



Department of Energy

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WBS 1.2.9.3
QA

JAN 26 1990

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Technical Project Officer for Yucca Mountain Project
Lawrence Livermore National Laboratory
P.O. Box 5514, L-217
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CLOSURE OF STANDARD DEFICIENCY REPORT (SDR) 247, REVISION 0, RESULTING FROM
YUCCA MOUNTAIN PROJECT OFFICE QUALITY ASSURANCE AUDIT 88-05 OF LAWRENCE
LIVERMORE NATIONAL LABORATORY

SDR 247, 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 Robert B. Constable of my staff at
(702) 794-7945 or FTS 544-7945, or Frank J. Kratzinger of Science Applications
International Corporation at (702) 794-7163 or FTS 544-7163.

James B. Blaylock for
Donald G. Horton, Director
Quality Assurance Division
Yucca Mountain Project Office

YMP:RBC-1678

Enclosure:
SDR 247, Revision 0

cc w/encl:
Ralph Stein, HQ (RW-30) FORS
D. E. Shelor, HQ (RW-3) FORS
R. E. Schwartz, LLNL, Livermore, CA
S. R. Dana, SAIC, Las Vegas, NV, 517/T-06
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J. H. Nelson, SAIC, Las Vegas, NV, 517/T-04
S. W. Zimmerman, NWPO, Carson City, NV
J. E. Kennedy, NRC, Washington, DC
F. L. Ramirez, SAN

cc w/o encl:
J. J. Brogan, SAIC, Las Vegas, NV, 517/T-22
Cynthia Robertson, SAIC, Las Vegas, NV, 517/T-22
J. W. Gilray, NRC, Las Vegas, NV

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FULL TEXT ASCII SCAN

ADD: JEKennedy

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WMPO STANDARD DEFICIENCY REPORT

N-QA-038
3/87

Completed by Originating QA Organization	1 Date Nov 7, 1988		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2
	3 Discovered During Audit 88-05	3a Identified By K. Schwartztrauber	3b Branch Chief Concurrence Date		4 SDR No. 247 Rev. 0
	5 Organization LLNL	6 Person(s) Contacted R. Aines/K. Jackson/K. Chubb		7 Response Due Date is 20 Working Days from Date of Transmittal	
	8 Requirement (Audit Checklist Reference, if Applicable) (Audit checklist item T-236) 033-NWMP-R-19.1 Rev 0, Section 8.5, requires that a procedure or procedures be written to assure that the EQ3/6 code be documented in accordance with NUREG				
Completed by Organization in Block 5	9 Deficiency Contrary to the above requirement, LLNL procedure 033-NWMP-P19.5, P19.6 and the other 19.X series procedures do not contain documentation requirements consistent with NUREG-0856. The specific documentation requirements omitted				
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1. Modify LLNL procedures to include the documentation requirements of NUREG 0856.				
	11 QAE/Lead Auditor - Date J. C. Friend 11/14/88	12 Branch Manager - Date H. H. Caldwell NOV 14 1988	13 Project Quality Mgr. Date James Blaylock 11/15/88		
Completed by Org.	14 Remedial/Investigative Action(s) (See Attached)				
	15 Effective Date _____				
	16 Cause of the Condition & Corrective Action to Prevent Recurrence (See Attached)				
Comp. by Orig. QA Org.	18 Signature/Date <i>R. S. Sallan 12/23/88</i> <i>R. L. E. Schmitt 12/23/88</i>				
	19 Response <input checked="" type="checkbox"/> Accept <input type="checkbox"/> Amended Response <input type="checkbox"/> Reject	QAE/Lead Auditor/Date <i>James 2-1-89</i>		Branch Manager/Date <i>H. H. Caldwell Feb 39</i>	
	20 Amended Response <input type="checkbox"/> Accept <input type="checkbox"/> Reject	QAE/Lead Auditor/Date		Branch Manager/Date	
	21 Veri- fication <input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory	QAE/Lead Auditor/Date <i>Frank West 1/9/90</i>		Branch Manager/Date <i>Steve 1/2/90</i>	
	22 Remarks PROJECT SOFTWARE QA PLAN REV. 0, DATED 12/24/89 WAS ACCEPTED BY THE YMP PROJECT OFFICER ON 12/20/89. THE SOFTWARE QA PLAN CONTAINS THE DOCUMENTATION REQUIREMENTS IDENTIFIED IN THE DEFICIENCY. LLNL VOIDED 033-NWMP-R-19.XX SERIES PROCEDURES UPON ACCEPTANCE BY THE PROJECT OFFICER OF THE SOFTWARE QA PLAN 1/4/90 (SURRENDER YMP-SR-90-012)				
23 QA CLOSURE	QAE/Lead Auditor/Date <i>Frank West 1/9/90</i>	Branch Manager/Date <i>Steve 1/2/90</i>	PQM/Date <i>Chomtable 11/7/90</i>		

ENCLOSURE



WMPO STANDARD DEFICIENCY REPORT
CONTINUATION SHEET

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8 Requirement (continued)

0856 and NNWSI-SOP-03-02.

9 Deficiency (continued)

from LLNL procedures include;

1. Software summary forms completion and submittal.
2. Descriptions of mathematical models and numerical methods.
3. Detailed information required in user manual documentation.
4. Descriptions of all work related to model review, code verification, validation, maintenance and listings of current and new versions as they are released.

10 Recommended Actions (continued)

2. Determine whether the existing documentation of EQ3/6 codes (e.g. UCRL-53414 and UCRL-53841) and changes to EQ3/6 are in accordance with NUREG-0856.
3. Update current documentation, as appropriate, to reflect documentation consistent with NUREG-0856.
4. Determine if this programmatic violation has had an adverse impact on the quality of the completed scientific investigation activities.

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Remedial/Investigative Action(s)

Review of documentation available on the development of EQ3/6 has been performed by the Technical Area Leader who concluded that documentation completed to date and in-progress will be sufficient to demonstrate compliance to NUREG-0856 without impact to completed activities.

Independent review of the status and the actions planned for completing the demonstration of EQ3/6 compliance to NUREG-0856 will be performed by QA surveillance. Independent technical specialists will participate in this surveillance, and exceptions will be processed in accordance with surveillance procedure requirements. YMPO technical representatives will be invited to participate in this review.

Effective Date: 3/01/89

Conformance to the documentation requirements of NUREG-0856 will be demonstrated prior to issuance of EQ3/6 for peer review.

Effective Date: Milestone P-333

Cause of the Condition & Corrective Action to Prevent Recurrence

LLNL-YMP is committed to comply with NUREG-0856 prior to issuance for peer review, Milestone P-333. Compliance to NUREG-0856 for incremental, in-progress work was not implemented or committed for EQ3/6 because software development had been initiated prior to NUREG-0856 being invoked.

Procedures will be modified to comply with NUREG-0856 requirements applicable to the developmental phases of Quality Level I & II computer codes.

Personnel will be trained to revised procedures.

Effective 5/01/89

0497J/12/20/88

SDR #247

Remedial/Investigative Action(s)

Review of documentation available on the development of EQ3/6 has been performed by the Technical Area Leader who concluded that documentation completed to date and in-progress will be sufficient to demonstrate compliance to NUREG-0856 without impact to completed activities.

Independent review of the status and the actions planned for completing the demonstration of EQ3/6 compliance to NUREG-0856 will be performed by QA surveillance. Independent technical specialists will participate in this surveillance, and exceptions will be processed in accordance with surveillance procedure requirements. YMPO technical representatives will be invited to participate in this review.

Effective Date: 3/01/89

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Effective Date: Milestone P-333

Cause of the Condition & Corrective Action to Prevent Recurrence

LLNL-YMP is committed to comply with NUREG-0856 prior to issuance for peer review, Milestone P-333. Compliance to NUREG-0856 for incremental, in-progress work was not implemented or committed for EQ3/6 because software development had been initiated prior to NUREG-0856 being invoked.

Procedures will be modified to comply with NUREG-0856 requirements applicable to the developmental phases of Quality Level I & II computer codes as described in Appendix H of the LLNL-YMP QAPP.

Personnel will be trained to revised procedures.

Effective 5/01/89

0497J/12/20/88