



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

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01-OSR-0321

Mr. Ron F. Naventi, Project Manager  
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Dear Mr. Naventi:

CONTRACT NO. DE-AC27-01RV14136 – QUALITY ASSURANCE ASSESSMENT REPORT,  
IR-01-003

From July 23 - 26, 2001, the U.S. Department of Energy, Office of River Protection, Office of Safety Regulation (OSR) performed an inspection of the Bechtel National, Inc. (BNI) quality assurance (QA) program. The inspectors identified no Findings. The inspectors concluded that BNI is meeting its QA requirements, as they relate to the QA organization. The inspectors observed that BNI procedures appropriately reflect the quality assurance requirements in the QA program. The inspectors found that the QA organization demonstrated appropriate independence.

Details of the inspection are documented in the enclosed inspection report. If you have any comments concerning the inspection report, you or your staff may contact me or Pat Carrier of my staff, (509) 376-3574.

Nothing in this letter should be construed as changing the Contract, DE-AC27-01RV14136. If, in my capacity as the Safety Regulation Official, I provide any direction that your company believes exceeds my authority or constitutes a change to the Contract, you will immediately notify the Contracting Officer and request clarification prior to complying with the direction.

Sincerely,

Robert C. Barr  
Safety Regulation Official  
Office of Safety Regulation

OSR:ARH

Enclosure

U.S. DEPARTMENT OF ENERGY  
Office of River Protection  
Office of Safety Regulation

INSPECTION:           QUALITY ASSURANCE ASSESSMENT

REPORT NO:           IR-01-003

FACILITY:             Bechtel National, Inc.

LOCATION:             3000 George Washington Way  
                          Richland, Washington 99352

DATES:                July 23-26, 2001

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EXECUTIVE SUMMARY  
Quality Assurance Assessment  
Inspection Report Number IR-01-003

## INTRODUCTION

This inspection of the Bechtel National, Inc. (BNI - the Contractor) Quality Assurance Program (QAP) covered the following specific areas:

- Management Program and Processes (Section 1.2)
- Quality Improvement (Section 1.3)
- Documents and Records (Section 1.4)
- Work Processes (Section 1.5)
- Design (Section 1.6)
- Procurement (Section 1.7)
- Inspection and Acceptance Testing (Section 1.8)
- Management Assessment (Section 1.9)
- Independent Assessment. (Section 1.10)

## SIGNIFICANT OBSERVATIONS AND CONCLUSIONS

- The QA organization had adequately accomplished their responsibility to establish the Quality Management Program and Processes as specified in Section 1 of the QAP. The Contractor was meeting its QA requirements, as they relate to the QA organization. The Contractor's procedures appropriately reflect the quality assurance requirements in the QA program. The QA organization demonstrated appropriate independence. (Section 1.2)
- The checklist used by the Contractor to verify the accuracy and adequacy of records received by Project Document Control was a notable good practice. (Section 1.3)
- The Contractor instituted a good practice for the control of documents for review within the QA organization. (Section 1.4)
- The Contractor database that provided reverse traceability from the Contract and regulatory requirements (e.g., DOE/RW-0333P and NQA-1) to the project procedures, and from the project procedures back up to the Contract and regulatory requirements was a notable good practice. (Section 1.4)
- The Contractor's QA organization had established and implemented monitoring processes to ensure that QAP specified requirements were contained in applicable procedures and that work processes were being performed as required by implementing procedures and instructions. (Section 1.5)

- The Contractor had effectively implemented their responsibilities regarding the performance of technical and design reviews of engineering documents for compliance with QAP requirements. (Section 1.6)
- The Contractor's QA organization was adequately performing their responsibilities in assessing the design control process, ensuring the adequate and satisfactory implementation of the design procedures, verifying the incorporation of appropriate QA provisions in procedures, and verifying compliance to procedures. (Section 1.6)
- The Contractor's QA organization had adequately implemented the QAP requirement and responsibility for evaluating subcontractor's design control programs. (Section 1.6)
- The Contractor's QA organization had participated in design reviews, although documented evidence of attendance was lacking. (Section 1.6)
- Many of the Contractor's procedures and processes were in the midst of a transition/upgrade to a new approach to support the extensive and clarified requirements in the new, proposed QA Manual, which was being reviewed by the Office of Safety Regulation (OSR) at the time of the inspection. (General)

## QUALITY ASSURANCE ASSESSMENT

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**QUALITY ASSURANCE  
ASSESSMENT REPORT, IR-01-003**

## **1.0 REPORT DETAILS**

### **1.1 Introduction**

The River Protection Project Waste Treatment Project (RPP-WTP) effort was performing preliminary design at the time of this inspection. The Contractor, Bechtel National, Inc. (BNI), was actively in the process of developing the civil/structural design. Many of the quality related design programs were in-place but not fully implemented because of the stage of design. This inspection reviewed the Contractor's application of quality assurance requirements to the design programs and sampled the implementation of the programs.

In accordance with the RPP-WTP Contract<sup>1</sup> and specifically 10 CFR 830, Subpart A, "Quality Assurance Requirements," the Contractor was required to have a Quality Assurance Program (QAP) that assigned responsibilities and authorities, defined policies and requirements, and provided for the performance and assessment of work. Revision 8 of the Contractor's Quality Assurance Program, dated March 8, 2001, was used as the basis for this inspection.

The inspectors reviewed the Contractor's implementing procedures to determine if they complied with the commitments in the QAP. In addition, the inspectors assessed the implementation of the Contractor's QAP as it related to the current design phase of the RPP-WTP Contract to ensure that the Contractor was following its program and procedures in the conduct of Quality Level (QL)-1 and QL-2 design functions.

### **1.2 Management Programs and Processes (Inspection Technical Procedure [ITP]I-101)**

#### **1.2.1 Inspection Scope**

The purpose of this assessment was to evaluate the degree to which the Quality Assurance (QA) Manager had accomplished the responsibilities specified in Section 1 of the QAP in the area of management programs and processes. The inspectors assessed the implementation of the Contractor's quality assurance requirements, as related to this area, including the authorities, responsibilities, and independence of the QA Manager. To accomplish this purpose, the inspectors selected certain requirements of the QAP in this area and examined processes and documents demonstrating implementation of the requirements. To perform this assessment, the inspectors interviewed project and quality assurance management and staff and examined the QA procedures and activities used to implement the requirements.

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<sup>1</sup> Contract DE-AC27-01RV14136 between the U.S. Department of Energy and Bechtel National, Inc., dated December 11, 2000

## 1.2.2 Observations and Assessments

From a review of the selected requirements of Section 1 of the QAP, the inspectors found that written procedures and processes addressed all of the selected requirements. The inspectors also confirmed the QA Manager had verified the project implementing procedures conformed to the QAP requirements. This was evidenced by two activities.

First, the QA Manager had fulfilled his responsibilities to develop and maintain the QA Program in compliance with the applicable regulatory drivers. This was evidenced by the comprehensive matrix that assured the quality requirements of the Contract were appropriately transitioned into requirements within the QAP and the implementing procedures. This was supplemented by a recently implemented process for reviewing procedure revisions to the specific requirements of the QAP. This provided a "reverse traceability" that supplemented the matrix maintained by the QA organization.

Second, the inspectors examined 11 procedures that were relied upon for implementation of the QAP requirements, in which the QA Manager was actively involved in the approval. Two had been approved by a Quality Engineer who was delegated the responsibility by the Quality Manager. The inspectors found this to be acceptable. The inspectors found that the QA Manager had not approved K20P010, *Training Procedure*, Revision 0, dated May 10, 2001. This was in accordance with the current process in procedure K13P023, *Internal Review and Approval of Documents*, Revision 0, dated December 13, 2000. The review by the QA Manager or delegate was evidenced in, and captured by, the document review process. The referenced procedure allowed the QA Manager or quality representative to review the draft document and provide comments or acceptance. The comments from all reviewers are returned to the author for resolution. The author makes the decision if the procedure needs to be issued again for another review cycle. The inspectors considered this a weakness because comment resolution may delete an essential quality requirement. Based on this weakness, the inspectors concluded that the QA Manager had, effectively, not reviewed and approved this final procedure. The QA organization was in the process of revising procedure K13P023 to address this weakness.

Section 1.6 of the QAP required the QA Manager to perform "an annual review of the Project QAP, project quality policies, and implementing project procedures for conformance with applicable regulatory and quality requirements." This review was to be achieved in the annual self-assessment review of the QAP (as required by Section 9 – Management Assessment) and the matrix, discussed above. The annual self-assessment review, described previously, was officially scheduled for later in the year.

The inspectors confirmed through the project organization chart and the job description for the QA Manager that he reported directly to the corporate QA Manager and had direct access to the Project Manager. Access to the Project Manager was observed during a daily "Plan of the Day" meeting in which the QA Manager was expected to voice any issues. The Project Manager attended this meeting. The QA Manager interfaced with DOE and project functional organizations in a multitude of ways. He had a strong interface role with DOE in the identification of the new proposed QA Manual.

The inspectors confirmed the QA Manager's job description and the QAP established the authority to verify that project activities had been performed according to the requirements. The QA Manager had fulfilled the responsibility to verify proper execution of the QAP through the scheduling and conduct of internal audits (2 so far this year), surveillances (36 since March), and by establishing the Master Schedule for Management Assessments (3 performed so far this year). The internal audits and surveillances discussed in later sections of this report provided evidence demonstrating this responsibility had been actively fulfilled.

The QA Manager was recognized as the single point of contact for quality related issues and had an adequate level of interaction and support from the Contractor's Corporate QA organization.

The inspectors confirmed there was an implementing procedure, (K13P051, *Stop Work*, Revision 3, dated January 31, 2001) that established the QA Manager's role in stop work. The procedure allowed for stop work to be issued by individual staff (for safety related issues), by management (for any issue it determined to be appropriate) and the QA Manager (for any issue he determined to be appropriate). The procedure defined when QA had a role in determining the appropriate corrective action and for lifting the stop work order. The QA Manager indicated that to date no issues required this level of action. DOE had not issued a stop work to the Waste Treatment Plant as managed by the Contractor. Interviews with four technical staff indicated they understood that the QA Manager had the responsibility to lift stop work conditions that QA applied.

The inspectors confirmed there was an implementing procedure (K70P567A, *Graded Quality Approach*, Revision 0, dated February 5, 2001) that adequately described the methodology of the graded approach. The Contractor accepted this procedure as adequate for proceeding with work, but the QA Manager identified he was going to make sure the procedure was simplified during the upcoming revision cycle. Through discussion with four staff involved with mechanical engineering, the inspectors determined there was a consistent high-level understanding of graded approach, and quality levels. In addition, the inspectors observed that the Contractor had used the graded approach in its request to begin limited procurement for the WTP. Based on the discussions and the observed submittal, the inspectors concluded that the Contractor was effectively applying the graded approach.

### **1.2.3 Conclusions**

The inspectors concluded the QA Manager had adequately accomplished the QAP required responsibilities in the area of QA management and processes.

## **1.3 Quality Improvement**

### **1.3.1 Inspection Scope**

The inspectors assessed the implementation of the Contractor's quality assurance requirements, specified in Section 3, "Quality Improvement," of the QAP that were being applied during the design phase of the project. The inspectors selected certain requirements of the QAP and

examined implementation of procedures and processes used by the QA organization to obtain assurance that the QA requirements were being accomplished as specified. The inspectors also interviewed project and QA management and staff.

### 1.3.2 Observations and Assessments

The inspectors verified that responsibilities for implementing a Corrective Action Management System (CAMS), and related database to track and trend corrective actions, were assigned to an administrator and the system was fully implemented. The inspectors met with the database administrator and observed the process of entering corrective action records. The inspectors examined 6 records online and found them to be complete and consistent with the hardcopy corrective action status reports provided separately.

The inspectors reviewed the Contractor's process to address open corrective actions and to establish priorities for their completion. The Contractor QA Program (Section 3.2.1, "Control of Nonconforming Items, Services, and Processes") required that corrective actions be addressed as part of the monthly Project Management Status Meeting. In fact, the Contractor was addressing corrective action status weekly, as part of the Wednesday Plan-of-the-Day meeting. The inspectors attended a Wednesday session and observed that corrective actions were addressed. The inspectors also reviewed meeting attendance lists and confirmed that the QA Manager routinely attended these meetings (no meeting minutes were kept). In addition, the inspectors met with the QA Manager and Operations Manager to determine the type and amount of support provided to the CAMS. Both managers described a level of support that the inspectors found to be acceptable.

The QAP (Section 3.2.4, "Quality Assurance Program Status") required that the QA Manager prepare monthly reports on the status and effectiveness of the QA Program. The Contractor did not prepare monthly reports for April and May 2001. The Contractor documented this deficiency in Deficiency Report (DR) 24590-WTP-DR-QA-01-024, dated July 19, 2001, and completed corrective actions that included beginning preparation of monthly and quarterly reports. The inspectors found that the QA Manager had prepared monthly activity reports (June and July, 2001) and one quarterly report (Second Quarter of calendar year 2001). The latter report included significant performance metrics addressing performance of the Contractor's CAMS. The inspectors determined that this deficiency met the criteria (Inspection Administrative Procedure A-105, *Inspection Performance*, Section 4.4) of a non-cited Finding and did not further document the deficiency.

The inspectors examined the formal records of deficiency reports, as maintained by Project Document Control, to verify that the QA organization reviewed and concurred with corrective actions and verified corrective action completion. Nine records were examined and all contained the necessary signatures and, where applicable, the required verification documentation. The inspectors met with the Audit Supervisor who provided objective evidence that open corrective actions and other lessons learned regarding deficiencies were used in planning audits.

The inspectors were not able to verify that the QA Manager was notified of suspect/counterfeit items because no such items had been received to date. Further, the inspectors were not able to

verify that the Contractor was following its nonconformance procedure (K13P056C, *Identification of Nonconforming Conditions*, Revision 2, dated January 31, 2001), as construction materials had not been ordered and no nonconformance reports (NCRs) had been written. The inspectors did review the Contractor's procedure and found that it addressed the requirements of the QA Program (Section 3.2.1, "Control of Nonconforming Items, Services, and Processes"), with the following exceptions from the requirements of QA Program, Section 3.2.1:

- The procedure did not address the requirement that replacement items, when used, were to be of the same quality as the original.
- The procedure did not address the qualifications of individuals responsible for analyzing and determining the disposition of NCRs.

The inspectors determined that the first exception was not an essential element of the NCR procedure and that the second exception was adequately addressed by the Contractor's requirements for staff training (QAP, Section 2, "Personnel Training and Qualification").

### **1.3.3 Conclusions**

The inspectors concluded that the QA organization had adequately accomplished their required responsibilities applicable to the Contractor's quality improvement program.

## **1.4 Documents and Records (ITP I-101)**

### **1.4.1 Inspection Scope**

The purpose of this assessment was to evaluate the degree to which the QA Manager, and the QA organization, had accomplished the responsibilities specified in Section 4, "Documents and Records," of the QAP. To accomplish this purpose, the inspectors interviewed the Contractor's personnel who were responsible for the preparation, revision, and approval of the QAP and implementing procedures.

In addition, the inspectors reviewed objective evidence of the process used to develop, control, and release these documents. The objective evidence included surveillances performed to ensure that the document control and records management systems met applicable contractual and regulatory requirements.

### **1.4.2 Observations and Assessments**

The inspectors discussed the process used to control the preparation, review, and approval of the QAP and implementing procedures. The process was described in RPP-WTP procedure K13P023\_0, Revision 0, *Internal Review and Approval of Documents*, dated December 13, 2000, and K13C050C, Revision 1, *Code of Practice for QA Reviews of Documents*, dated June 2000. The Contractor provided objective evidence that these procedures were being adequately

implemented. The inspectors reviewed Revision 8 of the QAP to verify that the Contractor's QA Manager had approved the cover sheet.

The Contractor used the surveillance process to ensure that document control and records management systems met contractual and regulatory requirements. When a surveillance identified a lack of implementation of a particular procedure, the Contractor made a determination whether a procedure revision was required. The inspectors reviewed several surveillances on the document control and records management system, and confirmed that procedural and contractual/regulatory requirements had been examined.

The inspectors identified that the Contractor had instituted a good practice for the control of documents for review within the QA organization. The Contractor's QA organization had reviewed all new and revised procedures and documents. The documents were logged into the Document Review Log as soon as they arrived within the QA organization. The documents were tracked until the review was complete and the document moved out of the QA organization. In addition, the Contractor had defined the minimum review requirements for different document types, and the inspectors observed documented evidence that the Contractor was using review guides with acceptance criteria for the reviews of several types of documents.

The inspectors found that the Contractor had instituted a good practice in the development of the requirements management database (i.e., the one used for the Contractor's QA Provisions Document, as discussed in Section 1.5.2, below). The database provided reverse traceability from the Contract and regulatory requirements (e.g., DOE/RW-0333P and NQA-1) to the project procedures, and from the project procedures back up to the Contract and regulatory requirements.

### **1.4.3 Conclusions**

The inspectors concluded that the QA organization had adequately accomplished their required responsibilities in the area of documents and records.

## **1.5 Work Processes (ITP I-101)**

### **1.5.1 Inspection Scope**

The purpose of this assessment was to evaluate the degree to which the QA Manager had accomplished the assigned responsibilities specified in Section 5, "Work Processes," of the QAP that were being applied during the design phase of the project. To accomplish this purpose, the inspectors selected certain requirements of the QAP in this area and examined the procedures implementing the requirements and processes used by the QA organization to obtain assurance that the QA requirements were being accomplished as specified. To perform this assessment, the inspectors interviewed project and QA management and staff and examined the QA activities used to obtain assurance that the requirements were being accomplished as required.

### 1.5.2 Observations and Assessments

The inspectors found that all of the selected requirements of Section 5, "Work Processes," were addressed by the appropriate procedures. QA assured the required quality requirements had been included in project documents by reviewing quality affecting documents for the inclusion of appropriate quality requirements using checklists to guide the reviewers (prescribed by procedure K13C050C, *Code of Practice for QA Reviews of Documents*, Revision 1, dated June 2000) and written instructions provided to the reviewers. The inspectors examined the QA review documentation for selected quality affecting documents and found QA had conducted the required reviews.

The inspectors discussed with the QA Program Supervisor the methodology used by the QA organization to establish assurance that the requirements of the QAP were addressed in work procedures and that the work activities were being accomplished as required by the procedures. The QA organization had established a Quality Assurance Provisions Document, providing a quality assurance requirements matrix, which covered each quality requirement from the new Quality Assurance Manual and the Quality Assurance Requirements Document (QARD) and tracked the requirement to the procedure implementing the requirement. This provided the Contractor with a substantial level of confidence that the quality assurance requirements had been included in the work performance procedures. The Contractor verified that work activities had been accomplished in accordance with the work procedures by the performance of audits, surveillances, and management assessments. The Contractor planned to eventually map the findings of surveillances and audits into the matrix to aid in trending activities.

The inspectors examined the documentation of about 36 surveillances performed between March and July 2001 by the QA organization on various quality-affecting activities and verified that the surveillances provided substantial coverage of the design activities being accomplished and the QA requirements being implemented. The surveillances had found several problems, particularly in the area of calculation performance. The Contractor had appropriately documented the problems in the corrective action system and was in the process of resolving the deficiencies.

The QA organization provided two monthly reports (June, July 2001) to management of QA audits and surveillances performed, with an analysis of the results, and a quarterly QA performance indicator report. The inspectors reviewed all the reports and concluded that the reports provided management with substantial information regarding QA assessment activities and findings. The QA organization had written a deficiency report documenting that the reports of QA activity had not been prepared for the previous months since March 2001 (see Section 1.3.2 of this report). The quarterly performance indicator report was a useful management tool and provided extensive analyses of surveillance results, trends, age of open deficiency reports, and perspective regarding the meaning of the results.

Based upon the above examinations, the inspectors found that the QA organization had established and implemented monitoring processes to ensure that specified requirements were contained in applicable procedures and that work processes were being performed as required by implementing procedures and instructions.

The inspectors determined, through discussions with responsible QA supervision and management, that other subsections in the work processes area of Section 5 of the QAP were not applicable at this stage of the project. For example, the project had no important to safety items, special processes, or measuring and test equipment to control; no material to handle, store, or ship; and no samples to control. Accordingly, the inspectors were unable to assess the implementation of QA responsibilities regarding these requirements.

### **1.5.3 Conclusions**

The inspectors concluded that the QA organization had adequately accomplished their QAP required responsibilities applicable to work processes.

## **1.6 Design (ITP I-101)**

### **1.6.1 Inspection Scope**

The purpose of this assessment was to evaluate the degree to which the QA Manager had accomplished applicable responsibilities specified in Section 6, "Design," of the QAP. To accomplish this purpose, the inspectors selected certain requirements of the QAP in this area and examined the procedures implementing the requirements and processes used by the QA organization to obtain assurance that the QA requirements were being accomplished as specified. To perform this assessment, the inspectors interviewed project and QA management and staff and examined the QA activities used to obtain assurance that the requirements were being accomplished as required.

### **1.6.2 Observations and Assessments**

The inspectors examined Section 6 of the QAP and selected a sample of QA requirements in the subsections of design process, design input, configuration management, design interfaces, design analysis, design checking and verification, design reviews, and design changes. The inspectors verified that the QA requirements were addressed in procedures governing the execution of work applicable to the activity. The inspectors found that the selected requirements had been identified in procedures governing the particular activity. Accordingly, the inspectors concluded that the procedures governing the performance of engineering work effectively implemented the requirements of the QAP in the design area.

The inspectors reviewed the procedure governing QA review of documents and examined two technical specifications that were currently in the QA review process (*Heating Ventilation and Air Conditioning (HVAC) High Integrity Centrifugal Fans*, SP-24590-HV00003, no revision, and *HVAC Safe Change High Efficiency Particulate Activity Filter Housings*, SP-24590-HV00004, no revision); one procurement specification for the purchase of anchor bolts (24590-WTP-PS-DD00-T0001, *Purchase of Anchor Bolts*, No Revision); one procurement document for the concrete batch plant, supply of aggregate, and supply of concrete (Request for Proposal, *Batch Plant*); and a completed procurement technical specification for the procurement and

delivery of ready mix concrete (24590-WTP-3PS-DB01-T0001, *Furnishing and Delivering Ready-Mix Concrete*, No Revision). The inspectors verified that QA had reviewed, or was in the process of reviewing these documents for the incorporation of QA and purchase requirements. The inspectors concluded QA had effectively implemented their responsibilities regarding the performance of technical and design reviews of engineering documents for compliance with QAP requirements.

The inspectors reviewed the reports of 36 surveillances performed between March and July 2001 by the QA organization covering the areas of Engineering, Quality Assurance, and management performance. The inspectors found that the surveillances provided evidence that the quality assurance manual requirements in the area of design were generally being implemented in the field, even though several problems had been identified and corrected or were in the process of correction. The inspector reviewed the surveillance schedule, through December 2001, and found the scheduled surveillances provided a good coverage of high activity areas, particularly in the areas of engineering and quality assurance. The inspectors concluded that the QA surveillance program was functioning as required by the governing procedure and provided an effective QA oversight of engineering design activities.

The inspectors observed that the QA organization had not performed any audits of the design process being implemented; however, when considered in aggregate, the surveillances performed on engineering activities constituted an in depth coverage of engineering performance at least equivalent to an audit in scope.

The inspector reviewed the findings of several self-assessments performed in the engineering area and found they effectively documented problems and highlighted these for resolution and tracking to completion using the Self Assessment Issue Status tracking system log. The inspectors reviewed the Self Assessment Issue Status log and found that the self-assessment program had identified several engineering issues.

Based upon the above examinations and findings, the inspectors concluded the QA organization was adequately performing their responsibilities in assessing the design control process, ensuring the adequate and satisfactory implementation of the design procedures, and verifying the incorporation of appropriate QA provisions in procedures.

The inspectors examined the Quarterly Design Review Meeting minutes, dated May 10, 2001, and observed that QA organization representation was not documented on the attendance list. Discussions with the QA Manager and the Quality Engineering Supervisor resulted in the assertion of each that one of them was present throughout the meeting and that neither of them had seen an attendance signup sheet, and, accordingly, had not signed the attendance list. The inspectors considered these assertions by each person, independently, to have provided evidence the QA organization was participating in design reviews, a responsibility required by the QAP.

The inspectors discussed the evaluation of subcontractor's design control programs with QA management and were informed that only one supplier was doing important to safety design work (GTS Duratek design work on the high level waste melter). The inspectors examined the report of the audit of GTS Duratek and concluded that design control had been adequately covered. Accordingly, the inspectors concluded the QA organization had adequately

implemented the QAP requirement and responsibility for evaluating subcontractor's design control programs.

### **1.6.3 Conclusions**

The inspectors concluded that the QA organization had adequately accomplished its QAP required responsibilities applicable to design.

## **1.7 Procurement (ITP I-101)**

### **1.7.1 Inspection Scope**

The purpose of this assessment was to evaluate the degree to which the QA Manager, and the QA organization, had accomplished responsibilities specified in Section 7, "Procurement," of the QAP. To accomplish this purpose, the inspectors interviewed the Contractor's personnel who were responsible for the preparation, revision, and approval of procurement documents, and personnel who were responsible for receipt of supplier-generated documents.

In addition, the inspectors reviewed objective evidence of the process used to develop, control, and release these documents. The objective evidence reviewed included the Contractor's assessment of the procurement process, several bid packages, audits and desk reviews of subcontractor QA programs, and the Approved Supplier List.

### **1.7.2 Observations and Assessments**

The inspectors interviewed several Contractor personnel to confirm that the QA Manager approved subcontractor's QA plans before work began. The inspectors learned that the QA Manager did not actually "approve" the subcontractor's QA programs, but "accepted" them for work. The inspectors considered that acceptance of the subcontractor's QA programs was evidence of approval, even though there was not an "approval" signature.

The inspectors reviewed several of the Contractor's technical specifications, bid packages, and other procurement documents to ensure that technical and quality assurance requirements were passed down to the subcontractors and suppliers. The technical specifications and bid packages (i.e., for materials) contained requirements for a QA program that complied with selected Quality Assurance Program Requirements for Nuclear Facilities (American Society of Mechanical Engineers (ASME) NQA-1) requirements. In addition, several technical specifications and bid packages required inspections of the materials to be performed before shipment.

The inspectors reviewed several audit packages to ensure that the subcontractors had been audited to the same quality assurance requirements that were passed down in the procurement documents. The inspectors obtained and reviewed the Supplier Audit Schedule that showed several audits had been scheduled and performed within the last couple of months.

The Contractor informed the inspectors that no procurements related to important-to-safety or immobilized high-level waste (IHLW) affecting structures, systems, and components (SSCs) had been processed. The inspectors discussed the process with the Contractor personnel who would be responsible for reviewing these procurement documents to determine whether they were aware of their responsibilities. The inspectors found that they were aware of their responsibilities.

The inspectors reviewed several bid packages and verified that the QA organization had been involved in determining the supplier's QAP capability and qualifications.

Due to the early nature of the project, no suppliers had been qualified for three years; therefore, the no re-audits had occurred to confirm capabilities. The inspectors reviewed the Approved Supplier List (ASL) to verify that re-audit dates were included on the listing. The inspectors learned that all subcontractors and suppliers listed as approved on the ASL had been approved before BNI took over the contract. The Contractor had reviewed each, either by surveillance or audit, and had returned them to the approved status on the ASL. The inspectors reviewed audit files for approved suppliers to ensure that evaluations were in depth and included checklists based on the requirements included in the procurement documents.

The inspectors reviewed documentation of supplier reviews, audits, and assessments. Working files of these documents were maintained in files located in the Contractor's workplace; however, the record copies of the documents were maintained in Project Document Control (PDC).

Due to the early nature of the project, no inspections had been performed on procured items and materials. However, the inspectors reviewed several technical specifications, and observed that requirements for inspection and testing had been included in these procurement documents.

During the audit of the Research and Technology organization in mid-June, the Contractor self-identified a deficiency in submitting supplier-generated documents (i.e., test reports) to the PDC. The inspectors interviewed other project personnel to determine if this deficiency might be applicable to other organizations. The inspectors did not identify other organizations that were deficient in this manner. However, the inspectors reviewed the Supplier/Data Submittal Requirements and the Master Distribution Schedule for the pipe and fittings for the sanitary sewer system, and identified the person who would receive the required certificate of compliance. The inspectors interviewed the person listed as responsible for receipt of a certificate of compliance, and learned that the person was unaware that he was listed as the person to receive the supplier-generated document. The Master Distribution Schedule did not list PDC, so it was up to the person who receives the document to submit it to them. The inspectors identified this issue to the Contractor as an area for potential improvement.

### **1.7.3 Conclusions**

The inspectors concluded that the QA organization had adequately implemented QAP required procurement responsibilities.

## **1.8 Inspection and Acceptance Testing (ITP I-101)**

### **1.8.1 Inspection Scope**

The purpose of this assessment was to evaluate the degree to which the QA Manager, and the QA organization, had accomplished applicable responsibilities specified in Section 8, "Inspection and Acceptance Testing," of the QAP. To accomplish this purpose, the inspectors interviewed the Contractor's personnel who were responsible for the planning of inspections and acceptance testing.

### **1.8.2 Observations and Assessments**

The inspectors discussed the status of the project and learned that inspection and acceptance testing activities had not yet been performed. The Contractor's personnel were currently in the process of developing their inspection and acceptance testing procedures, and planned to have these procedures developed, reviewed, approved, and released before conducting any inspection and acceptance testing. In addition, the inspectors observed that the Contractor had passed down requirements within procurement technical specifications for inspections and tests to be performed on several procurements. These documents demonstrate inspection and acceptance testing will be conducted in the near future.

### **1.8.3 Conclusions**

The inspectors concluded the project was not at the point necessary to determine whether the QA organization had adequately accomplished their responsibilities specified in the QAP in the area of inspection and acceptance testing. This area will be inspected again when inspection and acceptance testing activities have been performed by the project.

## **1.9 Management Assessment (ITP I-101)**

### **1.9.1 Inspection Scope**

The purpose of this assessment was to evaluate the degree to which the QA Manager had accomplished the responsibilities specified in Section 9, "Management Assessment," of the QAP. To accomplish this purpose, the inspectors selected certain requirements of the QAP in this area and examined processes and documents demonstrating implementation of the requirements. To perform this assessment, the inspectors interviewed QA management and staff and examined the QA procedures and activities used to implement the requirements.

### **1.9.2 Observations and Assessments**

The inspectors found that procedures and processes addressed all of the selected requirements of Section 9 of the QAP, but that implementation was lacking in certain areas due to the

requirements being based on an annual cycle and the current Contractor had been performing QA activities only since March 2001.

In addition to Section 9 of the QAP, Section 2.3 required the QA Manager to annually assess the effectiveness of the Contractor's indoctrination and training programs. The inspectors confirmed there was an assessment of the indoctrination and training program conducted by the previous Contractor in January 2001. The current audit schedule indicated Training would be audited in December 2001, after all the current procedures are revised and issued for implementation (planned for October 2001).

The inspectors confirmed there was an annual schedule for Management Assessments. Of the two reports identified on the schedule, one report was completed and corrective actions had been entered into the Corrective Action Management System (CAMS). The second report *Configuration Management Self-Assessment Report—2001* was finalized on July 23, 2001. This was within a few days of the inspection and the 94-page report had not been reviewed nor had deficiencies been entered into CAMS. There was a third assessment conducted that had not been entered onto the official schedule, but was included in the CAMS. The QA Manager had not yet completed the Quarterly Report required by procedure (K10P008A, *Management Assessments*, Revision 1, dated January 31, 2001) but was in the process of preparing the report.

The QA Manager, as required by the QAP, had 12 months to complete the annual self-assessment of the QA organization. The assessment was officially scheduled for November 2001. In addition, the QA Manager indicated he recently completed a self-assessment of his organization to evaluate compliance with Revision 8 of the QAP, but the report had not yet been issued.

### **1.9.3 Conclusions**

The inspectors concluded that the QA Manager had work underway that would allow him to accomplish the responsibilities assigned in the QAP in the area of management assessments.

## **1.10 INDEPENDENT ASSESSMENT (ITP I-101)**

### **1.10.1 Inspection Scope**

The purpose of this assessment was to evaluate the degree to which the QA Manager had accomplished responsibilities specified in Section 10, "Independent Assessments," of the QAP. The inspectors assessed implementation of the Contractor's QA requirements, as related to this area, that have been applied during the design phase of the project. The inspectors selected certain requirements of the QAP in this area and examined the objective evidence of the procedures and processes that were used for implementing the requirements. To perform this assessment, the inspectors interviewed project and quality assurance management and staff.

### **1.10.2 Observations and Assessments**

The inspectors confirmed that the QA Manager had fulfilled the responsibility to plan and perform independent assessments. The inspectors found that the QA Manager had signed the original and revised Internal Audit Schedule. The inspectors confirmed that staff who conducted these audits were within the QA organization and, therefore, independent. The inspectors confirmed that the qualification records for the two lead auditors who conducted the internal audits, and one auditor who was scheduled to conduct an evaluation of an external supplier, were compliant with the requirements of the internal procedure K13P065, "*Quality Assurance Program Audit Personnel Qualification*," Revision 0, dated December 15, 2000.

The inspectors confirmed with the Contractor QA Manager that he and the Corporate QA Manager routinely met to discuss QA program status and issues. An inspection team member met with the Contractor QA Manager and with the Corporate QA Manager during a weekly project interface meeting. The inspectors confirmed that the completed independent assessment, "Audit of Research and Technology," dated July 12, 2001, was sent to the Corporate QA Manager. The inspectors concluded based on this information that results of independent assessments were adequately communicated to Corporate QA management.

The inspectors examined the only internal audit report that had been finalized and found that the document complied with the procedure K13P066, "*Quality Assurance Program Audits*," Revision 0, dated December 14, 2000. The two identified findings from the "Audit of Research and Technology" were already captured within the CAMS for tracking and trending. The report was issued on July 12, 2001, and corrective actions had not progressed to readiness for evaluation of adequacy and closure. Based on these observations and the additional information provided in Section 1.3, "Quality Improvement," of this report, the inspectors found that the QA Manager was adequately discharging his responsibilities to: (a) evaluate the adequacy of management responses to assessment deficiencies and to verify corrective actions are accomplished, and (b) track deficiencies to completion.

### **1.10.3 Conclusions**

The inspectors concluded that the QA organization had adequately accomplished its QAP-required responsibilities related to independent assessments.

## **2.0 EXIT MEETING SUMMARY**

The inspectors presented the inspection results to members of Contractor management at an exit meeting on July 26, 2001. The Contractor acknowledged the observations and conclusions.

The inspectors asked the Contractor whether any materials examined during the inspection should be considered limited rights data. None were identified.

### **3.0 REPORT BACKGROUND INFORMATION**

#### **3.1 Partial List of Persons Contacted**

Johnna Angely, Safety Programs Specialist  
Marty Ehlinger, Senior QA Engineer  
Mike Ensminger, Quality Control Manager  
Gary Grant, Quality Assurance Programs Supervisor  
Sandy Gourley, Training Records  
Robert Hollenbeck, Lead Auditor  
Scott Horn, Civil, Structural, Architectural Engineering Supervisor  
Eric Isern, Low Level Mechanical Supervisor  
Robert Maxwell, CAMS Database Administrator  
Mark Platt, Safety Programs Lead  
William Poulson, Operations Manager  
Ken Rueter, Process Technology Department Manager  
Mac Sanvictores, Senior Engineer  
George Shell, Quality Assurance Manager  
David Shugars, Quality Engineer Supervisor  
David Skeath, Senior Engineer  
Jason Smith, Supplier Quality Assurance Engineer  
Scott Thompson, Staff Engineer  
Greg Warner, Audit Supervisor

#### **3.2 List of Inspection Procedures Used**

Inspection Technical Procedure I-101, "Quality Assurance Assessment"

#### **3.3 List of Items Opened, Closed, and Discussed**

##### Opened

None

##### Closed

None

##### Discussed

None

### 3.4 List of Acronyms

ASL	Approved Supplier List
ASME	American Society of Mechanical Engineers
BNI	Bechtel National, Inc.
CAMS	Corrective Action Management System
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
DR	Deficiency Report
HVAC	Heating, Ventilation, and Air Conditioning
IHLW	Immobilized High Level Waste
ITP	Inspection Technical Procedure
NCR	Nonconformance Report
OSR	Office of Safety Regulation
PDC	Project Document Control
QA	Quality Assurance
QARD	Quality Assurance Requirements Document
QAP	Quality Assurance Program
QL	Quality Level
RPP-WTP	River Protection Project Waste Treatment Plant
OSR	Office of Safety Regulation
SSC	Structures, Systems, and Components