

L. Dale Foust

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SEP 2 1994

cc w/encl:

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R. L. Robertson, M&O/TRW, Vienna, VA
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cc w/o encl:

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

8 CAR NO.: YM-94-062
PAGE: 1 OF 2
QA

CORRECTIVE ACTION REQUEST

1 Controlling Document QAP-3-8, R4; QAP-3-9, R4; QAP-3-10, R4		2 Related Report No. YMP-94-01	
3 Responsible Organization M&O		4 Discussed With P. Hastings/J. Keifer/J. Clark	
5 Requirement: M&O QAP-3-8, Revision 4, Paragraph 5.3.5 states in part: "The originator shall: ...C. Modify the specification as required for comment resolution." and Paragraph 5.3.6 states in part: "The reviewer shall...A. Backcheck the specification against the Interdiscipline Review copy." M&O QAP-3-9, Revision 4, Paragraph 5.8 describes Design Analysis Approval.			
6 Adverse Condition: Several errors/inconsistencies in design specifications, drawings, and calculations. Discussion: In addition to the examples below, the M&O needs to refer to M&O CARs 94-QN-C-049 and 94-QN-C-050. Examples: <ul style="list-style-type: none"> - Drawing BABFAE000-01717-2100-45301, Revision 00, "Subsurface Water Distribution System Flow Diagram," has two references with the same document identifier by different titles: 45304, Surface/Subsurface Interface GA. Plan and Sections Drawing; and 45304, TS North Ramp Tunnel Utilities GA. Sections and Details Drawing. - Analysis BABEAF000-01717-0200-00002, Revision 00, "Structural Steel Sets Analysis": <ul style="list-style-type: none"> a. References the wrong "Section Numbers": Section 8.9 vs. 8.11. b. TBV-192 is referenced at the end of Paragraph 7.2 but is only applicable to the first sentence of the paragraph. 			
9 Does a Significant Condition Adverse to Quality exist? Yes ___ No <u>X</u> If Yes, Check One: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E		10 Does a stop work condition exist? Yes ___ No <u>X</u> ; If Yes - Attach copy of SWO If Yes, Check One: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C	
3 Response Due Date: 20 Working Days From Issuance			
11 Required Actions: <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Extent of Deficiency <input checked="" type="checkbox"/> Preclude Recurrence <input checked="" type="checkbox"/> Root Cause Determination			
12 Recommended Actions: 1) Correct the examples. 2) Investigate to determine the extent of deficiency (believed to go beyond Design Package 2C). 3) Determine root cause. 4) Take action to preclude the deficiency (e.g., training).			
7 Initiator Richard E. Powe <i>R E Powe</i> 8/4/94		14 Issuance Approved by: QADD <i>[Signature]</i> Date 8.5.94	
15 Response Accepted QAR <i>R E Powe</i> Date 8/29/94		16 Response Accepted QADD <i>[Signature]</i> Date 9.1.94	
17 Amended Response Accepted QAR _____ Date _____		18 Amended Response Accepted QADD _____ Date _____	
19 Corrective Actions Verified QAR _____ Date _____		20 Closure Approved by: QADD _____ Date _____	

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CORRECTIVE ACTION REQUEST (CONTINUATION PAGE)

5 Requirements (continued)

M&O QAP-3-10, Revision 4, Paragraph 5.5 describes Final Checking of Drawings.

6 Adverse Condition (continued)

- Specification BABE00000-01717-6300-02165, Revision 3, "Rockbolts and Accessories," Paragraph 1.04C was revised to resolve QA comments during interdisciplinary review and the "agreed to" comments were not properly incorporated.
- Analysis BAB000000-01717-2200-00005, Revision 0, "Determination of Importance Evaluation (DIE) for Package 2C."
 - * Requirement 12 on Page 49 is not as conservative as Waste Isolation Evaluation BABE00000-01717-2200-00008, "Construction Water for Package 2C Excavation of the ESF North Ramp," these values should be reconciled.
 - * QAP-2-3, Revision 6, "Classification of Permanent Items," Attachment I, Classification Checklist for MGDS, Question 1.3 states: "Is the item a consumable/expendable item which is part of, or contained within, and affects the safety function of any component identified in Section 1.1 or 1.2 above." This checklist for DIE BABEAB000-01717-2200-00005 was checked "No"; however, Specification BABEAB000-01717-6300-02341, "Steel Sets and Accessories Subsurface," calls for the use of weld material, i.e., it appears weld material was not evaluated.
 - * 2C DIE, Page 11 states that "Mechanical (such as Williams type) rock bolts are to be pretensioned and grouted from the drill/cleaning platform." This is not consistent with the notes contained in Drawings BABEAB000-01717-2100-40151 and BABEAB000-01717-2100-40152.
 - * 2C DIE, Page 11 states that cementitious grouting pressures and quantities are to be limited to the extent practical for rockbolt installation (see Attachment II of the DIE). The DIE inconsistently refers to this as a waste isolation issue, not a test interference issue.

RESPONSE TO CAR NO. YM-94-062

Remedial Action:

The remedial action will be:

- 1). To make corrections to those documents listed under Block #6 of this CAR.
- 2). Also, all 2C design products containing errors will be revised and will be rechecked in the process of releasing Package 2C to DOE for approval including errors identified in M&O CARs 94-QN-C-049 and 94-QN-C-050.
- 3). MGDS does not agree that the example in Item 2B, identified in Block 6 is an error. Therefore, no further action is required.

Responsible Individual: Robert Saunders
Date of Completion: 9/30/94 (Anticipated Date of 2C Release)

Investigative Action:

- 1). Investigative action is ongoing and includes checking of all 2C design products by originators to incorporate comments resulting from an M&O Surveillance conducted the week of July 18, 1994, a parallel check is being made by W. French, et al, of ESF Surface Design.
- 2). A discipline check, interdiscipline review (when required), and final checking will be performed on all Package 2C Design Products requiring revision before the package is re-issued.
- 3). The checking and interdiscipline reviews are completed before the 90% design review in the current design control process. Many discrepancies being identified indicate they are a result of incorporating 90% design review comments.

Root Cause Determination:

The root cause is the addition of disruptive events to the design schedule resulting in a tight schedule for preparation of Package 2C. The tight schedule resulted in excessive programmatic errors, however, no significant technical errors have been discovered. The design schedule was impacted by non-design activities. Significant revisions of QAP procedures compounded compliance problems since these significant revisions occurred during review of 2C Design Products, and lack of a clear pathway to mitigate the impact of the QAP revisions on Package 2C.

8/17/94

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Corrective Action to Preclude Recurrence:

- 1.) The M&O will review the design control process, placing emphasis on improving the discipline checking and interdiscipline review steps. The design control process will be revised to move the checking and interdiscipline reviews after the 90% design review. Appropriate procedures will be revised to reflect the revised design control process.
- 2). M&O design personnel will be retrained to the revised procedures describing the revised design control process.

Responsible Individual: Stan Bailey
Date of Completion: 1/31/95

DISCUSSION:

M&O CARS 94-QN-C-049 and 94-QN-C-050 have been reviewed in detail and are considered relative for the required fix to the present design control process. They are specific towards discrepancies found during interdiscipline reviews. CAR YM-94-062 is specific towards discrepancies that should have been found during the checking process.

As stated in Corrective Action to Preclude Recurrence Item 1 above, the design control process will be revised to move the checking and interdiscipline reviews after the 90% design review. MGDS believes the revised sequence of these reviews will limit future errors similar to those identified in the CARs.


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Evaluation of response to CAR YM-94-062

Response is acceptable with the following understanding:

In order to make the linkage between root cause and the corrective action OQA is assuming the "Schedule" difficulties mentioned in the root cause statement are the sequencing of the design process; however, during verification OQA will be checking the corrective action "retraining" commitment to see if the training includes a discussion regarding the need to pay particular attention to detail of the process/procedure even if it means not meeting a deadline.

R. E. Powe
R. E. Powe, QAR

8/24/94
Date