



U.S. Department of Energy
~~Office of River Protection~~

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Richland, Washington 99352

OCT 31 2006

06-ESQ-128

Mr. C. M. Albert, Project Manager
Bechtel National, Inc.
2435 Stevens Center Place
Richland, Washington 99354

Dear Mr. Albert:

CONTRACT NO. DE-AC27-01RV14136 – BECHTEL NATIONAL, INC. (BNI) QUALITY ASSURANCE (QA) PROGRAM ASSESSMENT A-06-ESQ-RPPWTP-007, AUGUST 21 THROUGH 24, 2006

This letter forwards the results from U.S. Department of Energy, Office of River Protection Assessment conducted August 21 through 24, 2006. The assessment evaluated the implementation of two BNI program elements. The QA program elements reviewed were the Control of Measurement and Test Equipment (M&TE) and the QA Surveillances Program. Requirements for these programs are described in the BNI QA Manual (24590-WTP-QAM-QA-01-001, Policy Q-12.1, "Control of Measuring and Test Equipment," and Policy Q-18.2, "Quality Assurance Surveillances."

The Assessor concluded the M&TE and QA surveillance programs met QA requirements, and the implementation of related procedures was effective. The Assessment resulted in no Findings and one Observation. The Observation identified an opportunity for improvement in the method used for scoping of surveillances.

If you have any questions, please contact me, or your staff may call Robert C. Barr, Director, Office of Environmental Safety and Quality, (509) 376-7851.

Sincerely,

John R. Eschenberg, Project Manager
Waste Treatment and Immobilization Plant Project

ESQ:SAV

Attachment

cc w/attach:
W. S. Elkins, BNI
D. E. Gergely, BNI
D. E. Kammenzind, BNI
G. T. Shell, BNI
BNI Correspondence

U.S. DEPARTMENT OF ENERGY
Office of River Protection
Environmental Safety and Quality

ASSESSMENT: Quality Assurance Program Assessment

REPORT: A-06-ESQ-RPPWTP-007

FACILITY: Bechtel National, Inc.

LOCATION: Hanford Site

DATES: August 21 through 24, 2006

ASSESSORS: Samuel A. Vega, Lead Assessor

APPROVED BY: Patrick P. Carier, Team Lead
Verification and Confirmation

Executive Summary

The U.S. Department of Energy, Office of River Protection conducted an assessment of the Bechtel National, Inc. (BNI) Quality Assurance (QA) Program during the period of August 21 through 24, 2006. This assessment evaluated the implementation of two BNI program elements. The QA program elements reviewed were the Control of Measurement and Test Equipment (M&TE) and the QA Surveillances Program. Requirements for these programs are described in the BNI QA Manual (24590-WTP-QAM-QA-01-001, Policy Q-12.1, "Control of Measuring and Test Equipment," and Policy Q-18.2, "Quality Assurance Surveillances."

The assessor concluded the M&TE and QA Surveillance programs met QA requirements, and the implementation of related procedures was effective. The assessment resulted in no Findings and one Observation. The Observation identified an opportunity for improvement in the method used for scoping of surveillances. The assessor also noted that BNI, prior to this assessment, had initiated a process improvement to address this Observation, however this initiative was not formally documented or tracked by the QA organization.

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List of Acronyms

BNI	Bechtel National, Inc.
M&TE	Measurement and Test Equipment
PIER	Project Issues Evaluation Report
QA	Quality Assurance
WTP	Waste Treatment and Immobilization Plant

Bechtel National, Inc. (BNI)
Quality Assurance (QA) Program Assessment

1.0 Details

The assessors reviewed implementing procedures, reviewed completed work documentation, and interviewed BNI management and staff, to assess the Contractor's effectiveness in implementing its processes for the Control of Measurement and Test Equipment (M&TE) and for conducting QA Surveillances. The assessor also verified that related procedures adequately established QA processes that complied with 924590-WTP-QAM-QA-01-001ATL-MP-1002, "Quality Assurance Manual," Policy Q-12.1, "Control of Measuring and Test Equipment," and Policy Q-18.2, "Quality Assurance Surveillances."

1.1 Control of Measurement and Test Equipment

The assessors evaluated the overall adequacy and effectiveness of the activities associated with the control and use of M&TE. Assessed activities included Equipment Calibration, Control of M&TE, Handling and Storage of M&TE, and Calibration Records. The assessor also verified processes prescribed in Procedure 24590-WTP-GPP-CON-7102, "Control of Measuring and Test Equipment," met requirements established in the BNI A Manual (924590-WTP-QAM-QA-01-001). Following are the results for each M&TE activity reviewed:

Equipment Calibration:

The assessor verified: 1) M&TE were calibrated at the required intervals (one year); 2) calibration verification was performed when required; 3) calibration and calibration verification was performed against certified equipment having known valid relationships to nationally recognized standards; and 4) that calibration methods were defined. The assessor visited the Waste Treatment and Immobilization Plant (WTP) M&TE storage facility and reviewing calibration verification equipment, calibration certificates, calibration verification records, and the information maintained for each piece of M&TE in the "Calibration Database." The assessor also reviewed the procurement statement of work, and the supplier qualification checklists for offsite contractors performing equipment calibration to verify required calibrations were performed against nationally recognized standards. No issues were identified.

Control of Measuring and Test Equipment:

The assessor verified M&TE records identified intended use of M&TE, the required accuracy and range of use, and the calibration methods and frequency of checking accuracy. The assessor verified that out-of-calibration devices were tagged or segregated and not used until recalibrated, that M&TE consistently found out of calibration were repaired or replaced, and that an evaluation was conducted and documented for all M&TE found out of calibration which included verifying the validity and acceptability of previous inspection or test results. The assessor accomplished this by reviewing the records and logs maintained in the "Calibration

Database.” This database contained electronic logs for M&TE checkout, calibration status, calibration verification, and evaluations of out of calibration M&TE. No issues were identified.

Handling and Storage of Measuring and Test Equipment:

The assessor verified M&TE was handled properly and stored to maintain accuracy, and that M&TE equipment was marked suitably or otherwise identified to indicate calibration status. The assessor accomplished this by visiting the WTP M&TE storage facility and physically verified adequate storage and marking of the M&TE. No issues were identified.

Calibration Records:

The assessor verified adequate records were maintained that indicated for each M&TE the calibration status, the capability, the range, and intended use. The assessor verified records documented the processes monitored, data collected, or items inspected or tested by each M&TE. The assessor found all this information was maintained electronically in the “Calibration Database.” The assessor noted that when any activity captured in the database was completed, a hard copy of the database generated report was printed out, authenticated, and sent to the BNI records center for retention as the formal QA record. No issues were identified.

1.2 Quality Assurance Surveillances

The assessors evaluated the overall adequacy and effectiveness of the activities associated with the BNI QA Surveillance Program. Assessed activities included verifying surveillance personnel were technically knowledgeable, surveillances were adequately performed and documented, and issues were adequately documented and corrected. The assessor also verified processes prescribed in Procedure 24590-WTP-GPP-QA-601, “Quality Assurance Surveillances,” met requirements established in the BNI A Manual (924590-WTP-QAM-QA-01-001). The following are the results for each M&TE activity reviewed:

Qualification and Training:

The assessor, through interviews, verified BNI management responsible for QA surveillance was assuring personnel assigned to conduct surveillances were technically knowledgeable about, and not directly responsible for, the work they reviewed. The assessor found the responsible manager had required all his surveillance staff be NQA-1 lead auditor qualified to assure adequate knowledge of QA requirements and assessment methods. The assessor also reviewed 20 surveillance reports and verified they were complete, reasonable and generated according to procedures. No issues were identified.

Surveillance Procedures

The assessor reviewed 20 surveillance reports, the surveillance schedule, and related Corrective Action Reports and compared them with the surveillance Procedure (24590-WTP-GPP-QA-601)

to verify the procedure was adequately implemented. The assessor also verified the surveillance procedure adequately captured the BNI QA manual requirements.

The assessor was impressed that the BNI surveillance schedule was maintained electronically and provided a real time status of surveillance activities. The schedule was revised automatically as surveillances were completed and entered into the surveillance database.

The assessor identified no Findings, but did note the following Observation:

The scope of performed surveillances could be increased to provide more meaningful performance results for the process or activity being assessed.

The assessor reviewed 20 surveillance reports and noted that on several occasions the scope of the surveillance only verified its implementation of one or two steps of an activity required by a procedure. The assessor felt the efficiency and value of the surveillance process could be improved by scoping surveillances to include reviewing an entire activity or process. This would provide a more complete assessment of effective performance and procedure adequacy than the current practice which the assessor felt was too fragmented. The assessor discussed this with the BNI manager responsible for the surveillance program who indicated BNI had also recognized this as an improvement opportunity. BNI also stated that several informal training sessions had been conducted which focused on how to scope and conduct surveillances that provide meaningful performance results regarding the implementation of a given procedure/process. The assessment noted BNI had not documented the identification of this processes improvement on a Project Issues Evaluation Report (PIER) and was not formally tracking progress of intended actions. BNI initiated a PIER (24590-WTP-PIER-MGT-06-0233) to document the improvement opportunity noted in this Observation.

Surveillance Reporting:

The assessor reviewed 20 surveillance reports and verified the surveillance activities were properly documented as prescribed in the surveillance procedure, and the reports were distributed to BNI management. The assessor also reviewed the reported issues and verified they were adequately documented and processed within the BNI corrective action management system. The assessor identified no issues.

2.0 Conclusion

The assessor concluded BNI had adequately established and implemented processes for the QA program elements sampled that met the BNI QA manual requirements. The assessor also determined BNI's implementation of these processes was effective.

Items Opened, Closed, and Discussed

Opened

None

Closed

None

Signature

Samuel Vega,
Assessment Team Leader

ASSESSMENT NOTES

Assessment Note Number: A-06-ESQ-RPPWTP-007

Assessor Name: Samuel A. Vega

Date of Assessment: August 21 through 24, 2006

Item Assessed: Bechtel National, Inc. (BNI) Quality Assurance (QA) Program Assessment

The assessor verified the adequacy and effectiveness in implementing the U.S. Department of Energy (DOE) QA program requirements in DOE O 414.1C and in the Office of Civilian Radioactive Waste Management QA Program Description (DOE/RW 0333P) as prescribed in the BNI QA Manual (924590-WTP-QAM-QA-01-001). The assessor accomplished this by reviewing a sample of QA program related processes; Control of Measurement and Test Equipment (M&TE) and QA Surveillances. The assessor also reviewed BNI surveillance reports assessing QA activities to verify any issues identified were adequately addressed.

The assessor reviewed the Contractor's procedures 24590-WTP-GPP-CON-7102, "Control of Measuring and Test Equipment," and 24590-WTP-GPP-QA-601, "Quality Assurance Surveillances," for compliance to the "Quality Assurance Manual," 924590-WTP-QAM-QA-01-001. The assessor also reviewed surveillance reports, the surveillance schedules, deficiency reports, calibration records and logs, other related documentation, and interviewed responsible staff and management.

Documents Reviewed

The assessor reviewed the following documents during this assessment:

Procedures:

- 24590-WTP-QAM-QA-01-001, "Quality Assurance Manual," Revision 6;
- 24590-WTP-GPP-CON-7102, "Control of Measuring & Test Equipment," Revision 6;
- 24590-WTP-GPP-QA-601, "Quality Assurance Surveillances," Revision 4;
- 24590-WTP-GPP-MGT-022, "Project Issues Evaluation Report," Revision 1;
- 24590-WTP-GPP-QA-301, "Corrective Action," Revision 17; and
- 24590-WTP-GPP-QA-208, "management of Corrective Action," Revision 1.

Surveillance Reports:

- 24590-WTP-SV-QA-06-013, “Piping Installation QAC Interface Review;”
- 24590-WTP-SV-QA-06-021, “CAR 24590-WTP-CAR-QA-04-151 Corrective Action Verification;”
- 24590-WTP-SV-QA-06-031, “Plant Design Second Checker Process;”
- 24590-WTP-SV-QA-06-036, “Confined Space Hazards Evaluation Review;”
- 24590-WTP-SV-QA-06-041, “Pressure Test procedure (CON-3504) Review;”
- 24590-WTP-SV-QA-06-066, “M&TE Hydraulic Comparator test Medium;”
- 24590-WTP-SV-QA-06-080, “Permit Review on SDDRS;”
- 24590-WTP-SV-QA-06-089, “Environmental Field Monitoring for Construction;”
- 24590-WTP-SV-QA-06-104, “Welder Qualification Documentation Review;”
- 24590-WTP-SV-QA-06-110, “M&TE Quality Classification;”
- 24590-WTP-SV-QA-06-141, “Review of Quality Control Surveillances for the First Quarter of 2006;”
- 24590-WTP-SV-QA-06-163, “Follow-up Surveillance for CAR Cause Statements;”
- 24590-WTP-SV-QA-06-166, “M&TE Control;”
- 24590-WTP-SV-QA-06-169, “Effectiveness of Corrective Action Report;”
- 24590-WTP-SV-QA-06-183, “Construction training;”
- 24590-WTP-SV-QA-06-187, “LAW Siding Panel Receipt & Inspection;”
- 24590-WTP-SV-QA-06-188, “Nonconformance Reporting and Control Documentation of Inspection Record Numbers on NCRs and NCR Numbers on Inspection Records for Repair Disposition;”
- 24590-WTP-SV-QA-06-212, “Supplier Post-Award Audit Checklist Completion;”
- 24590-WTP-SV-QA-06-216, “Design Verification process and Mechanical Designs;”

- 24590-WTP-SV-QA-06-219, “Reviews of NCRs for Adequate Technical Justifications;”
- 24590-WTP-SV-QA-06-221, “Timeliness of PAAA Screening of Documents;”
- 24590-WTP-SV-QA-06-222, “M&TE Calibration by OEMS;”
- 24590-WTP-SV-QA-06-232, “Design verification;” and
- 24590-WTP-SV-QA-06-237, “Control of M&TE.”

Corrective Action Report (CAR) & Recommendation and Issues Tracking System (RITS):

- 24590-WTP-RITS-QAIS-06-717, “Design Verification Matrix Error;”
- 24590-WTP-RITS-QAIS-06-573, “Inactive Status for M&TE;” and
- 24590-WTP-CAR-QA-06-192, “Construction Quality Control Program.”

Documents:

- List of Equipment Checked Out;
- Evaluation for Work Inspected/tested with Out of tolerance or Suspect M&TE, No. 0402300714, “Torque Wrench, ½ Inch Drive;”
- Calibration verification Report, No. 03288722, “Caliper, Digital 6 inches;”
- Calibration Verification Report, “S/N 03271811;”
- 24590-QI-BPB-NEEO-00010, “Blank Purchase Order,” Revision 0 (Technical Diagnostic Services);
- 24590-QI-BPB-NEEO-00010, “Blank Purchase Order,” Revision 0 (Edison ESI Metrology Laboratories);
- 24590-QI-BPB-NEEO-00010, “Blank Purchase Order ,” Revision 2 (Technical Diagnostic Services);
- BNI RPP-WTP Supplier Quality, “Approved Supplier List;”
- 24590-WTP-AR-QA-02-024, “Supplier Audit Report, Battelle Pacific Northwest Laboratories;”

- 24590-WTP-SSV-QA-03-014, “Supplier Audit Report, Brunson Instrument Company;”
- 24590-WTP-SSV-QA-06-002, “Supplier Audit Report, Nuvotec;”
- Supplier QA Evaluation Checklist (Nuvotec);
- 24590-WTP-SSV-QA-05-005, “Supplier Audit Report, Energy Northwest Standards Laboratory;” and
- 24590-QL-FMR-NEEO-00010, “Field Material Requisition.”

Observations and Assessments:

The assessors reviewed process procedures, reviewed completed work documentation, and interviewed BNI management and staff, to assess the Contractor’s effectiveness in implementing its processes for the Control of M&TE and for conducting QA Surveillances. The assessor also verified that related procedures adequately established QA processes that were compliant with 924590-WTP-QAM-QA-01-001ATL-MP-1002, “Quality Assurance Manual.”

Control of Measurement and Test Equipment

The assessors evaluated the overall adequacy and effectiveness of the activities associated with the Control and use of M&TE. Assessed activities included Equipment Calibration, Control of M&TE, Handling and Storage of M&TE, and Calibration Records. The assessor also verified processes prescribed in Procedure 24590-WTP-GPP-CON-7102, “Control of Measuring and Test Equipment,” met requirements established in the BNI A Manual (924590-WTP-QAM-QA-01-001). Following are the results for each M&TE activity reviewed:

Equipment Calibration:

The assessor verified M&TE were routinely calibrated at the required intervals (one year), that calibration verification was performed when required, that calibration and calibration verification was performed against certified equipment having known valid relationships to nationally recognized standards, and that calibration methods were defined. The assessor accomplished this by visiting the Waste Treatment and Immobilization Plant (WTP) M&TE storage facility and reviewing calibration verification equipment, calibration certificates, calibration verification records, and the information maintained for each piece of M&TE in the “Calibration Database.” The assessor also reviewed the procurement statement of work, and the supplier qualification checklists for offsite contractors performing equipment calibration to verify calibration were required to be performed against nationally recognized standards. No issues were identified.

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Calibration Records:

The assessor verified adequate records were maintained that indicated for each M&TE the calibration status, the capability, the range, and intended use. The assessor also verified records documented the processes monitored, data collected, or items inspected or tested by each M&TE. The assessor found all this information was maintained electronically in the "Calibration Database." No issues were identified. Hard copy records were also maintained as QA records by BNI in the records center.

Quality Assurance Surveillances

The assessors evaluated the overall adequacy and effectiveness of the activities associated with the BNI QA Surveillance Program. Assessed activities included verifying surveillance personnel were technically knowledgeable, surveillances were adequately performed and documented, and issues were adequately documented and corrected. The assessor also verified processes prescribed in Procedure 24590-WTP-GPP-QA-601, "Quality Assurance Surveillances," met requirements established in the BNI A Manual (924590-WTP-QAM-QA-01-001). Following are the results for each M&TE activity reviewed:

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knowledgeable about, and not directly responsible for, the work they reviewed. The assessor also reviewed 20 surveillance reports. No issues were identified.

Surveillance Procedures

The assessor reviewed 20 surveillance reports, the surveillance schedule, and related CARs and compared them with the surveillance Procedure (24590-WTP-GPP-QA-601) to verify the procedure was adequately implemented. The assessor also verified the surveillance procedure adequately captured the BNI QA manual requirements.

The assessor was impressed with the BNI surveillance schedule which was maintained electronically and provided a real time status of surveillance activities because the schedule was revised automatically as surveillances were completed and entered into the surveillance database.

The assessor identified no Findings, but did note the following Observation:

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Conclusions:

The assessor concluded BNI had adequately established and implemented processes for the QA program elements sampled that met the BNI QA manual requirements. The assessor also determined BNI's implementation of these processes was effective.

Key Personnel Interviewed:

D. E. Kammenzind, BNI
D. W. Long, BNI
M. A. Ehlinger, BNI

Signed/date: _____
Assessor

Signed/date: _____
Lead Assessor (author of this rewrite)