



## Department of Energy

Washington, DC 20585

QA: QA

JUN 27 2002

K. G. Hess  
President and General Manager  
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1180 Town Center Drive, M/S 423  
Las Vegas, NV 89144

U.S. DEPARTMENT OF ENERGY OFFICE OF CIVILIAN RADIOACTIVE WASTE  
MANAGEMENT (OCRWM) OFFICE OF QUALITY ASSURANCE (OQA) QUALITY  
ASSURANCE (QA) AUDIT REPORT BSC-ARC-02-09 OF BECHTEL SAIC COMPANY,  
LLC (BSC) LAS VEGAS, NEVADA

Enclosed is the Audit Report BSC-ARC-02-09 conducted on May 6-10, 2002 by representatives  
of OQA at BSC's facilities in Las Vegas, Nevada.


The audit team identified 16 conditions adverse to quality (CAQ) that resulted in the issuance of  
two Deficiency Identification and Referrals related to software and training; six deficiency  
reports relating to records packages, reviewer documentation, data submittal and a scientific  
notebook; and eight quality observations, which were isolated instances of procedure  
non-compliance. In addition, the audit team has included seven recommendations for  
management's consideration.

The audit team determined that, with the exception of the identified CAQ, BSC is satisfactorily  
and effectively implementing the examined portions of the OCRWM QA Program in accordance  
with OCRWM DOE/RW-0333P, Revision 11, *Quality Assurance Requirements and Description*  
document, and applicable implementing procedures.

The audit is considered completed and closed as of the date of this letter; however, open  
deficiency documents will continue to be tracked until they have been closed to the satisfaction  
of the QA Representative and the Acting Director, OQA.

If you have any questions, please contact either James Blaylock at (702) 794-1420 or  
Donald J. Harris at (702) 794-1467.

OQA:JB-1293

  
Ram B. Murthy, Acting Director  
Office of Quality Assurance

Enclosure:  
Audit Report BSC-ARC-02-09



Printed with soy ink on recycled paper



JUN 27 2002

cc w/encl:

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cc w/encl: (continued)

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QA: QA

**U. S. DEPARTMENT OF ENERGY  
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT  
OFFICE OF QUALITY ASSURANCE**

**AUDIT REPORT BSC-ARC-02-09**

**OF**

**BECHTEL SAIC COMPANY, LLC**

**AT**

**LAS VEGAS, NEVADA**

**MAY 6-10, 2002**

Prepared by: Donald J. Harris Date: June 4, 2002  
Donald J. Harris  
Audit Team Leader  
Navarro Quality Services

Approved by: Ram B. Murthy for Date: 6/26/02  
Ram B. Murthy  
Acting Director  
Office on Quality Assurance

**ENCLOSURE**

## 1.0 EXECUTIVE SUMMARY

As a result of Quality Assurance (QA) Audit BSC-ARC-02-09, the audit team determined that with the exception of those areas where conditions adverse to quality were identified, the Bechtel SAIC Company, LLC (BSC) located in Las Vegas, Nevada, is satisfactorily and effectively implementing applicable portions of the U. S. Department of Energy (DOE), Office of Civilian Radioactive Waste Management (OCRWM) QA Program in accordance with DOE/RW-0333P, Revision 11, *Quality Assurance Requirements and Description* (QARD), OCRWM administrative procedures, and BSC line procedures.

The audit team identified 16 conditions adverse to quality during the audit resulting in two Deficiency Identification and Referrals (DIR), relating to software and training; six Deficiency Reports (DR), relating to record packages, reviewer documentation (2), data submittal (2), and a scientific notebook (SN); and eight Quality Observations (QO), which are described in Section 5.5 of this report.

In addition, the effectiveness of corrective actions, related to five previously closed DRs, was evaluated with satisfactory results. The details are described in Section 5.5.5. Seven recommendations resulting from the audit activities are documented in Section 6.0 of this report for consideration by management.

### Good Practices

BSC QA has developed a Supplier Open Items List that identifies any follow-up action required of Supplier Outstanding Issues from the annual reviews, surveys, or audits for scheduling a review, surveillance, or re-audit.

The BSC record packages used to document the qualification of unqualified data were well organized and complete. The care taken to assemble these records was commendable, and their organization made the audit process more efficient.

## 2.0 SCOPE

Auditors, representing the DOE's OCRWM Office of Quality Assurance (OQA), conducted a limited-scope, compliance-based audit of the BSC. Interviews with cognizant personnel, review of documentation, and evaluation of procedures were used to determine the adequacy and effectiveness of BSC implementation of the OCRWM QA Program as described in the QARD, OCRWM Administrative Procedures (AP), and BSC Line Procedures (LP).

In addition, three observers representing the U. S. Nuclear Regulatory Commission (NRC) observed the audit.

The audit team also reviewed five-closed OCRWM deficiency documents related to BSC activities to determine the effectiveness of completed corrective actions. The details are described in Section 5.5.5.

In accordance with the audit plan, the following QA program sections were evaluated:

1.0	Organization
2.0	Quality Assurance Program
4.0	Procurement Document Control
5.0	Implementing Documents
6.0	Document Control
7.0	Control of Purchased Items and Services
9.0	Control of Special Processes
10.0	Inspection
12.0	Control of Measuring and Test Equipment
15.0	Nonconformances
16.0	Corrective Actions
17.0	Quality Assurance Records
18.0	Audits (external)
Supplement I	Software
Supplement III	Scientific Investigation
Supplement V	Control of the Electronic Management of Data
Appendix C	Monitored Geologic Repository (Procurement only)

The following QA program sections were not evaluated during this limited-scope audit:

3.0	Design Control
8.0	Identification and Control of Items
11.0	Test Control
13.0	Handling, Storage and Shipping
14.0	Inspection, Test and Operating Status
18.0	Audits (internal)
Supplement II	Sample Control
Supplement IV	Field Surveying
Appendix A	High Level Waste Form Production
Appendix B	Storage and Transportation

### 3.0 AUDIT TEAM AND OBSERVERS

The following is a list of audit team members and their assigned areas of responsibility:

<u>Name/Title/Organization</u>	<u>QA Program Sections</u>
Donald J. Harris, Navarro Quality Services (NQS)/ Audit Team Leader, Las Vegas, NV	6.0, 7.0, 9.0, 10.0, 18.0

<u>Name/Title/Organization</u>	<u>QA Program Sections</u>
F. Harvey Dove, NQS/Audit Team Leader in Training, Las Vegas, NV	2.0, 15.0, SIII
Marilyn A. Kavchak, NQS/Auditor, Las Vegas, NV	1.0, 12.0, 16.0, SI
Christian M. Palay, NQS/Auditor, Las Vegas, NV	SIII
Robert A. Toro, NQS/Auditor, Las Vegas, NV	4.0, 7.0, 17.0, App. C
James V. Voigt, NQS/Auditor, Las Vegas, Nevada	2.0, 5.0, 17.0, SV

#### Observers

Ted Carter, NRC, Rockville, Maryland  
Thomas Trbovich, Southwest Research Institute, San Antonio, Texas  
Mark Ehnstrom, Southwest Research Institute, San Antonio, Texas

### **4.0 AUDIT TEAM MEETINGS AND PERSONNEL CONTACTED**

The pre-audit meeting was held at BSC's offices in Las Vegas, Nevada, on May 6, 2002. Daily debriefings were held to appraise cognizant management and staff of the progress of the audit and any conditions adverse to quality. The audit was concluded with a post-audit meeting held on May 10, 2002, at BSC's offices in Las Vegas, Nevada.

Personnel contacted during the audit, including those who attended the pre- and post-audit meetings, are listed in Attachment 1, "Personnel Contacted During the Audit."

### **5.0 SUMMARY OF AUDIT RESULTS**

#### **5.1 Program Effectiveness**

Based on the objective evidence and the sample of information reviewed, the audit team concluded that with the exceptions of those areas where conditions adverse to quality were identified, BSC's implementation of the QA program is adequate and effective. The results of each QA program section evaluated are contained in Attachment 2, "Summary Table of Audit Results."

#### **5.2 Stop Work or Immediate Corrective Actions Taken**

There were no stop work orders or immediate corrective actions as a result of this audit.

#### **5.3 QA Program Implementation**

Attachment 2, "Summary Table of Audit Results," provides results for each QA program section audited. The details of the audit, including the objective evidence reviewed, are documented in the audit checklist. The completed checklist is maintained as a QA record.

#### **5.4 Technical Audit Activities**

There were no technical activities evaluated during this audit.

#### **5.5 Summary of Deficiencies**

There were 16 conditions adverse to quality identified during the audit resulting in two DIRs, six DRs, and eight QOs.

##### **5.5.1 Corrective Action Reports**

None.

##### **5.5.2 Deficiency Identification and Referrals**

###### **DIR-02-10**

Contrary to the requirements of AP-SI.1Q, Revision 3, ICN 3, *Software Management*, Section 2.0, software called Qconvert (TCODMU Version 1.0) has been in continuous use but has not been qualified or baselined. This adverse condition was previously identified and is now referred to open DR BSC-01-D-088.

###### **DIR-02-11**

AP-2.1Q, Revision 2, ICN 0, *Indoctrination and Training of Personnel*, Sections 5.4.1 d) and 5.4.2 a), areas of incomplete training compliance were noted as defined in Revision 3, "Chief Science Office (CSO) Training Requirements Matrix." This adverse condition has been previously identified and referred to open DR BSC-01-D-129..

##### **5.5.3 Deficiency Reports**

###### **BSC(O)-02-D-120**

AP-2.14Q, Revision 2, ICN 0, *Review of Technical Products and Data*, Section 5.2.2 d), requires a reviewer concurrence signature on the Review Record even if no review comments were made. Concurrence signatures were missing from the Review Records for three Data Tracking Numbers (DTN).

###### **BSC(O)-02-D-121**

AP-2.14Q, Section 5.1.2 f), requires that the Review Record and any comment documentation be forwarded to the Review Coordinator. During



the audit, no objective evidence was available that six out of eight Review Records for SITP-02-EBS-001, Revision 00, were forwarded to the Review Coordinator.

**BSC(O)-02-D-122**

AP-SIII.1Q, Revision 1, ICN 1, *Scientific Notebooks*, Section 5.5.4 b), requires that the Principal Investigator resolve review comments with the Technical Reviewer of a scientific notebook. For the SN SNL-SCI-024-V1, no objective evidence was available that the Principal Investigator had resolved the comments from the Technical Reviewer (page 128, dated 4/23/02).

**BSC(O)-02-D-123**

AP-SIII.3Q, Revision 1, ICN 1, *Submittal and Incorporation of Data to the TDMS*, Section 5.1.1 h), requires a Record Road Map be developed for data (other than TPO) submitted to the Technical Data Management System (TDMS) in accordance with AP-3.15Q. No objective evidence was available that Record Road Maps were generated and submitted to the RPC for three DTNs.

**BSC(O)-02-D-124**

AP-SIII.3Q, Section 5.2.1 c), requires that data classified as final must be technically reviewed as provided in the originating procedure or in accordance with AP-2.14Q. No objective evidence was available that two DTNs, which are classified as final in the TDMS, received a technical review.

**BSC(O)-02-D-125**

AP-SIII.3Q, Section 5.1.2 b), requires that data be submitted to the TDMS within 30-working days of the Technical Data Information Form (TDIF) submittal date. Two DTNs in the TDMS were found to contain no data although the TDIFs were submitted on 7/11/01 and 8/10/01.

**5.5.4 Quality Observations**

**BSC(O)-02-O-017**

AP-15.3Q, Revision 0, ICN 0, *Control of Technical Product Errors*, Section 5.2.3, requires the assignment of a Quality Engineering Representative (QER) to review a Technical Error Report by the BSC Quality Engineering Manager. The BSC Quality Engineering Manager

was not making the assignment of a QER, and the authority to perform this work activity had not been delegated. The Interoffice Memorandum to delegate the authority was generated during the audit.

**BSC(O)-02-O-018**

AP-15.2Q, Revision 0, ICN 2, *Control of Nonconformances*, Section 5.2.5 c), requires the printed name and initials for the Disposition Review by the QAR in Block 6 of Nonconformance Report (NCR) No. YMSCO-02-0011 is not the same person. The NCR (YMSCO-02-0011) was corrected during the audit.

**BSC(O)-02-O-023**

AP-16.1Q, Revision 5, ICN 0, *Management of Conditions Adverse to Quality*, Section 5.2.3 d), requires that the Corrective Action Coordinator assign a QAR to perform the QAR responsibility. Four DRs were signed by a person other than the QAR without being assigned this authority by management. A memorandum to delegate QAR authority was generated during the audit.

**BSC(O)-02-O-025**

AP-2.2Q, Revision 1, ICN 0, *Establishment and Verification of Required Education and Experience of Personnel*, Section 5.4.1 a), a Systems Analyst documented experience did not reflect the experience required by the associated job description. The position requires eleven years of relevant experience and a Masters Degree. The Manager of Information Technology will re-examine the file since it is still in the approval process.

**BSC(O)-02-O-026**

AP-SIII.1Q, Section 5.1.6, requires entries to be recorded in a SN no later than the next business day or workday. Contrary to this requirement, SN-M&O-SCI-041-V1 has entries that cover multiple days of work documented on printouts that were not placed in the SN before the next day's activity.

**BSC(O)-02-O-027**

AP-SIII.3Q, Section 6.1, requires the Technical Data Manager to submit the TDMS database access list as a QA record on a quarterly basis. The access list for the quarter following October 12, 2001 has yet to be submitted to the RPC by the Technical Data Manager.

**BSC(O)-02-O-028**

AP-SIII.7Q, Revision 0, ICN 0, *Scientific Investigation Laboratory and Field Testing*, Section 5.1.2 b), requires a test plan be reviewed in accordance with AP-2.14Q except for an AP-6.28Q review by the OQA. Test plan SITP-02-UZ-012, Revision 00, was reviewed in accordance with AP-6.28Q for all organizations.

**BSC(O)-02-O-029**

AP-SIII.8Q, Revision 0, ICN 0, *Preparation, Planning, and Field Verification of Surface-Based Geological Logging Operations*, Section 5.3.4 a), requires the Authorization for Borehole Logging Activities be distributed during Pre-Field Activities. However, the Authorization for Borehole Logging Activities was distributed along with the data during the Post-Field Activities.

**5.5.5 Follow-up of Previously Identified Conditions Adverse to Quality**

**LVMO-01-D-035**

This DR identified deliverables that did not contain ICN numbers or dates and a deliverable transmittal letter that did not address open DRs/CARs applicable to the specific deliverable document and/or associated work as required by AP-7.5Q, Revision 0, ICN 3, *Submittal, Review, and Acceptance of Deliverables*. Project Managers responsible for the majority of future Q deliverables were briefed on AP-7.5Q requirements and this DR. Appropriate Document Management Services and Review Coordination personnel were also apprised of this DR and the requirement to ensure that all required information is included in the Yucca Mountain Deliverables Acceptance Review (YDAR) form and the open deficiency documents are addressed in the transmittal letter. The projects organization conducted a self-assessment reviewing all BSC YDARs and deliverable Transmittal Letters issued since March 5, 2001, in accordance with AP-7.5Q for confirmation that preventative actions taken in closing this DR are effective. YDARs reviewed contained revision numbers and appropriate ICN numbers providing traceability to the document. Corrective actions were determined to be effective.

**BSC-01-D-061**

Document Control Center (DCC) issued the Annual Owners Report for Plans on April 18, 2002, with directions to determine if the plans were active, cancelled, or reassigned. On April 30, 2002, the DCC issued a reminder notice to the 22 owners that have not responded. A review of the

submitted owner reports documented some reassignments, but a large number indicated "cancelled" with Document Control Action Request attached to each report. The corrective action was determined to be effective.

#### **BSC-01-D-096**

Corrective actions involved revising the procedure AP-SIII.1Q, to only specify that the Identification Number for the SN be displayed on the supplemental records. This was verified via review of two SNs that utilized supplemental records, SN-M&O-SCI-023-V2 and SN-SNL-SCI-024-V1. Both SNs have appropriate references to their supplemental records and the supplemental records were appropriately cross-referenced on their covers. The tables of contents for both SNs were also verified in compliance. Therefore, the corrective actions for this DR were effective.

#### **BSC-01-D-097**

Corrective actions involved the revision of the procedure AP-SIII.4Q, Revision 0, ICN 4, *Development, Review, Online Placement, and Maintenance of Individual Reference Information Data Base Items*, to specify the records responsibilities for the submission of the on-line checklists. This was verified by reviewing the record packages for the following Reference Information Base items: MO0204RIB00148.000, MO0204RIB00122.00, MO0204RIB00144.000, MO0109RIB0009.001, and MO0112RIB00107.000. The on-line checklists were included in the records package to be submitted to the Records Processing Center. Therefore, the corrective actions for this DR were effective.

#### **BSC-01-D-100**

Corrective actions involved adequately stating controls for the management of electronic information. Several Technical Work Plans were examined and discussion on electronic information appeared compliant. Corrective actions for this DR appear effective.

## **6.0 RECOMMENDATIONS**

**Recommendation 1:** BSC Procurement and Property utilizes an internal set of informal instructions called the BSC Procurement Directives/Procedures (PRs) Manual to conduct business, such as closeouts of subcontracts, purchase orders, work release files, and performing self-assessments. This organization should consider integrating or referencing pertinent quality procedures such as LP-4.3Q (Subcontracts), LP-4.4Q

(Technical Service Agreements), LP-4.5Q (Processing Purchase Requisitions), and AP-2.2Q (Self-Assessments) into the applicable PRs to establish cross-links in performing quality-affecting activities. (CIRS #2713)

**Recommendation 2:** BSC Procurement and Property includes a Purchase Order (PO)/ Subcontracts File Index (Form PRF-2) as part of the records package transmitted to the BSC Project DCC during the closeout of subcontracts, POs, and work release files. The intent of this File Index is unclear and confusing. The File Index does not align with the items noted in the Records Package Table of Contents form. The Index is not properly filled out (i.e., it is unclear whether it should indicate if referenced documents in the records package are "In File" or "N/A." Closeout Summary and Signature sections of this form were not properly completed. There are no instructions provided for completing this form. These items were noted during a review of completed and transmitted record packages for Technical Service Agreements in Subcontract No. 24540-100-PO-08147 and Subcontract No. 24540-950-TSA-0012. (CIRS #2714)

**Recommendation 3:** The Signature and Initials List needs to be clarified as defined in Section 5.1 of AP-17.1Q, Revision 2, ICN 2, to address whether an organization should update the list for every individual who is matrixed to its organization and conducting OCRWM-related work. (CIRS #2715)

**Recommendation 4:** The on-line TDIF in the Automated Technical Data Tracking (ATDT) Database should better describe the availability status of the data. It is unclear for situations involving raw data submitted to the RPC where the Data Tracking Number (DTN) in the ATDT acts as a placeholder. The on-line TDIF indicates that the data has not been submitted to the Technical Data Management System (TDMS), rather than explaining the true status of the data. (CIRS #2716)

**Recommendation 5:** AP-SIII.8Q should be revised to better reflect the actual process that is documented in the Logger's Log. The Logger's Log contains the required information from the procedure, but the procedure and the actual log do not use the same terms. It is recommended that the procedure reflect the outline for the contents of the Logger's Log and specify what is the terminology and the minimum required information. (CIRS #2717)

**Recommendation 6:** AP-15.3Q should be revised to include an independent review of the justification for an invalid Technical Error Report (TER). The current procedure allows the Responsible Manager to invalidate the TER by simply disagreeing with the TER originator. It is recommended that a step be inserted between Section 5.2.4 b) and Section 5.2.4 c) to include an independent review of the justification for an "invalid" TER in procedure AP-15.3Q. (CIRS #2718)

**Recommendation 7:** Process requirements for change control to be effective need to be clearly defined for all stages of the process. The Document Action Request (DAR) process initiates proposed changes for implementing documents. Upon examination of the DAR database, the following examples are cited:

- Many pending DARs are accepted by the responsible individual (RI) as action authorized, being deferred without justification;
- Numerous approved/deferred DARs are over a year old;
- Several procedures have 5 or more approved/deferred DARs;
- DAR D 3867, accepted/action deferred. This AP-Q fails to satisfy the requirements of the QARD;
- DAR D 597, accepted/action authorized. This AP is not in compliance with DOE governing directives or OCRWM/YMSCO organizational structure;
- Changes to AP-SIII.2Q were required before DAR 1022 changes to AP-3.12Q. This was not done.

It appears that without sufficient rules, RIs pick and choose – even ignore – the accepted requests to change a document. It also appeared that timely and routine maintenance of the controlled documents is not a high priority for the assigned RI. Accepted DAR changes should be subject to sufficient controls such that when changes are identified and authorized that the full scope of the change is implemented at the next change opportunity. (CIRS #2719)

## **7.0 LIST OF ATTACHMENTS**

Attachment 1 “Personnel Contacted During Audit”  
Attachment 2 “Summary Table of Audit Results”  
Attachment 3 “Acronyms/Abbreviations”

**ATTACHMENT 1**  
**Personnel Contacted During the Audit**

Name	Organization	Pre-Audit Meeting	Contacted During Audit	Post-Audit Meeting
Larry Abernathy	BSC/QA, Sr QA Specialist	X		X
Daune Allred	BSC/QA Engineer			X
Michael Anderson	BSC/Specialty Analysis and Waste Package		X	
Robert Andrews	BSC/PA Manager	X	X	X
Lonnie Baldwin	BSC/ES&H		X	
Ken Beall	BSC/Projects, CM Manager		X	X
Don Beckman	BSC/LAP, RCG Manager			X
James Blink	BSC/LLNL/PA	X		X
Andrew Birmingham	BSC/Special Projects, Sr. QA Specialist	X		X
Robert Bonisolli	BSC/Parameter/Data Management Engineer		X	
James Boone	BSC/Technical Writer		X	
Novella Chaffin	BSC/RPC Technician		X	
Lana Colehour	BSC/RPC Supervisor		X	X
Larry Croft	BSC/ES&H	X		
Steve Dana	BSC/QA, Quality Engineering Supervisor	X	X	X
Shirl Derby	BSC/Projects	X		
Thomas Doering	BSC/PA	X		
Christine Drummond	BSC/Training Supervisor	X		X
Fei Duan	BSC/Geoengineering Manager			X
Mike Eldred	BSC/Procurement, Subcontract Manager		X	
Kathy Gaither	BSC/Disruptive Events Department Manager		X	
Judith Gebhart	BSC/QA, Sr QA Specialist	X		
Denise Gibson	BSC/Records			X
Ken Gilkerson	BSC/QA, Sr QA Specialist	X		
Richard Fenster	BSC/LANL/Data Collect/Data Management		X	
Gloria Ferreiro	BSC/Technical Training, Trainer Review			X
Sharon Harris-Womack	BSC/RPC Sr. Technician		X	
Robert Hartstern	BSC/QA	X	X	
Rob Henderson	BSC/P&P, Supply Chain Manager		X	
Ken Hess	BSC/General Manager			X
Rob Howard	BSC/PA			X
Michael Jaeger	BSC/Special Projects	X		

Name	Organization	Pre-Audit Meeting	Contacted During Audit	Post-Audit Meeting
Robb Keele	BSC/QA Manager			X
Robert Kimble	BSC/ES&H	X		
Bruce Kirstan	BSC/CSO, Engineer	X		X
Dan Klimas	BSC/QA, Sr. QA Specialist	X	X	
Norman Kramer	BSC/EBS/MTS, Sr Engineer		X	
Donald Krisha	BSC/QA Manager	X		X
Dean Kunihiro	BSC/Engineering Resource Manager		X	
Marco Lee	BSC/Technical Resource Manager		X	
John Martin	BSC/Site Quality		X	
Pete Maxfield	BSC/Business Management Manager			X
Mary McDaniel	BSC/Engineering	X		
Ken McFall	BSC/QA, Sr QA Specialist		X	X
Larry McGrath	BSC/PQE	X	X	
Bettie Moore	BSC/Records		X	
Ahmed Monib	BSC/License Application Documentation & Integrated Team Lead		X	
Alan Nakashima	BSC/LAP	X		
Ron Oliver	BSC/Test Coordination Office		X	
Dawn Perry	BSC/P&P, Manager		X	
John Peters	BSC/Engineering	X		
Mark Peters	BSC/LANL, Testing Manager			X
Richard Powe	BSC/QA, Sr QA Specialist		X	X
Michelle Prater	BSC/DCC, Supervisor	X	X	X
Terry Rathgeb	BSC/Engineering Administrator		X	
Robert Richards	BSC/Disruptive Events Department QA Coordinator		X	
Rochelle Rucinski	BSC/S&ET, QA Engineer	X	X	
Ralph Schreiner	BSC/Engineered Systems			X
Jeffrey Smith	BSC/ P&P, Compliance Manager		X	
Dennis Sorensen	BSC/ES&H Manager			X
Steve Splawn	BSC/Software Configuration Management		X	
Kathleen Steel	BSC/RPC, Media & E-Mail Dept Lead		X	
Jim Stephens	BSC/Procurement/STR, STR Manager		X	
Robert Stoner	BSC/Information Technology Manager			X
Yiming Sun	BSC/Ground Control			X
Darrell Svalstad	BSC/Quality Engineering	X		X



Name	Organization	Pre-Audit Meeting	Contacted During Audit	Post-Audit Meeting
Steve Swenning	BSC/Science Office		X	X
Carolyn Tabor	BSC/Records Admin Assistant			X
Charles Taylor	BSC/QA, Sr QA Specialist	X	X	X
John Therien	BSC/QA Lead			X
Dan Thomas	BSC/Waste Package			X
Kathleen Thompson	BSC/Record Services		X	
Paula Thompson	BSC/Special Projects		X	
John Timmons	BSC/QA, Sr QA Specialist		X	
Daniel Tunney	BSC/Senior QA Specialist		X	
Paul Turner	BSC/Training Manager	X		X
Darrell von der Linden	BSC/P&P Manager	X	X	X
Roxie Van Dillen	BSC/S&ET, Compliance Specialist	X		
Ron Wagster	BSC/Procurement/STR, Subcontractor Rep		X	
Jeff Weaver	BSC/PAP, Sr Staff		X	X
Richard Weeks	BSC/QA, Sr QA Specialist		X	X
Robert Wemheuer	BSC/Special Projects	X		X
Jim Whitcraft	BSC/Engineering	X		
Nancy Williams	BSC/Projects Manager		X	X
Jean Younker	BSC/CSO, Sr Principal Scientist		X	X
Fred Zinkevich	BSC/Projects, Sr Engineer	X	X	X
James Blaylock	DOE/OQA	X	X	X
Birdie Hamilton-Ray	DOE/YMSCO, Contracting Officer		X	
Wayne Miller	DOE/YMSCO, Contracting Officer		X	
Ted Carter	NRC/Observer	X		X
Mark Ehnstrom	NRC/Observer	X		X
Tom Trobovich	NRC/Observer	X		X
Robert Latta	NRC/On-Site Representative	X		
Don Harris	NQS/Lead Auditor	X		
Robert Hasson	NQS/Acting Program Manager			X
Robert Toro	NQS/Auditor			X
Christian Palay	NQS/Auditor	X		X
James Voigt	NQS/Auditor	X		X
Les Wagner	NQS/Lead of Audits	X		X
Nina Garcia	SAIC/SNL, Records	X		

## ATTACHMENT 2 SUMMARY TABLE OF AUDIT RESULTS

QARD Sections	Implementing Documents	Title	Check list Pages	Deficiencies DIRs	QO	R E C	Program Adequacy	Procedure Compliance	Overall
1	LP-1.0Q-BSC, R1, ICN1	Organization	1-4		BSC(O)-02-O-023		SAT	SAT	SAT
2	AP-2.1Q, R2	Indoctrination & Training of Personnel	5-8	DIR 02-11	BSC(O)-02-O-025		SAT	UNSAT	SAT
	AP-2.2Q, R1	Establishment & Verification of Required Education and Experience of Personnel	9-12				SAT	SAT	
	AP-2.14Q, R2	Review of Technical Products & Data	13-15	BSC(O)-02-D-120 BSC(O)-02-D-121			SAT	SAT	
	AP-2.20Q, R1	Self-Assessments	16-20				SAT	SAT	
4	LP-4.3Q-BSC, R0, ICN2 LP-4.4Q-BSC, R1, ICN2 LP-4.5Q-BSC, R1	Subcontracts Technical Service Agreements Processing Purchase Requisitions & Procurement Documents	21-26 27-31 32-34			1 & 2	SAT SAT SAT	SAT SAT SAT	SAT
5	AP-5.1Q, R3, ICN1	Plan & Procedure Preparation, Review, and Approval	35-37			7	SAT	SAT	SAT
6	AP-6.1Q, R6, ICN4 AP-6.28QR0, ICN1	Controlled Documents Document Review	38-40 41-44				SAT SAT	SAT SAT	SAT
7	AP-7.4Q, R5, ICN2 AP-7.7Q, R1 LP-7.1Q-BSC, R0	Supplier Evaluation & QSL Maintenance Acceptance of Items & Services Technical Bid Evaluation	45-53 54-56 57-58				SAT SAT SAT	SAT SAT SAT	SAT
9	AP-SPP-001Q, R0	Qualification & Certification of Nondestructive Examination	59-65				SAT	SAT	SAT
10	AP-10.3Q, R2	General Inspection & Test Personnel Certification for QA/QC	66-70				SAT	SAT	SAT
12	AP-12.1Q, R0, ICN2	Control of M&TE & Calibration Standards	71-77				SAT	SAT	SAT
15	AP-15.2Q, R0, ICN2 AP-15.3Q, R0	Control of Nonconformances Control of Technical Product Errors	78-80 81-84		BSC(O)-02-O-018 BSC(O)-02-O-017	6	SAT SAT	SAT SAT	SAT
16	AP-16.1Q, R5	Management of Conditions Adverse to Quality	85-96				SAT	SAT	SAT
17	AP-17.1Q, R2, ICN2 LP-17.1Q-BSC, R0, ICN3	Record Source Responsibilities for Inclusionary Records Processing Inclusionary Records	97-101 102-106			3	SAT SAT	SAT SAT	SAT
18	AP-18.2Q, R0, ICN 1	Supplier Survey/Audits	107-111				SAT	SAT	SAT
SI	AP-SI.1Q, R3, ICN 3	Software Management	112-119	DIR 02-10			SAT	SAT	SAT

QARD Sections	Implementing Documents	Title	Check list Pages	Deficiencies DIRs	QO	R E C	Program Adequacy	Procedure Compliance	Over all
SIII	AP-SIII.1Q, R1, ICN1	Scientific Notebooks Qualification of Unqualified Data & the Documentation of Rationale for Accepted Data Submittal & Incorporation of Data to the TDMS	120-126	BSC(O)-02D-122  BSC(O)-02-D-123 BSC(O)-02-D-124 BSC(O)02-D-125	BSC(O)-02-O-026	4	SAT	SAT	SAT
	AP-SIII.2Q, R0, ICN3		127-133						
	AP-SIII.3Q, R1, ICN1		134-141		BSC(O)-02-O-027		UNSAT	SAT	
	AP-SIII.4Q, R0, ICN4	Development, Review, Online Placement, Maintenance of Individual Reference Information Base Data Items Scientific Investigation Laboratory & Field Testing The Preparation, Planning, & Field Verification of Surface Based Geophysical Logging Operations Incorporation & Maintenance of Metadata in the Accepted Data Database	142-143		BSC(O)-02-O-028 BSC(O)-02-O-029	5	SAT	SAT	
	AP-SIII.7Q, R0		144-147				SAT	SAT	
	AP-SIII.8Q, R0		148-153				SAT	SAT	
	LP-SIII-1Q-BSC, R0		154				SAT	SAT	
SV	AP-SV.1Q,R0, ICN2	Control of the Electronic Management of Information	155-157				SAT	SAT	SAT

**Legend:** DIR = Deficiency Identification and Referral  
NI = No Implementation  
SAT = Satisfactory

NA = Not Applicable  
QO = Quality Observation  
UNSAT = Unsatisfactory

### ATTACHMENT 3

#### ACRONYMS/ABBREVIATIONS

ATDT	Automated Technical Data Tracking
AP	Administrative Procedure
BSC	Bechtel SAIC Company, LLC
DAR	Document Action Request
DIR	Deficiency Identification and Referral
DOE	U.S Department of Energy
DR	Deficiency Report
DTN	Data Tracking Number
NCR	Nonformance Report
NRC	U.S. Nuclear Regulatory Commission
NQS	Navarro Quality Services
OCRWM	Office of Civilian Radioactive Waste Management
OQA	Office of Quality Assurance
PO	Purchase Order
RI	Responsible Individual
QA	Quality Assurance
QAR	Quality Assurance Representative
QARD	Quality Assurance Requirements and Description
QER	Quality Engineering Representative
QO	Quality Observation
QSL	Qualified Suppliers List
SN	Scientific Notebook
TDIF	Technical Data Information Form
TDMS	Technical Data Management System
TER	Technical Error Report
TPO	Technical Product Output