



**Department of Energy**

Yucca Mountain Project Office  
P. O. Box 98608  
Las Vegas, NV 89193-8608

WBS 1.2.9.3  
QA

OCT 16 1990

Thomas E. Blejwas  
Acting Technical Project Officer  
for Yucca Mountain Project  
Sandia National Laboratories  
P.O. Box 5800  
Organization 6310  
Albuquerque, NM 87185

CLOSURE OF STANDARD DEFICIENCY REPORT (SDR) 173, REVISION 0, RESULTING FROM YUCCA MOUNTAIN PROJECT OFFICE QUALITY ASSURANCE (QA) AUDIT 88-06 OF SANDIA NATIONAL LABORATORIES

SDR 173, Revision 0, has been closed based on satisfactory verification of completed corrective actions. A copy of the SDR is enclosed for your files.

If you have any questions, please contact Catherine E. Hampton at (702) 794-7973 or FTS 544-7973 or Richard L. Maudlin at (702) 794-7290 or FTS 544-7290 of the Yucca Mountain Project QA staff.

*Signature for*  
Donald G. Horton, Director  
Quality Assurance  
Yucca Mountain Project Office

QA:CEH-215

Enclosure:  
SDR 173, Revision 0

cc w/encl: *LH3*  
~~K. R. Hooks, NRC, Washington, DC~~ ←  
S. W. Zimmerman, NWPO, Carson City, NV  
R. R. Richards, SNL, 6319, Albuquerque, NM

cc w/o encl:  
J. H. Hines, OOD, AL  
J. W. Gilray, NRC, Las Vegas, NV  
R. L. Maudlin, MACTEC, Las Vegas, NV  
N. J. Brogan, SAIC, Las Vegas, NV, 517/T-08

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ADD: B. Belke

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# WMPO STANDARD DEFICIENCY REPORT

N-QA-038  
3/87

Completed by Originating QA Organization

1 Date 8/3/88		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 3	
3 Discovered During WMPO Audit 88-06		3a Identified By W. Sublette	3b Branch Chief Concurrence Date N/A		4 SDR No. 173 Rev. 0
5 Organization SNL		6 Person(s) Contacted F. Nimick & R. Price		7 Response Due Date is 20 Working Days from Date of Transmittal	
8 Requirement (Audit Checklist Reference, if Applicable) SNL QAP 2-3, "Quality Assurance Level Assignment and Work Plans," Rev. A, Para. 4.5.1, states in part "Each technical task or PCA shall be given a QA level assignment of either QA Level I, QA Level II, or QA Level III. If an					
9 Deficiency A. Contrary to the above, SNL has performed QA Level III scoping work in activities identified in the Laboratory Properties (WBS 1.2.4.2.1.3.S) Modified Work Plan as QA Level I.					
10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective  1. Initiate appropriate actions to have the draft Modified Work Plan approved and issued.					

Aprvl

11 QAE/Lead Auditor Date <i>L. V. Gerard Henry</i> 8-11-88		12 Branch Manager Date <i>A. J. Howell</i> AUG 11 1988		13 Project Quality Mgr. Date <i>James Blyford</i> 8/18/88	
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Completed by Organization in Block 5

14 Remedial/Investigative Action(s)  Deficiency A: The actions we have taken essentially correspond to the suggested actions [nos. 1 and 2 in Section 10, Recommended Action(s)]. Remedial: The original draft of the 1986 Modified Work Plan for Laboratory Properties (WBS 124213) included the activities in question (A.6, A.7, A.8 and A.9) (cont'd.)		15 Effective Date <u>11/15/88</u>	
16 Cause of the Condition & Corrective Action to Prevent Recurrence  The cause of this deficiency was poor coordination and lack of understanding concerning QA Level assignment between WMPO and SNL. Those misunderstandings no longer exist; no additional corrective action is needed.		17 Effective Date <u>N/A</u>	
18 Signature/Date <i>Thomas A. ...</i> 10/8/88			

Comp. by Orig. QA Org.

19 Response <input checked="" type="checkbox"/> Accept <input type="checkbox"/> Amended Response <input type="checkbox"/> Reject		QAE/Lead Auditor/Date <i>L. V. Gerard Henry</i> 11-2-88		Branch Manager/Date <i>A. J. Howell</i> 4/11/88	
20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject		QAE/Lead Auditor/Date N/A		Branch Manager/Date N/A	
21 Verification <input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory		QAE/Lead Auditor/Date <i>Mauch</i> 10/09/90		Branch Manager/Date <i>John ...</i> 10-9-90	
22 Remarks Extension Request, dtd 10/26/89 - Print to Nelson accept Extension, YMP: JB-685 dtd 11/8/89 RESPONSE ACCEPTANCE LETTER - YMP: WBM - 722 dtd. 11-23-88 SEE LETTER YMP: RBC - 2196 FOR UNACCEPTABLE VERIFICATION DTD. 3-1-90 Response 3/12/90 - Print to Nelson - acceptance 3/30/90 - YMP: CEN - 2552					
23 QA CLOSURE		QAE/Lead Auditor/Date <i>Mauch</i> 10/04/90		Branch Manager/Date N/A	
		PQM/Date <i>John ...</i> 10/4/90			

ENCLOSURE



8 Requirement (continued)

item or task is assigned a QA level without further subdivision, all of its subparts will have the same QA level unless an exemption is specifically documented and justified as exempt." (Refer to audit checklist Item No. T-122.)

9 Deficiency (continued)

The QA Level III scoping work was performed in the following activities:

1. A.6 - Mechanical properties of welded, devitrified Topopah Spring Member at high temperature and/or low strain rates.
2. A.7 - Anisotropy of mechanical properties of welded, devitrified Topopah Spring Member.
3. A.8 - Tensile strength of welded, devitrified Topopah Spring Member.
4. A.9 - Mechanical properties of fractures in welded, devitrified Topopah Spring Member.

Note: It was observed during the audit that SNL has a draft revision to the Laboratory Properties Modified Work Plan which does contain QA Level III Quality Assurance Level Assignment Sheets for the scoping work in the above activities.

- B) Contrary to the above, Design Investigation Memo (DIM) NO. 37 is identified as QA level III. However, the Modified Work Plan "Preclosure Safety Analysis" Revision B which governs the work in the DIM is currently at QA level II.

10 Recommended Actions (continued)

2. Investigate to determine if the performance of scoping work at QA Level III has any adverse impact on the QA Level I work activities (i.e., data collection).
3. Revise DIM 37 to indicate the appropriate QA level.

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14 Remedial/Investigative Action(s) (cont'd.)

as QA Level 3; however, during the WMPO review of the Work Plan the QA Level of all activities in that plan were reviewed to 1 (at WMPO's verbal request). This change was made with the implicit assumption that QA Level 3 scoping work could be conducted under an activity with an overall QA Level of 1.

The Work Plan that is presently in the review process (and is expected to be approved by 10/15/88) includes subtasks for the scoping work in question at a QA Level of 3.

WMPO STANDARD DEFICIENCY REPORT  
CONTINUATION SHEET

N-QA-038  
10/86

SDR No. 173

Rev. 0

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14 Remedial/Investigative Action(s) (cont'd.)

Investigative: Activities A.6, A.7, A.8, and A.9 have been (and are being) performed at QA Level 3; however, there have been no adverse effects on the proposed QA Level 1 work. On the contrary, these scoping activities were planned in order to prepare for the QA Level 1 testing by developing appropriate procedures and techniques.

Deficiency B: The Modified Work Plan (Preclosure Safety Analysis) covering DIM 37 has defined this work as QA Level 3; however, Al Stevens has stated that this is a mistake and has defined the following activities:

Remedial: DIM 37 will be revised to reflect a QA Level of 2 (Al Stevens, 11/15/88).

Investigative: There have been no adverse effects, because all of the DIM 37 activities performed to date have been found to meet the criteria for a QA Level 2.

22 Remarks

Extension Request, Hunter to Horton, 5-4-90 - Reject, YMP:CEH-3613, 6-12-90

REVIEWED GRADING RESULTS FOR WP 1232713 A+B (LABORATORY DETERMINATION OF THE MECHANICAL PROPERTIES OF TARGET ROCK). THIS VERIFICATION WAS DONE PER THE RESOLVE PROVIDED BY: TOM HUNTER TO D. HORTON DATED 5/4/90. QRS ACCEPTANCE OF WA WAS DOCUMENTED 08/28/90 VIA QA GRADING REPORT.

*[Signature]* 10/04/90

Sandia National Laboratories  
Albuquerque, New Mexico 87185

March 12, 1990

WBS: 1293  
QA

**QA RECEIVED**

**MAR 15 1990**

Donald G. Horton, Director  
Quality Assurance Division  
Yucca Mountain Project Office  
U.S. Department of Energy  
Nevada Operations Office  
P.O. Box 98518  
Las Vegas, NV 89193-8518

**REQUEST FOR EXTENSION OF DUE DATE - SDR 173**

Dear Mr. Horton:

I am requesting an additional extension in the due date for completion of our actions in response to SDR 173. Please change the due date to May 1, 1990.

The deficiencies in SDR 173 pertain to the lack of approved QA Level III Quality Assurance Level Assignment Sheets for the performance of QA Level III scoping work under WBS 124213. Since the original date of the SDR, this WBS element has been divided into four elements (1232711, 1232712, 1232713, and 1232714). The Activities cited in the SDR fall under the latter two WBS elements. The work plan and appropriate QALAs for WBS 1232714 were submitted to the Project Office in late December 1989. The documents for WBS 1232713 are in our internal review process and will be submitted for Project Office approval immediately after the new procedures for grading (AP 5.28Q) and determining the importance with respect to safety and waste isolation (AP 6.17Q) become effective. I hope that you will accept this as rationale for the requested adjustment in the SDR due date.

If you have any questions, please contact either Bob Richards (FTS 844-1280), Les Shephard (844-3604), or me (844-8980).

Sincerely,

*Ronald H. Price*

Ronald H. Price  
Geoscience Assessment and Validation  
Division 6315

Copy to:

YMPO J. Blaylock  
SAIC N. J. Brogan  
SAIC J. Heaney  
6310 T. O. Hunter  
6310 R. R. Richards  
6310 R. M. Baehr  
43 6315 L. E. Shephard  
6315 F. B. Nimick  
6315 R. H. Price  
6310 94/1293/VER/1.0/YMPO-88/Q1  
6310 YMP CRF  
6310 Action Item 1171

AMENDED RESPONSE FOR YMPO SDR #173

RECOMMENDATION: Based on the current AP(Q) changes to grading packages and the deletion of QA Levels, it is recommended that this SDR be closed with the amended response given below.

JUSTIFICATION: Other than the issuance of Work Plan #1232713, all corrective actions are complete for this SDR. Issuance of Work Plan #1232713 and its grading package are in-process and are being tracked by SNL CAR #89-1.

14. REMEDIAL/INVESTIGATIVE ACTION(S): Response to be amended as follows:

Deficiency A - Remedial: One of two Work Plans is approved (WP 1232714) and has been submitted to YMPO for concurrence. The other Work Plan (1232713) is being processed, reviews are partially completed and the grading package is being redone to comply with AP-5.28Q. SNL CAR #89-1 is tracking the review and approval of all FY90 Work Plans (including WP 1232713) and their respective Grading Packages; and subsequent issuance to YMPO for concurrence.

Attachments:

Approved cover sheet for Work Plan WP 1232714,  
Unapproved (in-process) cover sheet for Work Plan WP 1232713, and  
Corrective Action Report #89-1.

*Ltr dtd 5/4/90  
Hunter to Harton*