

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION
QUALITY ASSURANCE SURVEILLANCE REPORT OF
CIVILIAN RADIOACTIVE WASTE MANAGEMENT SYSTEM
MANAGEMENT AND OPERATING CONTRACTOR
SURVEILLANCE YMP-SR-93-033

CONDUCTED JULY 15, 1993

ACTIVITIES SURVEILLED:

THE DESIGN CONTROL PROCESS UTILIZED FOR THE GENERATION AND
PROCESSING OF DRAWINGS INVOLVING THE REVISION OF
THE SLOPE OF THE EXPLORATORY STUDIES FACILITY STARTER TUNNEL

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Approved by: Donald G. Horton Date: 7-30-93
Donald G. Horton
Director
Office of Quality Assurance

1.0 EXECUTIVE SUMMARY

The design control process for the generation and processing of drawings involving the revision of the slope for the Exploratory Studies Facility (ESF) Starter Tunnel was reviewed and assessed during this surveillance. The surveillance was performed July 15, 1993 at the Civilian Radioactive Waste Management System Management and Operating (M&O) Contractor engineering offices in Las Vegas, Nevada. During the surveillance, the effectiveness of the design control process was evaluated. The surveillance team generated four Corrective Action Requests (CAR) in connection with the review of nine drawings associated with Change Request (CR) No. 93/405.

Summaries of the problems identified are: 1) Design inputs are not being annotated appropriately. The M&O has not maintained the design inputs that Raytheon Services Nevada (RSN) had previously identified in generating Design Package 1A drawings. These design inputs do not show up on drawings as required by procedural requirements; 2) Impact reviews were not performed as required by Change Request (CR) procedural requirements. The CR reviewed during the surveillance had indicated that several impact reviews such as impact reviews of the RSN Basis for Design (BFD), Site Characterization Plan Study Plans and interface documentation had to be performed; and 3) To-Be-Verified (TBV) information has not been transferred from Determination of Importance Evaluations to design drawings. TBV information has not been tracked by the M&O. TBV information was not transferred from one revision to another revision of a drawing. The RSN BFD includes a TBV tracking system that has not been maintained. These deficiencies are documented on CARs YM-93-072 through YM-92-074.

In addition, CAR YM-92-075 was generated against the Yucca Mountain Site Characterization Project Office Project Controls Department for failure to follow Quality Management Procedure QMP-03-09 relative to the Change Control Board (CCB) Chairperson designating review organizations and the desired method of change document evaluation.

Based upon the number and the significance of the CARs, the design control process for the area surveilled is considered to be ineffective at this time. Details of the CARs are contained in Section 5.0 of this report. Two recommendations were generated and are contained within Section 6.0 of this report for M&O consideration.

2.0 SCOPE

This surveillance was performed July 15, 1993, to review and assess the design control process for the generation and processing of drawings associated with CR No. 93/405.

3.0 SURVEILLANCE TEAM

Gerard Heaney, Quality Assurance Engineer, Quality Assurance Technical Support Services (QATSS), Las Vegas, Nevada

Sam Horton, Quality Assurance Special Assistant, QATSS, Las Vegas, Nevada

4.0 PERSONNEL CONTACTED DURING THE SURVEILLANCE

The following personnel were contacted during the course of the surveillance:

B. Cruz, M&O, Configuration Management, Manager
J. Naaf, M&O, ESF Subsurface Engineering, Supervisor
B. Kennedy, M&O, Mining Engineer
B. Saunders, M&O, Mining Engineer
B. Sandifer, M&O, Monitored Geologic Disposal System (MGDS) Development, Manager
G. Vawter, M&O, Deputy Site Manager
T. Geer, M&O, MGDS Manager
P. McKie, M&O, Subsurface Design Manager

The following personnel were observers on this surveillance:

S. Zimmerman, State of Nevada
J. Gilray, Nuclear Regulatory Commission
M. Sinderling, U.S. Department of Energy DOE RW-30
A. Mozhi, Weston
J. Penaker, M&O, Vienna

5.0 SURVEILLANCE RESULTS

Four CARs were generated. The deficiencies are described below and one recommendation is contained in Section 6.0 of this report.

The following CARs have been issued:

CAR No. YM-93-072

TBV information is not being transferred from previous drawing revisions to new revisions. In addition, TBVs identified within Determination of Importance Evaluations (DIEs) are not being transferred onto drawings.

The Raytheon BFD contains a table listing all TBV and Hold information. This table has not been kept current. Corrective actions committed to Yucca Mountain Site Characterization Project CAR YM-93-040 were to develop an Implementing Line Procedure to track TBV information. This action has not yet been completed.

CAR No. YM-93-073

Drawings associated with CR No. 93/405 do not list all applicable design inputs. Neither the RSN BFD document nor the M&O DIES for the ESF Starter Tunnel Drill-and-Blast Section are listed.

CAR No. YM-93-074

There was no explanation of potential impacts identified on the Change Documentation Continuation Page associated with CR No. 93/405 as required by procedural requirements.

CAR No. YM-93-075

The CCB Secretary did not send the change documentation package for CR No. 93/405 to all affected Technical Project Officers for implementation as required by procedural requirements.

No objective evidence was available for CR No. 93/405 to show direction was given by the CCB Secretary for review method or designating review organizations.

6.0 RECOMMENDATIONS

RECOMMENDATION 1

For Design Package 1A, the M&O should follow the system that RSN had in place and transitioned to the M&O. This includes the tracking system for TBV, drawing hold, and TBV information. In addition, the M&O should maintain the RSN system for tracking design inputs from the ESF Design Requirements document to the RSN BFD to the individual drawings identifying where the design inputs were used.

RECOMMENDATION 2

Based on the deficiency identified on CAR YM-93-073, it is recommended that design documents supporting Design Package 1A be reconciled against their original design inputs in order to ensure that all design inputs have been considered and the ones selected for use be documented. The M&O should ensure that subsequent changes to the ESF design requirements document have not impacted Design Package 1A.

7.0 ATTACHMENTS

Attachment 1: Information Copies of Corrective Action Requests

ATTACHMENT 1

Information Copies of Corrective Action Requests

ORIGINAL
 THIS IS A RED STAMP

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT U.S. DEPARTMENT OF ENERGY WASHINGTON, D.C.		8 CAR NO.: <u>YM-93-072</u> DATE: <u>7/19/93</u> SHEET: <u>1</u> OF <u>1</u> <div style="text-align: center;">QA</div>
CORRECTIVE ACTION REQUEST		
1 Controlling Document M&O QAP 3-10, "Engineering Drawings," Revision 1		2 Related Report No. YMP-SR-93-033
3 Responsible Organization M&O Subsurface Engineering		4 Discussed With J. Naaf/B. Sanifer
5 Requirement: M&O QAP 3-10, "Engineering Drawings," Revision 1, Paragraph 5.4.2 states, "A Verifier within the design organization shall be responsible for performing the independent verification of the engineering drawings and associated documentation identifying errors, omissions, and verifying completeness and accuracy of document in accordance with appropriate design inputs."		
6 Adverse Condition: Contrary to the above, a TBV (To Be Verified) identifier was omitted from Revision 1 of drawing YMP-025-1-MING-MG122 when the drawing was revised from Revision 0. In addition, the M&O DIE for ESF Starter Tunnel Drill-and-Blast Section, Page 6 of 31, indicates a TBV-D4 is to be placed on drawing YMP-025-1-MING-MG147. Review of the drawing indicates that this information is not contained on the drawing.		
9 Does a significant condition adverse to quality exist? Yes <u>X</u> No ___ If Yes, Circle One: A (B) C		10 Does a stop work condition exist? Yes ___ No <u>X</u> ; If Yes - Attach copy of SWO If Yes, Circle One: A B C D
11 Response Due Date: 20 Working Days from Issuance		
12 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		
13 Recommended Actions: Issue the ILP committed to in response to CAR YM-93-040. Review all DIEs and drawing revisions to ensure all applicable TBVs are included on the drawings or within a tracking system.		
7 Initiator Gerard <u>Sanifer</u> Date <u>7-16-93</u>		14 Issuance Approved by <u>[Signature]</u> QADD <u>[Signature]</u> Date <u>7-21-93</u>
15 Response Accepted QAR _____ Date _____		16 Response Accepted QADD _____ Date _____
17 Amended Response Accepted QAR _____ Date _____		18 Amended Response Accepted QADD _____ Date _____
19 Corrective Actions Verified QAR _____ Date _____		20 Closure Approved by: QADD _____ Date _____

ATTACHMENT 1

Information Copies of Corrective Action Requests
 (Continuation)

ORIGINAL

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT U.S. DEPARTMENT OF ENERGY WASHINGTON, D.C.		8 CAR NO.: <u>YM-93-073</u> DATE: <u>7/19/93</u> SHEET: <u>1</u> OF <u>1</u> QA
CORRECTIVE ACTION REQUEST		
1 Controlling Document M&O QAP 3-10, Revision 1		2 Related Report No. YMP-SR-93-033
3 Responsible Organization M&O Subsurface Engineering		4 Discussed With J. Naaf/B. Sandifer
5 Requirement: M&O QAP 3-10, "Engineering Drawings," Revision 1, Paragraph 5.2.4 states, "The preparer shall list all applicable quality-affecting design inputs to the drawings either directly on the drawing or on a Drawing Design Inputs List which is referenced on the drawing."		
6 Adverse Condition: Contrary to the above, drawings associated with Change Directive 93/405, do not list all applicable quality-affecting design inputs (a Drawing Design Inputs List was not used). The RSN Basis For Design Document nor the Determination of Importance Evaluation (DIE) for ESF Starter Tunnel Drill-and-Blast Section are listed as design inputs.		
9 Does a significant condition adverse to quality exist? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If Yes, Circle One: A <input checked="" type="radio"/> B <input type="radio"/> C		10 Does a stop work condition exist? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> ; If Yes - Attach copy of SWO If Yes, Circle One: A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
		11 Response Due Date: 20 Working days from Issuance
12 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		
13 Recommended Actions: In an implementing line procedure, refer to the RSN Basis For Design document for documenting design inputs. Revise the RSN Basis For Design document to include reference to applicable M&O DIEs.		
7 Initiator Gerard <i>Gerard Heaney</i> Date <u>7-16-93</u>		14 Issuance Approved by: QADD <i>[Signature]</i> Date <u>07-21-93</u>
15 Response Accepted QAR _____ Date _____		16 Response Accepted QADD _____ Date _____
17 Amended Response Accepted QAR _____ Date _____		18 Amended Response Accepted QADD _____ Date _____
19 Corrective Actions Verified QAR _____ Date _____		20 Closure Approved by: QADD _____ Date _____

ATTACHMENT 1

Information Copies of Corrective Action Requests
 (Continuation)

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OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT U.S. DEPARTMENT OF ENERGY WASHINGTON, D.C.		8 CAR NO.: <u>YM-93-074</u> DATE: <u>7/19/93</u> SHEET: <u>1</u> OF <u>1</u> QA
CORRECTIVE ACTION REQUEST		
1 Controlling Document AP-3.30, Revision 5		2 Related Report No. YMP-SR-93-033
3 Responsible Organization M&O MGDS Development	4 Discussed With G. Vawter/B. Sandifer	
5 Requirement: Instructions for the Change Impact Checklist (Exhibit 9.1; Page 17), Step 4 requires that an "X" be placed by each activity, documented category or function potentially affected by the proposed change. The "X" notation as being affected, requires explanation on the Change Documentation Continuation Page.		
6 Adverse Condition: Contrary to the above requirement, the Change Documentation Continuation Page for Change Request (CR) 93/405, did not explain the activities marked with an "X" on the Change Impact Checklist.		
9 Does a significant condition adverse to quality exist? Yes ___ No <u>X</u> If Yes, Circle One: A B C	10 Does a stop work condition exist? Yes ___ No <u>X</u> ; If Yes - Attach copy of SWO If Yes, Circle One: A B C D	11 Response Due Date: 20 Working Days from Issuance
12 Required Actions: <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Extent of Deficiency <input checked="" type="checkbox"/> Preclude Recurrence <input type="checkbox"/> Root Cause Determination		
13 Recommended Actions: 1. Correct CR 93/405 to include a description of the impacts of the activities marked with an "X" on the Impact Checklist. 2. Review previous CRs to determine extent of problem and assess the impact for those CRs that are found to be discrepant.		
7 Initiator Sam E. Horton <i>Sam Horton</i> Date <u>7/16/93</u>	14 Issuance Approved by: <i>[Signature]</i> Date <u>7-21-93</u>	
15 Response Accepted QAR _____ Date _____	16 Response Accepted QADD _____ Date _____	
17 Amended Response Accepted QAR _____ Date _____	18 Amended Response Accepted QADD _____ Date _____	
19 Corrective Actions Verified QAR _____ Date _____	20 Closure Approved by: QADD _____ Date _____	

ATTACHMENT 1

Information Copies of Corrective Action Requests
 (Continuation)

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OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT U.S. DEPARTMENT OF ENERGY WASHINGTON, D.C.		8 CAR NO.: <u>YM-93-075</u> DATE: <u>7/19/93</u> SHEET: <u>1</u> OF <u>1</u> QA
CORRECTIVE ACTION REQUEST		
1 Controlling Document QMP-03-09, Revision 3		2 Related Report No. YMP-SR-93-033
3 Responsible Organization YMP-Project Control		4 Discussed With T. Geer/B. Cruz
5 Requirement: <ol style="list-style-type: none"> 1. QMP-03-09, Revision 3, Step 2 requires the CCB Secretary to obtain from the CCB Chairperson (1) the desired method for change document evaluation/impact analysis, and (2) the review organizations. 2. Step 12(d) requires the CCB Secretary to transmit the Change Document Package to all affected TPOs for change implementation, via transmittal. 		
6 Adverse Condition: <ol style="list-style-type: none"> 1. No objective evidence was available for CR-93/405 to show direction was given by the CCB Secretary for review method or designating review organizations. 2. The CCB Secretary did not send the Change Documentation Package to all TPOs for implementation. In reality, the CCB Secretary transmits implementing planning activity information. 		
9 Does a significant condition adverse to quality exist? Yes ___ No <u>X</u> If Yes, Circle One: A B C		10 Does a stop work condition exist? Yes ___ No <u>X</u> ; If Yes - Attach copy of SWO If Yes, Circle One: A B C D
11 Response Due Date: 20 Working Days from Issuance		
12 Required Actions: <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Extent of Deficiency <input type="checkbox"/> Preclude Recurrence <input type="checkbox"/> Root Cause Determination		
13 Recommended Actions: Revise QMP-03-09 to: (1) Require the CCB Chairperson to send documented direction to the CCB Secretary on the review method for the change, and (2) Delete the requirement for the CCB Secretary to send the Change Document Package to the TPOs for implementation.		
7 Initiator Sam E. Horton <i>Sam Horton</i> Date <u>7/6/93</u>		14 Issuance Approved By: <i>[Signature]</i> Date <u>7-21-93</u>
15 Response Accepted QAR _____ Date _____		16 Response Accepted QADD _____ Date _____
17 Amended Response Accepted QAR _____ Date _____		18 Amended Response Accepted QADD _____ Date _____
19 Corrective Actions Verified QAR _____ Date _____		20 Closure Approved by: QADD _____ Date _____