



Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

00-RU-0310

Mr. M. J. Bullock, Vice President
BNFL Inc.
3000 George Washington Way
Richland, Washington 99352

Dear Mr. Bullock:

PERSONNEL TRAINING AND QUALIFICATION INSPECTION REPORT, IR-00-003

From March 6-10, 2000, the Regulatory Unit performed an inspection of the BNFL Inc. personnel training and qualification programs.

The training program was determined to be adequate for the current stage of the project. However, the qualification program had a number of significant unresolved deficiencies. The inspectors determined that the self-assessment of the training program completed in February 2000 was thorough and that the initiation of implementation of its corrective actions was prompt. However, you had not yet evaluated the full impact of the deficiencies in the qualification program identified by a quality assurance surveillance, that addressed verification of, or documented justification for deviations from, minimum education and experience requirements for personnel assignments. Therefore, the inspectors could not determine the effectiveness of the qualification program. Accordingly, reviewing the resolution of qualification program deficiencies was identified as an Inspection Follow-up Item.

The inspectors identified one Finding, documented in the Notice of Finding (Enclosure 1). The Finding resulted from the inspectors identifying that a surveillance report, associated deficiency report, and corrective action report were not issued in a timely fashion. Specifically, the inspectors found that, contrary to Section 3.2 of the Quality Assurance Program and Implementation Plan (QAPIP) requiring "Early identification of potential problems through structured surveillance and audits," quality assurance surveillance, SV-W375-00-QA00003 was performed in October 1999; however, the report and associated deficiency report (DR), DR-W375-99-QA00115 were not issued until February 18, 2000. Furthermore, the required corrective action report (CAR), CAR-W375-00-QA00002, was not issued until March 8, 2000. Therefore, the potential problems from the surveillance were not identified to promote improvement to those responsible for potential corrective actions for several months. You are requested to provide a written response to this Finding within 30 days, in accordance with the instruction provided in the Notice of Finding.

Details of the inspection, including the Finding, are documented in the enclosed inspection report (Enclosure 2).

M. J. Bullock
00-RU-0310

-2-

Nothing in this letter should be construed as changing the Contract (DE-AC06-96RL13308). If you have any questions regarding this inspection, please contact me or Pat Carier of my staff on (509) 376-3574.

Sincerely,

D. Clark Gibbs, Regulatory Official
Office of Safety Regulation
of the TWRS-P Contractor

REG:NKH

Enclosure

cc w/encl:
D. W. Edwards, BNFL

NOTICE OF FINDING

Standard 4, "Safety, Health, and Environmental Program," of Contract DE-AC06-RL13308, dated August 24, 1998, between BNFL Inc. (the Contractor) and the Department of Energy, defines the Contractor's responsibilities under the Contract as they relate to conventional non-radiological worker safety and health; radiological, nuclear and process safety; and environmental protection.

Standard 4, Section c.2)(b) requires the Contractor to comply with the specific nuclear regulations defined in the effective rules of the 10 CFR 800 series of nuclear requirements.

Title 10 of the Code of Federal Regulations Part 830, Nuclear Safety Management, Section 120, Quality Assurance Requirements, requires the Contractor to conduct work in accordance with the requirements of Section 120 and to develop a Quality Assurance Program that reflects the requirements of Section 120. Section 120 at (c)(3)(ii) requires independent assessments to "be planned and conducted . . . to promote improvement."

Section 3.2 of the Contractor's Quality Assurance Program and Implementation Plan (QAPIP), Revision 4, dated May 1998, required "Early identification of potential problems through structured surveillance and audits."

Contrary to the above, during the week of March 6-10, 2000, the inspectors found that a quality assurance surveillance (SV-W375-00-QA00003) was performed in October 1999; however, the report and an associated deficiency report (DR-W375-99-QA00115) were not issued until February 18, 2000. Furthermore, the required Corrective Action Report (CAR-W375-00-QA00002) was not issued until March 8, 2000. Therefore, the potential problems from the surveillance were not identified to promote improvement to those responsible for potential corrective actions for several months.

This is considered an inspection Finding.

The Contractor is requested to provide to the Regulatory Unit within 30 days of the date of the cover letter that transmitted this Notice, a reply to the Finding described above. The reply should include: (1) agreement or disagreement with the Finding; (2) the reason for the Finding, if the Contractor agrees with it, and if the Contractor disagrees, the reason why; (3) the corrective steps that have been taken and the results achieved; (4) the corrective steps that will be taken to avoid further Findings; and (5) the date when full compliance with the applicable commitments in your authorization base will be achieved. Where good cause is shown, consideration will be given to extending the requested response time.

U.S. DEPARTMENT OF ENERGY
Richland Operations Office
Office of Safety Regulation of the TWRS-P Contractor

INSPECTION: PERSONNEL TRAINING AND QUALIFICATION

REPORT NO: IR-00-003

FACILITY: BNFL Inc.

LOCATION: 3000 George Washington Way
Richland, Washington 99352

DATES: March 6-10, 2000

INSPECTORS: N. Hunemuller (Lead), Senior Regulatory Technical Advisor
J. Adams, Senior Regulatory Technical Advisor
W. Smith (Assisting), U.S. Nuclear Regulatory Commission

APPROVED BY: P. Carier, Verification and Confirmation Official
Office of Safety Regulation of the TWRS-P Contractor

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EXECUTIVE SUMMARY
Personnel Training and Qualification Assessment
Inspection Report Number IR-00-003

INTRODUCTION

This inspection of the BNFL Inc. (the Contractor) Personnel Training and Qualification Programs covered the following specific areas:

- Staff Qualification (Section 1.2)
- Staff Training (Section 1.3)
- Effectiveness of Training and Qualification Programs (Section 1.4)
- Review of selected open Findings and commitments (Section 3.3).

SIGNIFICANT OBSERVATIONS AND CONCLUSIONS

- The inspectors observed that the maturity of the training and qualification programs was commensurate with the preliminary design stage of the project. Pertinent procedure revisions, a self-assessment (SA-W375-00-00019), and a surveillance report (SV-W375-00-QA00003) with an associated deficiency report (DR-W375-99-QA00115) had been recently issued. Additionally, a training standard was planned to be drafted and submitted to the Regulatory Unit in the near future. (Section 1.1)
- The inspectors identified one Finding concerning failure to issue, in a timely fashion, a surveillance report, its associated deficiency report, and the corrective action report (IR-00-003-01-FIN). (Section 1.2)
- The inspectors observed that the personnel selection procedure, K21P010A-0, did not have specific language addressing re-assignments (i.e., title changes, promotions, and transfers). The need to examine personnel qualification for re-assignments was identified in DR-W375-99-QA00115. However, the lack of clear procedural guidance was not specifically identified. (Section 1.2)
- The inspectors determined that the self-assessment (SA-W375-00-00019) of the training program completed in February 2000 was thorough and that the initiation of implementation of its corrective actions was prompt. (Section 1.3)
- The training reviewed or observed during the inspection was appropriate and adequately implemented for the current project activities. However, the inspectors also observed that there was potential for improvement in the area of instructional skills such as:
 - Writing clear and measurable learning objectives and communicating them to the students
 - Methods for encouraging student participation
 - Mechanisms for assessing student learning. (Section 1.3)

- The inspectors observed during interviews that managers and leads expressed a wide variety of meanings for the term “on-the-job training” that were not consistent with the training and development plan. (Section 1.3)
- The inspectors concluded that on-site training records were adequate. (Section 1.3)
- The inspectors identified one Inspection Follow-up Item. The Contractor had not yet evaluated the full impact of deficiency report, DR-W375-99-QA00115, and associated Corrective Action Report, CAR-W375-00-QA00002, regarding verification of, or documented justification for deviations from, minimum education and experience requirements for personnel assignments. Therefore, the inspectors could not determine the effectiveness of the qualification program. Reviewing the resolution of this DR and CAR was identified as an Inspection Follow-up Item (IR-00-003-02-IFI). (Section 1.4)
- Based upon comparing position descriptions to resumes and the results of inspection interviews, the inspectors observed that the majority of the personnel interviewed during the inspection met or exceeded the minimum qualifications of the applicable position descriptions. However, this was not the case for all of the personnel interviewed during the inspection, and because of the deficiencies identified in DR-W375-99-QA00115, the inspectors could not verify that the Contractor had evaluated the differences between the position descriptions and the employee qualifications. (Section 1.4)
- The inspectors determined that continued management attention to resolving issues of selection, qualification, and training program focus and resources was warranted to ensure the project-wide effectiveness of these programs as the project continues to detailed design and moves toward the construction authorization request. (Section 1.4)
- There was sufficient information to close the Findings and commitments from the previous RU training and qualification assessment. Sufficient information was not available to close the two training-related commitments from the RU self-assessment and corrective action inspection. (Section 3.3)

PERSONNEL TRAINING AND QUALIFICATION INSPECTION**Table of Contents**

1.0	REPORT DETAILS.....	1
1.1	Introduction.....	1
1.2	Staff Qualification (Inspection Technical Procedure (ITP) (I-106).....	1
1.3	Staff Training (ITP I-106).....	5
1.4	Effectiveness of Training and Qualification Programs (ITP I-106)	7
2.0	EXIT MEETING SUMMARY.....	10
3.0	REPORT BACKGROUND INFORMATION	10
3.1	Partial List of Persons Contacted.....	10
3.2	List of Inspection Procedures Used	10
3.3	List of Items Opened, Closed, and Discussed.....	10
3.4	Key Documents Reviewed.....	13
3.5	List of Acronyms	15

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PERSONNEL TRAINING AND QUALIFICATION INSPECTION REPORT

1.0 REPORT DETAILS

1.1 Introduction

The Tank Waste Remediation System Privatization (TWRS-P) project was in the preliminary design stage at the time of this inspection. The Contractor (BNFL) was actively in the process of training the staff to continue progress on the design phase of the project.

In accordance with the TWRS-P Contract (DE-AC06-96RL13308 between DOE and BNFL, dated August 24, 1998) and, specifically, 10 CFR 830.120, *Quality Assurance Requirements*, the Contractor was required to have trained and qualified personnel to ensure they are capable of performing their assigned work. This requirement was reflected in the Contractor's authorization bases (such as, the Quality Assurance Program and Implementation Plan [QAPIP], BNFL-5193-QAP-01, Rev.4, and Safety Requirements Document [SRD] BNFL-5193-SRD-01, Rev. 2).

Pertinent procedures had been recently revised. For example, revision 1 of the code of practice for training (K20C009A_1) was issued on February 23, 2000. According to the preliminary information provided for the inspection, a training standard was planned to be drafted and submitted for approval in March 2000. A self-assessment (SA-W375-00-00019) was completed on February 25, 2000, and quality assurance staff were in the process of reviewing the report. A surveillance report (SV-W375-00-QA00003) on "Personnel Selection and Training" was issued on February 18, 2000, with an associated deficiency report (DR-W375-99-QA00115) issued on the same date. The inspectors observed that the maturity of the training and qualification programs was commensurate with the preliminary design stage of the project.

The inspectors reviewed the Contractor's training and development plan and implementing procedures to determine if they complied with the commitments in the QAPIP and SRD. In addition, the inspectors assessed the implementation of the Contractor's training and qualification programs as it related to the design phase of the TWRS-P Contract to verify that the Contractor was following its plan and procedures and that Quality Level (QL)-1 and QL-2 functions were being properly conducted.

1.2 Staff Qualification (Inspection Technical Procedure (ITP) (I-106)

1.2.1 Inspection Scope

The inspectors assessed whether the staff qualification requirements contained in the authorization basis had been captured by the qualification program procedures and policies. The inspectors assessed whether the Contractor had implemented the staff qualification program required by the authorization basis.

1.2.2 Observations and Assessments

Section 2.2 and 2.3 of the QAPIP stated that the Contractor will hire employees with proper educational background (formal degrees, diplomas, and/or years of experience) to fit established positions. The QAPIP also stated that minimum education and experience would be verified, or, when minimum education and experience cannot be verified, documented justification would be provided for the personnel assignment. In addition, the QAPIP stated that personnel selected to perform work would have the experience and ability to provide the necessary quality performance, as defined by the position description.

From a Contractor organization chart, the inspectors randomly selected and reviewed 15 personnel files of technical employees hired by the Contractor. These 15 random selections were primarily recent hires or transfers (i.e., hired or transferred on average within approximately the last 6 months). The qualification review consisted of a comparison of the minimum education and experience requirements listed on the request for staff (RFS) form (based on the attached position description) with the education and experience listed on the attached resume of the individual. The inspectors confirmed that the selection procedure had not been followed as was self-identified by the surveillance (SV-W375-00-QA00003) and self-assessment (SA-W375-00-00019). The inspectors observed that the records for 5 of the 15 employees did not support the specified minimum educational or experience requirements specified in the RFS and justifications were not provided in the documentation. A summary, for illustrative purposes, of the requirements not met in these 5 cases, follows:

1. Minimum competencies listed in the RFS for a process engineer included 2 or more years of nuclear experience. The resume did not describe any previous nuclear experience. Item 3 on the associated employee selection form was marked "N/A", and no documented justification was attached.
2. Minimum competencies listed in the RFS for a human factors engineer included 1 year of remote handling analysis experience. The resume did not describe any remote handling analysis experience. Item 3 on the associated employee selection form was marked "N/A", and no documented justification was attached.
3. Minimum competencies listed in the RFS for an operations lead, melters, included 5 years of vitrification melter operations and 10 years of nuclear operations experience. The resume indicated no vitrification experience and less than 10 years of nuclear experience. Item 3 on the associated employee selection form was marked "N/A", and no documented justification was attached.
4. Minimum competencies listed in the RFS for a pre-operations manager included 7 to 10 years experience in each of the following areas: (1) design and operations of manufacturing, chemical production, or nuclear facilities, (2) preparation and conduct of operational readiness reviews, and (3) development of operations and maintenance philosophy. The associated resume indicated no design experience, no operational readiness review experience, and no discussion of development of operations or maintenance philosophy. Item 3 on the associated employee selection form was marked "N/A", and no documented justification was attached.

5. Minimum competencies listed in the RFS for an area project manager included 10 years of vitrification technology experience and 2 years of vitrification operations experience. In addition, the position description required 10 years of experience with quality and environmental, health, and safety (EH&S) activities at DOE Facilities and/or Nuclear Regulatory Commission (NRC) licensed plants. The associated resume did not support 10 years of vitrification technology experience, 2 years of vitrification operations, or 10 years experience with quality and EH&S under either DOE or NRC programs. Item 3 on the associated employee selection form was marked "N/A", and no documented justification was attached.

In addition, the inspectors interviewed 4 of the line managers responsible for establishing the minimum position requirements and subsequently making the personnel selections. In all interviews, the managers stated that they did not understand the proper use of the employee selection form, item 3, which required a documented justification to be supplied when the specified minimum requirements were not met. Furthermore, the personnel selection procedure did not specify management responsibility for ensuring proper implementation of the procedure.

The Project Human Resources Manager stated that verification of education and experience, provided by applicants on resumes or job applications, was performed by a subcontractor. He also stated that records of verification were maintained at the Contractor's corporate office. Line managers who were involved with personnel selection stated that they believed that all personnel who had been selected were qualified for their present positions. Line managers acknowledged that the documentation of the selection process was inconsistent with the procedure. Line managers consistently indicated that the Selection Procedure should be revised to ensure proper documentation. Review of the revised procedural guidance resulting from DR-W375-99-QA00115 is included as part Inspection Follow-up Item IR-00-003-02-IFI which is discussed in further detail Section 1.4 of this inspection report.

The inspectors reviewed Contractor staff qualification requirements contained in the training and development plan (PL-W375-TR00001), the personnel qualification procedure (K21P011A_0), and the personnel selection procedure (K21P010A_0) by comparing the procedure requirements against related commitments described in Section 2.2 and 2.3 of the QAPIP. For new employees, the requirements stated in the QAPIP were properly reflected in the implementing procedures. Section 1 of the training and development plan stated that management hires people who are qualified by education, training, and experience to fill established positions. The personnel selection procedure provided detailed requirements for determining position qualification requirements, verifying candidates meet minimum requirements, and selecting qualified new employees. However, the inspectors observed that the personnel selection procedure did not clearly state that employee qualifications must also be met for re-assignments (i.e., title change, transfer, or promotion).

Attached to the personnel selection procedure was a form entitled, "Employee Selection." The employee selection form contained a location (referred to as "item 3" for the remainder of this report) for documenting justification if selected individuals did not meet the minimum education and experience requirements specified in the position description and request for staff. Based

upon review of the personnel selection procedure and interviews, the inspectors observed that the procedure did not clearly specify how to properly fill out the form.

The Contractor had performed a management self-assessment (SA-W375-00-00019) dated February 25, 2000. This report indicated that the personnel selection procedure was not being followed. A statement on page 14 of the self-assessment, stated: "There is a large percentage of the personnel selection forms that have not been properly completed." When asked to clarify this statement during an interview, the Contractor's assessor estimated, that in his opinion, more than 50% of the documentation associated with the personnel selection process, was inconsistent with the procedure.

Based on a review of the BNFL audit action summary provided with the preliminary inspection information, a copy of surveillance report SV-W375-00-QA00003, signed February 18, 2000, was requested. Attached to the surveillance report was deficiency report DR-W375-99-QA00115 signed February 18, 2000. The results of the surveillance were marked as unsatisfactory and the attached DR identified numerous deficient conditions found during the surveillance. This DR had been evaluated as "Significant" by the Contractor QA organization, but the Corrective Action Report was generated during the inspection on March 8, 2000. The DR indicated that problems existed with both the procedure for personnel selection, and the implementation of the procedure. The DR stated: "The personnel selection form Item 3 use of 'N/A' was ambiguous: it can either mean that education and experience were verified and that is why justification is not attached; or it may be interpreted that when education and experience cannot be verified, justification is not applicable." Further, the DR stated: "Qualification to new assignments based upon any personnel action (i.e.: title change, transfer, or promotion) must be examined to ensure that employee qualifications continue to be met."

Although the surveillance report was signed February 18, 2000, interviews with the surveillance team members indicated that the surveillance had been conducted in October 1999. The inspectors were informed by the surveillance team lead that neither the QA management nor the line management had been informed of the results of the surveillance (nor of the attached DR) until February 18, 2000. The Corrective Action Report (CAR-W375-QA00002) that was required because the DR was marked "significant", was not issued until March 8, 2000. Therefore, the potential problems from the surveillance were not identified to promote improvement to those responsible for potential corrective actions for several months. Section 3.2 of the QAPIP, required "Early identification of potential problems through structured surveillance and audits," and 10 CFR 830.120 (c)(3)(ii) required independent assessments to "be planned and conducted . . . to promote improvement." Failure to issue, in a timely fashion, the surveillance report SV-W375-00-QA00003, its associated deficiency report DR-W375-99-QA00115, and the corrective action report CAR-W375-QA00002, was considered a Finding (IR-00-003-01-FIN). Deficiency report DR-W375-00-QA00017, dated March 9, 2000, was initiated during the inspection in response to the identification of this failure as a preliminary Finding.

The inspectors interviewed the newly appointed (as of February 21, 2000), Project Human Resources Manager (formerly the Manager of Employment and Employee Relations). In discussing the results of the self-assessment and the results of the February 18, 2000, surveillance report, the Project Human Resources Manager was asked if he was aware of the conditions reported in the surveillance prior to the surveillance report being issued. He indicated

that he had not previously had the opportunity to learn the specifics of the report. However, after reviewing several employee selection records presented to him, he acknowledged that he was aware of "holes" in implementation of the selection procedure, and that the employee selection form needed clarification. He also indicated that although "selection" had been loosely defined, the selection procedure could have, and should have been used for employee transfers. The inspectors observed that the personnel selection procedure, K21P010A-0, did not have specific language addressing re-assignments (i.e., title changes, promotions, and transfers). The need to examine personnel qualification for re-assignments was identified in DR-W375-99-QA00115. However, the lack of clear procedural guidance was not specifically identified. Although the Project Human Resources Manager recognized the need to revise the procedure as a result of the DR, the procedure revision was not available for the inspectors to review at the time of the inspection. Review of the revised procedural guidance for re-assignments is included as part Inspection Follow-up Item IR-00-003-02-IFI which is discussed in further detail Section 1.4 of this inspection report.

1.2.3 Conclusions

Personnel selection requirements stated in the QAPIP were properly reflected in the implementing procedures for the new employee. However, the inspectors observed that the personnel selection procedure did not clearly address requirements and guidance for personnel re-assignments (i.e., title change, transfer, or promotion).

The inspectors determined that the Contractor was not always following its procedure for selecting qualified individuals to fill technical positions. This issue was self-identified in SV-W375-00-QA00003 and documented in deficiency report DR-W375-99-QA00115 and corrective action report CAR-W375-QA00002. From a review of selected personnel files, the inspectors concluded that the majority of personnel interviewed during the inspection were qualified and met or exceeded minimum qualification requirements specified in the applicable position descriptions. However, several examples existed where records for personnel were not sufficient to verify that minimum educational and experience requirements had been met, and these records did not contain documented justification for selecting the personnel. Reviewing the resolution of the DR and CAR was identified as Inspection Follow-up Item IR-00-003-02-IFI which is discussed in further detail Section 1.4 of this inspection report.

The inspectors identified one Finding (IR-00-003-01-FIN) for failure to issue, in a timely fashion, the surveillance report SV-W375-00-QA00003, its associated deficiency report DR-W375-99-QA00115, and the corrective action report CAR-W375-QA00002.

1.3 Staff Training (ITP I-106)

1.3.1 Inspection Scope

The inspectors assessed whether the Contractor's staff training program met the requirements and commitments of the authorization basis. The inspectors assessed whether the Contractor had implemented the staff training program in accordance with the authorization basis.

1.3.2 Observations and Assessments

Pertinent procedures had been recently revised. For example, revision 1 of the code of practice for training (K20C009A_1) was issued on February 23, 2000. According to the preliminary information provided for the inspection, a training standard was planned to be drafted and submitted for approval in March 2000. A self-assessment (SA-W375-00-00019) was completed on February 25, 2000, and quality assurance staff were in the process of reviewing the report. As a result it was evident to the inspectors that the training program was still undergoing development.

Based upon the interviews with Contractor staff, the inspectors observed that the employees consistently expressed positive opinions of the training that they had received. Classroom training sessions, in particular, were often referred to as “good” or “well done.” During the interviews, the employees indicated that they felt the instructors were well-qualified, the training materials were appropriate, questions were answered, and that there was opportunity to provide feedback. Newer employees stated that they were impressed with the early emphasis on training soon after they had started with the project. Notwithstanding, several employees described two aspects of the training program that they believed could be improved. The first aspect was that they indicated there could be more verification of understanding through such mechanisms as quizzes or interactive computer based training that would refer the student back to the lesson if questions were answered incorrectly. The second aspect was that, although the procedures that comprised required reading were easy to find and search, the employees expressed a desire to see like procedures consolidated to improve the effectiveness of required reading and reduce the amount of re-reading necessary to retain understanding.

The inspectors observed three classroom training sessions and reviewed one computer-based training module. The training reviewed or observed during the inspection was appropriate and adequately implemented for the current project activities. However, the inspectors also observed that there was potential for improvement in the area of instructional skills such as:

- Writing clear and measurable learning objectives and communicating them to the students
- Methods for encouraging student participation
- Mechanisms for assessing student learning.

Specifically, the inspectors observed that learning objectives were not always provided in the student training materials. If objectives were provided, they addressed what was required of the instructor rather than the student, and they were stated in vague language such as “develop an appreciation” or “have an understanding.” In two of the three classroom sessions, the inspectors observed that the instructors conducted no audience analysis or survey, and that there was little student participation. Although students were afforded the opportunity to provide feedback, none of the classroom sessions or the computer-based training module included any type of quiz or other means determine if the objectives of the training were accomplished.

The inspectors observed that the phrase “on-the-job-training” (OJT) was used in procedures, position descriptions, and proposed position-specific training requirements. The training and development plan described OJT as including elements such as planning, competency/performance demonstration, evaluation by a qualified evaluator, instructor, manager or lead, and documentation. During the inspection interviews, when asked what “on-the-job training” meant, managers and leads provided a wide variety of meanings, from “mentoring,” “anything under direct supervision,” to “just doing the job and having an annual performance appraisal.” The training specialist, when interviewed, confirmed that to take credit for OJT in the training program, the OJT must be performed in accordance with the training elements described in the training and development plan.

The inspectors concluded that on-site training records (as listed in Section 3.4 of this inspection report) were adequate, and interviewees expressed satisfaction with their own records. Interviewees indicated that they were frequently sent hard copies of their individual training profiles to keep them apprised of their training status. The inspectors were able to locate all training record information requested during the course of the inspection.

The self-assessment (SA-W375-00-00019) identified the need for a variety of corrective actions. In response to one of the corrective actions the training department developed an orientation course to remind management of their training and qualification program responsibilities and requirements. This orientation course on management training responsibilities and requirements was first held on February 29, 2000, and was attended by 120 managers and leads. The inspectors observed that course attendees interviewed during the inspection indicated that the course was appropriate and effective in building a stronger team effort between management and training staff. The inspectors determined that the self-assessment of the training program was thorough and that the initiation of implementation of its corrective actions was prompt.

1.3.3 Conclusions

The inspectors observed that the training program was still undergoing development. The inspectors determined that the self-assessment of the training program completed in February 2000 was thorough and that the initiation of implementation of its corrective actions was prompt. The inspectors observed that the employees consistently expressed positive opinions of the training that they had received. The training reviewed or observed during the inspection was appropriate and adequately implemented for the current project activities. Managers and leads expressed a wide variety of meanings for the term “on-the-job training” that were not consistent with the training and development plan. The inspectors concluded that on-site training records were adequate.

1.4 Effectiveness of Training and Qualification Programs (ITP I-106)

1.4.1 Inspection Scope

The inspectors reviewed the Contractor's systematic evaluation of training effectiveness required by the authorization basis. The inspectors assessed the effectiveness of the training program by

observing/interviewing personnel in their assigned positions using the Contractor's training matrix as guidance.

The inspectors reviewed the effectiveness of the qualification program as it related to the Contractor's policy for hiring personnel with the proper educational and experience background required by the respective position descriptions. This review included an examination of the effectiveness of personnel selections to determine if they were commensurate with the scope, complexity, and nature of the activities required for each position.

1.4.2 Observations and Assessments

The classroom training observed by the inspectors was focused on project and program overviews. The classroom training observed was well-planned and presented. Potential improvement in identifying and communicating learning objectives and encouraging student participation were noted in Section 1.3 of this report.

The Contractor staff and management interviewed during the inspection were knowledgeable of their training requirements and responsibilities. The inspectors observed that the Contractor had no systematic method in use at the present time for evaluating training effectiveness. However, as observed in the previous training and qualification inspection (IR-99-001), employees and management consistently stated during interviews that training effectiveness was based on management's observation of work and evaluation of products that employees submit. Improvements of the Contractor's assessment of training effectiveness were being addressed in the corrective actions from the training program self-assessment.

The inspectors reviewed the "River Protection Project – Waste Treatment Plant Training and Development Plan – Design Confirmation Phase," PL-W375-TR00001, Revision 1. The plan appropriately emphasized the training responsibilities, authorities, and accountability of personnel involved in managing and supervising employees, as well as those involved in implementing the training. The inspectors observed that the training staff reports to the Human Resources department. An experienced training specialist, hired in early 1999, was actively managing the training program. A training coordinator and training assistant were maintaining the training and qualification files and database. The inspectors concluded that the training program organization and procedures were adequate for the Contractor's program commitments at the present time.

The inspectors determined that the Contractor had performed a surveillance of personnel selection and training (SV-W375-00-QA00003) during October 1999. The surveillance identified a number of concerns and deficiencies with the process for employee selection and verification, and documentation of qualifications. The deficiencies noted in the surveillance report were also observed by the inspection team as described in Section 1.2 of this inspection report. Additionally, as also stated in Section 1.2 of this inspection report, the inspectors observed that the personnel selection procedure, K21P010A_0, did not clearly address personnel re-assignments (i.e., title changes, promotions, and transfers). The significance and impact of these deficiencies had not been determined and corrective action had not been approved by management at the time of this RU Inspection.

Based upon comparing position descriptions to resumes and the results of inspection interviews, the inspectors observed that the majority of the personnel interviewed during the inspection met or exceeded the minimum qualifications of the applicable position descriptions. However, this was not the case for all of the personnel interviewed during the inspection, and because of the deficiencies (DR-W375-99-QA00115 and CAR-W375-00-QA00002) identified in the quality assurance surveillance (SV-W375-00-QA0003), the inspectors could not verify that the Contractor had evaluated the differences between the position descriptions and the employee qualifications. Furthermore, because the Contractor had not yet evaluated the full impact of the deficiencies regarding verification of, or documented justification for deviations from, minimum education and experience requirements for personnel assignments, the inspectors could not determine the effectiveness of the qualification program. The inspectors concluded that, due to the open deficiencies, the selection and qualification documentation was insufficient to support or refute that personnel selections were commensurate with the present scope, complexity, and nature of the activities required for each current position. Reviewing the resolution of the qualification program deficiencies was identified as an Inspection Follow-up Item (IR-00-003-02-IFI).

The results of the interviews reflected the continuing evolution of the selection, qualification, and training programs, which was occurring not only through identification of deficiencies, but also through staff and management initiated efforts. The inspectors observed a wide range of opinions from interviewees on the direction in which the evolution of these programs should proceed, such as whether training should be a more, or less, centralized function. The inspectors determined that continued management attention to resolving issues of program focus and resources was warranted to ensure the project-wide effectiveness of these programs as the project continues to detailed design and moves toward the construction authorization request.

1.4.3 Conclusions

The classroom training observed was well-planned and presented. The Contractor staff and management interviewed during the inspection were knowledgeable of their training requirements and responsibilities. The training program organization and procedures were adequate for the Contractor's program commitments at the present time. Although the Contractor had no systematic method in use at the present time for evaluating training effectiveness, improvements in this area were addressed in the planned corrective actions from the training program self-assessment.

Because the Contractor had not yet evaluated the full impact of deficiencies in the selection and qualification process, the inspectors could not determine the effectiveness of the qualification program. The inspectors concluded that, due to the open deficiencies from the quality assurance surveillance (SV-W375-00-QA0003), the selection and qualification documentation was insufficient to support or refute that personnel selections were commensurate with the present scope, complexity, and nature of the activities required for each current position. Reviewing the resolution of the qualification program deficiencies was identified as an Inspection Follow-Up Item.

2.0 EXIT MEETING SUMMARY

The inspectors presented the inspection results to members of Contractor management at an exit meeting on March 10, 2000. The Contractor acknowledged the observations, conclusions, and Finding presented.

The inspectors asked the Contractor whether any materials examined during the inspection should be considered proprietary information. The only proprietary information identified had to do with selected materials used during the “Integrated Safety Management Program” course observed on March 10, 2000, and none of that information is contained in this report.

3.0 REPORT BACKGROUND INFORMATION

3.1 Partial List of Persons Contacted

B. Carlisle, GTS Duratek Human Resources Point-of-Contact
 D. Carson, Senior QA Specialist
 L. Curry, Sr. Engineer
 P. Haigh, Pre-Operations Lead
 E. Isern, Piping Lead Engineer
 L. Kietzman, Training Coordinator
 R. LaPointe, Quality Engineer
 R. Laske, Corporate Quality Assurance Manager
 D. Lindsey, Pre-Operations Manager
 J. Moore, Training Specialist
 B. Pedigo, Lead Start-up Engineer
 J. Pope, Technical Manager
 J. Rigg, Area Project Manager
 D. Sansotta, Project Human Resources Manager
 D. Smith, (Inspection Liaison)
 W. Thompson, Training Program Assistant
 M. Von Weber, Senior QA Specialist
 G. Voyles, Quality Assurance Manager

3.2 List of Inspection Procedures Used

Inspection Technical Procedure I-106, “Personnel Training and Qualification Assessment”

Inspection Administrative Procedure A-106, “Verification of Corrective Actions”

3.3 List of Items Opened, Closed, and Discussed

Opened

IR-00-003-01-FIN	Finding	Failure to issue, in a timely fashion, a surveillance report, its associated deficiency report, and the corrective action report.
IR-00-003-02-IFI	Follow-up	Review the resolution of DR-W375-99-QA00115 and CAR-W375-00-QA00002.

Closed

The inspectors determined that the corrective action commitments 99-CMS-011 through 99-CMS-017 from DOE letter 99-RU-0275, dated April 29, 1999, were properly implemented and were sufficient to address Inspection Findings IR-99-001-01-FIN, IR-99-001-02-FIN, and IR-99-001-03-FIN. See Table 1 for details. The actions completed by the Contractor and verified by the inspectors are provided in the last two columns of the table. The inspectors concluded that the timeliness of the actions was commensurate with the safety significance of the actions.

Findings IR-99-001-01-FIN, IR-99-001-02-FIN, and IR-99-001-03-FIN concerned the following, respectively:

1. The training and development plan and implementing procedures did not provide guidance or afford a mechanism for line managers to specify position specific training. In addition, position specific training was not being specified or documented in training records.
2. During the week of March 1-4, 1999, two instructors had not been deemed competent trainers by the training specialist.
3. Quality assurance orientation training, performed during the week of March 1-4, 1999, did not fulfill the requirements of the QAPIP in that the class did not make any specific reference to the QAPIP, or provide any details for principles contained therein. Also, the students were not informed of their obligation to identify nonconforming conditions or services in the areas subject to the QAPIP.

The Regulatory Unit (RU) previously determined, as documented in DOE letter 99-RU-0275, that corrective action commitments 99-CMS-011 through 99-CMS-017, if properly implemented, should be sufficient to address the findings (IR-99-001-01-FIN through IR-99-001-03-FIN). As indicated in Table 1, the Training and Development Plan and implementing procedures were revised to provide guidance and afford a mechanism for line managers to specify position specific training. Furthermore, management was specifying position specific training and this was being documented in training records. The inspectors verified that the two instructors referred to in IR-99-001-02-FIN had completed the required training and had been deemed competent trainers by the training specialist. The inspectors also verified that quality assurance orientation training had been revised to fulfill the requirements of the QAPIP, and students were informed of their obligation to identify nonconforming conditions or services in the areas subject to the QAPIP.

Table 1 – Closed BNFL Inc. Corrective Action Commitments

Commitment Number (Finding Number)	Commitment Description	Expected Completion Date	Contractor Action Completed	Inspection Verification
99-CMS-011 (IR-99-001-FIN)	Training and Development Plan will be revised to clarify line management actions and responsibility to identify position specific training.	06/10/99	DR-W375-QA00017 closed and verified. Closure date 11/23/99.	Training and Development Plan included position specific training.
99-CMS-012 (IR-99-001-FIN)	Code of Practice for training to be revised to provide guidance for specifying position specific training.	06/10/99	DR-W375-QA00017 closed and verified. Closure date 11/23/99.	Code of Practice included position specific training.
99-CMS-013 (IR-99-001-FIN)	Training database to be revised to allow tracking of position specific training requirements.	06/30/99	DR-W375-QA00017 closed and verified. Closure date 11/23/99.	Training database allowed tracking of position specific training.
99-CMS-014 (IR-99-001-02-FIN)	Training department to maintain a list of qualified trainers that are allowed to conduct training.	04/26/99	DR-W375-QA00018 closed and verified. Closure date 04/14/99.	Training department was maintaining a list of qualified trainers.
99-CMS-015 (IR-99-001-03-FIN)	Revise QAPIP to clarify QA orientation requirements for employees.	05/21/99	DR-W375-QA00019 closed and verified. Closure date 04/14/99.	QAPIP was revised to clarify QA orientation requirements for employees.
99-CMS-016 (IR-99-001-03-FIN)	Revise QA orientation training to include describing the QA program and obligation to identify nonconforming conditions	04/26/99	DR-W375-QA00019 closed and verified. Closure date 04/14/99.	QA orientation training included describing the QA program and obligation to identify nonconforming conditions.
99-CMS-017 (IR-99-001-03-FIN)	Provide additional QA orientation training to BNFL staff concerning obligation to identify nonconforming conditions or services.	04/26/99	DR-W375-QA00019 closed and verified. Closure date 04/14/99.	QA orientation training was provided to BNFL staff concerning obligation to identify nonconforming conditions or services.

Discussed

The inspectors determined that the corrective action commitments 99-CMS-026 and 99-CMS-030 from DOE letter 99-RU-0490, dated August 16, 1999, were not yet implemented, and sufficient information was not available to close these two training-related commitments from the RU self-assessment and corrective action inspection (IR-99-003). See Table 2 for details. The actions taken by the Contractor and verified by the inspectors are provided in the last two columns of the table. Inspection conclusions regarding the timeliness of the actions will be determined when the commitments are closed.

Table 2 – BNFL Inc. Corrective Action Commitments Reviewed and Remaining Open

Commitment Number (Finding Number)	Commitment Description	Expected Completion Date	Contractor Action Taken	Inspection Verification
99-CMS-026	Train personnel on revised K13C051 and K13P053. (IR-99-003-02-FIN)	12/30/99	K13P053 revised. K13C051 revision pending.	K13C051 was not yet revised. Therefore, personnel were not yet trained.
99-CMS-030	Train personnel on the requirements for documentation of quality deficiencies. (IR-99-003-01-IFI)	10/22/99	Quality Assurance Orientation was revised, but this issue was part of DR-W375-99-QA-00059 which has not been closed and verified.	Quality Assurance Orientation addressed documentation of quality deficiencies, but the Contractor had not verified that all personnel had received updated training.

3.4 Key Documents Reviewed

Contractor Procedures

- K11PD007_0: “The TWRS Privatization Training Policy Statement,” dated May 1999.
- K20C009A_1: “Code of Practice for Training,” dated February 2000.
- K20P009B_0: “Personnel Orientation and Training,” dated February 2000.
- K21P011A_0: “Personnel Qualification,” dated February 2000.
- K21P010A_0: “Personnel Selection,” dated February 2000.
- PL-W375-TR00001, Rev.1: “Training and Development Plan,” dated November 1999.
- K13P053_1: “Quality Assurance Surveillance,” dated August 1999.
- K10P008A_0: “Management Assessment,” dated March 2000.

Management Self-Assessments

- Self-Assessment Record SA-W375-00-00019, Rev. 0, “Project Personnel Training and Qualification Program,” dated February 25, 2000.

Surveillance Reports

- Surveillance Report SV-W375-00-QA00003, Rev. 0: “Personnel Selection and Training,” dated February 18, 2000.
- Surveillance Report SV-W375-99-QA000021, Rev. 0: “Training Requirements for Off Site Personnel Performing Work for RPP-WTP: BNFL Inc.,” dated December 9, 1999.
- Surveillance Report SV-W375-99-QA000022, Rev. 0: “Training Requirements for Off Site Personnel Performing Work for RPP-WTP: Bechtel National Inc.,” dated December 9, 1999.
- Surveillance Report SV-W375-99-QA000023, Rev. 0: “Training Requirements for Off Site Personnel Performing Work for RPP-WTP: SAIC,” dated December 9, 1999.

Other

- BNFL Audit Action Summary, dated February 25, 2000.
- Master Summary Training Report, “Training Summary from 1/1/2000 to 1/31/2000,” dated February 22, 2000.
- Human Resources/Administration Monthly Progress Report for September 1999
- List of qualified instructors dated February 22, 2000.
- List of worker certification requirements, not dated.
- List of the training and qualification records maintained, not dated.
- Audit Log for Audit Number IR-99-001, “RU/TWRS-P Training and Qualification Inspection (MAR99), dated December 1, 1999.
- Deficiency Report DR-W375-99-QA-00017, action dated complete August 5, 1999.
- Deficiency Report DR-W375-99-QA-00018, action dated complete June 8, 1999.
- Deficiency Report DR-W375-99-QA-00019, action dated complete June 8, 1999.
- A sampling of completed position specific training requirements forms, form number K20F017, Rev. 0, dated September 23, 1999.
- A sampling of employee training profiles.
- Training slide presentations, “Quality Improvement,” and “RPP-WTP Quality Improvement Process,” for course number QAO-000A-01, Quality Assurance

Orientation, observed on March 8, 2000.

- RPP-WTP quality assurance orientation completion form from course number QAO-000B-01, “RPP-WTP Quality Assurance Computer-Based Self-Training Orientation Course.”
- Training slide presentation, “Overview of the RPP-WTP Configuration Management Program,” for course number Config-0001-01, “Configuration Management,” observed on March 9, 2000.
- Training slide presentations, “DOE/RL-96-0004 Training, Integrated Safety Management Process Workshop,” and “The Process for Establishing Safety Standards and Requirements the “0004” Process,” for course “Integrated Safety Management Program,” observed on March 10, 2000.
- Training lesson plan for course number MTRRO-0001-01, “Management Training Responsibilities and Requirements Orientation,” and training session record for course provided on February 29, 2000.
- Deficiency Report DR-W375-99-QA00111, dated December 9, 1999.
- Deficiency Report DR-W375-99-QA00112, dated December 9, 1999.
- Deficiency Report DR-W375-99-QA00113, dated December 9, 1999.
- Deficiency Report DR-W375-00-QA00017, dated March 9, 2000.
- Deficiency Report DR-W375-99-QA00115, dated February 18, 2000.
- Corrective Action Report CAR-W375-00-QA00002, dated March 8, 2000.

3.5 List of Acronyms

BNFL	BNFL Inc.
CFR	Code of Federal Regulations
CAR	Corrective Action Report
DOE	U.S. Department of Energy
DR	Deficiency Report
EH&S	Environmental, Health, and Safety
ITP	Inspection Technical Procedure
NRC	Nuclear Regulatory Commission
OJT	On-the-job-training
QA	Quality Assurance
QAO	Quality Assurance Orientation
QAP	Quality Assurance Program
QAPIP	Quality Assurance Program and Implementation Plan

QL	Quality Level
RFS	Request for Staff
RL	Richland Operations Office
RPP-WTP	River Protection Project – Waste Treatment Plant
RU	Regulatory Unit
SRD	Safety Requirements Document
TWRS-P	Tank Waste Remediation System Privatization