QAR	Date: <i>8/2/95</i>
10 Response Due Date 20 Working Days From Issuance		11 QA Issuance Approval QAR (PR)/AOQAM (DR) <i>[Signature]</i> for Date <i>8-2-95</i>	

12 Remedial Actions:

13 Remedial Action Response By: <i>SEE ATTACHED PAGES</i> Date <i>8/2/95</i>	14 Remedial Action Due Date <i>SEE ATTACHED PAGES</i> Date
15 Remedial Action Response Acceptance <i>SEE ATTACHED PAGES</i> Date	16 PR Verification/Closure QAR <i>SEE ATTACHED PAGES</i> Date

DS
1/95
1/95

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DEFICIENCY REPORT

17 Recommended Actions:

Evaluate extent of the problem and insure recently implemented corrective actions will be effective.

18 Investigative Actions:

19 Root Cause Determination:

20 Action to Preclude Recurrence:

21 Response by:

DS
9/31/95
See Attached Pages Date

22 Corrective Action Completion Due Date:

DS
9/31/95
See Attached Pages

23 Response Accepted

DS
9/31/95
QAR See Attached Pages Date

24 Response Accepted

DS
9/31/95
AOQAM SEE ATTACHED PAGES Date

25 Amended Response Accepted

QAR Date

26 Amended Response Accepted

AOQAM Date

27 Corrective Actions Verified

QAR Date

28 Closure Approved by:

AOQAM Date

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RADIOACTIVE WASTE MANAGEMENT
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Block 6 (Continued)

consequence of a notation in revision 00A added new text and data, of which one datum was wrong. This error appears in the final document, Revision 00.

3. The same error also appears in the corresponding place in "Initial Waste Package Probabilistic Criticality Analysis: Multi-Purpose Canister with Disposal Container (TBV-060-WPD)," Document Identifier B00000000-01717-2200-00080, Revision 00, again with no objective evidence that calculations were rechecked. The initial review for this document was begun after the final check for the previous document.

4. It is also noted that for BB0000000-01717-0200-0003, Revision 00, there is no objective evidence that the checker reviewed the check copy. No initials exist on any page of the check copy. Further, the design analysis checklist is signed by a different individual than the one that signed as the checker on the design analysis review summary sheet.

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PERFORMANCE/DEFICIENCY REPORT

1 Controlling Document:
QAP 3-9, Revision 5

2 Related Report No.
YM-ARP-95-16

3 Responsible Organization:
CRWMS M&O

4 Discussed With:
Hugh Benton

5 Requirement/Measurement Criteria:
Para 5.2.3A: Requires a check of the design analysis for completeness and technical adequacy.

Para 5.2.3B: Requires a check that design inputs were correctly selected and incorporated, are appropriate for use in the design.

6 Description of Condition:
Contrary to the above requirements, the following conditions are noted:

1. Document BB0000000-01717-0200-00005, revision 00 and BB0000000-01717-0200-00003, revision 00 - the discipline check copy reviewed does not provide objective evidence that the above requirements were checked. The checklists used did not require a check to verify the above requirements. The checklist used is a compliance (procedure) checklist. One of the checklist questions that was noted as satisfactory could not have been completed at the time of the discipline check. This question is: Are appropriate signatures in place with proper dates on the design analysis review summary?
2. Margin and text notations in the initial copy for "Initial Waste Package Probabilistic Criticality Analysis: Uncanistered Fuel (TBV-069-WPD)" Document Identifier B00000000-01717-2200-00079, Revision 00A do provide objective evidence that calculations were checked. However, none of the back check copy, Revision 00B; the final check copy, Revision 00D; nor the final version, Revision 00, provide objective evidence that these documents underwent the same careful scrutiny. Changes made as a

7 Initiator: *S. R. Maslar*
Stephen R. Maslar Date: *8/2/95*

9 QA Review: *S. R. Maslar*
QAR Date: *8/2/95*

10 Response Due Date:
20 Working Days From Issuance

11 QA Issuance Approval:
QAR (PRI)/AOQAM (DRI) *[Signature]* for Date *8-2-95*

12 Remedial Actions:
SEE RESPONSE ON P. 3 OF 3

13 Remedial Action Response By: *[Signature]*
Date: *8/30/95*

14 Remedial Action Due Date:
OCTOBER 6, 1995 Date

15 Remedial Action Response Acceptance:
QAR *S. R. Maslar* Date: *9/1/95*

16 PR Verification/Closure:
QAR *N/A* Date

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DEFICIENCY REPORT

17 Recommended Actions:

Evaluate extent of the problem and ensure recently implemented corrective actions will be effective.

18 Investigative Actions:

Technical and compliance checking of all quality affecting engineering documents, including Design Analyses, is the responsibility of the Product Checking Group (PCG). The MGDS Design Guidelines Manual DI# B00000000-01717-3500-00001 Rev 01, issued 5/29/95, requires that "the PCG manager, in conjunction with the LDE, will select qualified personnel to check the engineering document." Conversations with the Product Checking Group Manager and group members (those checking engineering documents on a full time basis) have indicated that the deficiencies cited in (6) would without question be discovered during the checking process now in effect. The new Design Analysis Checklist is much more comprehensive than the checklists employed while checking the four documents cited in (6). Furthermore, PCG checks each document twice (Check Copy and Final Check Copy).

19 Root Cause Determination:

No root cause identification of condition is required, based on investigative action.

20 Action to Preclude Recurrence:

The MGDS Design Guidelines Manual Rev 01, 5/29/95, which was issued by PCG subsequent to preparation of each of the four Design Analysis documents cited in (6), presents an extensive Design Analysis Checklist which now addresses both technical check (question 7, with many subparts) and compliance check. Mandatory use of the Design Analysis Checklist is invoked by NLP-3-28 Checklists for Design Products Rev 00, 8/11/95. The Design Analysis Checklist is much more comprehensive than the checklists employed while checking the four documents cited in (6). Furthermore, the PCG MGDS Design Guidelines Manual requires that "the PCG manager, in conjunction with the LDE, will select qualified personnel to check the engineering document." If not a permanent PCG member, the selected person will perform only a technical check, unless authorized by the PCG manager to also perform the compliance check; otherwise a PCG member will be assigned to perform a separate compliance check (thus there may be two checkers; one for technical and one for compliance) PCG checks both the Check Copy and the Final Check Copy.

21 Response by: <i>[Signature]</i> Date: <i>8/3/95</i>	22 Corrective Action Completion Due Date: 10/06/95
23 Response Accepted QAR <i>S. R. Madan</i> Date: <i>9/1/95</i>	24 Response Accepted AOQAM <i>[Signature]</i> Date: <i>9.5.95</i>
25 Amended Response Accepted QAR _____ Date _____	26 Amended Response Accepted AOQAM _____ Date _____
27 Corrective Actions Verified QAR <i>S. R. Madan</i> Date: <i>10/17/95</i>	28 Closure Approved by: <i>[Signature]</i> AOQAM <i>[Signature]</i> Date: <i>10.24.95</i>

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PR/DR CONTINUATION PAGE

Block 6 (Continued)

consequence of a notation in revision 00A added new text and data, of which one datum was wrong. This error appears in the final document, Revision 00.

3. The same error also appears in the corresponding place in "Initial Waste Package Probabilistic Criticality Analysis: Multi-Purpose Canister with Disposal Container (TBV-060-WPD)," Document Identifier B00000000-01717-2200-00080, Revision 00, again with no objective evidence that calculations were rechecked. The initial review for this document was begun after the final check for the previous document.

4. It is also note that for BB0000000-01717-0200-00003, Revision 00, there is no objective evidence that the checker reviewed the check copy. No initials exist on any page of the check copy. Further, the design analysis checklist is signed by a different individual than the one that signed as the checker on the design analysis review summary sheet.

Block 12 Remedial Actions:

IOC LV.MG.AMS.8/95-129, Checking/Review by Product Checking Group (SCPB: N/A), 8/21/95 states that Product Checking Group (PCG) check is mandatory for Design Analyses, Specifications, and Drawings that are quality affecting.

Regarding Block 6 Item 1: NLP-3-28, Checklists for Design Products, Rev 0, 8/11/95, requires use of expanded technical and compliance checklists. A signed and dated notation by the technical checker (A. Roy) has been added to document BB0000000-01717-0200-00003 Cover Sheet attesting that Dr. Roy performed the technical check on 2/15/95, the day before he signed the Review Summary sheet box #7. Document BB0000000-01717-0200-00005 will be corrected and reissued as Revision 01; the revisions will be checked by the individual(s) designated by PCG.

Regarding Block 6 Items 2 and 3: Each document (B00000000-01717-2200-00079 and B00000000-01717-2200-00080) will be corrected and reissued as Revision 01; the revisions to each will be checked by the individual(s) designated by PCG.

Regarding Block 6 Item 4: A signed and dated notation by the technical checker (A. Roy) has been added to document BB0000000-01717-0200-00003 Cover Sheet attesting that Dr. Roy performed the technical check on 2/15/95, the day before he signed the Review Summary sheet box #7. Two checker signatures will occur whenever PCG assigns different individuals to perform the technical check and the compliance check.

OBJECTIVE EVIDENCE

DEFICIENCY REPORT

YMQAD-95-D-006

**Checking of QAP-3-9
Design Analyses**

W. E. Wallin
Waste Package Development
702/794-1975

wew
10/6/95
audit703

10/6/95 1 v m/ m/ 10/95-151

Table of Contents
DR YMQAD-95-D-006

1. Deficiency Report YMQAD-95-D-006 / pages 1 of 3 through 3 of 3 / dated 8/2/95 by S. R. Maslar
2. IOC LV.MG.AMS.8/95-129 "Checking/Review by Product Checking Group (SCPB: N/A)" from A. M. Segrest dated 8/21/95 (2 pages)
3. NLP-3-28 "Checklists for Design Products" dated 8/11/95 (3 pages)
4. "Design Analysis Checklist" from the MGDS Design Guidelines Manual, REV 01, 5/29/95 (5 pages)
5. BB0000000-01717-0200-00003 REV 00A / Copy of Design Analysis Cover Sheet / Checker's signature and date added thereto (single sheet)
6. Copy of Design Analysis Review Summary, Cover Sheet, and Review Record sheets for each of the following updated Design Analyses (three sheets each):
 - a. BB0000000-01717-0200-00005 REV 01 / 9/29/95
 - b. B00000000-01717-2200-00079 REV 01 / 10/6/95
 - c. B00000000-01717-2200-00080 REV 01 / 10/6/95

Interoffice Correspondence
Civilian Radioactive Waste Management System
Management & Operating Contractor



TRW Environmental
Safety Systems, Inc.

Subject
Checking/Review by
Product Checking Group
(SCPB: N/A)

Date
August 21, 1995
LV.MG.AMS.8/95-129

WBS: 1.2.6

QA: N/A

From
A. M. Segrest

To
Distribution

cc

Location/Phone
TES3/500
(702) 794-1924

The purpose of this memo is to clearly identify the MGDS Development products that are to be submitted for checking or review by the Product Checking Group (PCG).

- o Design Analyses, Specifications, and Drawings that are quality affecting: PCG check is mandatory.
- o Design Analyses, Specifications, and Drawings that are non-quality affecting: Submit them to PCG for check. The design disciplines may be requested to perform the checking function for minor design products when the PCG, because of workload, cannot check them in a timely manner.
- o Technical Documents, designated quality affecting, developed in accordance with QAP-3-5 shall be reviewed by the PCG as part of the review per QAP-3-5 or QAP-3-1. PCG's review may be for procedural compliance only if the subject is outside of technical expertise of the PCG.
- o The PCG will not be a reviewer for Technical Documents that are designated non-quality affecting.

Please contact Jim Salchak if you have any questions.

Distribution:

H. A. Benton
K. K. Bhattacharyya
C. W. Chagnon
Manny DeLeon
T. W. Doering
D. S. Einarson
M. J. Gomez
Peter Gottlieb

LV.MG.AMS.8/95-129

August 21, 1995

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Distribution cont'd:

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RPC

AMS:lmh