



Department of Energy

Richland Operations Office
P.O. Box 550
Richland, Washington 99352

00-RU-0402

Mr. Phillip O. Strawbridge
Transition Manager
BNFL Inc.
3000 George Washington Way
Richland, Washington 99352

Dear Mr. Strawbridge:

SELF-ASSESSMENT AND CORRECTIVE ACTION INSPECTION REPORT, IR-00-004

From April 24-May 1, 2000, the Office of Safety Regulation (Regulatory Unit) performed an inspection of the BNFL Inc. (BNFL) self-assessment and corrective action programs.

Three Findings with multiple examples (documented in the Notice of Finding, Enclosure 1) were identified and are summarized as follows: (1) problem identification and corrective action (quality improvement) procedures were not adequate to describe and control the processes necessary to ensure an effective quality improvement program; (2) implementation of corrective actions for identified deficiencies was not timely (twelve examples of failure to address deficiencies in a timely manner were identified); and (3) quality improvement procedures were not being followed (three examples were identified regarding failure to write a Corrective Action Report when a Deficiency Report (DR) was designated as significant; failure to write a DR when document control problems were identified during a surveillance; and failure to write DRs when outside entities identified deficiencies.) Details of the inspection, including the Findings, are documented in the inspection report (Enclosure 2).

The Findings described above are of significant concern to the Regulatory Unit. The quality improvement program (problem identification and corrective action) was not being effectively implemented. Inspection results indicated that in the past, management was not providing appropriate support to the quality improvement program to ensure that problems were being addressed in a timely manner. Also, staff were not applying appropriate priority to quality improvement related activities and were found, in general, to have little knowledge of the program. The RU recognizes that efforts were underway prior to the inspection to improve procedures and the timeliness of corrective actions. It is important that these initiatives not lose momentum during the current Contract changes.

Phillip O. Strawbridge
00-RU-0402

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You are requested to provide a written response to the Findings within 30 days, in accordance with the instruction provided in the enclosed Notice of Finding. In addition, the RU requests that BNFL provide in the response, the results of a determination if the conditions described in the Findings identify noncompliance with DOE nuclear safety requirements and if these conditions are reportable under 10 CFR Part 820, Appendix A, "General Statement of Enforcement Policy."

Nothing in this letter should be construed as changing the Contract (DE-AC27-96RL13308). If BNFL has any questions regarding the inspection or Findings, please contact me or Pat Carrier of my staff on (509) 376-3574.

Sincerely,

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

REG:JWM

Enclosures

cc w/encls:
D. A. Klein, BNFL

NOTICE OF FINDING

Standard 4, "Safety, Health, and Environmental Program," of Contract DE-AC27-96RL13308, dated August 24, 1998, between BNFL Inc. (the Contractor) and the U.S. Department of Energy (DOE), 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) of the Contract requires the Contractor to comply with the specific nuclear regulations defined in the effective rules of the 10 CFR 800 series of nuclear requirements.

10 CFR 830, "Nuclear Safety Management," Section 120, "Quality Assurance (QA) Requirements," requires the Contractor to conduct work in accordance with the requirements of Section 120 and to develop a QA Program that reflects the requirements of Section 120.

The Contractor's QA Program is defined in BNFL-5193-QAP-01, Rev. 5, "Quality Assurance Program and Implementation Plan [QAPIP]," dated April 2000.

During performance of an inspection of the Self-Assessment and Corrective Actions Programs conducted April 24 through May 1, 2000, at the Contractor's offices, the Regulatory Unit (RU) identified the following:

1. Section 5.3.2 of the QAPIP states that processes that affect quality shall be conducted under controlled conditions using approved instructions, procedures, checklists, and other appropriate means. The procedures and instructions shall be prepared at a level of detail appropriate to describe and control the work based on the importance and complexity of the work process being performed.

Contrary to the above, during the inspection procedures associated with self-assessments and quality improvement (for example, K13P054_1, "Corrective Action," and K13P051_2, "Authorization to Stop Work") were found to not be adequate to describe and control the processes necessary to ensure an effective quality improvement program. Examples of these procedural issues are described in Sections 1.2.2 and 1.3.2 of Inspection Report IR-00-004 (enclosure 2).

This is considered an inspection Finding.

2. Section 3.2.2 of the QAPIP requires conditions adverse to quality to be managed to disposition and closure of the identified conditions are to be performed in a timely manner.

Contrary to the above, during the inspection 12 examples of failure to address deficiencies in a timely manner were identified (for example, DR-W375-99-QA00059 was issued June 9, 1999, concerning problems with quality improvement procedures;

however, the procedures had not been revised to reflect the recommended disposition of the DR at the time of the inspection [May 1, 2000]). This and other examples are described in Sections 1.5.2 and 1.7.3 of Inspection Report IR-00-004 (Enclosure 2).

This is considered an inspection Finding.

3. Section 5.3.2, "Instructions and Procedures," of the QAPIP requires processes that affect quality to be conducted using approved instructions and procedures.

- a. Procedure K13P054_1, "Corrective Actions," Milestone 3, required the QA Manager to initiate Corrective Action Reports (CARs) for conditions adverse to quality the are considered to be significant.

Contrary to the above, DR-W375-99-QA00095 was issued on November 3, 1999, and was designated as significant. However, as of April 21, 2000, the QA manager had failed to issue the required CAR.

- b. Procedure K13C054_1, "Corrective Action," required deficiency reports (DRs) to be written to identify and correct discrepancies associated with documents.

Contrary to the above, surveillance SV-W375-00-QA0007 was completed March 17, 2000, and identified numerous errors regarding the manner in which changes were made to documents, however, as of April 21, 2000, no DRs had been generated to reflect the deficiencies.

- c. Procedure K13C054_1, required conditions adverse to quality to be documented in deficiency reports.

Contrary to the above, as of April 21, 2000, RU Inspection Finding IR-99-007-01-FIN, issued on December 13, 1999, had not been documented in a deficiency report. In addition, other issues identified by outside entities (for example, other RU inspection Findings and Office of River Protection Deviation and Corrective Action Reports) were not being documented in deficiency reports.

The three issues described above are considered examples of a Finding regarding failure to follow procedures.

The RU requests that the Contractor provide, within 30 days of the date of the cover letter that transmitted this Notice, a reply to the Findings above. The reply should include: (1) admission or denial of the alleged Findings, (2) the reason for the Findings, if admitted, and if denied, 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: SELF-ASSESSMENT AND CORRECTIVE ACTION

REPORT NO: IR-00-004

FACILITY: BNFL Inc.

LOCATION: 3000 George Washington Way
Richland, Washington 99352

DATES: April 24-May 1, 2000

INSPECTORS: J. McCormick-Barger (Lead), Senior Regulatory Technical Advisor
A. Hawkins , Senior Regulatory Technical Advisor
R. Smoter. Regulatory Unit Consultant

OBSERVER: W. Pasciak, U.S. Nuclear Regulatory Commission
D. Ryder, Pacific Northwest National Laboratory

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

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SELF-ASSESSMENT AND CORRECTIVE ACTION INSPECTION
EXECUTIVE SUMMARY
Inspection Report Number IR-00-004

INTRODUCTION

This inspection of the BNFL Inc. (the Contractor) self-assessment and corrective action programs covered the following specific areas:

- Effectiveness of procedures for self- and independent-assessments.
- Effectiveness of procedures for the quality improvement program including problem identification and corrective actions.
- Frequency and adequacy of self-assessments.
- Control of deficient items, services, and processes, including timeliness and adequacy of corrective actions.
- Adequacy of records.
- Follow-up on inspection items.

SIGNIFICANT OBSERVATIONS AND CONCLUSIONS

- The recently revised code of practice describing the requirements for conducting QA program audits and assessments was well written; however, other related procedures such as those used to conduct management assessments and root cause analysis lacked adequate detail. (Section 1.2)
- Procedures for controlling the Contractor's quality improvement program were found to contain errors, lacked detail, and did not adequately describe and control the processes necessary to ensure an effective quality improvement program. An inspection Finding was identified for lack of adequate quality improvement procedures. (Section 1.3)
- The Contractor had established and maintained schedules for conducting self- and independent-assessments. Performance indicators were a consideration in assessment planning. (Section 1.4)
- The frequency of assessments was appropriate for the stage of the project. Checklists and assessment planning, completed by independent oversight staff, were adequate and appropriate for the nature of the assessments. There was good management involvement with self-assessments. (Section 1.4)

- Significant problems were identified with implementation of the processes associated with identification of deficient items and the ability to timely and adequately address deficient items. Over half of the DRs and CARs reviewed were not being addressed in a timely manner. Two Findings were identified, one with eleven examples of failure to address deficiencies in a timely manner, and one with two examples for failure to follow procedures regarding not issuing a DR when numerous errors were found with documents, and not issuing CARs when five DRs were determined to be significant. (Section 1.5)
- The total number of Suggestion and Improvement Forms and DRs that had been issued to date were low and staff were not fully aware of the Contractor's problem identification and corrective action programs. (Section 1.5)
- The backlog of open corrective actions was significant. The recent addition of QA staff had helped to focus on resolving identified problems and improvements in the timeliness of corrective action was noted. Adding QA engineers to the line organizations was considered a positive initiative toward addressing the corrective action backlog. (Section 1.5)
- The Contractor's Corrective Action Management System (CAMS) database was adequate to meet the commitments in the authorization basis. Records were generally being maintained, as required, by Project Document Control. A third example of a Finding for failure to follow procedures regarding writing DRs to address deficiencies identified by outside entities, was identified. (Section 1.6)
- Corrective actions for previously identified inspection Findings IR-99-002-02-FIN and IR-99-003-02-FIN were reviewed and found to be acceptable; the Follow-up items were closed. However, one example of a Finding regarding untimely corrective action was identified. (Section 1.7)
- The progress made by the Contractor on implementing corrective actions associated with Finding IR-99-007-01-FIN and CAN-2000-01 was consistent with commitments made in response to the Finding. Contractor management was involved in the implementation of corrective actions and appropriate resources appeared to have been applied to the effort. (Section 1.7)

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SELF-ASSESSMENT AND CORRECTIVE ACTION INSPECTION

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SELF-ASSESSMENT AND CORRECTIVE ACTION INSPECTION REPORT

1.0 REPORT DETAILS

1.1 Introduction

In accordance with the TWRS-P Contract (Contract, DE-AC27-96RV13308 between DOE and BNFL Inc. (BNFL), dated August 24, 1998) and specifically 10 CFR 830.120, *Quality Assurance Requirements*, the Contractor was required to assess work performance and identify and correct problems including identifying the causes of problems and working to prevent recurrence. This requirement was reflected in the Contractor's authorization bases such as, the Quality Assurance Program and Implementing Plan (QAPIP) (BNFL-5193-QAP-01, Rev. 5), Safety Requirements Document (SRD) (BNFL-5193-SRD-01, Rev. 2), and Integrated Safety Management Plan (ISMP) (BNFL-5193-ISP, Rev. 4).

The inspectors reviewed the Contractor's self- and independent-assessment, and problem identification and corrective action (quality improvement) implementing procedures to determine if they complied with the commitments in the QAPIP, SRD, and ISMP. In addition, the inspectors assessed the implementation of the Contractor's self-assessment and quality improvement programs as they related to the design phase of the TWRS-P Contract to ensure that the Contractor was following its plan and procedures.

1.2 Effectiveness of Procedures for Self- and Independent-Assessments (Inspection Technical Procedure (ITP) I-103)

1.2.1 Inspection Scope

The inspectors assessed the effectiveness of the Contractor's procedures used to conduct self- and independent-assessments. The inspectors reviewed the procedures against the Contractor's commitments in the authorization bases.

1.2.2 Observations and Assessments

The inspectors performed a review of the Contractor's self-, and independent-assessment procedures prior to arriving on site. During the pre-inspection review, the inspectors identified the following procedural concerns:

K10P008B_0, "Management Assessments," dated March 2000:

- Milestone 1 allowed the manager to appoint a nominee to perform the assessment. The milestone did not clearly address Section 9.3 of the QAPIP, which requires the manager to provide direct participation. However, in Appendix 1, "Definitions," under

Management Assessment, it stated that "Managers maintain overall responsibility for the assessment and direct participation is essential." The "Definitions" appendix is not an appropriate place to provide the only specific guidance regarding the above stated QAPIP requirement.

- Milestone 2 or applicable Appendixes: 1) did not require review criteria to be established as required by Section 9.3 of the QAPIP, and 2) did not clearly specify how deficiencies were to be evaluated to determine if a deficiencies report (DR) should be generated.
- Milestone 3 referred the reader to notes 3, 4, & 5, of Appendix 3 which were not related to the subject discussed.
- Although required by ISMP Section 10.3, there was no clear guidance for management assessments to evaluate the effectiveness of corrective actions in preventing recurrence of previous problems.

K13C051_1, "Code of Practice for RPP-WTP Quality Assurance Program Audits and Assessments," dated March 2000:

- This procedure was revised in March 2000 and contained, with one exception, adequate detail and addressed QAPIP requirements. The one exception concerned the failure of the procedure to require the auditors to issue DRs in accordance with K13P054, "Corrective Action," when they identify conditions adverse to quality.

K13P061_0, "Root Cause Analysis," dated September 1999:

- Milestone 1 did not define the requirements for performing a root cause analysis, rather it stated that the Project Manager was to "Determine need for root cause analysis (RCA)." Also, the procedure did not provide guidance to the Project Manager regarding the establishment of the completion schedule, RCA resource requirements, or Price Anderson Amendment Act (PAAA) reporting.
- Milestone 2 did not provide details regarding the need to generate deficiency reports to document deficiencies that may be identified as a result of performing the RCA. The procedure did not describe the process for performing RCA. The procedure only instructed the RCA Team Leader to perform the RCA in accordance with a project accepted method. Although the procedure contained an Appendix 4 that provided a format for the RCA report, it was not referenced in the procedure.

With the exception of K13C051_1, which was recently revised and provided adequate detail (see the exception listed above), procedures did not provide sufficient and unambiguous detail to allow consistent and uniform implementation across the project. The review also confirmed that elements (such as lessons learned, direction on graded corrective action, and a detailed prioritization process) were not present in the Contractor's procedures. The adequacy of quality improvement procedures are further discussed in Section 1.3.2, below, and an Inspection Finding was identified that encompasses the problems described above.

The inspectors were informed of the Contractor's ongoing effort to improve the quality of these procedures. The Contractor had initiated actions to make project-wide improvements in the quality of the procedures and specifically to address procedures related to the quality improvement area; however, this effort was not sufficiently advanced to observe and evaluate results in this area.

1.2.3 Conclusions

The recently revised code of practice describing the requirements for conducting QA program audits and assessments was well written and, with one exception, contained adequate detail to ensure consistent implementation of the independent assessment program. However, other related procedures such as those used to conduct management assessments and root cause analysis lacked adequate detail.

1.3 Effectiveness of Procedures for Quality Improvement (ITP I-101)

1.3.1 Inspection Scope

The inspectors examined the Contractor processes associated with identification of deficiency reports (DRs) and corrective action reports (CARs), corrective action tracking, employee suggestions, and the use of the corrective action management system (CAMS).

1.3.2 Observations and Assessments

The inspectors performed a review of quality improvement procedures prior to arriving on site. During the pre-inspection review, the inspectors identified the following procedural concerns:

K13P051_2, "Authorization to Stop Work," dated July 1999:

- Milestone 1, allowed work to proceed after the cognizant QA engineer and procedure owner redlined, initialed, and dated the procedure changes. Although the procedure step implied that a Procedure Change Request (PCR) was to be initiated, it was not until further in the procedure that the responsible manager was instructed to complete the PCR. This activity was contrary to QAPIP Section 4.2.1.4, or administrative procedure K13C003_1A, "Code of Practice for the Production of Process-Based Procedures," dated 02/00, which specified a formal change process.

The procedure instructed the responsible manager to initiate action to correct deficient documents but did not specify what procedure to use to perform the task.

An example of a Stop Work included: "defective materials or equipment are used or being installed and further processing or use is likely to require significant repair or removal." The procedure implied that defective material, that would not likely require significant repair or removal, could be used.

- Milestone 2 instructed the responsible manager to cease any work and proceed in an orderly manner with the action requested. However, "action requested" is undefined. It was not clear what actions the procedure was addressing.
- Milestone 3 required the project manager and QA manager to determine the cause and establish measures to preclude recurrence. Requiring the QA manager to participate in these activities could result in loss of QA independence.

K13P054_1, "Corrective Action," dated March 1999:

- Milestone 1 did not have instructions regarding the originator's functional manager feeding back results of the DR validation effort. This would be important if the functional manager did not validate the DR. Also, there was no QA involvement with the validation effort.
- Milestone 2: (1) Did not have instructions to forward the DR to the responsible organization for disposition. (2) Did not have instructions for the functional manager to disposition the DRs, but rather directed the QA manager to disposition the DRs. This again could result in the QA organization losing independence.
- Milestone 2 or 3: (1) Did not have requirements for timeliness of initial corrective action determination or implementation of corrective actions. Also, did not have requirement for revision of DRs/CARs if changes in disposition should occur. (2) Did not have details of how disagreements regarding disposition between QA and the functional manager are resolved. (3) Did not have instructions regarding prioritization of DRs and CARs. (4) Did not have details regarding how feedback of DR resolution is provided to originators.
- Appendix 1: "Corrective Action Report Form." The form had no signature block for approval of disposition of CARs.
- Appendix 2: "Deficiency Report Form." The form had no signature block for approval of disposition of DRs.

K13P055A_1, "Corrective Action Management System," dated December 1999:

- Milestone 1: (1) Procedure required the QA manager jointly with the project manager to determine corrective actions to eliminate trends. Requiring the QA manager to be directly involved with determining corrective actions could result in the loss of QA independence. (2) There were no requirements for the Project Safety Committee or QA to concur on disposition of significant DRs (CARs).

K13P056_2, "Identification of Nonconforming Conditions," dated August 1999:

- Appendix 1, "Nonconformance Reporting Process" had numerous errors referencing other appendixes probably because Appendix 3 was removed during a previous revision and the appendixes were renumbered but the text was not). Also, like the CAR and DR,

there was no originator feedback instructions when validating the non-conformance report (NCR).

- Appendix 2 "NCR Form" had no place to describe rework or repair actions.
- Appendix 3: (1) Item 7 referred to reference 2.2, Corrective Action. Reference 2.2 was not in the procedure. (2) Item 8 required the designated engineer to specify "inspection/test requirements." There were no provisions for QA to specify inspection or test requirements. (3) Item 13 referred to "Action Party." This term was not defined.

K13P059_0, "Identification, Tracking, and Reporting of Price Anderson Amendment Act noncompliance," dated November 1999:

- Procedure did not clearly describe how PAAA reporting was accomplished or who, if anyone, reviewed the report prior to reporting.

K13P062_0, "Quality Trending," dated February 1999:

- Milestone 2 stated that the CAMS coordinator was to identify trends and inform the QA manager who in turn, if significant, was to bring it to the attention of the project manager. The instructions did not specify how this was to be done. However, the flow chart indicated that it was via a CAR.

K13P061_0, "Root Cause Analysis," dated September 1999:

- The flow chart stated that the project manager is to implement corrective action as required by K13P0055, but the procedure did not describe a process for elevating identified problems to DRs.

Section 5.3.2 of the QAPIP states that processes that affect quality shall be conducted under controlled conditions using approved instructions, procedures, checklists, and other appropriate means. The procedures and instructions shall be prepared at a level of detail appropriate to describe and control the work based on the importance and complexity of the work process being performed. The examples of procedural concerns described above and in Section 1.2.2, indicated that the procedures were not adequate to describe and control the processes necessary to ensure an effective quality improvement program. This is considered an inspection Finding (IR-00-004-01-FIN).

Shortly after arriving on site, the inspectors were informed of the Contractor's efforts to address procedural issues similar to those described above. Although the Contractor had identified similar concerns and were in the process of preparing draft procedure revisions to address the concerns, the RU chose not to give the Contractor self-identification credit when determining whether to designate this issue as an Inspection Follow-up Item (IFI) or a Finding. This was because procedural issues had also been identified during the previous inspection in this area in June 1999. A Finding was not cited during that inspection because the Contractor had previously identified the issues in a DR. Instead, an IFI was issued to track the RU's follow-up of the Contractor's actions to resolve the issues (IR-99-003-01-IFI). The Contractor had failed to

adequately address their self-identified procedural issues in a timely manner. This problem is discussed further in Section 1.7, "Follow-up on Previously Identified Inspection Items."

1.3.3 Conclusions

Procedures for controlling the Contractor's quality improvement program were found to contain errors, lacked detail, and did not adequately describe and control the processes necessary to ensure an effective quality improvement program. The Contractor had discussed its ongoing efforts to address similar procedural problems it had identified through self-assessments. Because similar problems were self-identified by the Contractor during a previous inspection in this area that was not addressed in a timely manner, self-identification credit was not given and an inspection Finding was identified rather than an Inspection Follow-up Item.

1.4 Frequency and Adequacy of Self- and Independent-Assessments (ITP I-103)

1.4.1 Inspection Scope

The inspectors assessed the frequency and adequacy of the Contractor's performance of self- and independent assessments (i.e., audits and surveillances performed by the quality assurance organization). The inspectors also assessed the Contractor's use of performance indicators and trending results for determining independent assessment schedules.

The inspectors examined the following:

- The checklists for, and results of, management assessments SA-W375-99-000247 and SA-W375-00-00062
- The checklists for, and results of, surveillances SV-W375-99-QA00008, SV-W375-00-QA00012, and SV-375-00-QA00007
- The checklist for, and results of, audit AN-W375-99-QA-00009
- The checklists for, and results of, supplier surveys AR-W375-99-QA00010 and AR-W375-99-QA-00011
- Corrective action performance indicators.

Additionally, the inspectors met with the responsible managers and QA staff for each of these assessments. The inspectors also met with project management to review and discuss plans for modifying the self-assessment system to assure that it was consistent across the project and that management planned to routinely assess each defined management area of the Contractor's programs.

1.4.2 Observations and Assessments

The inspectors evaluated the assessment checklists for the above listed documents and found that they were appropriate for the nature of the individual assessments. The responsible individuals were knowledgeable of the status of their assessments, including the status of corrective actions to identified problems, where applicable.

The inspectors noted that the members of senior management interviewed were positive and proactive regarding self-assessment. They were directly involved in performing self-assessments and were personally and actively engaged in any corrective actions, including corrective action verification.

In discussion with the Deputy Project Manager, the inspectors noted that the Contractor had assessed their self-assessment program. The Contractor is proposing to improve consistency across the area project managers and to involve the functional organizations in self-assessments of functional areas. The Contractor intended to perform fewer but better focused self-assessments. The Contractor believed that this could improve both the quality and timeliness of corrective actions.

In discussions with Contractor staff, interviewees noted an awareness of the assessment-related performance indicators. Use of the indicators was apparent from discussions with management and from review of project management meeting minutes. One interviewee noted that some surveillances were performed directly at the request of managers based on their analysis of needs in their area of responsibility. One interviewee noted that managers were not provided training on how to perform self-assessments.

1.4.3 Conclusions

The inspectors found that the Contractor had established and maintained schedules for conducting management and independent assessments. The inspectors found that the Contractor's performance indicators were a consideration in assessment planning. There was good management commitment to self-assessment.

The inspectors determined that the frequency of assessments was appropriate for the stage of the project. Checklists and assessment planning, completed by independent oversight staff, were adequate and appropriate for the nature of the assessments.

1.5 Identification and Control of Deficient Items (ITP I-103)

1.5.1 Inspection Scope

The inspectors examined the Contractor's implementation of its processes associated with identification of deficient items including the adequacy of corrective actions associated with deficiency reports and corrective action reports.

1.5.2 Observations and Assessments

The Contractor's program for identification and control of deficient items consisted of several important elements. They included problem identification via self- and independent-assessments, quality trending, and obtaining employee feed back via the suggestion and improvement program, the corrective action program, and the employee concern program. Issues were required to be reviewed for significance, stop work action, and Price Anderson Amendment Act reporting. Corrective actions were required to be specified and implemented, and completed actions were to be reviewed by QA before deficiency closure.

To assess the adequacy of performance in this area, the inspectors reviewed the suggestion and improvement program database and selected for review from the Contractor's Corrective Actions Management System (CAMS) a sample of DRs and CARs. The suggestion and improvement database contained 74 records of issues identified. These records contained a range of issues from non-safety items to issues that were subsequently documented on DRs. Although the files demonstrated that the system was being used, considering the number of Contractor employees (approximately 700), and the number of procedural compliance issues identified during previous inspections, the number of suggestion and improvement files seemed low.

The CAMS indicated that approximately 115 DRs had been generated since the project began. Most DRs were generated as a result of self- and independent- assessments. Although any Contractor staff member had the authority to write DRs, few individual staff members were using the DR system. Again, the number of DRs generated seemed to be low.

The inspectors interviewed a random selection of employees to determine their awareness of the problem identification and corrective action programs. Most staff interviewed stated that they were either not aware of the programs or only vaguely aware of the programs. When prompted concerning their attending QA orientation training, many then recalled hearing about the programs but were not aware of how they were to be used. However, all stated that they would not hesitate to discuss issues with their supervisors and expected that their supervisors would address the problems as needed.

As discussed above, the inspectors randomly selected from the CAMS database the following DRs and CARs for review to determine if they were being adequately addressed in a timely manner:

Open DRs and CARs:

- DR-W375-99-QA00059: This DR identified a large number of problems with quality improvement procedures. The DR was written June 9, 1999, and remained open at the time of the inspection. QAPIP Section 3.2.2 requires conditions adverse to quality to be managed to disposition and closure of the identified conditions are to be performed in a timely manner. Although the Contractor had specified a number of changes to procedures to address the problems, implementation had not been timely. Failure to address this deficiency in a timely manner is considered an example of a Finding (IR-00-004-02a-FIN).

- DR-W375-99-QA00065: This DR identified that contrary to ISMP Section 3.9.1.2, the Contractor had not prepared a set of radiation protection drawings that showed the facility zoning and minimum shielding requirements and access control features. The DR was written on July 2, 1999. The initial disposition indicated that a change to the ISMP would be generated to reflect the Contractor's practice of having standard project drawings (e.g., project flow diagrams, piping and instrument drawings, and layout drawings) show as low as is reasonable achievable (ALARA) features such as zoning, shielding, and access control provisions. However, as of the time of the inspection, the Contractor had not processed the ISMP change to reflect the above disposition. Failure to address this deficiency in a timely manner is considered an example of a Finding (IR-00-004-02b-FIN).
- DR-W375-99-QA00071: This DR identified that new laws, regulations, and guidance documents were not being evaluated by the project for applicability to project programs. The DR was issued on July 22, 1999, and was still open at the time of the inspection. The DR was characterized as non-significant. ISMP Section 2.1 states that new laws, regulations, and guidance documents are reviewed for applicability to the project. In a response memorandum to QA, dated March 23, 2000, eight months after the DR was issued, it stated that a formal program addressing this requirement did not exist, although it was also stated that *ad hoc* reviews were done. A plan for formalizing the process was also discussed in the response with the development of the procedure due by April 21, 2000. As of the time of the inspection a draft procedure had been developed and was being circulated for concurrence. Failure to respond to this DR in a timely manner is considered an example of a Finding (IR-00-004-02c-FIN).
- DR-W375-99-QA00072 and CAR-W375-99-QA00031: This DR and CAR identified that a number of DR and CAR records were missing from Project Document Control (PDC). The DR had been written on July 28, 1999, and the CAR had been written on July 29, 1999. The Contractor had performed an assessment of the problem and had written a summary of the causes and proposed actions to address the problems. However, corrective actions, which included providing PDC with the missing records and revising K13P054 to specify more clearly the requirement to route the documents to PDC for records storage, had not been completed at the time of the inspection. Failure to address this deficiency in a timely manner is considered an example of a Finding (IR-00-004-02d-FIN).
- DR-W375-99-QA00082: This DR identified that the standard selection process was not being fully implemented as documented in the SRD and project implementing procedures. The DR was issued on August 27, 1999, and was characterized in the CAMS database as not significant and overdue. The initial response, which was also the closeout response to this item, was dated April 10, 2000, almost eight months after the item was issued. The item was closed based upon the ISM cycle 1 & 2 processes. Failure to respond to this DR in a timely manner is considered an example of a Finding (IR-00-004-02e-FIN).
- DR-W375-99-QA00087 and CAR-W375-99-QA00036: The DR and CAR were written on October 18, 1999, and October 20, 1999, respectively. These documents identified that QA had not performed internal audits per the project schedule nor had they updated

the schedule to reflect the current auditing status. The schedules were not updated until February 15, 2000, and the CAR was not closed until April 18, 2000. Failure to address this deficiency in a timely manner is considered an example of a Finding (IR-00-004-02f-FIN).

- DR-W375-99-QA00095: The DR resulted from QA surveillance activities associated with the review of thirty-eight calculations. The DR identified that authorization basis (AB) screenings had not been performed. The QA surveillance auditor interviewed engineering staff including the calculation originators, and none had a good explanation for why AB screenings had not been done. The DR was issued on November 3, 1999, was classified as significant, and was still open. No correspondence occurred on this DR between November 3, 1999 and February 16, 2000. On March 15, 2000, actions to address the DR was extended to April 21, 2000. As of April 25, an initial response had not occurred. Based on the request by QA in the cover letter that transmitted the DR to the responsible organization, the initial response should have been completed within 30 days of November 3, 1999. Failure to respond to this DR in a timely manner is considered an example of a Finding (IR-00-004-02g-FIN). In addition, because the DR was considered significant, a CAR should have been issued. The memorandum from the QA manager to the Executive Vice President, dated November 11, 1999, that transmitted this and four other DRs that had been identified during the surveillance, indicated the CARs would be generated for all five DRs. However, as of May 1, 2000, CARs had not been generated as required by procedure K13P054_1, "Corrective Action." Failure to follow procedures regarding writing a CAR, as required by QAPIP Section 5.3.2, "Procedures, Codes of Practice, and Instructions," is considered an example of a Finding (IR-00-004-03a-FIN).
- DR-W375-99-QA00097: The DR identified that training requirements were not being met for the AB process. People were originating documents without understanding procedures or attending the required AB training. Thirty of fifty-six originators did not attend the November 1998 training. This item was issued on November 3, 1999, and remained open. At the time of the inspection, the initial response had not been generated. Document review indicated that the initial response due date was moved out to April 28, 2000. Failure to respond to this DR in a timely manner is considered an example of a Finding (IR-00-004-02h-FIN).
- DR-W375-99-QA-00114: The DR was written on March 15, 2000, and documented problems associated with 40 calculations that were reviewed during a QA surveillance of calculation records in PDC. On April 12, 2000, a memorandum was written to the QA manager rejecting the DR because of lack of sufficient detail in the DR or surveillance report concerning the deficiencies for the design organization to validate the issues raised. The DR and associated surveillance report did not provide a list of the calculations with specific deficiencies, but rather made summary comments concerning the deficiencies. At the time of the inspection, the QA engineer that performed the surveillance was working with the design organization to provide necessary information for the design organization to fully assess the deficiencies identified in the DR.
- DR-W375-99-QA00115: This DR identified eight examples of errors in employee training records and personnel selection forms. The DR was issued on February 18,

2000. The initial response to this DR was dated March 29, 2000. The response appeared adequate, although the item had not yet been closed because of additional questions by the QA organization.

- DR-W375-00-QA00020: The Contractor performed QA surveillance, SV-W375-00-QA00007, of actions taken on documents where Document Control identified errors in processing. The surveillance report was issued on March 21, 2000. Document Control had identified errors in 276 documents. Of these, the QA surveillance identified 52 where changes were made to them prior to them being sent to Document Control. Of the 52, only 29% were properly processed in the originating department. This DR was issued on April 25, 2000, apparently in response to the inspector's inquiry. Failure to address this deficiency in a timely manner is considered an example of a Finding (IR-00-004-02i-FIN).

Closed DRs and CARs:

- DR-W375-99-QA00049 Rev.1: This DR concerned failure to record all objectives and findings during the performance of design reviews. The DR was written on May 14, 1999, but the disposition was not issued until March 7, 2000. Failure to address this deficiency in a timely manner is considered an example of a Finding (IR-00-004-02j-FIN).
- DR-W375-99-QA00062 Rev. 1: This DR documented an RU Finding identified during the previous self-assessment and corrective action inspection in June 1999. The issue concerned failure to use performance indicator results and trending as a basis for determining the frequency of assessments. The DR was closed in August 1999 after revising K13C051, "Code of Practice for RPP-WTP Quality Assurance Program Audits and Assessments," to reflect the requirements to include performance indicator results and trending as a basis for determining the frequency of assessments.
- DR-W375-99-QA00112: This DR identified, as a result of a review of RPP-WTP financial records and training records, that some sub-contractors were performing work without having documented training for the functions they were performing. The DR was written on December 9, 1999, and a disposition was provided via a memorandum to QA, dated February 28, 2000. The disposition provided details of actions taken to require training to those individuals that would continue to provide support to the project.
- DR-W375-99-QA00055: This DR concerned a vendor not providing daily standardization results in sufficient detail to the Contractor, as for example, actual readings were not recorded and dilution of samples were not recorded. This DR was written on June 22, 1999, and was closed on July 27, 1999. In the closeout of the deficiency report it was stated that the record of daily standardization shall include actual standardization readings. The corrective action was initialed off by the vendor. Review of records of vendor information showed required data being provided after the vendor was instructed to do so. The timeliness of handling this action and the resolution was good.

- DR-W375-99-QA00074: This DR concerned a vendor and involved their Quality Assurance Project Plan not clearly delineating the requirements that apply to laboratory work. The DR was written on August 4, 1999, and closed on August 16, 1999. In the disposition, the QA Project Plan was to be revised to more clearly address laboratory operations. The disposition also stated that appropriate revisions would be made to the vendor's laboratory quality control (QC) manual. The estimated completion date was August 9, 1999. This completion date was met and changes were made to the appropriate documents.
- DR-W375-99-QA00083: This DR indicated that the standard selection process was not fully implemented as documented in the SRD. This DR was opened on August 27, 1999, and was indicated as closed in the CAMS database. Upon review of the file supporting this DR, no information supporting closure was identified. The CAMS database was supposed to be a summary of what was in the DR file. The Contractor had no explanation for the inconsistency between the DR file and the CAMS database and stated that the item was not complete and that the CAMS database would be changed to indicate the item was still open. Failure to address this deficiency in a timely manner is considered an example of a Finding (IR-00-004-02k-FIN).

Line managers often received DRs in a timely fashion, and QA had met with them monthly to inform them of responses that were late, as described above, however, managers had often failed to respond to the DRs or to QA's request for response. Based on these observations, the inspectors concluded that project management had not established a culture within the organization that promoted timely handling of quality assurance issues by line managers.

Although resolution of problems was untimely, the inspectors determined from review of performance indicators and interviews, that the QA organization was emphasizing the timely assessment and closure of deficiencies. Several temporary QA personnel were added to staff since the first of the calendar year to focus on this area. The QA organization had also established points-of-contact for each line organization. Some positive effects of their involvement were apparent in the performance indicators, in that the number of open deficiencies had leveled off. However, it was too early to judge the full effect of the initiative.

The inspectors noted that QA staff were performing evaluations of adequacy of management responses to assessment deficiencies and conducting follow-up evaluations as required by the QAPIP. The inspectors observed that QA staff had rejected inadequate responses and were working with management to help them better understand what constituted an adequate response.

The inspectors observed that two line organizations had added QA engineers. These engineers were tasked, in part, to assist the line managers in improving corrective action responsiveness and served as liaisons with the QA organization.

The inspectors identified that surveillance SV-W375-00-QA0007 was completed March 17, 2000, with issues identified but no DRs generated to date. (This surveillance found numerous errors in changes to documents.) The responsible QA lead indicated that they were unable to identify an owner for the issues, although they were discussed with the Project Manager. The proposed action was to conduct another surveillance, which the inspectors considered to be unacceptable because this action did not resolve the identified issues. Procedure K13C054_1,

"Corrective Action," required DRs to be written to identify and correct discrepancies associated with documents. Failure to follow this procedure as required by QAPIP Section 5.3.2, "Procedures, Codes of Practice, and Instructions," regarding writing a DR is considered an example of a Finding (IR-00-004-03b-FIN).

1.5.3 Conclusions

Significant problems were identified with the Contractor's implementation of the processes associated with identification of deficient items and the ability to timely and adequately address deficient items. The total number of Suggestion and Improvement Forms and DRs that had been issued to date were low when considering the number of Contractor employees on site and the problems associated with procedural compliance and level of detail. Most deficiencies were being identified as a result of self- and independent-assessments with few being generated by individuals. Most staff interviewed were not fully aware of the Contractor's problem identification and corrective action programs. Over half of the DRs and CARs reviewed were not being addressed in a timely manner. Two Findings were identified, one with eleven examples of failure to address deficiencies in a timely manner, and one with two examples for failure to follow procedures regarding not issuing a DR when numerous errors were found with documents, and not issuing CARs when five DRs were determined to be significant.

The inspectors noted that the backlog of open corrective actions was significant. The Contractor had initiated efforts to address this problem and had prevented additional increases in the backlog. The added staff focus on resolving identified problems was improving the timeliness of corrective action. Adding QA engineers to the line organizations was considered a positive initiative toward addressing the corrective action backlog.

1.6 Adequacy of Records (ITP I-103)

1.6.1 Inspection Scope

The inspectors reviewed the Contractor's records of quality assessments, and problem identification and corrective action, and its Corrective Action Management System (CAMS) database to determine if the Contractor had met authorization basis commitments regarding the management of corrective actions and record retention.

In addition, the inspectors met with the Contractor's database administrator and requested the preparation of related ad hoc reports.

1.6.2 Observations and Assessments

Since the last inspection in this area the Contractor had improved the functionality of the CAMS database system. Records were readily accessible, although the database administrator was required to generate all reports. The verification of records was improved from the previous assessment and the database administrator demonstrated the ability to retrieve records in real time.

The inspectors observed that only two QA individuals were knowledgeable of the CAMS database operations. However, the database administrator had prepared a desk instruction, which presumably could be used by other QA staff.

The inspectors found that the Contractor had entered Regulatory Unit Finding IR-99-007-01-FIN in the CAMS for tracking. The condition was first reported to the Contractor on October 8, 1999, during an inspection exit meeting and was reported in writing on December 13, 1999. The CAMS entry was made on February 1, 2000. Although an entry was made to CAMS to track the Finding, a DR was not initiated for the condition identified by the Finding as required by procedure K13P055A_1, "Corrective Action Management System," dated December 1999. Creating a DR would cause the initiation of various related processes (e.g., significance determination, PAAA reporting determination, and stop work consideration) by the QA organization. Since a DR was not initiated, these processes were not initiated by the QA organization.

The inspectors also identified that eight Office of River Protection (ORP) Deviation and Corrective Action Reports (DCARs), which ORP had classified as significant conditions adverse to quality, were entered in the Contractor's CAMS database as "not significant." The inspectors learned that "not significant" was a default for the data field and not a conscious determination of significance. The database administrator corrected these errors and identified the determinations as being made by ORP. As with Finding IR-99-007-01-FIN, described above, the DCARs did not result in the generation of DRs. Therefore, significance determination, PAAA reporting determination, and stop work consideration were not performed as required by K13P055A_1. Failure to follow procedure K13P055A_1, as required by QAPIP Section 5.3.2, "Procedures, Codes of Practice, and Instructions," regarding writing DRs to address deficiencies identified by outside entities, is considered an example of a Finding (IR-00-004-03c-FIN).

During detailed review of DRs and CARs, the inspector obtained copies of corrective action records from PDC. In general, these records were readily available. However, in several instances PDC was not able to produce copies of DRs listed on the CAMS. This issue had been previously identified by the Contractor on DR-W375-99-QA00072 and CAR-W375-99-QA00031. This problem is discussed in Section 1.5.2 above.

1.6.3 Conclusions

The inspectors determined that the Contractor's CAMS database system was adequate to meet the commitments in the authorization basis. Records were generally being maintained, as required, by Project Document Control.

One example of a Finding for failure to follow procedures regarding writing DRs to address deficiencies identified by outside entities, was identified.

1.7 Follow-up On Previously Identified Inspection Items (ITP I-107 and Inspection Administrative Procedure (IAP) A-106)

Selected inspection follow-up items, identified in previous inspection reports, were reviewed to determine if they could be closed. The inspectors reviewed the Contractor's commitments provided in its responses to these inspection Findings and other information provided. The inspectors verified by work observation, records review, and other means as appropriate, that the corrective actions stated were appropriately completed. When warranted, the inspectors determined (1) whether the Contractor had conducted an in-depth root-cause analysis (and implemented any appropriate corrective actions such as hardware or design modifications, training, procedure changes, or other actions as appropriate); (2) that generic implications were addressed; and (3) that the Contractor's safety management practices and procedures were strengthened, as appropriate, to prevent recurrence.

- 1.7.1 (Closed) IR-99-002-02-FIN, "Some DRs are not analyzed to determine cause and preventative actions." In May of 1999, RU inspectors identified during review of selected DRs, that the Contractor was not determining cause and preventive action for deficiencies defined by the Contractor's procedures as having a negative impact on quality. This was contrary to Section 3.2.2, "Corrective Action" of the QAPIP.

In the Contractor's response letter to the Finding, dated July 12, 1999 (letter number 004579), the Contractor committed to revise Section 3.2.2 of the QAPIP to require only significant conditions adverse to quality to be analyzed to determine the cause and corrective/preventive action that must be taken to eliminate the causes of the deficient conditions to preclude recurrence. The inspectors reviewed QAPIP Revision 5, and verified that Section 3.2.2 was changed as stated. In addition, the inspectors reviewed the Contractor's implementing procedures and a sample of DRs to determine if significant conditions adverse to quality were being appropriately analyzed as stated above. The inspectors found that procedures had been appropriately revised to reflect the requirement that significant DRs were to be analyzed to determine the cause and corrective/preventive action. A sample of significant DRs were reviewed, with the exception of those identified in Section 1.5.2 (where the Contractor had either failed to generate CARs or had not addressed the DRs in a timely manner), the significant DRs were being analyzed to determine the cause and corrective/preventive action.

Based on the above, this item is considered closed.

- 1.7.2 (Open) IR-99-003-01-IFI, "Track to resolution DR-W375-99-QA00059 concerning the need for clarification of certain Quality Improvement-related procedures." Before the last inspection in this area, conducted in June 1999, the Contractor had identified during a self-assessment, a large number of procedural problems with the quality improvement program. These problems were documented in DR-W375-99-00059 but had not been resolved at the time of the initial inspection. The Regulatory Unit (RU) had identified similar procedural problems and had given the Contractor credit for self-identifying these problems and assigned Inspection Follow-up Item IR-99-003-01-IFI to track the RU's follow-up on the Contractor's efforts to address the problems.

The inspectors reviewed the Contractor's response to the DR. This response included a detailed disposition of each of the 43 recommendations in the DR. The Contractor had modified and reissued two of the four documents affected by the DR. The Contractor had not modified the procedures associated with K10P008, "Management Assessment," and with K13P054, "Corrective Action," according to the suggestions of the DR. The Contractor stated that they had delayed the revision of these procedures because they were to be affected by the results of a recent Project Quality Improvement Action Plan effort. However, the improvement effort was a recent initiative and the Contractor's actions to address the DR was not timely. An inspection Finding regarding this matter is documented in Section 1.5.2. The inspectors verified that the other changes proposed by the DR were incorporated in reissued procedures K10P004_1, "Improvements and Suggestions," issued 03/00. With one minor exception, the changes were incorporated.

This item will remain open until all of the corrective actions for the subject DR are closed and the inspectors have verified the actions taken.

- 1.7.3 (Closed) IR-99-003-02-FIN, "The Contractor had not established or implemented methods for using performance indicators to determine the frequency of independent assessments."

The Contractor was currently tracking and posting performance indicators and had made the indicators visible through routinely issued documents and at several locations in project facilities. The specific indicators in use included total number of deficiencies, opened to closed ratios, deficiencies by Department, and deficiencies by type. The inspectors discussed the indicators with management and found that managers were aware of the indicators and were using the indicators specifically to monitor and control delinquent corrective actions. Based on feedback from managers using the indicators, the Contractor was developing further indicators including days-to-close.

The inspectors examined the Contractor's quarterly trend report (dated April 6, 2000) and found evidence that the Contractor was using performance indicators to determine areas for conducting independent assessments and to determine actions to address deficiencies. The Deputy Project Manager noted that the indicators were used to focus the Self-Assessment program, including determining where to perform surveillances on system descriptions and product quality. The inspectors observed that management took actions based on observed trends. For example, the Project Administration Manager requested a surveillance regarding electronic and paper record matching based on observed trends in deficiency reporting.

The inspectors also found that a requirement for using performance indicators as input for determining frequency of independent assessment was included in revisions to K13C051_1, "Code of Practice for RPP-WTP Quality Assurance Program Audits and Assessments," dated 03/00, and K13P053A_1, Quality Assurance Surveillance, dated 03/00. Training records provided evidence that QA staff were trained on the need to use performance indicators to determine the frequency of independent assessments.

Although the procedures were adequately revised to address the identified problems, the Contractor had committed to revise the procedures by September 30, 1999. Failure to

revise the procedures until March 2000, is an example of a Finding regarding untimely corrective action (IR-00-004-021-FIN).

Based on the above, this item is closed.

- 1.7.4 (Open) IR-99-007-01-FIN, "Failure to implement a process to ensure that the authorization basis is maintained current with the facility design." In October 1999, during an assessment of the Contractor's authorization basis management process, RU inspectors found that the Contractor had failed to implement an effective process that would ensure that the authorization basis was maintained current with the facility design during Part B-1 of the TWRS-P project. This was contrary to DOE/RL-96-0006 top level standard 4.1.3, ISMP Section 3.3.3, and SRD Section 9.0-4, which incorporates ISMP Section 3.3.3 by reference.

The following correspondence resulted in an agreed upon set of corrective actions to address this Finding:

- BNFL letter CCN 009268, dated January 25, 2000, – The Contractor provided a response to the Findings identified in IR-99-007 including IR-99-007-01-FIN
- RU letter 00-RU-0221, dated February 10, 2000, – The RU rejected the Contractor's response and requested a corrective action meeting
- BNFL letter CCN 011525, dated February 24, 2000, – The Contractor provided a revised response to the Findings identified in IR-99-007
- RU letter 00-RU-0267, dated March 14, 2000, – The RU notified the Contractor that the response to the Findings identified in IR-99-007 was generally acceptable, but actions in response to Finding IR-99-007-01-FIN lacked sufficient detail in several areas. The letter transmitted Corrective Action Notice CAN-2000-01, which requested that the Contractor develop and submit a corrective action plan for Finding IR-99-007-01-FIN.
- BNFL Letter CCN 012568, dated April 14, 2000, – The Contractor submitted a corrective action plan in response to CAN-2000-01
- RU letter 00-RU-0337, dated April 25, 2000, – The RU accepted the Contractor's corrective action plan

The following items summarize the commitments made by the Contractor in the revised response to Finding IR-99-007-01-FIN and the corrective action plan associated with CAN-2000-01:

RU Commitment Tracking Number	Commitment Description
00-CMS-001	Perform and document a root cause analysis to determine the reason(s) for the condition identified in RU Inspection Finding IR-99-007-01-FIN.
00-CMS-002	Complete an evaluation to determine if the condition identified in RU Inspection Finding IR-99-007-01-FIN is a noncompliance with 10 CFR 830.120 that is reportable under 10 CFR 820. Make a report via the DOE Noncompliance Tracking System, as appropriate.
00-CMS-003	Make the authorization basis consistent with the current facility design. Specifically, complete actions as necessary to cause the authorization basis to be consistent with the TWRS-P projects April 24 deliverable design documents (i.e., the project "Technical Baseline").
00-CMS-004	Develop a new authorization basis management process to ensure that the authorization basis is maintained current with respect to the facility design. This includes (1) development of new information systems (e.g. Design Criteria Database and Design Input Memorandums), (2) revision of engineering and authorization basis management procedures, and (3) development of an ES&H Safety Checklist.
00-CMS-005	Revise the authorization basis management training program and conduct training for applicable staff.
00-CMS-006	Make improvements that will ensure clear linkages are maintained between design documents and authorization basis management process documents (e.g., ABCN's, safety evaluations, etc.).
00-CMS-007	Evaluate what resources will be required to implement an effective authorization basis management process and ensure that these resources are in place.
00-CMS-008	Conduct a QA surveillance to assess effectiveness of corrective actions taken to address the condition identified in Inspection Finding IR-99-007-01-FIN.
00-CMS-009	Submit an authorization basis maintenance proposal and related ABAR.

The inspectors evaluated the Contractor's handling of Finding IR-99-007-01-FIN under their corrective action program procedures and followed-up on progress made on each of the corrective action commitments outlined above.

1.7.4.1 Contractor's Handling of Finding IR-99-007-01-FIN:

The inspectors interviewed Contractor QA staff and reviewed documentation to determine how the condition identified by Finding IR-99-007-01-FIN was addressed under the Contractor's corrective action program procedures.

As stated in Section 1.6.2, the inspectors found that the Contractor had entered Finding IR-99-007-01-FIN in the CAMS for tracking. However, a DR was not initiated for the condition identified by the Finding and significance determination, PAAA reporting determination, and stop work consideration were not initiated by the QA organization.

The inspectors found that following the issuance of the RU's inspection report that discussed the condition identified in Finding IR-99-007-01-FIN, the Contractor's Environment, Safety, and Health (ES&H) management requested that the QA organization conduct a surveillance of the authorization basis maintenance process. The

QA organization performed a surveillance of the process and issued surveillance report SV-W375-00-QA00016 on November 3, 1999. The surveillance report identified seven DRs initiated as a result of the surveillance. All of the findings were determined to be "significant" under procedure K13P055A_1. As discussed in Section 1.5.2, procedure K13P055A_1 required that Corrective Action Reports be written for significant DRs. As of the date of the inspection, no Corrective Action Reports had been written.

1.7.4.2 Follow-up on Commitment 00-CMS-001 - Root Cause Analysis:

The Contractor's response to Finding IR-99-007-01-FIN stated that BNFL had performed a root cause analysis. The inspectors reviewed documentation associated with the root cause analysis and interviewed Contractor staff involved in the analysis. From discussion with Contractor staff, the inspection found that the root cause analysis referred to in the Contractor's response to IR-99-007-01-FIN was not initiated specifically in response to the Finding. Rather, ES&H management initiated a set of three related root cause analyses in December 1999, directed at understanding an emerging problem trend. The trend involved RU observations and inspection Findings that identified various problems with procedural compliance. The specific conditions identified in Finding IR-99-007-01-FIN were later made the focus of one of the three root cause analyses.

The inspectors found that staff from the QA, ES&H, and Engineering organizations performed the root cause analysis. The team initially included a consultant with expertise in root cause analysis methodologies, however, the consultant did not participate in the root cause analysis directed at the authorization basis maintenance issue. The root cause analysis team leader was from the QA organization and had previous experience performing root cause analyses.

The inspectors found that the root cause analysis, including the resulting findings and recommendations, was documented in project report RPT-W375-MG00040, "Root Cause Analysis of Finding Related to Authorization Basis Maintenance Process." The report was transmitted to management in an internal memorandum dated February 2, 2000 (CCN 010857). The specific recommendations described in the report were not assigned or tracked as actions. The recommendations that were directly related to the authorization basis maintenance process were used as an input to the formulation of specific corrective actions to address IR-99-007-01-FIN. The inspectors verified that the recommendations were subsequently addressed in the Contractor's written responses to Finding IR-99-007-01-FIN.

The inspectors concluded that a root cause analysis had been performed and the results of the analysis that were specifically relevant to Finding IR-99-007-01-FIN were incorporated in corrective action commitments made in response to the Finding. On this basis, commitment 00-CMS-001 is closed.

1.7.4.3 Follow-up on Commitment 00-CMS-002 - Reporting Under 10 CFR 820:

In a letter dated February 10, 2000 (00-RU-0221), the RU requested information regarding the Contractor's determination if the conditions identified in Finding IR-99-

007-01-FIN identified a reportable noncompliance with DOE nuclear safety requirements. The Contractor responded in a letter dated February 24, 2000 (CCN 011525), that the conditions identified in Finding IR-99-007-01-FIN were a noncompliance reportable under 10 CFR 820. The inspectors reviewed the actions taken by the Contractor to make this determination and report it to the DOE Noncompliance Tracking System (NTS) as described in 10 CFR 820, Appendix A.

The inspectors found that the Contractor's PAAA coordinator had completed a reportability determination. The determination was documented in an internal memorandum dated March 8, 2000 (CCN 011690). The Contractor determined that the condition described by Finding IR-007-01-FIN constituted a nonconformance with 10 CFR 830.120(c)(1)(iii), "Quality Improvement," and 10 CFR 830.120(c)(2)(i), "Work Processes." The noncompliance was reported March 10, 2000, via the DOE Noncompliance Tracking System and had been assigned tracking number NTS-RL-BNFL-WTP-2000-0001.

The inspectors noted that the Contractor's NTS report identified the "Date Occurrence/Condition Discovered" as February 18, 2000. This date does not conform to the sequence of events documented in CAN-2000-01 associated with Finding IR-99-007-01-FIN. The RU determined that it will report this difference in the NTS.

Based on the above information, the inspectors determined that the Contractor had fulfilled its commitment to perform a reportability determination and make a report via the NTS, as appropriate. Commitment 00-CMS-002 is closed.

1.7.4.4 Follow-up on Commitment 00-CMS-003 - Make the Authorization Basis Current with respect to the facility design:

In response to Finding IR-007-01-FIN, the Contractor committed to bringing the authorization current with respect to the design of the TWRS-P facility by April 24, 2000. The April 24, 2000, date corresponded to the delivery of the TWRS-P technical baseline documents, which documents the TWRS-P facility design at the conclusion of the TWRS-P B-1 design phase. For the purpose of the corrective action commitment described herein, the Contractor described "current" as either revising the authorization basis to be consistent with the technical baseline or submitting a completed authorization basis amendment request (ABAR) to the RU requesting approval for conforming changes to the authorization basis.

The inspectors found that the Contractor's effort to make the authorization basis current involved two significant courses of action. The first involved bringing design information in the authorization basis into alignment with the technical baseline. The second involved the identification of significant facility hazards that were either new or more severe than hazards already described in the TWRS-P Hazards Analysis Report (HAR). Each of these courses of action is described below.

Authorization Basis Design Information Alignment with the Technical Baseline

The inspectors determined that most of the work to establish consistency between the technical baseline documents and the authorization basis was performed by Engineering personnel with support from the ES&H organization. Engineering management was involved in the process and had a detailed knowledge of the process, status, and issues associated with the effort.

From interviews with Engineering and ES&H personnel, the inspectors found that the basic steps used by the Contractor to achieve design information alignment were:

- Develop criteria to determine what specific information in authorization basis documents was directly related to the TWRS-P facility design.
- Extract "fundamental aspects of design" information from the ISAR. Extract design information from the balance of authorization basis documents using the above criteria.
- Develop the Design Criteria Database (DCD) (an electronic database to facilitate searches of design information by individuals with design responsibilities) and enter design criteria extracted from the authorization basis.
- Perform reviews of technical baseline documents against design criteria and develop Design Input Memorandums (DIMs) (DIMs cross-reference individual design documents to the source of the design information identified in the DCD).
- Make revisions to the authorization basis or develop ABARs, as necessary, to resolve differences between the technical baseline and the authorization basis design criteria.

It should be noted that DCD and DIM information systems described above had uses other than facilitating the alignment of the technical baseline and design information in the authorization basis as outlined above. First, the DCD and DIMs were an integral part of the Contractor's revised configuration control process and were linked to the authorization basis maintenance process as described in Section 1.7.4.5 below. Also, the DCD and DIMs identified contractual and project facility design criteria that were not associated with authorization basis.

The inspectors reviewed samples of information in the DCD and discussed the database with Contractor management and staff. The inspectors determined that the database had been implemented and it appeared to contain information from the authorization basis that was relevant to the facility design.

The inspectors noted that the Contractor had developed procedure K70P557, "Design Inputs," that provided instructions to engineering personnel on the development and approval of DIMs. The inspectors determined that two self-assessments of the DIM process were conducted and that issues with the new process were being identified and resolved. The self-assessments were:

- SA-W375-00-00021, "Effectiveness of DIM Process"
- SA-W375-00-00028, "DIM Output Consistency"

The inspectors randomly selected seven drawings representing different facilities and disciplines from the technical baseline documents and determined that DIMs had been completed for each of the drawings. The inspectors briefly reviewed the DIMs and concluded that the DIMs appeared to identify relevant authorization basis design information, where applicable. The following were the drawings and DIMs reviewed:

DWG-W375HV-M00941	HLW Vitrification Plant and Equipment Layout...	DIM-W375-00-00647
DWG-W375HV-PR00032	Process Flow Diagram HLW Vitrification Offgas Treatment	DIM-W375-00-00474
DWG-W375BF-E00004	4.16 KV Emergency Diesel Generators and Switchgears...	DIM-W375-00-00251
DWG-W375LV-PR01006	Process Flow Diagram LAW Liquid Effluent System	DIM-W375-00-00392
DWG-W375LP-M00090	Technetium Ion Exchange Ion Columns...	DIM-W375-00-01891
DWG-W375LP-PR00005	Process Flow Diagram – LAW Pretreatment Vessel Vents...	DIM-W375-00-00720
DWG-W375HV-PR00925	P&ID HLW System 950 Melter Emerg Cooling Chilled Water	DIM-W375-00-00235

Revisions requiring design information necessary to bring the authorization basis current with respect to the facility design, described in the technical baseline, were transmitted to the RU in two letters as follows:

- BNFL Letter CCN 012921, dated April 24, 2000, transmitted five authorization basis amendment requests (ABARs) with proposed amendments to the SRD and ISMP, and
- BNFL Letter CCN 012864, dated April 23, 2000, transmitted ABAR-W375-00-00014. The ABAR proposed to add a new Appendix A to the Initial Safety Analysis Report (ISAR) that identified changes to fundamental aspects of design.

Based on the information above and discussions with ES&H managers and staff, the inspectors concluded that the Contractor completed the work associated with updating the authorization basis design information.

Authorization Basis Hazards Information

The inspectors determined that the work to align hazard information in the authorization basis with the facility design documented in the technical baseline was performed mostly by Environment, Safety, and Health (ES&H) personnel. ES&H management was involved in the process and had a detailed knowledge of the process, status, and issues associated with the effort.

From interviews with ES&H personnel, the inspectors found that the basic steps used by the Contractor to achieve alignment of authorization basis hazard information were:

- Extract the specific set of significant and bounding hazards from the Hazards Analyses Report (HAR) (i.e., the hazard descriptions that were part of the authorization basis).
- Using hazard information from Cycle II of the Contractor's Integrated Safety Management (ISM) process, compare the hazards of the TWRS-P facility described in the technical baseline against the significant and bounding hazards identified from the HAR.
- Make revisions to the authorization basis or develop ABARs, as necessary, to resolve differences between the technical baseline and the authorization basis.

The changes to the significant and bounding hazards in the HAR were transmitted to the RU as ABAR-W375-00-00014 in a letter dated April 23, 2000. The ABAR proposed to add a new Appendix E to the HAR that identified the relevant changes to the hazards evaluation.

Based on the information above and discussions with ES&H managers and staff, the inspectors found that the Contractor completed the work associated with updating the authorization basis hazards information.

Conclusions Regarding the Status of Commitment 00-CMS-003

The inspectors concluded that the Contractor had completed the work committed to in response to Finding IR-99-007-01-FIN to make the authorization basis current with respect to facility design by April 24, 2000. At the time of the inspection, the RU was in the process of reviewing the authorization basis alignment ABARs identified above and was reviewing the Contractors TWRS-P Part B-1 design deliverables. The conclusions from these reviews will be used to evaluate the adequacy of the actions taken by the Contractor. Accordingly, commitment 00-CMS-003 will remain open.

1.7.4.5 Follow-up on Commitment 00-CMS-004 - Develop and Implement Improvements in the Authorization Basis Maintenance Process:

In response to Finding IR-99-007-01-FIN, the Contractor committed to developing and implementing a process that would ensure the authorization basis was maintained current following the update effort described in Section 1.7.4.4 above. The inspectors

interviewed Engineering and ES&H managers and staff and reviewed documents and procedures to determine the progress made by the Contractor on fulfilling this commitment.

Information Systems Related to the Authorization Basis Maintenance Process

As described in Section 1.7.4.4 above, the inspectors determined that the Contractor had implemented the DCD and developed DIMs that would facilitate the authorization basis maintenance process. The DCD and DIMs cross-referenced design information in the authorization basis to specific engineering documents and were intended to aid the process of ensuring that the authorization basis was maintained current with respect to the facility design.

The inspectors observations related to DIMs are discussed in Section 1.7.4.4. The inspectors had the following observations regarding the DCD:

- A problem faced by Contractor personnel with the previous implementation of the authorization basis maintenance process was the identification of the design information in the authorization basis that was relevant to specific things being worked on. Part of the problem involved determining what information in the ISAR was considered part of the authorization basis. This was because ISMP Section 3.3.3 specified that only fundamental aspects of design described in the ISAR were included in the authorization basis. Therefore, Contractor staff had to grapple with the definition of "fundamental aspects of design." The other part of the problem was that design information was not located in one place, or otherwise specifically identifiable, in authorization basis documents.
- The Contractor had addressed the ISAR issue by identifying the specific information in the ISAR that constituted a "fundamental aspect of design" and incorporated this information in the electronically searchable DCD. As described in Section 1.7.4.4 of this report, facility design information from authorization basis documents other than the ISAR (e.g., SRD, ISMP, etc.) was also included in the DCD. Contractor staff could now use the DCD as a tool to identify design information in the authorization basis that was related to the things they were working on.
- The inspectors concluded that the DCD approach was sound, but observed that the DCD was not maintained under specific project procedures. Following discussions with Contractor staff, it still was not clear exactly how DCD maintenance, authorization basis maintenance, and configuration control processes were integrated. Also, from discussion with Engineering and ES&H personnel, it appeared that the Contractor had not established how the DCD concept would be implemented with the more detailed and varied design information that would be in the authorization basis following submittal of the construction authorization request (which would include the PSAR).

From discussions with ES&H staff, the inspectors found that the Contractor was in the process of identifying the specific procedures and other project documents that would

implement administrative controls described in the authorization basis. The Contractor planned to make this information available to plant staff via indices published on the network along with the Contractor's electronic versions of project documents. This information was intended to identify which documents implement administrative controls described in the authorization basis. The inspectors noted that the development and maintenance of these indices were not specifically addressed by project procedures. It was not clear how the accuracy of the indices would be maintained as project documents and authorization basis documents were modified, added, deleted, or reorganized.

Procedures Related to the Authorization Basis Maintenance Process

The inspectors found that the Contractor had drafted new revisions of the following procedures that will implement, or interface with the authorization basis management process:

K70P528, "Authorization Basis Maintenance"
 K13C003, "Code of Practice for the Production of Process-Based Procedures"
 K70P577, "Design Inputs"
 K70P551, "Drawings and Sketches: Preparation, Checking, and Approval"
 K13C023, "Code of Practice for the Internal Review and Approval of Documents"
 K13P056, "Identification of Nonconforming Conditions"
 K13P054, "Corrective Action"

The revisions to the above procedures were intended to implement process improvements and address use of the DCD and DIMs as described in Section 1.7.4.4 above. The revisions should also address a new authorization basis deviation process that is described in Section 1.7.4.10 of this report. The procedures were in the review and approval process at the time of the inspection. Contractor staff stated that the procedures would be released for use following training of project staff (see Section 1.7.4.6 below) and approval of the ABAR described in Section 1.7.4.10.

Conclusions Regarding the Status of Commitment 00-CMS-004

Based on the information above and discussions with Contractor staff, the inspectors concluded that the Contractor had made substantial progress toward implementing the commitment to establish an effective authorization basis maintenance process. The RU will assess the effectiveness of the revised authorization basis maintenance process during the next authorization basis maintenance inspection. Commitment 00-CMS-004 will remain open pending the results of the inspection.

1.7.4.6 Follow-up on Commitment 00-CMS-005 - Revise and Conduct Authorization Maintenance Process Training:

In response to Finding IR-99-007-01-FIN, the Contractor committed to developing and conducting improved training on the authorization basis maintenance process. The inspectors interviewed Engineering and ES&H staff and reviewed new training materials to determine the progress made by the Contractor on fulfilling this commitment.

The inspectors found that the Contractor had developed two training courses that were directly related to the authorization basis maintenance process. The first was developed by Engineering and addressed training on the use of the DCD and process for developing DIMs. This training course was identified as DIM-DCD-0001-01. The second training course addressed the authorization basis maintenance process and related document review and approval processes. The authorization basis maintenance training course was drafted but not approved at the time of the inspection.

The inspectors determined that training of relevant Contractor staff was scheduled to begin the week of May 1, 2000.

Based on the information above, the inspectors concluded that the Contractor had made substantial progress toward implementing the commitment to conduct training on the authorization basis maintenance process. The RU will assess the effectiveness of the revised authorization basis maintenance training during the next authorization basis maintenance inspection. Commitment 00-CMS-005 will remain open pending the results of the inspection.

1.7.4.7 Follow-up on Commitment 00-CMS-006 - Make Improvements in Authorization Basis Maintenance Document Tracking:

During the October 1999, authorization basis inspection, the inspectors noted that it was difficult to identify what documents associated with the authorization basis maintenance process (e.g., safety evaluations, ABARs, etc.) were outstanding against specific project design documents and the status of these documents. This issue was described in inspection report IR-99-007. In response to Finding IR-99-007-01-FIN, the Contractor committed to making improvements to document tracking that would address this issue.

The inspectors interviewed ES&H staff and determined that the Contractor had developed a concept for an information system that would identify outstanding authorization basis documentation against specific design documents, however, the information system was not yet implemented.

The RU will assess the implementation and effectiveness of improvements to authorization basis maintenance document tracking during the next authorization basis maintenance inspection. Commitment 00-CMS-006 will remain open pending the results of the inspection.

1.7.4.8 Follow-up on Commitment 00-CMS-007 - Evaluate and Provide Resources Necessary to Implement the Authorization Basis Maintenance Process:

The Contractor's root cause analysis and response to Finding IR-99-007-01-FIN identified a lack of resources allocated to authorization basis maintenance activities as one of the causes of the conditions described by the Finding. The Contractor committed to evaluate what resources were needed to implement an effective authorization basis maintenance process and to allocate resources appropriately.

The inspectors discussed the resource issue with Engineering and ES&H managers. The managers stated that they have considered the resource needs and have made provisions within their organizations to effectively implement the authorization basis maintenance process. The Engineering managers interviewed stated that improvements to information systems and procedures associated with the authorization basis maintenance process were expected to substantially reduce the effort needed to perform these functions in comparison to the authorization basis maintenance process that was in place when Finding IR-99-007-01-FIN was generated.

Based on the information described above, the inspectors determined that the Contractor had evaluated the resources necessary to implement the authorization basis management process and that Contractor management was satisfied that appropriate resources had been allocated to the process. On this basis, commitment 00-CMS-007 is closed.

1.7.4.9 Follow-up on Commitment 00-CMS-008 - Conduct QA Surveillance of Revised Authorization Basis Maintenance Process:

In response to Finding IR-99-007-01-FIN, the Contractor has committed to performing a QA assessment to determine the effectiveness of the revised authorization maintenance process described in Section 1.7.4.5 above.

The inspectors discussed this with the ES&H and QA managers and determined that a QA surveillance was scheduled for late June. The RU will verify the completion of the QA surveillance and actions taken to correct any problems identified during the next authorization basis management inspection. Commitment 00-CMS-006 will remain open pending the results of the inspection.

1.7.4.10 Follow-up on Commitment 00-CMS-009 - Submit Authorization Basis Maintenance Proposal and related ABAR:

The Contractor's response to Finding IR-99-007-01-FIN, made a general commitment to make substantial changes to their authorization basis maintenance process. The changes to the process outlined in the response to Finding IR-99-007-01-FIN included improvements to the process, the development of new information systems to facilitate the improved process (see description of the DCD and DIMs in Section 1.7.4.4), and the implementation of a new "proceed at risk" authorization basis maintenance process. The proposed "proceed at risk" process would allow the Contractor to make certain changes to the TWRS-P facility prior to completing the process of making corresponding revisions to the authorization basis while accepting the possibility of rework, if proposed authorization basis revisions were not approved. The general commitment to make these changes was accompanied by a commitment to submit an authorization basis maintenance proposal that described these changes in detail and an ABAR. The ABAR was necessary because the "proceed at risk" portion of the proposal was not consistent with the authorization basis maintenance process described in the ISMP or with RL/REG-97-13 (RL/REG-97-13 is referenced by the Contract and describes the attributes of an acceptable authorization basis management process).

The inspectors noted that the Contractor submitted a detailed authorization basis maintenance proposal and ABAR-W375-00-00006 for revisions to the SRD and ISMP associated with the "proceed at risk" process (BNFL Letter CCN 011702, dated March 1, 2000). The ABAR was subsequently revised and resubmitted (BNFL Letter CCN 012657, dated April 21, 2000) based on RU comments and Revision 6 to RL/REG-97-13, which had been revised to reflect the Contractors concept. It should be noted that in Revision 6 to RL/REG-97-13 and Revision 1 to ABAR-W375-00-00006, the "proceed at risk" concept was referred to as "authorization basis deviations."

The inspectors determined that the Contractor had fulfilled its commitment to submit a detailed authorization basis maintenance proposal and related ABAR to the RU, therefore, commitment 00-CMS-009 is closed.

1.7.4.11 Conclusions Regarding Status of Corrective Actions for Finding IR-99-007-01-FIN:

On the basis of the inspection results described above, the inspectors concluded that the progress made by the Contractor on implementing corrective actions associated with Finding IR-99-007-01-FIN and CAN-2000-01 was consistent with commitments made in response to the Finding. Contractor management was involved in the implementation of corrective actions and appropriate resources appeared to have been applied to the effort. The RU will assess the effectiveness of the corrective actions taken in response to Finding IR-99-007-01-FIN and CAN-2000-01 during the next authorization basis maintenance inspection.

2.0 EXIT MEETING SUMMARY

The inspectors presented the inspection results to members of Contractor management at an exit meeting on May 1, 2000. The Contractor acknowledged the observations and conclusions presented. The inspectors asked the Contractor whether any materials examined during the inspection should be considered proprietary information. The Contractor stated that the information presented at the exit meeting did not contain proprietary information.

3.0 REPORT BACKGROUND INFORMATION

3.1 Partial List of Persons Contacted

P. Bruce, QA Specialist
 M. Bullock, Vice President and General Manager
 C. Burrows, Deputy Project Manager
 A. Dobson, Safety and Operations Manager
 E. Hughes, Engineering Processes & Systems Manager
 H. Kaczmarek, QA Specialist
 D. Klien, ES&H Manager
 R. Laskey, Corporate QA Manager
 K. Lehman, Inspection Coordinator

E. Molnar, Project Manager
 A. Sastry, Safety and Operations
 D. Smith, ES&H
 M. Von Webber, QA Specialist
 G. Voyles, QA
 N. Williams, APM-Integration
 M. Witherspoon, QA Manager
 C. Younger, Regulatory Safety Manager

3.2 List of Inspection Procedures Used

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

Inspection Technical Procedure I-103, "Self-Assessment and Corrective Action Assessment"

Inspection Technical Procedure I-107, "Authorization Basis Management Assessment"

Inspection Administrative Procedure I-106, "Verification of Corrective Actions"

3.3 List of Items Opened, Closed, and Discussed

Opened

IR-00-004-01-FIN	Finding	Inadequate quality improvement procedures
IR-00-004-02-FIN	Finding	Twelve examples of untimely corrective actions associated with deficiency reports
IR-00-004-03-FIN	Finding	Three examples of failure to follow procedures: 1) failure to write a CAR when a DR was classified as significant, 2) failure to write a DR when a surveillance identified document control errors, 3) failure to generate DRs for deficiencies identified by outside entities

Closed

IR-99-002-02-FIN	Finding	Some DRs are not analyzed to determine cause and preventative actions
IR-99-003-02-FIN	Finding	The Contractor had not established or implemented methods for using performance indicators to determine the frequency of independent assessments

Discussed

IR-99-003-01-IFI	Follow-up item	Track to resolution DR-W375-99-QA00059 concerning the need for clarification of certain Quality Improvement-related procedures
IR-99-007-01-FIN	Finding	Failure to implement a process to ensure that the authorization basis is maintained current with the facility design

3.4 Closure of Contractor Corrective Action Commitments

The following table lists the corrective action commitments items, assigned by the RU to track Contractor corrective actions identified in formal Finding responses, that were reviewed and determined to have been appropriately implemented. These Commitment Management System (CMS) items are closed.

Commitment Number	Commitment Description	Expected Completion Date	Contractor action completed	Inspection Verification
99-CMS-020	Revise QAPIP to reflect Contractor's plan to perform cause and preventative action determination on a subset of all deficiency reports based on significance. (IR-99-002-02-FIN)	09/30/99	QAPIP Revision 5 Issued	See Section 1.7.1
99-CMS-025	Revise K13C051 and K13P053 to address the use of performance indicators. (IR-99-003-02-FIN)	09/30/99	Procedures revised	See Section 1.7.3
99-CMS-026	Train personnel on revised K13C051 and K13P053. (IR-99-003-02-FIN)	12/30/99	Training performed	See Section 1.7.3
99-CMS-027	Establish and implement performance indicators. (IR-99-003-02-FIN)	03/30/00	Performance Indicators were included in quarterly trend reports	See Section 1.7.3
00-CMS-001	Perform and document a root cause analysis to determine the reason(s) for the condition identified in RU Inspection Finding IR-99-007-01-FIN.	2/24/2000 (Described as complete)	Root cause analysis performed	See Section 1.7.4.2

00-CMS-002	Complete evaluation to determine if the condition identified in RU Inspection Finding IR-99-007-01-FIN is a noncompliance with 10 CFR 830.120 that is reportable under 10 CFR 820. Make report via the DOE Noncompliance Tracking System, as appropriate.	3/31/2000	NTS report filed	See Section 1.7.4.3
00-CMS-007	Evaluate what resources will be required to implement an effective authorization basis management process and ensure that these resources are in place. (IR-99-007-01-FIN)	4/24/2000	Resource evaluation performed	See Section 1.7.4.8
00-CMS-009	Submit authorization basis maintenance proposal and related ABAR. (IR-99-007-01-FIN)	2/29/2000	Proposal and ABAR submitted	See Section 1.7.4.10

3.5 List of Acronyms

AB	authorization basis
ABAR	Authorization Basis Amendment Request
ALARA	as low as is reasonably achievable
BNFL	BNFL Inc.
CAMS	Corrective Action Management System
CAN	Corrective Action Notice
CAR	Construction Authorization Request
CMS	Commitment Management System
DCAR	Deviation and Corrective Action Report
DCCL	Design Control Checklist
DCD	Design Criteria Database
DCN	Design Change Note
DIM	Design Input Memorandum
DOE	U.S. Department of Energy
DR	Deficiency Report
ES&H	Environment, Safety, and Health
HAR	Hazards Analyses Report
HLW	High-level waste
ISAR	Initial Safety Analysis Report
ISM	Integrated Safety Management
ISMP	Integrated Safety Management Plan
ITP	Inspection Technical Procedure

LAW	Low-activity waste
NCR	Non-conformance Report
NTS	Noncompliance Tracking System
PAAA	Price Anderson Amendment Act
PCR	Procedure Change Request
PDC	Project Document Control
P&ID	Piping and Instrumentation Drawings
ORP	Office of River Protection
QA	quality assurance
QAPIP	Quality Assurance Program and Implementation Plan
QC	Quality Control
RU	Regulatory Unit
SRD	Safety Requirements Document
TWRS-P	Tank Waste Remediation System Privatization