

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

SUPPLIER AUDIT REPORT OQA-SA-97-020

OF

BECHTEL NEVADA

STANDARDS AND CALIBRATION LABORATORY

LAS VEGAS, NEVADA

MAY 29-30, 1997

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Date: 6/19/97

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Date: 7/10/97

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ENCLOSURE

1.0 EXECUTIVE SUMMARY

The Supplier Audit of Bechtel Nevada's (BN) Performance Assurance Management Program (PAMP) B-A20/9601, Revision 0, as it applied to the Standards and Calibration Laboratory, was conducted May 29-30, 1997, at Las Vegas, Nevada. The audit revealed that the Standards and Calibration Laboratory was performing satisfactorily and effectively in accordance with the PAMP, Sub-Tier Company Procedures and Local Implementing Documents (LID), except for two Deficiency Reports (DR).

Although the audit was primarily directed towards the implementation of Revision 0 of the PAMP, Revision 1, which became effective April 24, 1997, was also considered during this evaluation. BN had recently advised the Civilian Radioactive Waste Management System Management and Operating Contractor (CRWMS M&O) of their revised program which has not yet been accepted by the CRWMS M&O in order to update the Qualified Supplier List (QSL). The PAMP still embraces 10CFR830.120 and DOE57006C; however, in some instances BN generalized some of the PAMP requirements in the Procurement, Source Evaluation and Selection Section. In addition, the format changed to a Commitment Matrix, which references Related BN Procedures, or policies that implement the PAMP requirements. The PAMP requires a Project Execution Plan or Project Quality Implementing Plan in order to describe how the organization satisfies the requirements of the PAMP.

The unsatisfactory conditions identified during the audit were discussed with the responsible (BN) management. Corrective Action associated with the DRs YM-97-D-55 and YM-97-D-56 will be evaluated by the Office of Quality Assurance (OQA). Verification and closure will be performed by OQA. The unsatisfactory conditions are detailed in Section 6.0 of this report.

2.0 SCOPE

The Supplier Audit of the Standards and Calibration Laboratory was conducted to evaluate the adequacy, implementation and effectiveness of BN PAMP, Company Procedures and LIDs as they apply to the Standards and Calibration Laboratory. This was accomplished by evaluating a representative sample of the Laboratory's activities and implementation of the BN program and associated procedures for those quality program elements identified as applicable for the scope of work identified on the current Qualified Supplier's List (QSL). The Quality Assurance (QA) Program elements determined to be applicable are: Organization; QA Program; Procurement Document Control; Implementing Documents; Document Control; Control of Purchased Items and Services; Control of M&TE; Handling, Storage, and Shipping; Nonconformances; Corrective Action; QA Records; and Audits.

In addition to requirements identified for the scope of work on the QSL, consideration to BN's PAMP recently issued Revision 1 was also assessed for implementation status even though the applicability of the program has yet to be determine.

It should be noted that the current CRWMS M&O procurement document with BN specifies that work is to be performed under the CRWMS M&O QA program. However, BN has been working to the PAMP which was the basis for initial qualification and addition to the QSL. Thus, the audit scope assessed the QSL approved implementation only. This issue is being resolved through other avenues.

3.0 AUDIT TEAM AND OBSERVERS

Donald J. Harris, Audit Team Leader, OQA
William J. Glasser, Auditor, OQA

4.0 PERSONNEL CONTACTED DURING THE AUDIT

S. H. Freid, Manager of Scientific Services, BN
W. Y. Endow, Standards and Calibration Laboratory, Manager, BN
C. E. Tunely, Calibration Laboratory, Supervisor, BN
R. C. Cutshaw, Director, Performance Assurance, BN
Steve Metta, Engineering Manager, Performance Assurance, BN
L. J. Renfro, BN, Yucca Mountain Project (YMP), Project Manaer, BN
P. Mars, Performance Assurance, BN

5.0 SUMMARY OF AUDIT RESULTS

BN's PAMP, B-A20/9601, Revision 0, and the implementing procedures effectively implement all appropriate requirements applicable to the Standards and Calibration Laboratory for the scope of work identified on the QSL, except as noted in this report.

In addition, it was noted that BN's PAMP was developed to meet the requirements of 10 code of Federal Regulations (CFR) 830.120, "QA Rule for Nuclear Facilities," DOE 5700.6C, "QA Order," and the requirements of American National Standards Institute, Inc., (ANSI)/National Conference of State Legislatures (NCSL)-Z-540-1-1994, "Calibration Laboratories and Measuring and Test Equipment(M&TE) - General Requirements."

Details of unsatisfactory conditions and recommendations are described in Sections 6.0 and 7.0, respectively.

6.0 DEFICIENCIES/CORRECTED DURING AUDIT/RECOMMENDATIONS

BN's PAMP, B-A20/9601, Revision 0, and the implementing procedures effectively implement all appropriate requirements applicable to the Standards and Calibration Laboratory for the scope of work identified on the QSL, except as noted in this report.

In addition, it was noted that BN's PAMP was developed to meet the requirements of 10 code of Federal Regulations (CFR) 830.120 "QA Rule for Nuclear Facilities," DOE 5700.6C "QA Order," and the requirements of American National Standards Institute, Inc., (ANSI)/National Conference of State Legislatures (NCSL)-Z-540-1-1994, "Calibration Laboratories and Measuring and Test Equipment (M&TE) - General Requirements."

Details of unsatisfactory conditions and recommendations are described in Sections 6.0 and 7.0, respectively.

Deficiencies:

1. **DR YM-97-D-055, "Inadequate Preparation or Review of Procurement Documents"**

The PAMP, Revision 0, Section 7.2.2, Required Procurements issued at all tiers to include: Scope of Work, Technical/Administrative Requirements, QA Program Requirements, Rights of Access, Documentation Requirements, and Nonconformances. Examples:

- PO #13514 failed to prescribe the Technical and Quality Requirements; and
- Credit Card Procurements for Calibration failed to prescribe the Technical and Quality Requirements and to have the required independent review. L-J14.001C, "Credit Card Program," Section 4.2.2.2, requirements make it unacceptable to use credit cards for items having QA requirements. Credit cards were used to obtain calibration services.

2. **DR YM-97-D-056, "Inadequate Source Selection and Evaluation"**

Source selection and evaluation controls were identified as being deficient in the following areas:

- a) The PAMP, Revision 0, Section 7.25, requires the selection of suppliers to be based on an evaluation of their capability. Contrary to the requirement, BN Performance Engineering, with concurrence of functional managers, place

organizations on the Qualified Supplier List (QSL) by default. This includes the State of Nevada, which has been used to calibrate mass weights standards for use on the YMP.

- b) The PAMP, Section 7.2.5.2, "Procurement of Items or Services Critical to Environment, Safety, Health or Quality" - Measures for evaluation and selection of procurement services and the results shall be documented. User group surveys, supplier evaluations (history, records or survey), inspection and test results, and performance data shall be reviewed to determine procurement effectiveness. Contrary to the requirement, L-A20.012, Revision 0, "Supplier Evaluation and Qualification" fails to require:
- An audit of the default suppliers. It appears they could be retained on the QSL based on the default requirement in the procedure, Section 9.2, without benefit of the triennial audit.
 - Initial Supplier Audit of suppliers qualified based on quality records review and history reviews in accordance with Section 4.3 and 4.4 of L-A20.012 are not performed. The QSL indicates a re-evaluation three years from qualification. The triennial period begins when an audit is performed. This set the triennial audit date.
- c) The PAMP, Section 7.2.7, "QSL" - The QSL process shall include, as a minimum provision for adding and deleting suppliers, limitations, reference to applicable QA Program, approval date, method of evaluation, and Re-evaluation due date. Contrary to the requirements, the QSL, dated June 2, 1997, fails to address limitations, or reference to the applicable QA Program, e.g., ANSI/NCSL Z540, MIL-STD-45662A, MIL-I-45208, etc.
- d) The PAMP, Section 7.2.8, "Supplier Performance Evaluation" - Measures shall be established to periodically monitor suppliers and, as necessary, subcontractors performance to ensure that acceptable items and services continue to be supplied. Monitoring shall be at intervals to a degree consistent with the items or services' complexity, risk, quality and frequency of procurement. Contrary to the requirements, L-A20.012, "Supplier Evaluation and Qualification" fails to address performance evaluation to ensure that acceptable items and services continue to be supplied. The QSL reflects an expiration date three years from qualification (except in a few cases).

7.0 RECOMMENDATIONS

1. The identification of mass standards used by Calibration Services is marked on the container which holds the mass set. For example, mass set B805, recall number 88914, mass sizes 1 mg to 5 kg, the set ID B805 is scribed on the box. The recall stickers are affixed to the outside of the box and onto a smaller container inside the box for the small mass sizes. However, the individual mass sizes do not have a unique number which would identify that specific mass size as having been removed from the identified container. Since Calibration Services have occasion to use identical mass sizes from different sets, administrative controls should be established to reduce the potential for mixup of standards.
2. The records management section of Calibration Services Local Implementation Instructions (L-F20.001 and L-F20.002) should be clarified with regards to records retention. The current instructions provide for retaining records five years after disposal or removal from the project. The instructions also allow for destruction of records if the report or certificate has been inactive for over five years. Application of these requirements may not be applied in a consistent manner and result in premature destruction of records.
3. Procedure L-F20.001, "Calibration Services," describes a process for performance of cross checks for subcontracted calibration services prior to shipment and upon receipt from the contractor. During review of records for subcontracted calibrations, it could not be readily determined where the services had been performed. This in itself does not raise a question as long as subcontracted calibration services are cross checked and documented. However, one example was noted regarding a Check Master machine (SN 88-18, recall number 992402) which had been calibrated by a subcontractor with no subsequent cross check. Since the calibration record did not indicate that the item had been calibrated in-house, it appeared as though the requirement had not been satisfied. BN stated that the cross checks were not required when calibrations are performed in-house since the item had not been "shipped." Since the purpose of the cross check is to determine if shipping caused any unexpected changes, BN should consider clarification of the applicability of cross checks to specifically state the exemption of calibrations performed by subcontractors in-house. Further, BN should consider documenting on individual calibration records whenever a subcontractor calibration is performed in-house, thus negating the necessity to perform a cross check.