



Department of Energy

Washington, DC 20585

QA: L

AUG 08 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 DEFICIENCY REPORT (DR) YM-97-D-027
RESULTING FROM OFFICE OF QUALITY ASSURANCE (OQA) AUDIT
K/PB-ARP-97-11 OF THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT SYSTEM
MANAGEMENT AND OPERATING CONTRACTOR ENGINEERING**

The OQA staff has evaluated the response to DR YM-97-D-027. The response has been determined to be satisfactory. Verification of completion of the corrective action will be performed after the effective date provided. Any extension to this date must be requested in writing, with appropriate justification, prior to the date. Please send a copy of extension requests to Deborah Sult, OQA/QATSS, P.O. Box 30307, Mail Stop 455, North Las Vegas, Nevada 89036-0307.

If you have any questions, please contact either James Blaylock at (702) 794-1420 or Wesley C. Pugmire at (702) 295-5912.

Donald G. Horton, Director
Office of Quality Assurance

OQA:JB-2036

Enclosure:
DR YM-97-D-027

- cc w/encl:
- T. A. Wood, DOE/HQ (RW-55) FORS
- J. O. Thoma, NRC, Washington, DC
- S. W. Zimmerman, NWPO, Carson City, NV
- B. R. Justice, M&O, Las Vegas, NV
- R. A. Morgan, M&O, Las Vegas, NV

- cc w/o encl:
- W. L. Belke, NRC, Las Vegas, NV
- W. C. Pugmire, OQA/QATSS, Las Vegas, NV
- D. G. Sult, OQA/QATSS, Las Vegas, NV
- R. W. Clark, DOE/OQA, Las Vegas, NV

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

8 Performance Report
 Deficiency Report
NO. YM-97-D-027
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PERFORMANCE/DEFICIENCY REPORT

1 Controlling Document: DOE/RW-0333P (QARD), Rev. 5, Section 6.0, Document Control	2 Related Report No. Audit Report K/PB-ARP-97-11
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3 Responsible Organization: Management & Operations (M&O) Engineering	4 Discussed With: A. Segrest, C. Garrett, W. Glasser, S. Bowlinger, H. Cox
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5 Requirement/Measurement Criteria:
Requirement: QARD Para. 6.2.5 B & C require respectively, "The disposition of obsolete or superseded documents shall be controlled to ensure that they are not used to perform work."; and, "A method shall be established to identify the current status of each document that is required to be controlled in accordance with this section."

6 Description of Condition:
Deficiency: Contrary to stated requirements, Project design documents (drawings and specifications) are not controlled adequately to prevent inadvertent use of obsolete or superseded documents.

Supporting Background Information: Presently, the condition exists where two revision levels of the same design document may exist in the field concurrently. This is primarily due to the lack of a management control system addressing and coordinating interface responsibilities from one M&O organization to another.

Design documents are developed and approved by the M&O engineering organizations responsible for the various steps in the design process. Approved documents are forwarded to the M&O document control authority for distribution to users. Personnel identified on distribution lists receive the new or revised document and, follow instructions to replace and destroy or mark superseded/obsolete prior versions of the document with one exception. The Constructor's document control agent receives the new version and initiates the impact evaluation process for the new design (per Spec. Sect. 01400) (continued on page 3)

7 Initiator W. C. Pugmire Date 03/06/97	9 Is condition an isolated occurrence? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown; Must be Yes if PR
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10 Recommended Actions: (Not required for PR)

- * Investigate extent of condition and determine impact to programs and/or constructed facilities.
- * Determine appropriate actions to mitigate or resolve impacts from past occurrence of identified deficiency.
- * Implement remedial actions.
- * Determine appropriate actions to preclude recurrence of identified deficiency.
- * Implement and monitor actions for effectiveness.

11 QA Review QAR W. C. Pugmire Date 03/06/97	12 Response Due Date 20 working days from issuance
--	---

13 Affected Organization QA Manager Issuance Approval: (QAR for PR)	Printed Name DG Horron	Signature	Date 3/12/97
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22 Corrective Actions Verified QAR - Date	23 Closure Approved by: (N/A for PR) AOQAM Date
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RADIOACTIVE WASTE MANAGEMENT
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WASHINGTON, D.C.

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PERFORMANCE/DEFICIENCY REPORT RESPONSE

14 Remedial Actions:

SEE RESPONSE ON P/DR CONTINUATION PAGE 4

15 Extent of Condition: (Not required for PR)

SEE RESPONSE ON P/DR CONTINUATION PAGE 4

16 Root Cause Determination: (Not required for PR)

Required

Yes

No

SEE RESPONSE ON P/DR CONTINUATION PAGE 4

17 Action to Preclude Recurrence: (Not required for PR)

Required

Yes

No

SEE RESPONSE ON P/DR CONTINUATION PAGE 5

18 Corrective Action Completion Due Date:

AUGUST 15, 1997

~~JUNE 13, 1997~~ 116

19 Response by:

RICHARD D. SNELL

Initial

Amended

Date 5/14/97

Phone 702(295-5601)

20 Response Accepted

5-13-97

21 Response Accepted (N/A for PR):

QAR

Date

AOQAM

Date

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

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PR/DR CONTINUATION PAGE

6. Description of Condition (continued):

Supporting Background Information (continued):

Twenty (20) days are set aside for this process by 01-400, during which, the document under review is not placed in the Constructor's Work Packages (WPs).

The process described in the preceding paragraph results in occurrences of two versions of the same document existing in the field simultaneously. The new version of the design document exists in controlled manuals or drawing sticks of individuals immediately following document distribution, while the previous version of the design document remains in the Constructor's WPs until such time as impact evaluations, and identified actions from those evaluations, are complete. It is not unusual for two versions of the same document to be available side by side in the same field office. One version on the drawing stick, the other version in the WP. Both appear to be valid for use in construction and/or inspection and test activities.

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PR/DR CONTINUATION PAGE

NOTE: Because of the complexity of this DR it is expected that the complete resolution to this DR will require an Amended Response(s). This applies to both the definition of the actions required for closure as well as the timing for closure.

BLOCK 14 Remedial Actions

Title III Engineering is currently performing a technical review of K/PB Work Packages as they are transmitted to the RPC. A 25% sample of the total population of 370 Work Packages will be reviewed to investigate if any adverse impacts to previous quality affecting construction and inspection resulted from the identified deficiency. The sample will include representation from all types of "Q" packages including rockbolts, steel sets and other "Q" work, if any.

An effective date, for the record, will be established for all documents found to be in a deficient condition. The establishment of an effective date will be accomplished by insertion of the effective date into the K/PB work packages, if required. This will be accomplished by August 15, 1997.

At the time this DR is closed the DR record package will be cross referenced to the K/PB Work Packages. The M&O will provide a listing of the Work Packages. The QAR will include the cross reference in his Records Package table of contents.

BLOCK 15 Extent of Condition

An investigation of M&O and K/PB document control/distribution processes will be performed and documented. The investigation will be limited to a review of the procedures only, since the surveillance function will reside with OQA to verify the actual performance. The investigation will determine if any interface incompatibilities exist and whether or not the two systems operating in tandem may lead to different revision levels of the same document being available/ authorized for field use. This investigation will be completed before August 15, 1997 to match the date set in BLOCK 14 Remedial Actions above.

BLOCK 16 Root Cause Determination

A Root Cause Determination is not necessary because the DR did not identify the deficiency as significant.

BLOCK 17 Action to Preclude Recurrence

The Action to Preclude Recurrence, if any, will be derived from the findings from BLOCKS 14 and 15. The Action to Preclude Recurrence will be detailed in an Amended Response to this DR.

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May 13, 1997
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U.S. DEPARTMENT OF ENERGY
WASHINGTON, D.C.

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PERFORMANCE/DEFICIENCY REPORT RESPONSE

14 Remedial Actions:

SEE RESPONSE ON P/DR CONTINUATION PAGE 4

15 Extent of Condition: (Not required for PR)

SEE RESPONSE ON P/DR CONTINUATION PAGE 4

16 Root Cause Determination: (Not required for PR)

Required Yes No

SEE RESPONSE ON P/DR CONTINUATION PAGE 4

17 Action to Preclude Recurrence: (Not required for PR)

Required Yes No

SEE RESPONSE ON P/DR CONTINUATION PAGE 5

18 Corrective Action Completion Due Date:

AUGUST 15, 1997

~~JUNE 13, 1997~~ JJK

19 Response by:

RICHARD D. SWELL

Initial

Amended

Date 5/14/97

Phone 902.295.8601

20 Response Accepted

5-13-97

QAR

Date

21 Response Accepted (N/A for PR):

AQQAM

Date

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

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6. Description of Condition (continued):

Supporting Background Information (continued):

Twenty (20) days are set aside for this process by 01-400, during which, the document under review is not placed in the Constructor's Work Packages (WPs).

The process described in the preceding paragraph results in occurrences of two versions of the same document existing in the field simultaneously. The new version of the design document exists in controlled manuals or drawing sticks of individuals immediately following document distribution, while the previous version of the design document remains in the Constructor's WPs until such time as impact evaluations, and identified actions from those evaluations, are complete. It is not unusual for two versions of the same document to be available side by side in the same field office. One version on the drawing stick, the other version in the WP. Both appear to be valid for use in construction and/or inspection and test activities.

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Title III Engineering is currently performing a technical review of K/PB Work Packages as they are transmitted to the RPC. A 25% sample of the total population of 370 Work Packages will be reviewed to investigate if any adverse impacts to previous quality affecting construction and inspection resulted from the identified deficiency. The sample will include representation from all types of "Q" packages including rockbolts, steel sets and other "Q" work, if any.

An effective date, for the record, will be established for all documents found to be in a deficient condition. The establishment of an effective date will be accomplished by insertion of the effective date into the K/PB work packages, if required. This will be accomplished by August 15, 1997.

At the time this DR is closed the DR record package will be cross referenced to the K/PB Work Packages. The M&O will provide a listing of the Work Packages. The QAR will include the cross reference in his Records Package table of contents.

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BLOCK 16 Root Cause Determination

A Root Cause Determination is not necessary because the DR did not identify the deficiency as significant. -

BLOCK 17 Action to Preclude Recurrence

The Action to Preclude Recurrence, if any, will be derived from the findings from BLOCKS 14 and 15. The Action to Preclude Recurrence will be detailed in an Amended Response to this DR.

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May 13, 1997
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Department of Energy

Washington, DC 20585

QA: L

JUN 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 RESPONSE TO DEFICIENCY REPORT (DR) YM-97-D-027
RESULTING FROM OFFICE OF QUALITY ASSURANCE (OQA) AUDIT
K/PB-ARP-97-11 OF THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT SYSTEM
MANAGEMENT AND OPERATING CONTRACTOR (CRWMS M&O)**

The OQA staff has evaluated the response to DR YM-97-D-027. The response has been determined to be unacceptable. The response does not include action agreed on in recent meetings/discussions. Specifically, the response did not commit to accomplish the following actions and investigations:

- An effective date must be established for current and past Project design documents (i.e., drawings specifications, Baseline Change Proposals, Engineering Changes Requests etc.), included in, or referenced by Kiewit/Parsons Brinckerhoff (Kiewit/PB) Work Packages.
- Investigate Kiewit/PB and CRWMS M&O Document Control processes, including interfaces between the two. Identify process and procedural revisions necessary to assure: (1) future design document effective dates will be accurately established and controlled; and, (2) only one revision level of a design document is available for field use at any given time.
- Assess impact of the conditions identified by this DR on work previously performed. If there is no impact, document justification. If there was impact, identify actions necessary to minimize or mitigate impact.

An amended response is required to be submitted to this office within 20 working days of the date of this letter. Send the original of your response to Deborah 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 James Blaylock at (702) 794-1420 or Wesley C. Pugmire at (702) 295-5912.

James Blaylock for
Donald G. Horton, Director
Office of Quality Assurance

OQA:JB-1690

Enclosure:
DR YM-97-D-027



JUN 16 1997

L. D. Foust

-2-

cc w/encl:

T. A. Wood, DOE/HQ (RW-55) FORS
J. O. Thoma, NRC, Washington, DC
S. W. Zimmerman, NWPO, Carson City, NV
B. R. Justice, M&O, Las Vegas, NV
R. A. Morgan, M&O, Las Vegas, NV

cc w/o encl:

W. L. Belke, NRC, Las Vegas, NV
W. C. Pugmire, OQA/QATSS, Las Vegas, NV
D. G. Sult, OQA/QATSS, Las Vegas, NV
R. W. Clark, DOE/OQA, Las Vegas, NV

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AMENDED RESPONSE 7-15-97

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AMENDED RESPONSE

14. Remedial Actions

Title III engineering staff has performed a technical review of 40 K/PB Work Packages as they were being transmitted to the RPC to assure that there were no problems with the constructor incorrectly implementing work using a superseded engineering document. This sample represents more than 25% of the quality affecting Work Packages, and includes representation from a variety of types of work including rockbolts and steel sets. During the reviews, there were no conditions adverse to quality identified. The sample size and the results of the review are sufficient to indicate that the controls in place were and are sufficient to assure that the process has been effective in correctly implementing design with respect to use of the correct engineering document revisions. A listing of all the work packages reviewed will be included as part of the objective evidence package to close this DR.

In the previous response to this DR, the commitment was made that "An effective date, for the record, will be established for all documents found to be in a deficient condition." No deficient conditions were found.

15. Extent of condition

The extent of the condition was determined by the review described in block 14, by familiarity with and review of K/PB processes and by discussing the process with K/PB. Additionally, Audit Report K/PB-ARC-97-11 determined that K/PB "... has satisfactorily implemented process controls for the development, completion, and turnover of K/PB Work Packages (WP) ..."

To fully understand the process used in implementing design documents through the use of Work Packages, it must be recognized that the Work Packages used for physical implementation of the design use engineering documents as inputs. As part of any design or construction process, there must be some time allowed for implementing changes to documentation when inputs change. In the design process, an analysis revision may cause a drawing to be changed, but there must be some process time allowed to review the impact of the analysis change, schedule the drawing revision work, perform checks and reviews of the drawing and issue the approved revision as necessitated by the analysis revision. When a drawing or specification which has been issued to the constructor for implementation is revised, there is a necessary time component in the process for modifying implementation documents (Work Packages). During this time delay, there must be an effective engineering document available to the constructor for use in preparing modifications to the work packages, and there must be allowances in the process for the previously issued engineering documents to remain as an input to the Work Package while the constructor's process effectively applies the QA controls which are inherent in the work process. The key to the acceptability of the process is recognizing the engineering document as an input to the Work Package, with the work package being the constructor's mechanism for implementing the documentation. This process has been typical and accepted in nuclear facility construction.

In reviewing the extent of the condition identified by this DR, it became clear that the instructions given to the Constructor by the Engineer in the 1400 specification were not sufficiently specific or complete to direct the constructor as to the requirements for controlling the process. It also became clear that, even though the words in the 1400 specification were not sufficient, the process controls implemented by the constructor were satisfactory and sufficient to preclude creation of conditions adverse to quality as a result.

Therefore, based on reviews that have been performed and the results of those reviews, it is concluded that the extent of condition is limited to a problem with wording in the 1400 specification.

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WASHINGTON, D.C.

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PERFORMANCE/DEFICIENCY REPORT RESPONSE

14 Remedial Actions:

SEE AMENDED RESPONSE ON A PR/DR CONTINUATION PAGE FOR BLOCK 14 ON PAGE 7

15 Extent of Condition: (Not required for PR)

SEE AMENDED RESPONSE ON A PR/DR CONTINUATION PAGE FOR BLOCK 15 ON PAGE 7

16 Root Cause Determination: (Not required for PR)

Required: Yes No

SEE AMENDED RESPONSE FOR BLOCK 15 EXTENT OF CONDITION, THAT EXPLAINS WHY THE SOLE ACTION IS TO REVISE SPECIFICATION CONSTRUCTOR QUALITY CONTROL/QUALITY ASSURANCE (BAB000000-01717-6300-01400). BECAUSE A SINGLE ACTION IS REQUIRED FOR REMEDIATION A ROOT CAUSE IS NOT REQUIRED.

17 Action to Preclude Recurrence: (Not required for PR)

Required: Yes No

SEE AMENDED RESPONSE ON A PR/DR CONTINUATION PAGE FOR BLOCK 15 ON PAGE 7

18 Corrective Action Completion Due Date:

09/12/97

19 Response by: ALDEN M. SEGREST (AMENDED RESPONSE)

K.K. Bhattacharya for A.M. SEGREST

Date 07/17/97

Phone (702)295-4416

20 Response Accepted

QAR *WJ*

W.C. Pugh Date 7/17/97

21 Response Accepted (N/A for PR)

QAR *WJ*

Date 8/6/97

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

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AMENDED RESPONSE 7-15-97

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16. Action to Preclude Recurrence

The 1400 specification will be revised to include the following;

- a. Require that the constructor have controls in place to assure that changes to design documents are evaluated in a timely manner for impact to ongoing and planned work.
- b. Require that the constructor implement changes to implementation instructions (Work Packages) within thirty working days of receiving revisions to design documents unless the revision is identified as requiring immediate implementation. The constructor will, of course, have the option of requesting an extension from engineering or placing a hold on the portion of the Work Package affected by the design revision.
- c. Require that the constructor have a process in place to identify any design documents which are still contained in active Work Packages even though revisions have been received.

This revision to the 1400 specification will resolve potential problems with implementation of superseded design documents by requiring the constructor to place very specific controls on changes to work packages caused by design revisions. Additionally, inspections of installed design, the as-built process, and multiple reviews of records packages for completed work provide that any discrepancies will be identified for correction.

Items addressed in Mr. Horton's letter of June 16, 1997

1. The effective dates for current and past documents remains as the dates identified in the document control records. The requirements in the 1400 specification are sufficient to cover this based on the reviews that have been performed and the fact that no conditions adverse to quality were identified during the reviews. The revision to the 1400 specification will provide additional assurance that the constructor has the proper instructions for implementing design document revisions. It was made clear from the reviews that were performed that the constructor has the necessary controls in place to control revision work even though the specification is deficient.
2. Future design document effective dates will be the date identified by Document Control; however, it must be understood that there will of necessity be two revisions of the same document available. Field use of the two revisions has been and will continue to be controlled by construction procedures.
3. The results of records packages reviews will be documented as part of the DR objective evidence package. Additionally, our process will result in further reviews of construction records packages. This is not a commitment for resolution of this DR since this is part of our normal process.