



## Department of Energy

Nevada Operations Office  
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Las Vegas, NV 89193-8518

WBS 1.2.9.3  
QA

JAN 02 1990

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

ACCEPTANCE OF RESPONSES TO STANDARD DEFICIENCY REPORTS (SDRs) 430, 431, 432, 434, 436 THROUGH 441, AND 445, REVISION 0, RESULTING FROM YUCCA MOUNTAIN PROJECT OFFICE (PROJECT OFFICE) QUALITY ASSURANCE (QA) AUDIT 89-3 OF SANDIA NATIONAL LABORATORIES (SNL)

The Project Office QA staff has evaluated and accepted your responses to SDRs 430, 431, 432, 434, 436 through 441, and 445, Revision 0, generated as a result of Project Office QA Audit 89-3 of SNL. The SDRs will be closed after verification of satisfactory completion of the specified corrective actions. Copies of the SDRs are enclosed for your information.

Verification of completion of your corrective action will be performed after the effective dates that were provided. Any extension to these due dates must be requested in writing with appropriate justification prior to the due date. Please send copies of the extension request to Nita J. Brogan, Science Applications International Corporation, 101 Convention Center Drive, Las Vegas, Nevada 89109, and Ralph W. Gray, U.S. Department of Energy, P.O. Box 98518, Las Vegas, Nevada 89193.

If you have any questions, please contact James Blaylock of my staff at (702) 794-7913 or FTS 544-7913, or Stephen R. Dana of Science Applications International Corporation at (702) 794-7176 or FTS 544-7176.

Donald G. Horton, Director  
Quality Assurance Division  
Yucca Mountain Project Office

YMP:JB-1359

Enclosures:

SDRs 430, 431, 432, 434, 436 thru 441,  
and 445, Revision 0,

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FOR WASTE  
WM-11 PDC

FULL TEXT ASCII SCAN

Add: Kennedy

WM-11  
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Thomas O. Hunter

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JAN 02 1990

cc w/encls:

Ralph Stein, HQ (RW-30) FORS

D. E. Shelor, HQ (RW-3) FORS

R. R. Richards, SNL, Albuquerque, NM

N. J. Brogan, SAIC, Las Vegas, NV, 517/T-22

S. R. Dana, SAIC, Las Vegas, NV, 517/T-06

J. H. Nelson, SAIC, Las Vegas, NV, 517/T-04

Cynthia Robertson, SAIC, Las Vegas, NV, 517/T-22

S. W. Zimmerman, NWPO, Carson City, NV

J. E. Kennedy, NRC, Washington, DC

cc w/o encls:

J. H. Hines, NWQA, AL

J. W. Gilray, NRC, Las Vegas, NV

## YMP STANDARD DEFICIENCY REPORT

N-QA-038  
4/89

Completed by Originating QA Organization	1 Date 9/13/89		2 Severity Level <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3		Page 1 of 2
	3 Discovered During AUDIT 89-3 (SNL)		3a Identified By J. FRIEND		4 SDR No. 430 Rev. 0
	5 Organization SNL		6 Person(s) Contacted D. BROCKMAN		7 Response Due Date is 20 Working Days from Date of Transmittal
	8 Requirement (Audit Checklist Reference, if Applicable) (CL# 4-4) SNL-NWRT-QAPP Rev. E, Sect. 4, para. 4.2, states in part, "SNL will forward to the T&MSS Project QA Department (QA Verification Division Manager) a copy of procurement documents, and changes thereto, as issued, when				
Completed by Organization in Block 5	9 Deficiency SNL has not forwarded any copies of 1989 purchase order documents, Example: Geomatrix - P.O. 75-4350, JFT AGAPITO - P.O. 420096				
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input type="checkbox"/> Corrective 1. Transmit P.O.'s and changes to the Project Office when issued and any P.O.s and changes not previously transmitted.				
	11 QAE/Lead Auditor/Date <i>S. Dore</i> 9/22/89		12 Division Manager/Date <i>Robert D. Hunter</i> 9/22/89		13 Project Quality Mgr./Date <i>James Blaylock</i> 9/22/89
Completed by Organization in Block 5	14 Remedial/Investigative Action(s)  SNL will identify all purchase order documents categorized as QA Level I that have been generated since the last previous transmittal to the Project Office, copy the appropriate portions, and send them to the Project Office. Responsible party - G. A. Smit.				
	15 Effective Date 11/17/89				
	16 Cause of the Condition & Corrective Action to Prevent Recurrence  NA				
Completed by Organization in Block 5	17 Effective Date NA				
	18 Signature/Date <i>For T. O. Hunter, Dept. Manager 6310</i> <i>Seton W. Bingham</i> 11/1/89				
	19 Response Accepted <i>S. Dore</i> 12/1/89				
Comp. by Orig. QA Org.	20 Corrective Action Verif. Satisfactory		QAE/Lead Auditor/Date <i>S. Dore</i> 12/1/89		Division Manager/Date <i>S. Dore</i> 12/1/89
	21 Remarks		Project Quality Mgr./Date <i>Seton W. Bingham</i> 12/1/89		
	22 QA CLOSURE		QAE/Lead Auditor/Date		Division Manager/Date
				PQM/Date	

ENCLOSURE

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8 Requirement ( continued )

purchases involve QA Level I items or services."

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Completed by Originating QA Organization	1 Date 9/13/89		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2	
	3 Discovered During AUDIT 89-3 (SNL)		3a Identified By J.C. FRIEND		4 SDR No. 431 Rev. 0	
	5 Organization SNL		6 Person(s) Contacted R. SANDOVAL, M. TANG		7 Response Due Date is 20 Working Days from Date of Transmittal	
	8 Requirement (Audit Checklist Reference, if Applicable) (CL# 2-10) SNL-NWRT-QAPP Rev. E, Sect. 2.0 para. 2.9.2 states, "Minimum education and experience shall be established and documented in position descriptions for each position involved in the performance of activities that					
Completed by Organization in Block 5	9 Deficiency SNL Procedure DOP 2-6, Rev. C, does not adequately establish minimum education requirements and does not establish minimum experience. Thus, a determination cannot be made on whether SNL Certification of Personnel Qualifications are					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1) Revise the procedure to include minimum requirements. 2) Evaluate Qualifications to new requirements.					
	11 QAE/Lead Auditor/Date <i>Shane 9/22/89</i>		12 Division Manager/Date <i>11/1/89</i>		13 Project Quality Mgr./Date <i>James Blaylock 9/22/89</i>	
Completed by Organization in Block 5	14 Remedial/Investigative Action(s) 1) SNL procedure DOP 2-6, Rev. C, was revised on 9/15/89, effective 10/13/89 to include specific minimum education and experience for each NWRT Dept. 6310 job position (via ICN 02 dated 9/15/89). (cont'd.) 15 Effective Date 10/30/89					
	16 Cause of the Condition & Corrective Action to Prevent Recurrence Cause: Minimum education and experience were not specified clearly by the author of DOP 2-6, Rev. C. The author and reviewers felt that the minimum education and experience specified in DOP 2-6, Rev. C, was adequate for Dept. 6310 supervisors and manager to evaluate, select, and assign NWRT personnel to specific job positions. (cont'd.) 17 Effective Date Completed					
	18 Signature/Date <i>Debra W. Bingham 11/1/89</i> for T. O. Hunter, Dept. Manager 6310					
Comp. by Orig. QA Org.	19 Response Accepted		QAE/Lead Auditor/Date <i>Shane 12/1/89</i>		Division Manager/Date <i>Shane 12/1/89</i>	
	20 Corrective Action Verif. Satisfactory		QAE/Lead Auditor/Date		Division Manager/Date	
	21 Remarks					
22 QA CLOSURE		QAE/Lead Auditor/Date		Division Manager/Date		
				PQM/Date		

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8 Requirement ( continued )  
affect quality."

9 Deficiency ( continued )  
correct.

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

2) SNL certification of YMP/NWRT Personnel Qualifications <sup>is</sup> ~~are~~ currently being <sup>11/1/89</sup> evaluated based on the new minimum education and experience requirements to determine if NWRT personnel qualifications satisfy these new requirements. Dept. 6310 supervisors/manager are responsible for this action. A memo documenting the results of the evaluation will be prepared by each Division Supervisor and Department Manager.

16 Cause of the Condition & Corrective Action Prevent Recurrence (cont'd.)

Corrective Action: The procedure change incorporated in ICN 02 referenced above clearly specifies minimum education and experience in sufficient detail to meet both SNL supervisors' and managers' needs and SNL-NWRT-QAPP, Rev. E requirements. R. P. Sandoval is responsible for this action. Action completed on 9/15/89.

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Completed by Originating QA Organization	1 Date 9/13/89		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2	
	3 Discovered During AUDIT 89-3 (SNL)		3a Identified By S. HANS		4 SDR No. 432 Rev. 0	
	5 Organization SNL		6 Person(s) Contacted R. BAEHR		7 Response Due Date is 20 Working Days from Date of Transmittal	
	8 Requirement (Audit Checklist Reference, if Applicable) (CL# 10-1) SNL QAP-10-1 Rev. B para. 3.1.1 states in part, "The QA Coordinator will establish a schedule of surveillances of project activities based on the schedule of performance of those activities..."					
Completed by Organization in Block 5	9 Deficiency Contrary to the above, the QA Coordinator's current basis for scheduling Audits and Surveillances is : (1) procedure requirements, i.e., QAP, DOP, etc., (2) requests from PI, TPO, TL, or QA Coordinators, and (3) followup					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1. Develop appropriate basis for scheduling surveillance. 2. Perform training as required.					
Completed by Organization in Block 5	11 QAE/Lead Auditor/Date <i>S. Dana 9/22/89</i>		12 Division Manager/Date <i>W. B. Hunter 9-22-89</i>		13 Project Quality Mgr./Date <i>James Blaylock 9/22/89</i>	
	14 Remedial/Investigative Action(s) Remedial Action: Review the September Monthly Highlights and Status Report, identify ongoing or upcoming Level I and II activities and evaluate the need for future surveillances. If a need for surveillances is found, the activity to be surveilled will be added to the FY90 schedule; see 16 below. Responsible for action: J. Voigt. (cont'd.)				15 Effective Date 11/1/89	
	16 Cause of the Condition & Corrective Action to Prevent Recurrence Cause: The cause of the condition was less-than-optimal use of available information resources concerning schedules for the performance of technical activities. (cont'd.)				17 Effective Date 12/1/89	
Completed by Org. QA Org.	18 Signature/Date <i>W. B. Hunter</i> 11/1/89 for T. O. Hunter, Dept. Manager 6910					
	19 Response Accepted		QAE/Lead Auditor/Date <i>S. Dana 12/11/89</i>		Division Manager/Date <i>S. Dana 12/11/89</i>	
Comp. by Orig. QA Org.	20 Corrective Action Verif. Satisfactory		QAE/Lead Auditor/Date		Division Manager/Date	
	21 Remarks					
22 QA CLOSURE		QAE/Lead Auditor/Date		Division Manager/Date		PQM/Date

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9 Deficiency ( continued )

audits. Additionally the QA Coordinator does not have access to schedules of project activities in order to surveill activities in a timely manner.

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

Investigative Actions:

A formal documented system to plan and schedule surveillance is being used and updates to the schedule were made based on known activities, however, technically related work other than planning and scoping activities has been very limited. Reference Attachment 1.

There is no impact on previous items or activities. No investigative corrective actions for past work is deemed necessary.

16 Cause of the Condition & Corrective Action to Prevent Recurrence (cont'd.)

Corrective Action:

The FY90 (and future) QA surveillance schedule will be established and revised quarterly, by reviewing the current and future Monthly Highlights and Status Reports, and by requesting activity input from the Principal Investigators on a quarterly basis. Procedure QAP 10-1 will be revised to include an example of the document to be used to track and schedule surveillances.

This will develop an appropriate basis for scheduling surveillances.

Training was considered and determined not to be necessary as a corrective action, since the scheduling of surveillances will be performed by members of the QA staff who were involved in preparing this Corrective Action.



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Completed by Originating QA Organization	1 Date 9/13/89		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2	
	3 Discovered During AUDIT 89-3 (SNL)		3a Identified By J. FRIEND		4 SDR No. 434 Rev. 0	
	5 Organization SNL		6 Person(s) Contacted T. BLEJWAS, JAMES VOIGT		7 Response Due Date is 20 Working Days from Date of Transmittal	
	8 Requirement (Audit Checklist Reference, if Applicable) (CL# 5-2) SNL-NWRT-QAPP, Rev. E, Sect. 5.0, para. 5.1 states in part, "Each instruction or procedure shall identify QA records which are generated during implementation of the procedure."					
Completed by Organization in Block 5	9 Deficiency A partial review of SNL Procedures disclosed that several procedures did not contain adequate QA Record sections. The following are examples: o DOP 5-1, Rev. C - did not identify ICNs as a record.					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1. Review procedures and revise records sections as necessary. 2. Check to assure any documents not previously identified as records are					
Completed by Organization in Block 5	11 QAE/Lead Auditor/Date <i>S. Davis 9/22/89</i>		12 Division Manager/Date <i>Kelley L. G. 9-22-89</i>		13 Project Quality Mgr./Date <i>James Blaylock 9/22/89</i>	
	14 Remedial/Investigative Action(s) SNL will review all QA implementing procedures for adequacy of records sections. Procedure Change Requests will be initiated for all necessary changes. Responsible party - R. R. Richards, due 10/31/89. Based on the review above, documents not previously identified as records will be identified and surveillance of the SNL (cont'd.)					
	15 Effective Date <u>See below</u>					
Completed by Organization in Block 5	16 Cause of the Condition & Corrective Action to Prevent Recurrence The cause of this situation was less-than-sufficient procedure development and less-than-adequate review of those procedures. SNL has developed detailed procedure-review checklists that will allow for more structured, thorough reviews which will serve to preclude recurrence of this situation.					
	17 Effective Date <u>Complete</u>					
Completed by Organization in Block 5	18 Signature/Date <i>Patton W. Burcham 11/1/89</i> for T. O. Hunter, Dept. Manager 6310					
	19 Response Accepted					
Comp. by Orig. QA Org.	20 Corrective Action Verif. Satisfactory		QAE/Lead Auditor/Date <i>S. Davis 12/11/89</i>		Division Manager/Date <i>S. Davis 12/1/89</i>	
			QAE/Lead Auditor/Date		Project Quality Mgr./Date <i>James Blaylock 12/15/89</i>	
			Division Manager/Date		Project Quality Mgr./Date	
Comp. by Orig. QA Org.	21 Remarks					
	22 QA CLOSURE					
		QAE/Lead Auditor/Date		Division Manager/Date		
				PQM/Date		

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9 Deficiency ( continued )

- o DOP 11-1, Rev. E - did not identify EPs, ETPs and revisions as a record.
- o DOP 5-2, Rev. F - did not identify revisions to TPs as a record.
- o DOP 2-2, Rev. D - did not identify SP revisions as a record.
- o DOP 2-3, Rev. O - did not identify revision documentation as a record.
- o DOP 3-7, Rev. B - did not identify a computer disc as QA records.

10 Recommended Actions ( continued )

available.

3. Check to assure that future procedures contain QAPP requirements.

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

Records System will be performed to determine whether those documents have, in fact, been treated as records. Responsible party - R. M. Baehr, due 11/30/89.

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Completed by Originating QA Organization	1 Date 9/14/89		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 2	
	3 Discovered During AUDIT 89-3 (SNL)		3a Identified By M. DIAZ		4 SDR No. 436 Rev. 0	
	5 Organization SNL		6 Person(s) Contacted R. RICHARDS		7 Response Due Date is 20 Working Days from Date of Transmittal	
	8 Requirement (Audit Checklist Reference, if Applicable) (CL# 6-14) SNL-NWRT-QAPP, Rev. E, Sect. 2, para. 2.1.2 states in part, "The Quality Assurance Program of the SNL organization consists of the QAPP plus					
Completed by Originating QA Organization	9 Deficiency Contrary to the above requirements, SNL could not provide objective evidence to demonstrate that Technical Procedures (TPs) have been reviewed and approved by QA to assure that they implement the requirements stated in the QAPP, Rev.					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1. Perform a documented review of the procedures to ensure that the procedures contain requirements cited in Blocks 8 and 9 above.					
	11 QAE/Lead Auditor/Date <i>S. Davis 9/22/89</i>					
Completed by Organization in Block 5	12 Division Manager/Date <i>Robert G. 9-22-89</i>		13 Project Quality Mgr./Date <i>James Blaylock 9/22/89</i>			
	14 Remedial/Investigative Action(s) A Remedial SNL will review DOP 5-2 against the SNL NWRT QAPP, Rev. E, to determine if changes are necessary to the DOP, and will make the needed changes. SNL will then conduct a documented QA review of all currently issued Technical Procedures (cont'd.)				15 Effective Date 12/32/89	
	16 Cause of the Condition & Corrective Action to Prevent Recurrence Cause: The cause of this deficiency is lack of response to an earlier QA review of TPs and inadequate follow-up to ensure that earlier comments were acted upon. (cont'd.)				17 Effective Date 2/28/90	
	18 Signature/Date <i>Fulton W. Bingham 11/1/89</i> for T. O. Hunter, Dept. Manager 6310					
Comp. by Orig. QA Org.	19 Response Accepted	QAE/Lead Auditor/Date <i>S. Davis 12/11/89</i>	Division Manager/Date <i>S. Davis 12/11/89</i>	Project Quality Mgr./Date <i>James Blaylock 12/15/89</i>		
	20 Corrective Action Verif. Satisfactory	QAE/Lead Auditor/Date	Division Manager/Date	Project Quality Mgr./Date		
	21 Remarks					
22 QA CLOSURE		QAE/Lead Auditor/Date	Division Manager/Date	PQM/Date		

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8 Requirement ( continued )

appropriate implementing procedures required to provide and implement control over activities affecting quality. These procedures will be developed by qualified personnel and be reviewed and approved by the QA organization prior to implementation to assure that they implement the requirements stated in this QAPP."

Section 5, para. 5.1 states in part, "Activities affecting quality on the Yucca Mountain Project will be performed utilizing clear, complete, approved written procedures. Each procedure shall identify, QA records which are generated during implementation of the procedure."

9 Deficiency ( continued )

E and in the Technical Procedure Requirements DOP 5-2, Rev. F. Examples are: format, definitions (consistent with those found in Appendix A of the QAPP), review and approval requirements, content, how to report nonconformances, deviations, and corrective actions, identification of the QA records that are generated during implementation of the TP.

10 Recommended Actions ( continued )

2. Develop a plan to investigate what impact the lack of a QA review has had on the technical procedures. The plan should be provided with response to the SDR.
3. Reinstruct applicable personnel of Department 6310 and associated divisions to the requirements in Block 8.

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

against DOP 5-2. Responsible party: J. V. Voigt, due 11/15/89.

B Investigative:

Given the results of the review of TPs, specified above, SNL will evaluate the impact of the earlier lack of QA approval of those TPs. The plan for this evaluation is to determine:

- Whether any technical activities have been carried out using the TP (case-by-case evaluation).
- If so, would the QA review comments for that TP have affected the conduct or documentation of the work.
- If so, what is the effect and what is the appropriate resolution.

Responsible party: C. E. Foreman, due 12/31/89.

16 Cause of the Condition & Corrective Action to Prevent Recurrence (cont'd.)

Corrective Action: SNL will track the resolution of comments resulting from 14A, above, through to revision of each affected TP. Responsible party: J. V. Voigt, projected completion 2/28/90.

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	3 Discovered During AUDIT 89-3 (SNL)		3a Identified By A. ARCEO		4 SDR No. 437 Rev. 0	
	5 Organization SNL		6 Person(s) Contacted F. NIMICK		7 Response Due Date is 20 Working Days from Date of Transmittal	
	8 Requirement (Audit Checklist Reference, if Applicable) (CL# 8-4) NNWSI QAP 88-9, Rev. 2, Sect. 8, para. B states in part, "Procedures shall be developed and implemented to assure that samples are identified and controlled in a manner consistent with their intended use."					
Completed by Organization in Block 5	9 Deficiency Implementing procedure DOP 8-2, Rev. B, para. 5.3 required a semiannual check of the samples in the Samples Library by the Samples Library Manager or his assistant. Procedure also required inventory of samples during the semiannual					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1. Perform the inventory of the Samples Library and generate an inventory list of all samples.					
	11 QAE/Lead Auditor/Date <i>S. Danc</i> 9/22/89		12 Division Manager/Date <i>Robert L. G...</i> 9-22-89		13 Project Quality Mgr./Date <i>James Blayford</i> 9/22/89	
Completed by Organization in Block 5	14 Remedial/Investigative Action(s) An inventory of the entire Samples Library will be performed. Based on this activity, an accurate starting inventory list for future checks of the Samples Library will be generated. DOP 8-2 will be revised per ICN No. 2 to require two checks each calendar year of at least 20 randomly selected samples. The first (cont'd.)					
	15 Effective Date 12/15/89					
	16 Cause of the Condition & Corrective Action to Prevent Recurrence The manager of the Samples Library assumed that the use of QAP 10-1, Surveillance, would be suitable for the semi-annual checks of the Samples Library. Therefore, QAP 10-1 was followed rather than the explicit requirements in DOP 8-2. (cont'd.)					
Completed by Org. QA Org.	17 Effective Date 12/15/89					
	18 Signature/Date <i>Robert W. Bringham</i> 11/1/89 T. O. Hunter, Dept. Manager 63H0					
	19 Response Accepted	QAE/Lead Auditor/Date <i>S. Danc</i> 12/14/89	Division Manager/Date <i>S. Danc</i> 12/14/89	Project Quality Mgr./Date <i>James Blayford</i> 12/15/89		
Comp. by Org. QA Org.	20 Corrective Action Verif. Satisfactory	QAE/Lead Auditor/Date	Division Manager/Date	Project Quality Mgr./Date		
	21 Remarks					
Comp. by Org. QA Org.	22 QA CLOSURE	QAE/Lead Auditor/Date	Division Manager/Date	PQM/Date		

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**9 Deficiency ( continued )**

check. The semiannual check of the Samples Library by the Samples Library Manager was not conducted nor was an inventory list of samples generated. There were surveillances of the Samples Library performed; however, these surveillances did not identify all the samples as required by procedure.

**10 Recommended Actions ( continued )**

2. Conduct the semiannual check as required by procedure or review the implementing procedure against program requirements and revise the procedure, if appropriate, to meet requirement.

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

check governed by the revised version of DOP 8-2 will be conducted. These actions will be performed by the Sample Library Manager or his Assistant(s).

**16 Cause of the Condition & Corrective Action to Prevent Recurrence**

In addition to being recently trained on DOP 8-2, the new Samples Library Manager has been instructed explicitly to follow the requirements for a semi-annual check in DOP 8-2 and not use QAP 10-1 for this action. A new Samples Library Manager with training and explicit instructions will be able to set a suitable example for future semi-annual checks.

Completed by Originating QA Organization	1 Date 9/15/89		2 Severity Level <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3		Page 1 of 3	
	3 Discovered During AUDIT 89-3 (SNL)		3a Identified By S. L. CRAWFORD		4 SDR No. 438 Rev. 0	
	5 Organization SNL		6 Person(s) Contacted L. YARRINGTON		7 Response Due Date is 20 Working Days from Date of Transmittal	
	8 Requirement (Audit Checklist Reference, if Applicable) (CL# 3-2) DOP 3-7, Rev. B, para. 4.1.5 provides for Interactive Graphics Information System (IGIS) Logs, including Job Log (JOBxxxx), Reference Log (REFxxxx), and Product Log (CALxxxx). The Product Log and Reference Logs are					
Completed by Originating QA Organization	9 Deficiency The cross references in the Reference and Product Logs are not accurate. Examples include: REF0031 - JOB0112 (actual JOB not known)					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Investigative <input checked="" type="checkbox"/> Corrective 1. Review JOBxxxx files and confirm or correct application to REFxxxx and CALxxxx runs.					
	11 QAE/Lead Auditor/Date <i>S. Dan</i> 9/22/89					
Completed by Originating QA Organization	12 Division Manager/Date <i>W. Hunter</i> 9-22-89		13 Project Quality Mgr./Date <i>James Blaylock</i> 9/22/89			
	14 Remedial/Investigative Action(s) As most of the data which forms the foundation for the current work done in the Interactive Graphic Information System was generated prior to the existence of a fully qualified QA program at Sandia National Laboratories, it would be necessary to evaluate all of the existing products and reference files for conformity (cont'd.)					
	15 Effective Date 1/1/90					
	16 Cause of the Condition & Corrective Action to Prevent Recurrence Cause. The current QA program and IGIS record keeping requirements are much more rigorous now than in the past. This deficiency was the result of poor record keeping during the time frame July 1984-1987. For example, insufficient documentation would make some corrections impossible (e.g., the reference (cont'd.)					
Completed by Originating QA Organization	17 Effective Date 1/1/90					
	18 Signature/Date <i>T. O. Hunter</i> 10-31-89 T. O. Hunter, Dept. Manager 6310					
Comp. by Orig. QA Org.	19 Response Accepted		QAE/Lead Auditor/Date <i>S. Dan</i> 12/11/89		Division Manager/Date <i>S. Dan</i> 12/11/89	
	20 Corrective Action Verif. Satisfactory		QAE/Lead Auditor/Date		Project Quality Mgr./Date <i>James Blaylock</i> 12/15/89	
	21 Remarks		Division Manager/Date		Project Quality Mgr./Date	
Comp. by Orig. QA Org.	22 QA CLOSURE					
	QAE/Lead Auditor/Date		Division Manager/Date		PQM/Date	

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8 Requirement ( continued )

required to include the work request (Job) number.

9 Deficiency ( continued )

REF0032 - JOB0112 (actual JOB not known)

REF0006 - JOB0097 (JOB actually cancelled)

Many other cross references are questionable based on descriptive titles. The discrepancies are principally in the 1985 - 1987 time frame, but current work (CALxxxx) is accessing REFxxxx files in that time interval. As a result, some Quality Level I products cannot be fully traced to the original source data.

10 Recommended Actions ( continued )

2. Reconstruct remaining REF and CAL cross references by review of IGIS files and date consistency check.

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

to the current procedures and requirements before any assertion can be made about the quality of the associated raw data and the quality level of the procedures used in their creation. In many cases the amount of work required for this evaluation would equal or exceed the amount of work required to regenerate the product. In some cases the amount of documentation which currently exists is inadequate to retrace the original work. For these reasons SNL will issue a memo which removes any assertion regarding the conformity of previous products and reference models to the QA program requirements cited in Section 8 above. This memo will be sent to all TPOs. It will request that PIs who wish to rely upon previous IGIS products for existing or future work submit a new work request form indicating those products which are essential to their work and must be verified. These products will be evaluated by the IGIS staff for compliance to current QA and documentation requirements. Only those products which are verified in this fashion will exist under the approved QA program. In short, this means that the work which must be maintained for the current and future work of the PIs will be verified and corrected on a job-by-job basis, and become part of a new generation of IGIS products. As there is no way SNL can control which IGIS products will be requested to be evaluated nor when that may occur, for purposes of this SDR, remedial and investigative action will be complete upon issuance of the memo specified above. Responsible party: Lane Yarrington.

16 Cause of the Condition & Corrective Action to Prevent Recurrence (cont'd.)

models REF0031 and REF0032 are first used in job 112, but no documentation exists for how they were created).



## 16 Cause of the Condition &amp; Corrective Action to Prevent Recurrence (cont'd.)

Numerous revisions of the Project QA Plan have been implemented since July of 1984. Recently, the Project QA Plan has been approved by the NRC. The SNL QAPP has also been revised several times. DOP 3-7 has been revised twice in the past year in an attempt to conform to both of these QA plans and good business practices. DOP 3-7 will be further modified, by Lane Yarrington, to require better product and reference model documentation as described below:

1. The source of the data used to create the model.
2. The quality of the data.
3. The method of data entry.
4. The method of data verification (after entry).
5. Any restrictions with respect to the use of the data.
6. A reason for the model being superseded (if applicable).

Each job will have a documentation file which includes the following information:

1. An explanation of the methods of data reduction, modification, and manipulation in sufficient detail to ensure repeatability for all work completed.
2. For Q1 jobs, the sequence of commands and programs used to perform the work described under item number 1.

When an operator of the IGIS is finished with a job, the associated documentation will be reviewed for compliance with DOP 3-7 by other technical data base personnel.

The foregoing modifications to DOP 3-7 will prevent the inability to track data to its source.

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Completed by Originating QA Organization	1 Date 9/15/89		2 Severity Level <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3		Page 1 of 1	
	3 Discovered During AUDIT 89-3 (SNL)		3a Identified By S. CRAWFORD		4 SDR No. 439 Rev. 0	
	5 Organization SNL		6 Person(s) Contacted R. WAVRIK		7 Response Due Date is 20 Working Days from Date of Transmittal	
	8 Requirement (Audit Checklist Reference, if Applicable) (CL# 3-4) DOP 3-4, Rev. G (1/31/89) (and subsequent revisions), para. 4.2, requires QA Level I and II Design Investigation Memos (DIM) to be approved by NWRT QA. Para. 5.1 requires approval of changes the same as the original.					
	9 Deficiency DIM 205, Rev. B, 3/15/89, Waste Emplacement Orientation Review (QL II) was not approved by the QA Coordinator. No additional examples of the discrepancy were noted in the review of eleven (11) additional DIMs.					
Completed by Organization in Block 5	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input type="checkbox"/> Corrective 1. Perform and document QA review of DIM 205, Rev B.					
	11 QAE/Lead Auditor/Date <i>S. Davis 9/22/89</i>		12 Division Manager/Date <i>Robert L. Jones 9-22-89</i>		13 Project Quality Mgr./Date <i>James Blayford 9/22/89</i>	
	14 Remedial/Investigative Action(s)  15 Effective Date <u>9/15/89</u> (completed)  DIM 205 was reissued as Rev. C, which includes QA review and approval.					
	16 Cause of the Condition & Corrective Action to Prevent Recurrence  17 Effective Date <u>NA</u>  NA					
	18 Signature/Date <i>T. O. Hunter, Dept. Manager 6310</i> <u>11/1/89</u>					
Comp. by Orig. QA Org.	19 Response Accepted	QAE/Lead Auditor/Date <i>S. Davis 12/14/89</i>	Division Manager/Date <i>S. Davis 12/14/89</i>	Project Quality Mgr./Date <i>James Blayford 12/15/89</i>		
	20 Corrective Action Verif. Satisfactory	QAE/Lead Auditor/Date	Division Manager/Date	Project Quality Mgr./Date		
	21 Remarks					
22 QA CLOSURE						
QAE/Lead Auditor/Date		Division Manager/Date		PQM/Date		

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Completed by Originating QA Organization	1 Date 9/15/89		2 Severity Level <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3		Page 1 of 3	
	3 Discovered During AUDIT 89-3 (SNL)		3a Identified By A. ARCEO		4 SDR No. 440 Rev. 0	
	5 Organization SNL		6 Person(s) Contacted S. SHARPTON		7 Response Due Date is 20 Working Days from Date of Transmittal	
	8 Requirement (Audit Checklist Reference, if Applicable) (CL#17-16) AP 1.7Q, Rev. 2, para. 5.5.4.1 states in part, "Completed individual records shall be forwarded to the LRC no later than 10 working days after the date of completion or receipt."					
Completed by Organization in Block 5	9 Deficiency A) The following records were not transmitted to the Local Records Center (LRC) within the 10 working days.					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input type="checkbox"/> Corrective 1. Train all record source personnel to submit records to the LRC within the required 10 working days.					
	11 QAE/Lead Auditor/Date <i>S. Dan 9/22/89</i>		12 Division Manager/Date <i>Kate Hedy 9-22-89</i>		13 Project Quality Mgr./Date <i>James Blaylock 9/22/89</i>	
Completed by Organization in Block 5	14 Remedial/Investigative Action(s) A Remedial Records identified in the SDR were submitted to the LRC, but not within the 10 working day requirement. No remedial action is applicable. (cont'd.)				15 Effective Date <u>NA</u>	
	16 Cause of the Condition & Corrective Action to Prevent Recurrence AI Cause. Required signatures on records may not be obtained until several days after the date of the record. Corrective Action. The LRC Manager will write a memo to staff instructing them to omit the record date so secretaries can stamp the date on the record when (cont'd.)				17 Effective Date <u>11/30/89</u>	
	18 Signature/Date <i>for T. O. Hunter, Dept. Manager 6310</i> <i>Delton W. Bingham 11/1/89</i>					
	19 Response Accepted		QAE/Lead Auditor/Date <i>S. Dan 12/1/89</i>		Division Manager/Date <i>S. Dan 12/1/89</i>	
Comp. by Orig. QA Org.	20 Corrective Action Verif. Satisfactory		QAE/Lead Auditor/Date		Division Manager/Date	
					Project Quality Mgr./Date <i>James Blaylock 12/20/89</i>	
	21 Remarks <i>In some departments correspondence were dated prior to signature. Correspondence will now be dated after signature as stated in corrective action (block 16). Arises 12/1/89</i>					
Comp. by Orig. QA Org.	22 QA CLOSURE		QAE/Lead Auditor/Date		Division Manager/Date	
					PQM/Date	

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## 8 Requirement ( continued )

AP 1.7Q, Rev. 2, para. 5.7.3.7 states in part, "The LRC shall perform the following activities...Package the records and transmittal forms and transmit them to the CRF within 10 working days of receipt."

## 9 Deficiency ( continued )

RECORD FILE CODE	NAME & DATE OF AUTHENTICATION	DATE SUBMITTED
22/000/57-0878/1.2	8/14/89 F. Schelling	9/13/89
41/12131/1.1	8/7/89 M.K. Jespersen	9/6/89
80/12525	8/4/89 B. Kleet	9/6/89
71/12461/71-034	8/1/89 S. Bauer	8/24/89
60/12433/DIM-130/1.3/02	7/7/89 R. Stinebaugh	8/8/89

B) The following records were not transmitted to the Central Records Facility (CRF) within 10 working days.

RECORD FILE CODE	RMS#	LRC RECEIPT DATE	TRANSMITTAL DATE TO CRF
71/12461/71-034	13399	8/24/89	9/12/89
90/1293/PRG/Q1	13044	8/15/89	9/11/89
60/12433/DIM-130/1.3	12829	8/8/89	9/1/89

It should be noted that most of the records identified above should have been processed during the period when the LRC was undergoing remodeling.

## 10 Recommended Actions ( continued )

2. Train all LRC personnel to transmit records to CRF within required time.
3. Request from the Project Office a change to AP 1.7Q to allow for extension of the 10 working day limitation when extenuating circumstances occur which prevent the submittal of records within 10 working days.

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

B Investigative Action. Records identified in the SDR were transmitted to the CRF, but not within the 10 working day requirement. No remedial action is applicable.

## 16 Cause of the Condition & Corrective Action to Prevent Recurrence (cont'd.)

it is authenticated and distributed.

A2 Cause. Record source may fail to meet the 10 working day requirement for submittal of records to the LRC for various reasons (i.e., on vacation, out-of-town, workload).

## 16 Cause of the Condition &amp; Corrective Action to Prevent Recurrence (cont'd.)

Corrective Action. The LRC Manager will write a memo to all record sources stating the requirement to the LRC within 10 working days and will have record sources evaluate whether the 10 working day requirement is too restrictive. If the requirement is determined to be too restrictive, the LRC Manager will initiate a request for a change to the requirement.

A3 Cause. LRC may fail to meet the 10 working day requirement for transmittal of records to the CRF for various extenuating circumstances (i.e., remodeling of records center, receipt of large quantities of records when contracts are closed).

Corrective Action. The LRC Manager will write a memo to the LRC staff restating the requirement to submit records to the CRF within 10 working days. The LRC Manager will also initiate a request to allow for extension of the 10 working day requirement (i.e., provision for obtaining waivers) when extenuating circumstances occur which prevent the transmittal of records within 10 working days.

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	3 Discovered During AUDIT 89-3 (SNL)		3a Identified By J. FRIEND		4 SDR No. 441 Rev. 0
	5 Organization SNL		6 Person(s) Contacted R. RICHARDS, D. BROCKMAN		7 Response Due Date is 20 Working Days from Date of Transmittal
	8 Requirement (Audit Checklist Reference, if Applicable) (CL# 4-1) DOP 4-1, Rev. C, Sect. 4.2.3 & 4.2.1 state in part, "The QA Coordinator reviews PR/CR to assure that topics in para. 4.2.1 are addressed, as applicable - 4.2.1 includes:				
Completed by Organization in Block 5	9 Deficiency A review of SNL QA Level I procurement documents disclosed that the Right of Access clause has not been a part of the documentation. SNL uses a Standard Lab Terms and Conditions Attachment for all PR/CRs which addresses audits of				
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input type="checkbox"/> Corrective 1. Assure future procurement documents meet the DOP and QAPP requirements.				
	11 QAE/Lead Auditor/Date <i>S. Dana 9/22/89</i>	12 Division Manager/Date <i>Robert H. G. 9-22-89</i>	13 Project Quality Mgr./Date <i>James Blayford 9/22/89</i>		
Completed by Organization in Block 5	14 Remedial/Investigative Action(s) SNL will develop a set of standardized requirements statements to be made a part of purchase requisitions. Right-to-Access and Non-conformance Reporting will be among these requirements. These standardized statements will be included with purchase requisitions upon QA review. DOP 4-1 will be revised to provide for this. Responsible part: G. A. Smit.				15 Effective Date 11/30/89
	16 Cause of the Condition & Corrective Action to Prevent Recurrence NA				17 Effective Date NA
	18 Signature/Date <i>Patton W. Bingham 11/1/89</i> T. O. Hunter, Dept. Manager 6310				
Comp. by Orig. QA Org.	19 Response Accepted	QAE/Lead Auditor/Date <i>S. Dana 12/1/89</i>	Division Manager/Date <i>S. Dana 12/1/89</i>	Project Quality Mgr./Date <i>James Blayford 12/15/89</i>	
	20 Corrective Action Verif. Satisfactory	QAE/Lead Auditor/Date	Division Manager/Date	Project Quality Mgr./Date	
	21 Remarks				
22 QA CLOSURE		QAE/Lead Auditor/Date	Division Manager/Date	PQM/Date	

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8 Requirement ( continued )

RIGHT OF ACCESS - Specify that SNL and the Department of Energy (DOE) representative shall have the right to access contractor facilities and quality records for verification or audit purposes at each tier of procurement.

NONCONFORMANCES - Specify the supplier's responsibilities for recording and reporting nonconformances and SNL's authority for approving disposition of nonconformances.

9 Deficiency ( continued )

financial records. This does not meet the requirement as addressed. Additionally, none of the PR/CRs reviewed contain a nonconformance requirements section. However, supplier audits have been performed and there is no apparent effect on quality involving the POs.

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	3 Discovered During AUDIT 89-3 (SNL)		3a Identified By F.D. PETERS		4 SDR No. 445 Rev. 0	
	5 Organization SNL		6 Person(s) Contacted L. YARRINGTON		7 Response Due Date is 20 Working Days from Date of Transmittal	
	8 Requirement (Audit Checklist Reference, if Applicable) SNL-NWRT-QAPP, Rev. E. Sect. 8.0, Identification and Control of Items, Samples, and Data:					
Completed by Originating QA Organization	9 Deficiency 1. The activity which produced IGIS products CALO342 and CALO343 under WBS Element 1.2.1.3.2.S, <sup>was</sup> <del>were</del> assigned a QA Level of I, but the sources of the data used to produce these products, and the QA Levels of the					
	10 Recommended Action(s): <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Investigative <input type="checkbox"/> Corrective 1. Modify DOP 3-7 and document the sources of the data for IGIS products CALO342 and CALO343 plus the QA Levels associated with them.					
Aprvl.	11 QAE/Lead Auditor/Date <i>S. Davis 9/22/89</i>		12 Division Manager/Date <i>Robert Helgeson 9-22-89</i>		13 Project Quality Mgr./Date <i>James Blaylock 9/22/89</i>	
	5 14 Remedial/Investigative Action(s) General: As most of the data which forms the foundation for the current work done inthe Interactive Graphic Information System was generated rprior to the existence of a fully qualified QA program at Sandia National Laboratories, it is necessary to evaluate all of the existing products and reference files for conformity to the current procedures and requirements before any assertion can be made (cont'd.)					
Completed by Organization in Block	15 Effective Date 1/1/90					
	16 Cause of the Condition & Corrective Action to Prevent Recurrence NA 17 Effective Date NA					
Completed by Organization in Block	18 Signature/Date <i>LES 10-31-89</i> <i>Pelton W. Bingham 11/1/89</i> T. O. Hunter, Dept. Manager 6310					
	19 Response Accepted					
Comp. by Orig. QA Org.	20 Corrective Action Verif. Satisfactory		QAE/Lead Auditor/Date <i>S. Davis 12/14/89</i>		Division Manager/Date <i>S. Davis 12/14/89</i>	
	21 Remarks		Project Quality Mgr./Date <i>James Blaylock 12/15/89</i>		Project Quality Mgr./Date	
Comp. by Orig. QA Org.	22 QA CLOSURE					
	QAE/Lead Auditor/Date		Division Manager/Date		PQM/Date	



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8 Requirement ( continued )

"8.4.2: General - The identification of Yucca Mountain Project data shall include a reference to the origin of the data (test, experiment, report, publication, etc.) and an indication of the QA Level assigned to the activity which produced the data."

"8.4.2.1 Control measures shall be established and implemented to assure that Yucca Mountain Project data are properly identified. These measures shall include verification of the identification of such data prior to release for use for data resulting from QA Level I or II activities."

9 Deficiency ( continued )

activities which produced that data, were not identified, even though these products have been released for use.

2. The Reference Informance Base item 1.2.9, of Version 4 of the RIB (RIB Control Number DR-22) states that the item (which consists of IGIS products CALO249, CALO250, CALO251), were produced under WBS Element 1.2.4.2.1.1.S as a QA Level I activity. This is incorrect, because these IGIS products were produced from an activity at the IGIS under WBS Element 1.2.1.3.2.S, which was assigned a QA Level of III.

10 Recommended Actions ( continued )

2. Correct the RIB.

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

about the quality of the associated raw data and the quality level of the procedures used in their creation. In many cases the amount of work required for this evaluation would equal or exceed the amount of work required to regenerate the product. In some cases the amount of documentation which currently exists is inadequate to retrace the original work. For these reasons memo will be issued which removes any assertion regarding the conformity of previous products and reference models to QA program requirements cited in Section 8 above. This memo will be sent to all TPOs. It will request that PIs which rely upon previous IGIS products for existing or future work submit a new work request form indicating those products which are essential to their work and must be verified. These products will be evaluated by the IGIS staff for compliance to current QA and documentation requirements. Only those products which are verified in this fashion will exist under the approved QA program.

Deficiency 1. These products will no longer carry an assertion of any QA status (see above discussion). Lane Yarrington will issue a memo to the requestor of each product (CAL0342 and CAL0343) to that effect.

Deficiency 2. A change request to the RIB will be initiated by Joseph Schelling to make the needed editorial changes and to better document the origin of the data.