



**Department of Energy**  
Richland Operations Office  
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Richland, Washington 99352

00-RU-0014

Mr. M. J. Lawrence, Executive Vice President  
General Manager  
BNFL Inc.  
3000 George Washington Way  
Richland, Washington 99352

Dear Mr. Lawrence:

**AUTHORIZATION BASIS MANAGEMENT INSPECTION REPORT, IR-99-007**

From October 2-8, 1999, the Office of Safety Regulation (Regulatory Unit) performed an inspection of Authorization Basis Management at the BNFL Inc. (BNFL) facility. Subsequent to the initial inspection, the Regulatory Unit (RU) performed a follow-up inspection on November 22-23, 1999, to address inconsistencies in documentation regarding revisions to BNFL's Radiation Protection Program (RPP), an authorization basis document.

Based on the results of our inspections, the RU has concluded that BNFL has not yet implemented an effective authorization basis management process. The requirement for BNFL to maintain the authorization basis current and keep the RU informed of the changing and maturing design of the facility as it relates to the authorization basis, is stated in the Contract and is necessary to ensure that the RU remains mindful of important changes to the design.

Four Findings were identified during the inspection and are as follows: (1) the inspection team identified that BNFL had failed to establish a process that ensured design-related aspects of the authorization basis were maintained current with the facility design; (2) the inspection team identified that untrained personnel were performing screening reviews and safety evaluations; (3) the inspection team identified two examples where BNFL staff was not following procedures; and, (4) BNFL revised information in a quality-related record without revising the record as required. The four Findings are documented in the Notice of Finding (Enclosure 1).

In addition to the Findings, the inspection team identified two program weaknesses. The first concerned procedural weaknesses associated with implementation of the authorization basis

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amendment process. The second concerned the process BNFL used for notifying the RU of a change to an authorization basis document when the effectiveness of the document did not change as a result of the revision.

Details of the inspection, including the Findings and weaknesses, are documented in the enclosed inspection report (Enclosure 2). You are requested to provide a written response to these Findings within 30 days, according to the instructions provided in the enclosed Notice of Finding. In addition, you are requested to provide a written response describing the actions you plan to take to address the two program weaknesses described above, within 30 days of receipt of this letter.

Consistent with the early implementation of your authorization basis maintenance and design processes, this inspection concentrated on assessment of the authorization basis maintenance procedures and implementation of the process for non-design-related documents. Additional inspections are planned in the near future to assess the actions BNFL will be taking to address the Findings, weaknesses, and implementation of the design-related authorization basis change process.

Nothing in this letter should be construed as changing the Contract (DE-AC06-96RL13308). If you have any questions regarding this inspection, please contact 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:PPC

Enclosures

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

## NOTICE OF FINDING

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

Standard 4, Section c. 2) (a) of the Contract requires the Contractor to develop and implement an integrated-standards-based safety management program. Requirements in DOE/RL-96-0003, *DOE Regulatory Process for Radiological, Nuclear, and Process Safety for TWRS Privatization Contractors*, which is incorporated by reference in the Contract, state that the integrated-standards-based safety management program is to be documented in an Integrated Safety Management Plan (ISMP) that is reviewed and approved by the Regulatory Unit. Standard 4, Section b, and DOE/RL-96-0003, Section 3.3.1, "Standards Approval," establish that the ISMP shall be implemented by the Contractor during Part B of the Contract.

Standard 4, Section c. 2) (b) iv. of the Contract requires that the Contractor's ISMP comply with DOE/RL-96-0006, *Top-Level Radiological, Nuclear, and Process Safety Standards and Principles for TWRS Privatization Contractors*.

Standard 4, Section c. 2) (c) of the Contract requires that the Contractor's ISMP conform to RL/REG-97-13, Regulatory Unit Position on *Contractor-Initiated Changes to the Authorization Basis*.

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.

Title 10 of the Code of Federal Regulations Part 830, "Nuclear Safety Management," Section 120, "Quality Assurance (QA) Requirements," requires the Contractor to conduct work in accordance with the requirements of the 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. 4, "Quality Assurance Program and Implementation Plan," dated May 1998.

During October 4-8, 1999, and November 22-23, 1999, the Regulatory Unit (RU) conducted inspections of the Contractor's authorization basis management activities. During the inspections, which were conducted at the offices of the Contractor, the RU identified the following:

1. Section 4.1.3, "Authorization Basis," of DOE/RL-96-0006 requires that the authorization basis be maintained current. Section 3.2 of RL/REG-97-13 specifies that changes to facility design will either be consistent with the existing authorization basis or that the authorization basis will be revised before the proposed changes are implemented. In related parts, the ISMP, Section 3.3.2, "Control of the Authorization Basis," and Section

5.3, "Configuration Management," specify that before any given change is implemented, the impact of the proposed change on the authorization basis will be determined and the necessary changes to the authorization basis will be made.

Section 3.1 of RL/REG-97-13 and Section 3.3.3, "Changes to the Authorization Basis," of the ISMP specify that the process for evaluating and implementing changes will be conducted according to approved procedures under the Contractor's Quality Assurance Program.

Contrary to the above, during the week of October 4-8, 1999, the inspectors found that the Contractor had not established or implemented a process that would ensure that the authorization basis was maintained current with respect to the facility design.

This is considered an inspection Finding.

2. Section 3.1 of RL/REG-97-13 states that the processes associated with evaluation and implementing changes are, themselves, important to safety and that implementation of changes shall be accomplished by qualified personnel. Implementation of this requirement is described in Section 3.3.3 of the ISMP, which states that "the change management program includes the use of qualified personnel."

Contrary to the above, during the week of October 4-8, 1999, the inspectors found that of the 15 screening assessments they reviewed, 6 were performed or reviewed by individuals who had not completed the authorization basis training module. Of the 7 safety evaluations reviewed by the inspectors, 6 were performed or reviewed by individuals who had not completed the authorization basis training module.

This is considered an inspection Finding.

3. Section 5.3.2, "Instructions and Procedures," of the Quality Assurance Program and Implementation Plan (QAPIP) requires processes that affect quality be conducted using approved instructions and procedures.
  - a. Procedure K70C528A\_1, "Code of Practice for Managing Changes to Control the Authorization Basis," dated November 1999, Appendix 5, "Managing Changes to the Radiation Protection Program," requires the manager of the River Protection Project-Waste Treatment Plant (RPP-WPT) proposing a change to the Radiation Protection Program (RPP) to prepare an authorization basis change notice (ABCN).

Contrary to the above, revision 3 of the RPP was issued on November 15, 1999, without generating an ABCN.
  - b. Procedure K70C528A\_1, Section 5.0, "Authorization Basis Change Notice (ABCN)," requires the generation of an ABCN if a proposed change affects the authorization basis.

Contrary to the above, during preparation of revision 5 of the QAPIP, screening assessment SCA-W375-99-00123, revision 0, dated August 5, 1999, for determining the affect the revision would have on the authorization basis, identified that the change would affect the Standards Requirements Document (SRD) and the ISMP; however, as of November 23, 1999, no ABCN had been generated to document the changes to the SRD and ISMP.

These examples of failure to follow procedures were considered an inspection Finding.

4. Section 4.2.2, "Records," of the QAPIP requires that records that contain errors or discrepancies are to be corrected, reviewed, and approved by the originating organization.

Contrary to the above, ABCN-W375-99-0044, revision 0, issue on June 4, 1999, was generated to document revision 2 of the RPP, and was changed by the originator on June 8, 1999, after it was issued in Project Document Control, without first obtaining review and approval by the origination organization.

This is considered an inspection Finding.

The Contractor is requested to provide to the RU within 30 days of the date of the cover letter that transmitted this Notice, a reply to the Findings described above. The reply should include 1) agreement or disagreement with the Findings; 2) the reasons for the Findings, if the Contractor agrees with it, and if the Contractor disagrees, the reason why, 3) the corrective steps that have been taken and the results achieved; 4) the corrective steps that will be taken to avoid further Findings; and 5) the date when full compliance with the applicable commitments in the 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: AUTHORIZATION BASIS MANAGEMENT

REPORT NO: IR-99-007

FACILITY: BNFL Inc.

LOCATION: 3000 George Washington Way  
Richland, Washington 99352

DATES: October 4-8, 1999, and November 22-23, 1999

INSPECTORS: P. Carrier (Lead), Verification and Confirmation Official  
J. McCormick-Barger, Senior Regulatory Advisor  
J. Adams, Senior Regulatory Technical Advisor  
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APPROVED BY: D. Clark Gibbs, Regulatory Official  
Office of Safety Regulation

## EXECUTIVE SUMMARY

This inspection of the BNFL Inc.'s (Contractor's) Authorization Basis Management Program covered the following specific areas:

- Authorization Basis Management Program (Section 1.1)
  - Contractor Review and Approval Process (Section 1.1.1)
  - Safety Evaluation Process (Section 1.1.2)
  - Amendment Process (Section 1.1.3)
  - Authorization Basis Document Control (Section 1.1.4)
  
- Authorization Basis Management Implementation (Section 1.2)
  - Contractor Review and Approval Processes (Section 1.2.1)
  - Safety Evaluations (Section 1.2.2)
  - Authorization Basis Document Control (Section 1.2.3)
  - Personnel Training and Qualifications (Section 1.2.4)
  - Management and Independent Oversight (Section 1.2.5)

Significant observations and conclusions from the inspections are as follows:

- With the exception of the Finding associated with design document deviations described below, the Contractor had established a process for evaluating changes to project procedures and design drawings for consistency with the authorization basis. The Contractor's screening assessment process and authorization basis change notice (ABCN) process met requirements and commitments related to evaluating changes for consistency with the authorization basis. However, recent changes to the screening process has resulted in the heavy reliance on checkers and reviewers to informally identify impacts on the authorization basis for changes to certain types of documents (Section 1.1.1).
  
- The Contractor's practice of deferring action on ABCNs that identified design document deviations from the authorization basis did not conform to requirements and commitments related to maintaining the authorization basis current with facility design. This was considered an inspection Finding (Section 1.1.1).
  
- The Contractor had established procedures that met regulatory requirements for performing safety evaluations (Section 1.1.2).
  
- The Contractor's authorization basis amendment process was disjointed, confusing, and appeared at times to be inconsistent with regulations. A number of procedural issues were identified that are considered a program weakness (Section 1.1.3).

- The inspectors concluded that the Contractor had developed and effectively implemented an authorization basis document control process. This process ensured that authorization basis documents were available throughout the organization to perform safety-related work activities. The document control process also met the requirements of the Contractor's QAPIP (Section 1.1.4).
- The Contractor's performance, regarding implementation of its administrative processes for managing the authorization basis, was mixed. In a number of cases reviewed, the Contractor was following its process for managing changes to its authorization basis. However, two examples of a Finding was identified regarding the failure to follow procedures associated with authorization basis document changes (Section 1.2.1).
- Changes to the Contractor's screening process were too recent to fully determine the Contractor's implementation of the process. Future inspections in this area will focus on implementation of the new screening assessment process and results (Section 1.2.1).
- The safety evaluations performed by the Contractor to date were processed according to the Contractor's procedures and conformed to applicable requirements and commitments with the following exception. The Contractor had not appropriately implemented the requirements of RL/REG-97-13 and Section 3.3.3 of the ISMP as they relate to notification of the RU of changes to authorization basis documents implemented without prior RU approval. This was considered a program weakness (Section 1.2.2).
- The Contractor was adequately controlling authorization basis documents used in performing work that was safety related. One Finding was identified concerning inappropriately modifying an original change control record after it had been issue by Project Document Control (Section 1.2.3).
- The training program for authorization basis management was consistent with the Contractor's procedures for performing authorization basis management activities. However, based on the review of training records associated with staff that generated screening assessments and safety evaluations, some personnel performing authorization basis management activities were not trained and qualified according to applicable commitments in the Integrated Safety Management Plan. This was considered an inspection Finding (Section 1.2.4).

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# AUTHORIZATION BASIS MANAGEMENT INSPECTION REPORT

## 1.0 REPORT DETAILS

The Tank Waste Remediation System Privatization (TWRS-P) project was in the design stage at the time of this inspection. BNFL Inc. (Contractor) had hired approximately 95% of the target number of staff planned to continue progress on the project's design phase.

According to the TWRS-P Contract,<sup>1</sup> the Contractor's Integrated Safety Management Plan (ISMP) is required to conform with RL/REG-97-13, *Regulatory Unit Position on Contractor-Initiated Changes to the Authorization Basis*. This requirement is reflected in the Contractor's authorization basis in Section 3.3, "Authorization Basis," of the ISMP.

The inspectors reviewed the Contractor's authorization basis management procedures against applicable authorization bases documents (i.e., ISMP and Quality Assurance Program and Implementation Plan [QAPIP]) and RL/REG-97-13. In addition, the inspectors reviewed records, interviewed staff, and observed related activities to determine if the Contractor was adequately establishing and maintaining the authorization basis. The results of the inspection are summarized below.

### 1.1 AUTHORIZATION BASIS MANAGEMENT PROGRAM (INSPECTION TECHNICAL PROCEDURE [ITP] I-107)

#### 1.1.1 Contractor Review and Approval Process

##### 1.1.1.1 Inspection Scope

Section 4.1.3, "Authorization Basis," of DOE/RL-96-0006, *Top-Level Radiological, Nuclear, and Process Safety Standards and Principles for TWRS-P Privatization Contractors*, requires that the authorization basis be maintained current with changes made to facility design and administrative controls. In RL/REG-97-13 and Section 3.3 of the ISMP, additional details are provided on implementing Section 4.1.3 of DOE/RL-96-0006.

Related to the above requirements and commitments, the inspectors assessed the Contractor's procedures for developing and approving design and administrative documents (e.g., plans, procedures, and codes of practice) to determine if they included features that would ensure consistency between the documents and the description of the facility and administrative processes contained in the authorization basis. Specifically, the inspectors evaluated (1) the Contractor's process for performing evaluations to determine if proposed changes were consistent with the authorization basis, (2) evidence of Contractor requirements that ensured modified design and administrative documents were consistent with the authorization basis before they were approved for implementation, and (3) the linkage between the Contractor's document review and approval processes and the authorization basis management process.

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<sup>1</sup> Contract, DE-AC06-96RL13308 between DOE and BNFL, dated August 24, 1998, Part I, Section C, Standard 4, item 2)(c).

## **1.1.1.2 Observations and Assessments**

### **1.1.1.2.1 Screening Assessments**

Section 3.2 of RL/REG-97-13 and Section 3.3.2, “Control of Authorization Basis,” of the ISMP require that changes to facility design and administrative controls be evaluated for consistency with the authorization basis. With the exception of the procedural issues described in Section 1.1.3.2 below, the inspectors found that the Contractor had established a “screening assessment” process to meet the requirements and commitments of Section 3.2 of RL/REG-97-13 and Section 3.3.2 of the ISMP. The purpose of the Contractor’s screening assessment process was to determine if during the review and approval process for the change, each proposed design and administrative document change was consistent with the authorization basis.

The screening assessment process was contained in K70P528, “Managing Changes to Control the Authorization Basis,” and K70C528, “Code of Practice for Managing Changes to Control the Authorization Basis.” Code of practice K70C528 provided instructions for performing the screening assessment and a form that documented the results and justification of the assessment. The inspectors found that the Contractor had recently revised the method used to document the performance of the screening assessments. On 9/24/99, K70C528A\_1 was approved, which eliminated, for certain types of documents, the requirement to complete the screening assessment form contained in K70C528A\_1. The revised process provided that “Check and Approval” signatures on certain approval documents attested that a screening was performed. Types of documents that did not require written screening assessments included project procedures, procedure change requests, procurement specifications, design drawings, and system descriptions. Other types of documents still required completion of a screening assessment form contained in K70C528A\_1.

Section 3.1 of RL/REG-97-13 and Section 3.3.3, “Changes to the Authorization Basis,” of the ISMP require that the authorization basis management process be conducted according to the Contractor’s Quality Assurance Plan (QAP). The inspectors discussed the recent changes to K70C528A\_1 with the Contractor’s quality assurance (QA) staff to determine whether the Contractor had evaluated if the revised screening assessment documentation method conformed to its QAP regarding the documentation of activities important to safety. The Contractor’s QA staff considered the process to conform to the QA requirements; however, QA had not performed an independent assessment of the authorization basis management process.

The screening assessment process was triggered by various procedures associated with developing and approving specific types of documents. The inspectors evaluated procedures associated with developing and approving project procedures and with design drawings to determine if they required a screening assessment to be performed and if screening assessments were documented.

#### **1.1.1.2.1.1 Screening Assessments for Procedures**

The inspectors evaluated K13C003E\_0, “Code of Practice for the Production of Process-Based Procedures,” as it related to developing and approving project procedures and the authorization basis management process. The inspectors determined that K13C003E\_0 required that screening assessments be performed according to K70P528 and K70C528 and that project procedures be

reviewed and approved according to K13C023, “Code of Practice for the Internal Review and Approval of Documents.” Code of practice K13C023 detailed the process for reviewing and approving new and revised project procedures (as well as various other project documents). The inspectors found that a revision to K13C023 relevant to implementing the new screening documentation method described in K70C528A\_1 was in the final stages of approval at the start of the assessment. The revised K13C023\_2 was approved during the assessment. The inspectors determined that K13C023\_2 had a “Checker” signature on the approval form and clearly indicated that the signature attested that a screening assessment had been performed consistent with K70C528A\_1.

The inspectors found that K13C003E\_0 also provided that existing project procedures could be changed without using the review and approval process of K13C023\_2 as described above. These changes were reviewed and approved according to instructions provided in K13C003E\_0 and documented on Procedure Change Request (PCR) forms. Code of practice K13C003E\_0 instructions and the PCR form were unclear about who was responsible for performing the screening assessment; however, the PCR form contained a check box related to the screening assessment.

Based on the above, the inspectors found that the Contractor had established a process for evaluating changes to project procedures for consistency with the authorization basis.

#### **1.1.1.2.1.2 Screening Assessments for Design Drawings**

For the review and approval of design drawings, the inspectors evaluated K70P030\_3, “Design Change Control”; K70P551B\_0, “Preparation, Checking and Approval of Drawings and Sketches”; and K70C551C\_0, “Code of Practice for Preparation, Checking and Approval of Drawings and Sketches.” The inspectors also discussed the design drawing review and approval process and its relationship to the authorization basis management with Environmental Safety and Health (ES&H) and engineering managers and supervisors.

The inspectors found that the Contractor had established two different review and approval schemes for design drawings. Preliminary drawings, identifiable by alpha (a, b, c, etc.) revision designators, and initial finalized drawings (Revision 0 drawings) were reviewed and approved according to K70P551B\_0 and K70C551C\_0. The inspectors were unable to determine that this procedure and code of practice incorporated a screening assessment in the review and approval process for preliminary drawings. Code of practice K70C551C\_0 did not mention screening assessments. Procedure K70P551B\_0 indicated that K70C528 might be applicable, but the provision appeared in a section related to revisions to drawings with numeric revisions. Although the engineering design process procedures K70C551C\_0, K70P551B\_0, and K70P030\_0 did not adequately address screening assessment, K70C528 required that screening assessments be performed for all changes to drawings.

Discussions with Contractor ES&H and engineering personnel indicated that screening assessments for preliminary drawings were expected and were being performed. Screening assessments were reported to be documented by signing the “Checker” signature on Contractor form K70F007. The inspectors noted that K70C551C\_0 provided instructions for completing an outdated version of form K70F007 that did not address performing a screening assessment. Changes to finalized drawings, identified by numeric revision designators, were reviewed and

approved according to K70P030\_3, K70P551B\_0, and K70C551C\_0. Procedure K70P030\_3 required that a screening assessment be performed according to K70C528 for all drawing revisions.

Based on the above, the inspectors found that for consistency with the authorization basis, the Contractor had established a process for evaluating changes to design drawings. However, at times the procedures associated with the process were inconsistent and confusing.

#### **1.1.1.2.2 Handling Deviations from the Authorization Basis**

Section 3.2 of RL/REG-97-13 and Section 3.3.2 of the ISMP requires that before a change to a drawing or procedure is to be implemented, it is to be consistent with the authorization basis. The inspectors reviewed K70C528 to determine if the authorization basis was required to be updated as necessary before new or revised drawings or procedures were implemented. Code of practice K70C528A\_1 required that an Authorization Basis Change Notice (ABCN) be generated if a proposed change affected the authorization basis. The ABCN was intended to identify a need to evaluate and implement a change to the authorization basis; however, K70C528A\_1 allowed safety evaluations and subsequent updates of the authorization basis to be deferred if “implementation [of a change] occurs later.” The particular circumstances under which an ABCN could be deferred was unclear in K70C528 with respect to the review and approval processes for specific project documents.

The inspectors reviewed procedures associated with reviewing and approving project procedures and design drawings and discussed these processes with ES&H and engineering personnel to determine how ABCNs were handled for these particular types of documents.

##### **1.1.1.2.2.1 ABCNs for Procedures**

The inspectors reviewed K13C023\_2 and K13C003E\_0 to determine whether a new procedure, procedure revision, or PCR could be approved without first resolving deviations identified in an ABCN. The procedures were found to be unclear in this regard. The procedures provided a place to document that an ABCN had been initiated but did not provide a place for any details for coordinating the authorization basis management process with the approval of the procedure. As previously described, K70C528A\_1 allowed resolution of ABCNs to be deferred if “implementation occurs later.” The inspectors discussed with the Contractor when ABCNs related to procedures might be deferred. Contractor staff indicated that under no circumstances would procedures be approved with deferred ABCNs.

Based on the above, the inspectors found that the Contractor had established a process that ensured project procedures were consistent with the authorization basis before implementation was approved.

### 1.1.1.2.2.2 ABCNs for Design Drawings

The inspectors evaluated engineering process procedures K70P030\_3 and K70P551B\_0, and code of practice K70C551C\_0 to determine whether design drawings could be approved and used without first resolving authorization basis deviations identified in ABCNs. Procedure K70P551B\_0 and K70C551C\_0 established the review and approval process for preliminary (i.e., revision A, B, C... drawings) and initial finalized drawings (i.e., revision 0, 1, 2... drawings). The inspectors found that K70P551B\_0 and K70C551C\_0 did not identify a need to perform screening assessments, to generate ABCNs, or to resolve deviations identified in ABCNs, during the approval process for preliminary design drawings, changes to preliminary drawings, or finalization of design drawings. However, changes to finalized drawings were required to be reviewed and approved according to K70P030\_3, which stated that screening assessments were to be performed and that Design Change Applications were to be generated if the changes affect the authorization basis (as determined by the screening assessment).

The Design Change Application process referenced K70C528, which initiated the generation of ABCNs, but did not provide instructions on coordinating design document approval with the authorization basis management process (i.e., performance of safety evaluations and ultimately the process for updating the authorization basis). Based on the above observations, the inspectors determined that the engineering process procedures did not establish methods that ensured design drawings and the authorization basis were consistent before drawings were approved for use.

As previously described, K70C528 allowed resolution of ABCNs to be deferred if “implementation [of changes] occurs later”; however, the procedure was unclear when a deferred ABCN gets resolved. The inspectors were unable to identify a process that initiated action to cause a deferred ABCN to be completed. In discussions with ES&H and engineering managers, the inspectors were told that deferred ABCNs associated with design documents such as drawings would be completed before the design documents were released for “procurement or construction.” However, the inspectors and Contractor personnel were unable to identify such a provision in the authorization basis maintenance process procedures or in engineering process procedures. Also, the inspectors attempted to identify if deferred ABCNs associated with design documents that were referenced or otherwise related to a design drawing being released for “procurement or construction” would first be resolved. Contractor personnel stated that no provisions were in place and no current plans had been made to address this issue.

Apart from the issue of consistency between specific design documents and the authorization basis, the inspectors were unable to determine from (1) engineering process procedures, (2) the authorization basis management process, or (3) discussions with Contractor staff, if, at any point in the TWRS-P project prior to the operations phase, the authorization basis would reflect the current state of the facility design (i.e., all ABCNs associated with approved design documents would be evaluated and necessary changes to the authorization basis would be made).

Based on the above, the inspectors found that the Contractor had failed to establish a process that would ensure that the authorization basis was maintained current with the facility design. This was considered an inspection Finding (IR-99-007-01-FIN).

### **1.1.1.3 Conclusions**

The inspectors found the Contractor's procedures relating to the review and approval process of the authorization basis assessment to be complex and confusing. Authorization basis management processes were not well integrated with other processes that related to developing, reviewing, or approving the facility design or administrative controls associated with the Contractor's activities.

With the exception of the Finding associated with design document deviations described below, the inspectors found that the Contractor had established a process for evaluating changes to project procedures and design drawings for consistency with the authorization basis. The Contractor's screening assessment process and ABCN process (with the exception described below) met requirements and commitments related to evaluating changes for consistency with authorization basis. However, recent changes to the screening process relied heavily on checkers and reviewers to informally identify impacts on the authorization basis for certain types of documents.

The inspectors identified one Finding concerning the Contractor's practice of deferring action on ABCNs that identified design document authorization basis deviations. This practice was not adequately described or controlled in procedures and did not conform to requirements and commitments related to maintaining the authorization basis current with facility design.

## **1.1.2 Safety Evaluation Process**

### **1.1.2.1 Inspection Scope**

The inspectors assessed the Contractor's procedures for performing safety evaluations to ensure that the following was addressed:

- Guidance was provided for performing safety evaluations and making determinations associated with the evaluation criteria described in Section 3.5 of RL/REG-97-13.
- Appropriate review and approval of safety evaluations were required.
- Appropriate documentation of safety evaluations were required to be generated.
- Retention of safety evaluations records was specified.
- Requirements for Regulatory Unit (RU) notification of changes to authorization basis within 30 days of implementation was stipulated.

### **1.1.2.2 Observations and Assessments**

The inspectors reviewed K70C528A\_1, Section 6.0, "Safety Evaluation Process," and found that it provided sufficient guidance for performing safety evaluations and conformed to the evaluation criteria described in Section 3.5 of RL/REG-97-13. The procedure referred the user to Appendix 3, "Safety Evaluation," in the procedure and was the form the Contractor currently

used to perform the safety evaluation process. Appendix 3, Part II, “Description of the Proposed Revision, Background, and Schedule,” currently addressed three of the five criteria described in Section 3.5 of RL/REG-97-13. The two criteria not addressed in the procedure involved potential changes to technical safety requirements (TSR) and unresolved safety questions (USQ). The inspectors found this acceptable for this phase of the project because TSRs and USQs did not need to be addressed until Production Operations Authorization.

Appendix 3 of the Contractor’s procedure also addressed review and approval for safety evaluations. Appendix 3, Part III, “Safety Evaluation Conclusion,” provided guidance for reviewing and approving safety evaluations and required three signatures: 1) the evaluator/originator of the safety evaluation, 2) the reviewer, and 3) the manager of Safety and Regulatory Programs. Appendix 3 also stated that the reviewer “should be a person from the same department as the Evaluator/Originator and at least as qualified as the Evaluator/Originator to conduct safety evaluations.” Based on the level of guidance provided in Appendix 3 of the Contractor’s procedure, the inspectors found adequate review and approval requirements were provided for safety evaluations.

Section 6 (b) of the K70C528A\_1 provided guidance for appropriate documentation of safety evaluations. Specifically, the procedures stated that “Evaluations are documented in sufficient detail such that a knowledgeable individual reviewing the evaluation can identify the technical issues considered during the evaluation and basis for the determination.” In addition, Appendix 3, Part II, provided the evaluator/originator with a series of questions that needed to be answered as part of the safety evaluation process. The answers to these questions should help identify the technical issues considered. Based on the information in Section 6 (b) and Appendix 3 of the Contractor’s procedure, the inspectors found that appropriate guidance was provided to ensure appropriate documentation of the safety evaluation process.

Section 6 (b) of the K70C528A\_1 provided guidance for retaining records and for notifying the RU of changes to the authorization basis within 30 days of implementation. Specifically, Section 6 stated that “Documentation is retained and readily available for RU review.” Section 6 also required that completed safety evaluations be transmitted to document control for processing. In addition, Section 6 (b) stated that “The RU is notified of revisions to the authorization basis within 30 days of completing such revisions.” Based on the information in Section 6 (b) of the Contractor’s procedure, the inspectors found that appropriated guidance was provided for retaining records and notifying the RU.

### **1.1.2.3 Conclusions**

The inspectors concluded that the Contractor had established procedures for performing safety evaluations. The Contractor’s procedure addressed the elements described in Section 1.1.2.1, “Inspection Scope,” in this report.

### 1.1.3 Amendment Process

#### 1.1.3.1 Inspection Scope

The inspectors reviewed the Contractor's implementing procedures to determine if they adequately incorporated the requirements of Section 3.6 in RL/REG-97-13; 10 CFR 830.120, "Quality Assurance Requirements"; 10 CFR 835.101, "Radiation Protection Program"; and Section 3.3.3 in the ISMP, which establishes requirements for processing amendments to the authorization basis, including the QAPIP and Radiation Protection Program (RPP).

#### 1.1.3.2 Observations and Assessments

The inspectors reviewed K70C528A\_1, K13P005\_0, "Quality Assurance Program: Preparation, Review, Approval, and Distribution," K71C502\_0, "Code of Practice for Revisions to the Safety Requirements Document," and K71C504\_0, "Code of Practice for Revisions to the Integrated Safety Management Plan." From this review, the inspectors identified the following procedural issues:

1. Code of practice K70C528A\_1, Section 3.0, "RPP Change Submittal Review and Approval," of Appendix 5, "Managing Change to the Radiation Protection Program," did not require the Contractor to provide revisions to the RPP to the RU if the revision did not reduce the effectiveness of the RPP. This was contrary to 10 CFR 835.101(h)(1), which stated that "an update of the RPP shall be submitted to DOE (1) whenever a change or an addition to the RPP is made." However, the Contractor provided evidence of transmittal (Correspondence Control Number 003609), indicating Revision 2 of the RPP (at the time of the October 1999 inspection it was the only revision generated since the RU approved Revision 1) was provided to the RU, thus demonstrating compliance with 10 CFR 835.101(h)(1).
2. A flow chart, "Figure 1: Generalized Flow Diagram for Authorization Basis Change Control," in K70C528A\_1, did not accurately depict the process described in the procedure as follows:
  - a. Although required by the flow chart, no safety evaluations were performed for QAPIP changes because all changes are required to be reviewed and approved by the RU according to Section 3.3.3 of the ISMP and Section 1.5 of the QAPIP. The ISMP and RL/REG-97-13 did not specify that safety evaluations be performed for changes to the QAPIP. Therefore, the requirement on the flow chart appeared to be in error.
  - b. The flow chart indicated that when changes were required for the RPP, they were to be processed according to 10 CFR 835. Appendix 5 of K70C528A\_1 contained specific procedural steps for the Contractor to use to initiate revisions to the RPP. The flow chart should have addressed this appendix.
  - c. The flow chart indicated that changes to the QAPIP were to be processed according to 10 CFR 830. However, Appendix 4 of K70C528A\_1 indicated that changes to the QAPIP were to be reviewed and approved according to K13P005.

Procedure K13P005 contained no procedural steps or forms for the QAPIP authorization basis change process. The actual specific procedural steps and forms for this change process were contained in K70C528A\_1; however, neither Appendix 4 of K70C528A\_1 nor K13P005 referenced these process steps or forms.

3. Code of practice K70C528A\_1, Section 4.0, “Screening Assessment for Determining if the Authorization Basis is Affected,” required, for certain new and revised documents, written screening assessments. However, the list of documents that required written screening assessments did not include authorization basis documents. For example, the code of practice did not require screening assessments for revisions to the QAPIP, or SRD. This is a concern because revisions to authorization basis documents could impact other authorization basis documents and should require an assessment.
4. Although K70C528A\_1 had appendixes that provided guidance for making revisions to the QAPIP and RPP, it was not clear when or if the guidance in the appendixes took precedence over the requirements in the body of the procedure. For example, Appendix 4, “Managing Changes to the Quality Assurance Program and Implementation Plan (QAPIP)” did not specify the need for a screening assessment, safety evaluation, or ABCN. However, Section 5.0, “Authorization Basis Change Notice (ABCN),” stated that “if a proposed change affects the AB [authorization basis], an ABCN (appendix 2) shall be generated.” Conversely, Appendix 5, “Managing Changes to the Radiation Protection Program,” specified the requirement to generate an ABCN and Safety evaluation to address RPP changes. In both cases, the procedure did not directly refer the reader to the Appendixes. Also, the procedure did not directly address how revisions to other authorization basis documents are to be processed.
5. Code of practice K71C502\_0, “Code of Practice for Revisions to the Safety Requirements Document,” required the generation of an “evaluation” and “amendment request,” but did not directly refer the reader to K70C528A\_1 for guidance to perform these tasks.

These procedural issue are considered a program weakness. Contractor resolution of the procedural issues described above will be tracked as an Inspection Followup Item (IR 99-007-02-IFI).

### **1.1.3.3 Conclusions**

The inspectors concluded that the Contractor's authorization basis amendment process was disjointed, confusing, and appeared at times to be inconsistent with regulations. The procedural issues are considered a program weakness.

## **1.1.4 Authorization Basis Document Control**

### **1.1.4.1 Inspection Scope**

The inspectors assessed whether a process existed to ensure that authorization basis

documentation was appropriately controlled and available to staff, including approved changes and amendments.

#### **1.1.4.2 Observations and Assessments**

The inspectors were briefed by Project Document Control (PDC) personnel responsible for the process used to control authorization basis documents, including approved changes and amendments. The Contractor used computer files to distribute controlled copies of the authorization basis. Personnel from PDC indicated that the electronic files were maintained such that they could only be modified by PDC personnel. The files were reported to be updated when the amendments were approved by the RU or when the change were approved for implementation. The process for controlling the electronic files for the authorization basis was governed by desktop procedures.

The inspectors were also briefed on the process for controlling hard copies of the authorization basis. Hard copies of the authorization basis were stated to be kept to a minimum and were typically distributed to Contractor management personnel. Project Document Control maintained a controlled distribution list. Updates to the hard copies were sent via the controlled distribution list. For each update, a project action item was opened for every individual on the controlled distribution list. The action item was closed once the individual volume holder signed and returned the update acknowledgement form.

Section 4.2.1.2, “Document Control,” of the Contractor’s QAPIP describes the requirements for document control. The inspectors assessed the above process against these requirements and found that the authorization basis document process was controlled and the distribution system was to be accomplished by a specified distribution list. The inspectors found that responsibility was clearly delineated for preparing, reviewing, approving, and issuing authorization basis documents. During PDC staff review of incoming changes to authorization basis documents, the inspectors were informed that they were reviewed for adequacy, completeness, and correctness before they were issued. Methods for controlling user access were appropriately defined.

#### **1.1.4.3 Conclusions**

The inspectors concluded that the Contractor had an effectively authorization basis document control process. Additionally, this process ensured that authorization basis documents were available throughout the organization to perform safety-related work activities. The document control process also met the requirements of the Contractor’s QAPIP.

## **1.2 AUTHORIZATION BASIS MANAGEMENT IMPLEMENTATION (ITP I-101 & I-107)**

### **1.2.1 Contractor Review and Approval Process**

#### **1.2.1.1 Inspection Scope**

The inspectors assessed the Contractor’s implementation of its processes and procedures for ensuring that the design and administrative documents were consistent with the description of the

facility and Contractor activities in the authorization basis. The Contractor's screening assessment process and the document review and approval processes evaluated by the inspectors are described in Section 1.1.1 of this report.

### **1.2.1.2 Observations and Assessments**

The inspectors reviewed a listing of written screening assessments performed by the Contractor. The inspectors observed that the performance of written screening assessments began and rapidly increased in number in May 1999. The inspectors reviewed the revision history of K70C528 and discussed observations with Contractor PDC and ES&H personnel. The startup of the generation of screening assessments correlated with changes to K70C528 that resulted in the requirement for written screening assessments and the timing of significant numbers of design documents being sent to PDC. The inspectors obtained a listing of design-related documents prepared before May 1999 and found that very few design-related documents were filed with PDC before that time.

The inspectors reviewed listings of design documents and procedures prepared in the last three months and attempted to determine if written screening assessments had been performed for each according to versions of K70C528 that were in effect at the time (K70C528C\_0 and K70C528\_1). The Contractor's document control practices resulted in screening assessment documents being filed and cataloged separately from design and procedure document review and approval packages. This, combined with limitations on the Contractor's information systems, made it difficult to readily establish which screening assessment document was associated with a specific procedure or drawing review and approval package. However, the inspectors were able to locate screening assessments for the drawings and procedures examined. Based on the above, the inspectors found that the Contractor had implemented its process and procedures for performing screening assessments for the period examined.

As described in Section 1.1.1 of this report, the Contractor recently eliminated the written screening assessment documentation for various types of design and administrative documents. Because this change was recent, the implementation of the new screening assessment process could not be fully assessed; however, the inspectors did interview Contractor personnel who would be involved in implementing the new process. Because "Approval and Check" signatures on documents under the new process attested that screening assessments were performed, the inspectors interviewed several design engineering and supervisory personnel responsible for developing, reviewing, and signing design documents.

The persons interviewed had received training on the Contractor's authorization basis management process. The inspectors found that the engineering staff had difficulty describing the screening assessment process, exactly when a screening assessment was required for preliminary or finalized design documents, or what aspects of the authorization basis related to their area of responsibility. The personnel interviewed were unable to state when deferred ABCNs associated with design documents were required to be resolved in the process of reviewing and approving design documents. Additional details on authorization basis management training is provided in Section 1.2.4. Subsequent to these interviews, ES&H personnel told the inspectors that design groups had specific individuals who performed screening assessments or assisted in the screening assessment process. Based on the above, the inspectors determined that there was too little experience with the new screening process to

assess the Contractor's implementation of the process.

The inspectors requested a copy of change documentation associated with revision 3 of the RPP that had been submitted to the RU on November 18, 1999 (document No. CCN: 008308). The Contractor informed the inspectors that no ABCN, safety evaluation, or ABAR had been generated for this revision. The Contractor stated that it was its view that since change documentation was generated for revision 2 to the RPP, and that revision 3 contained only minor additional changes as a result of RU comments, no additional change documentation was required. However, Appendix 5, "Managing changes to the Radiation Protection Program," of K70C528A\_1, required the manager proposing a change to the RPP to prepare an ABCN. The procedure did not provide an option to this requirement for special cases. Failure to prepare appropriate change documentation for revision 3 of the RPP is considered an example of a Finding for failure to comply with QAPIP, Section 5.3.2, "Instructions and Procedures," regarding the requirement to perform quality related activities in accordance with procedures (IR-99-007-03a-FIN).

During review of screening assessment SCA-W375-99-00123, revision 0, "Quality Assurance Program and Implementation Plan", dated August 5, 1999, the inspectors determined that the originator identified that the proposed change to the QAPIP (revision 4A) would effect the ISMP and SRD in several locations. However, these changes were not carried forward into the ABCN (ABCN-W375-99-00045 0) or any other change documentation. Failure to prepare an ABCN to address the needed revisions to the SRD and ISMP is contrary to K70C528A\_1, Section 5.0, "Authorization Basis Change Notice (ABCN)," in that this Section requires the generation of an ABCN that describes the authorization basis changes if a proposed change affects the authorization basis. This is an example of a Finding for failure to comply with QAPIP, Section 5.3.2, "Instructions and Procedures," regarding the requirement to perform quality related activities in accordance with procedures (IR-99-007-03b-FIN).

### **1.2.1.3 Conclusions**

The inspectors evaluated the Contractor's implementation of its process for ensuring consistency between the design and administrative documents and the description of the facility and Contractor activities in the authorization basis and found that the Contractor's performance regarding implementation of its process and related procedures was mixed. In a number of cases reviewed, the Contractor was following its process for managing changes to its authorization basis. However, the inspectors identified two examples of a Finding regarding the failure to follow procedures associated with authorization basis document changes. The inspectors found that the changes to the Contractor's screening process were too recent to fully determine the Contractor's implementation of the process. Future inspections in this area will focus on implementation of the new screening assessment process and results.

## **1.2.2 Safety Evaluations**

### **1.2.2.1 Inspection Scope**

The inspectors assessed the Contractor's performance of safety evaluations for proposed changes to the authorization basis. Specifically, the inspectors assessed the following:

- The Contractor’s determinations regarding whether or not amendment requests were required for proposed changes.
- If the RU was being notified of changes to the authorization basis when it is determined that an amendment request is not required.
- If the Contractor’s safety evaluation documentation was of sufficient quality, scope, and depth to fully support safety evaluation conclusions.

### 1.2.2.2 Observations and Assessments

At the time of the inspection, the Contractor had completed eight safety evaluations. As described in Section 1.1.2 of this report, the Contractor had established procedures that allow safety evaluations to be deferred for certain types of changes. As a result of the Contractor’s implementation of these procedures, no safety evaluations had been performed for design-related documents at the time of the inspection. There were no ABCNs prepared for procedures as of the start of the inspection, therefore, there were no safety evaluations performed for new or revised project procedures. All of the safety evaluations performed were related to efforts to revise certain aspects of authorization basis documents (e.g., the SRD, ISMP, etc.).

The inspectors reviewed the following seven completed safety evaluations:

SE-BNFL-5193-SRD-10-02-01  
 SE-BNFL-5193-SRD-10-02-02  
 SE-W375-99-00001  
 SE-W375-99-00003  
 SE-W375-99-00004  
 SE-W375-99-00005  
 SE-W375-99-00020

Six of the completed safety evaluations concluded that an Authorization Basis Amendment Request (ABAR) was required prior to implementing the change and one safety evaluation (SE-W375-99-00020) concluded that the change could be made and implemented without prior RU approval. The inspectors reviewed the proposed changes and concurred with the safety evaluation results. Accordingly, the inspectors concluded that the Contractor was adequately determining whether or not amendment requests were required for proposed changes when a safety evaluation was performed.

The inspectors assessed the documentation prepared by the Contractor for the seven safety evaluations identified above. With the exception of safety evaluation SE-W375-99-00001 related to proposed changes to the Employee Concerns Program (ECP), the inspectors determined that the information provided in the safety evaluations was sufficient to support the conclusions reached in the evaluation. Safety evaluation SE-W375-99-00001 concluded that the proposed changes to the ECP did not result in a reduction in effectiveness of the employees concern program. The documentation provided for this determination consisted of a general statement that effectiveness was not reduced. There was no attempt made to identify the changes and describe how the specific changes would not impact the effectiveness of the ECP. This is inconsistent with ISMP Section 3.3.3, which states that “Safety evaluations are documented in

sufficient detail such that a knowledgeable individual reviewing the evaluation can identify the technical issues considered during the evaluation and the basis for the determinations.” Although the documentation associated with the safety evaluation was determined to be inadequate, the inspectors noted that the Contractor did prepare an ABAR related to the proposed changes to the ECP on the basis that the changes constituted a reduction in commitment. The inspectors also noted that the ABAR and proposed changes to the ECP were subsequently withdrawn. On this basis, the inspectors concluded the documentation prepared for safety evaluations was adequate.

RL/REG-97-13 and Section 3.3.3 of the ISMP specify that the RU will be notified within 30 days of changes to authorization basis that have been made without prior RU approval. As previously noted, there was one safety evaluation performed that did not result in an ABAR (SE-W375-99-00020). The change involved a revision to Section 3.9.2 of the ISMP and was implemented with issuance of Revision 4b to the ISMP. The inspectors attempted to determine if the RU was notified of the change. The inspectors found that the Contractor had transmitted revised ISMP pages to RU administrative staff via transmittal DIS-99-0669. The Contractor stated that this constituted notification of a change to the authorization basis. The inspectors concluded that the transmittal did not meet the intent of RL/REG-97-13 and Section 3.3.3 of the ISMP. Appropriate notification should be in the form of docketed correspondence to the Regulatory Official identifying the change. This issue is considered a weakness in the implementation of the authorization basis management program and follow-up of Contractor actions to address this issue will be tracked as an Inspection Follow-up Item (IR-99-007-04-IFI).

### **1.2.2.3 Conclusions**

The inspectors concluded that the safety evaluations performed by the Contractor had been processed according to the Contractor’s procedures and conformed to applicable requirements and commitments with the following exception. The inspectors concluded that that Contractor had not appropriately implemented the requirements of RL/REG-97-13 and Section 3.3.3 of the ISMP as they relate to notification of the RU of changes to authorization basis documents implemented without prior RU approval. This was considered a program weakness.

## **1.2.3 Authorization Basis Document Control**

### **1.2.3.1 Inspection Scope**

The inspectors assessed the Contractor’s efforts to maintain authorization basis documents and change records. This was performed by reviewing copies of authorization basis document change records, electronic copies of authorization basis documents that were being maintained by PDC, and copies of hard-copy authorization bases documents.

### **1.2.3.2 Observations and Assessments**

From review of electronic copies of authorization basis documents being maintained by PDC, the inspectors determined that electronic versions were being appropriately updated and properly controlled in a network file directory. A review of two controlled copies of the ISMP (copies #13 and #27), indicated that the hard-copy documents appeared to be in good condition, and

random checks of pages against the list of effective pages indicated that documents were complete. The inspectors verified that electronic and hard copy versions of the ISMP reflected changes to Section 3.3.1.8 according to ABAR-W375-99-00005. No discrepancies were identified.

From interviews with the Contractor's ES&H and engineering staff, the inspectors determined that the staff were knowledgeable of the availability and location of controlled copies of authorization basis documents and the need to use controlled documents for tasks that may be safety related. Personnel indicated a preference for obtaining information from the controlled electronic copies when performing work that was safety related.

During a review of change control documentation, the inspectors identified that a change associated with revision 2 of the Radiation Protection Program (RPP), ABCN-W375-99-0044, revision 0 was inappropriately modified after being issued by PDC. This document originally specify that a safety evaluation was to be prepared by June 1, 1999, to address the proposed revision to the RPP. Subsequent to the document being issued by PDC, the originator came to PDC and revised the original document by lining through the requirement to perform a safety evaluation, initialing and dating the change, and stating that the safety evaluation was not required per code of practice K70C528d. From a review of the code of practice, the inspectors agreed with the originator that a safety evaluation was not required. However, failure to revise the ABCN in accordance with Section 4.2.2, "Records," of the QAPIP, which requires that records that contain errors or discrepancies are to be corrected and reviewed and approved by the originating organization, is considered an inspection Finding (IR-99-007-05-FIN).

### **1.2.3.3 Conclusions**

The Contractor was adequately controlling authorization basis documents used in performing work that was safety related. One Finding was identified concerning inappropriately modifying an original change control record after it had been issue by PDC.

## **1.2.4 Personnel Training and Qualifications**

### **1.2.4.1 Inspection Scope**

The inspectors assessed whether Contractor personnel performing authorization basis management activities (e.g., reviewing procedures for conformance to the authorization basis and performing or reviewing safety evaluations) were trained and qualified consistently with applicable commitments in the ISMP. The inspectors also assessed whether the training provided was consistent with the Contractor's procedure for managing the authorization basis.

### **1.2.4.2 Observations and Assessments**

The inspectors attended a Contractor training session entitled, "Managing Changes to Control the Authorization Basis," conducted on September 28, 1999, at the Contractor's offices. The training material provided was reviewed for consistency with the Contractor procedures for managing the authorization basis. The inspectors compared the training material with K70P528\_1, and K70C528A\_1. The inspectors found no inconsistencies in the training material.

The inspectors also found that the material provided was well presented and that a feedback process was available for identifying training weaknesses.

During the inspection the inspectors requested training material for all previous training sessions conducted on the subject of authorization basis. The training manager provided the inspectors with the training material for sessions that were conducted in late 1998 and early 1999. This training material was also reviewed for consistency with Contractor's procedures for managing the authorization basis as they existed at that time. The inspectors compared the training material with K70P528\_0, dated 11/99, and K70C528\_0, dated 11/98. The inspectors did not find any inconsistencies in the training material.

The inspectors requested copies of 15 completed screening assessments and 7 completed safety evaluations. Documents reviewed by the inspectors are provided in Section 3.4 of this report. The names and signatures of the individuals originating and reviewing the completed documents were evaluated against the computerized training roster and the classroom signed attendance roster to ensure that the individuals performing these activities had been trained on authorization basis management. Based on this review, the inspectors found the following:

- Of 15 screening assessments reviewed by the inspectors, 6 were performed or reviewed by individuals who had not completed the authorization basis training module.
- Of 7 safety evaluations reviewed by the inspectors, 6 were performed or reviewed by individuals who had not completed the authorization basis training module.

Section 3.1 of RL/REG-97-13, states that "The processes associated with evaluation and implementing changes are, themselves, important to safety. Accordingly, Contractor evaluation and implementation of changes shall be accomplished: a. By qualified personnel." Implementation of this requirement is described in the Contractor's ISMP, Section 3.3.3. This section states that "the change management program includes the use of qualified personnel." Based upon the above, the inspectors found that Contractor personnel performing authorization basis management activities were not trained consistently with applicable commitments in the ISMP. This was considered an inspection Finding (IR-99-007-06-FIN).

The Contractor performed a self-assessment that reviewed training and qualification for authorization basis management. The self-assessment focused on completed ABARs and identified several reviewers who had not completed the authorization basis training module. The corrective actions for the self-assessment recommended expediting training on the current authorization basis change process for originators and reviewers. It also recommended a procedure change to remove certain management signatures from the safety evaluations. The inspectors found these corrective actions to be reasonable and they were incorporated in the latest version of K70C528A\_1. However, the inspectors found that the self-assessment was narrowly focused on ABARs and consequently did not identify problems found by the inspectors.

#### **1.2.4.3 Conclusions**

The inspectors determined that the authorization basis training program was consistent with the Contractor's procedures for performing authorization basis management activities. However, the

inspectors identified a Finding in that some personnel performing authorization basis management activities were not trained and qualified as required by applicable commitments in the ISMP.

## **1.2.5 Management and Independent Oversight (ITP I-107)**

### **1.2.5.1 Inspection Scope**

To assess management's oversight of the authorization basis management process, the inspectors reviewed management self-assessments and independent assessments associated with the authorization basis management process. The inspectors also assessed the effectiveness of the assessment process, including the identification of corrective actions, actions to prevent recurrence, and the timeliness of correction associated with the assessments.

The inspectors specifically reviewed management self-assessments SA-W375-99-00188 and SA-W375-99-00203 through SA-W375-99-00210 and interviewed the assessor.

### **1.2.5.2 Observations and Assessments**

Based on review of the management self-assessments, the inspectors determined that management had performed self-assessments using a common checklist based on the requirements located in the ISMP, QAPIP, RPP, and Safety Requirements Document (SRD). Of the 10 authorization basis change process requirements listed on the checklist, all but one had been assessed. The one exception concerned performing the independent assessment scheduled for August 30, 1999, which was not performed. During interviews, the QA staff indicated this was due to lack of resources and would be rescheduled.

Issues identified by the Contractor as a result of the self-assessments included the need for the following:

1. Procedure improvements
2. Status tracking of authorization basis documentation
3. Completion of required authorization basis management process staff and management training
4. Completion of the scheduled QA surveillance (independent assessment).

The self-assessment identified several significant issues requiring corrective action. Corrective action for Item 1, above, had been completed, and the inspectors verified the action had been adequately implemented. Resolution of the other issues were still in progress with due dates past those recommended in the self-assessment reports.

### **1.2.5.3 Conclusions**

Management self-assessments identified several significant issues requiring corrective actions. Corrective actions had been implemented, but some were not completed per scheduled dates.

## 2.0 EXIT MEETING SUMMARY

The inspectors presented the inspection results to members of Contractor management at exit meetings on October 8, 1999, and November 23, 1999. The Contractor acknowledged the observations and Findings, and weaknesses presented. During conduct of this first exit meeting, the RU and the Contractor discussed in additional detail, Inspection Finding IR-99-007-01-FIN. The Contractor also described implementation problems being experienced with the process that addresses authorization basis management.

Following the conduct of the second exit meeting, the Contractor contacted the RU and faxed a copy of the Contractor's preliminary position regarding two of the inspection team's preliminary Findings (RU file number 00-RU-0160, docket number 00-RU-B-051). The first preliminary position, concerned the Finding for failure to generate an ABCN for revision 3 to the RPP. The Contractor stated, as described in Section 1.2.1.2 above, that since change documentation was generated for revision 2 to the RPP, and that revision 3 contained only minor additional changes as a result of RU comments, no additional change documentation was required. The RU rejected this position because the Contractor's procedures were clear about requiring an ABCN and because the Contractor is required to formally evaluate all changes to authorization basis documents to ensure that the impact of the changes have been assessed throughout the entire authorization basis.

The second preliminary position addressed the issue of not formally notifying the RU of a change to the ISMP that was determined by the Contractor to not require RU approval before implementation. Section 3.5 of RL/REG-97-13 allows revisions to certain authorization basis documents without RU approval, provided certain criteria are met and the RU is notified with 30 days of completion of the revisions. It was the Contractor's preliminary position that, absent more explicit requirements, notification was made via the transmittal of effected pages to the RU's ISMP control set holder. The RU had expected that a letter would be sent to the Regulatory Official describing the changes and stating that the Contractor concluded that the changes met the RL/REG-97-13 requirements regarding implementation without RU approval. After reviewing the Contractor's preliminary position on this matter, and agreeing that RL\REG-97-13 was not explicit concerning the RU expectation, the RU decided to characterize this issue as a program weakness.

The inspectors asked the Contractor whether any materials examined during the inspection should be considered proprietary information. The Contractor stated that none of documents reviewed by the inspectors was considered "proprietary." None of the material in this inspection report is considered proprietary.

### 3.0 REPORT BACKGROUND INFORMATION

#### 3.1 PARTIAL LIST OF PERSONS CONTACTED

M. Fish, Configuration Manager  
 G. Hagen, Project Administration Manager  
 E. Hughes, Engineering Processes and Systems Manager  
 T. Maciuca, Documents and Records Certification  
 R. Martin, Senior Engineer, HLW-Vitrification  
 M. Nakao, Safety Engineer  
 D. Pisarcik, Shielding and Dose Assessment Lead  
 M. Platt, Safety Program Lead  
 B. Voice, HLW/LAW Lead Engineer  
 M. VonWeber, Sr. Quality Assurance Specialist (Surveillance)  
 G. Voyles, Quality Assurance Manager  
 N. Wilson, Mechanical Engineer

#### 3.2 LIST OF INSPECTION PROCEDURES USED

Inspection Technical Procedure I-107, "Authorization Basis Management Assessment."  
 Inspection Technical Procedure I-101, "Quality Assurance Assessment."

#### 3.3 LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

##### 3.3.1 Opened

IR-99-007-01-FIN	Finding	Failure to implement a process to ensure that the authorization basis is maintained current with the facility design.
IR-99-007-02-IFI	IFI	Program weakness regarding inconsistencies with authorization basis implementing procedures.
IR-99-007-03-FIN	Finding	Two examples of failure to follow procedures: a) failure to prepare ABCN for revision 3 to RPP, b) failure to include ISMP and SRD changes on QAPIP ABCN when identified that the changes impacted these documents.
IR-99-007-04-IFI	IFI	Program weakness concerning notification of RU of changes to authorization basis documents that do not reduce effectiveness of document.
IR-99-007-05-FIN	Finding	Failure to revise an issued ABCN in accordance with requirements of QAPIP.

IR-99-007-06-FIN Finding Some personnel performing authorization basis management activities were not trained and qualified according to commitments in the ISMP.

### **3.3.2 Closed**

None.

## **3.4 KEY DOCUMENTS REVIEWED**

### **3.4.1 Contractor Procedures**

K13C003E\_0, "Code of Practice for the Production of Process-Based Procedures," September 1999.

K13C023\_2, "Code of Practice for the Internal Review and Approval of Documents," October 1999.

K13P005\_0, "Quality Assurance Program: Preparation, Review, Approval, and Distribution," March 1999.

K70A001\_2, "Content and Approval Matrix for A7 Engineering and Design Process," July 1999.

K70C528A\_1, "Code of Practice for Managing Changes to Control the Authorization Basis," September 1999.

K70P030\_3, "Design Change Control," August 1999.

K70P033\_2, "Design Change Note," August 1999.

K70P528A\_1, "Managing Changes to Control the Authorization Basis," September 1999.

K70P551B\_0, "Preparation, Checking and Approval of Drawings and Sketches," February 1999.

K70C551C\_0, "Code of Practice for Preparation, Checking and Approval of Drawings and Sketches," February 1999.

K72P504\_0, "Production of Preliminary Safety Analysis Report (PSAR)," March 1999.

K71C502\_0, "Code of Practice for Revisions to the Safety Requirements Document," November 1998.

K71C504\_0, "Code of Practice for Revision to the Integrated Management Plan," November 1998.

### 3.4.2 Management Self-Assessments

Self Assessment Record SA-W375-99-00188, *Authorization Basis Management - Checksheet Requirement 1*, August 1999.

Self Assessment Record SA-W375-99-00203, *Authorization Basis Management - Checksheet Requirements 2 and 5*, August 1999.

Self Assessment Record SA-W375-99-00204, *Authorization Basis Management - Checksheet Requirement 3*, August 1999.

Self Assessment Record SA-W375-99-00205 *Authorization Basis Management - Checksheet Requirement 4*, August 1999.

Self Assessment Record SA-W375-99-00206, *Authorization Basis Management - Checksheet Requirement 6*, August 1999.

Self Assessment Record SA-W375-99-00207, *Authorization Basis Management - Checksheet Requirement 7*, August 1999.

Self Assessment Record SA-W375-99-00208, *Authorization Basis Management - Checksheet Requirement 8*, August 1999.

Self Assessment Record SA-W375-99-00209, *Authorization Basis Management - Checksheet Requirement 9*, August 1999.

Self Assessment Record SA-W375-99-00210, *Authorization Basis Management - Checksheet Requirement 10*, August 1999.

### 3.4.3 Authorization Basis Amendment Requests

ABAR-BNFL-5193-SRD-01-02-01, "Revision to SRD Safety Criteria for ERPP Topic," January 15, 1999.

ABAR-W375-99-00001, "Revision of the ECP Description Document," March 29, 1999.

ABAR-W375-99-00003, "Revision to SRD Implementing Standard for Configuration Management," April 2, 1999.

ABAR-W375-99-00004, "Miscellaneous Revisions to the SRD," September 13, 1999.

ABAR-W375-99-00005, "Revision to the ISMP Section 3.3.1.8," May 12, 1999.

ABAR-W375-99-00008, "NPH Analysis and Design Approach," September 3, 1999.

### 3.4.4 Safety Evaluations

SE-W375-99-00006, "Revision of the TWRS-P RPP," (10 CFR 835 Revision).

SE-W375-99-00001, "Revision of the ECP Description Document," Rev 0.

SE-W375-99-00003, "Revision to SRD Implementing Standard for Configuration Management," Rev 0.

SE-W375-99-00004, "Miscellaneous Revision to the SRD," Rev 0.

SE-W375-99-00005, "Revision to the ISMP Section 3.3.1.8," Rev 0.

SE-W375-99-00008, "NPH Analysis and Design Approach."

SE-W375-99-00020, "Proposed Revision to ISMP Section 3.9.2, ALARA Reviews," Rev 0.

SE-BNFL-5193-SRD-01-02-01, "Revisions to SRD Safety Criteria for ERPP Topic," Rev 0.

SE-BNFL-5193-SRD-01-02-02, "Revision to SRD DID Implementing Standard," Rev. 0.

### 3.4.5 Screening Assessments

SCA-W375-99-00005, *PFD-Cesium Removal Using Ion Exchange*, May 4, 1999.

SCA-W375-99-00013, *PDF – Outcell Process Reagents*, May 4, 1999.

SCA-W375-99-00015, *PFD-Pretreatment Condensate/Plant Wash and Drain Systems*, May 10, 1999.

SCA-W375-99-00025, *K70C505 Code of Practice for the Accident Analysis Process*, May 21, 1999.

SCA-W375-99-00033, *ABCN-375-99-0044 BNFL-TWP-SER-003, Revision 1 Evaluates Proposed Revision 2 to TWRS-P RPP for Design*, May 27, 1999.

SCA-W375-99-00036, *System Description for Pretreatment Effluent Collection*, June 15, 1999.

SCA-W375-99-00045, *Steam Boilers A-D, Boiler Blowdown, Deaerator and Boiler Feed, Service Bldg Condensate Collection, & Steam Plant Condensate Surge Tank*, June 23, 1999.

SCA-W375-99-00055, *Technology Development*, July 7, 1999.

SCA-W375-99-00065, *Authority to Stop Work*, May 21, 1999.

SCA-W375-99-00075, *Code of Practice for Source Evaluation and Selection*, July 21, 1999.

SCA-W375-99-00085, *Safety Requirements Document*, Volume II, August 19, 1999.

SCA-W375-99-00096, *Identification of an Implementing Standard for Unreviewed Safety Question Evaluations*, August 25, 1999.

SCA-W375-99-00105, *Design Committee*, August 19, 1999.

SCA-W375-99-00115, *Code of Practice for Production of RPP-WTP Project Documents*, August 24, 1999.

SCA-W375-99-00123, *Quality Assurance Program and Implementation Plan*, August 5, 1999.

SCA-W375-99-00135, *Code of Practice for TWRS Pipeline and Valve Naming Conventions*, July 2, 1999.

SCA-W375-99-00144, *Root Cause Analysis*, September 8, 1999.

### **3.4.6 Other**

10 CFR 830.120, “Quality Assurance Requirements.”

10 CFR 835.101, “Radiation Protection Program.”

AB-0001-01, “Training Lesson Plan, Managing Changes to Control the Authorization Basis.”

AB-0001-02, “Training Lesson Plan, Managing Changes to the Authorization Basis III,” September 1999.

DOE/RL-96-0003, *DOE Regulatory Process for Radiological, Nuclear, and Process Safety for TWRS Privatization Contractors* (Regulatory Process), Rev. 1, 1998.

DOE/RL-96-0006, *Top-Level Radiological, Nuclear, and Process Safety Standards and Principles for TWRS Privatization Contractors*, Rev. 1, 1998.

*Integrated Safety Management Plan*, BNFL-5193-ISP-01, Rev. 4, 1998.

*Quality Assurance Program and Implementation Plan*, BNFL-5193-QAP-01, Rev. 4, 1998.

*Radiation Protection Plan*, BNFL-TWP-SER-003, Rev.2, 1999.

RL/REG-97-13, *Regulatory Unit Position on Contractor-Initiated Changes to the Authorization Basis*, Rev. 5, 1999.

*Safety Requirements Document*, BNFL-5193-SRD-01, Rev. 2, December 1998.

## 4.0 LIST OF TERMS

ABAR	Authorization Basis Amendment Requests
ABCN	Authorization Basis Change Notice
ES&H	Environmental Safety and Health
ISMP	Integrated Safety Management Plan
ITP	Inspection Technical Procedure
PCR	Procedure Change Request
PDC	Project Document Control
QA	Quality Assurance
QAP	Quality Assurance Program
QAPIP	Quality Assurance Program and Implementation Plan
RL	Richland Operations Office
RPP	Radiation Protection Program
RU	Regulatory Unit
SRD	Safety Requirements Document
TSR	Technical Safety Requirements
TWRS-P	Tank Waste Remediation System Privatization
USQ	Unreviewed Safety Questions