

**INSPECTION TECHNICAL PROCEDURE**

**I-150**

**RADIOLOGICAL CONTROL PROGRAM TRAINING  
AND QUALIFICATIONS ASSESSMENT**

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Approved: Patrick P. Carrier  
Verification and Confirmation Official

Date: 1/23/04

Concur: Robert C. Barr

Date: 1/23/04

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# **INSPECTION TECHNICAL PROCEDURE I-150, REV. 1 RADIOLOGICAL CONTROL PROGRAM TRAINING AND QUALIFICATIONS ASSESSMENT**

## **1.0 PURPOSE**

This procedure provides guidance for assessing elements of the Contractor's Radiological Control Program (RCP) addressing training and qualification. This guidance is based on the requirements in 10 CFR 835, the Safety Requirements Document (SRD), the Radiation Protection Program (RPP), and the Quality Assurance Manual (QAM).

This inspection procedure assesses the adequacy and effectiveness of the following aspects of the RCP:

- Training program content
- Training program implementation
- Qualification program
- Training of managers, supervisors, workers, and support personnel
- Training records.

This inspection procedure compliments Inspection Technical Procedure (ITP) I-106, "Personnel Training and Qualification Assessment."

**NOTE: This procedure references RPP sections as the basis of many of the requirements. At the time of its writing, the RPP was approved for design and construction. When the revised RPP is approved for operations, this procedure will be reviewed to ensure the inspection attributes and references are appropriate.**

## **2.0 OBJECTIVES**

This procedure verifies: (1) the Contractor has developed and implemented an effective RCP training program, and (2) managers, supervisors, workers, and support personnel are trained and qualified in radiation safety and the RCP.

This procedure is a component of the RCP inspection program. This and other procedures will be used on an on-going basis, as needed, to provide assurance radiological safety training activities are conducted as required by the RCP, authorization basis commitments, and Contractor procedures. This procedure will be used throughout the entire life cycle of the River Protection Project - Waste Treatment and Immobilization Plant (WTP). However, the entire inspection procedure may not be completed during any one inspection and/or every time the inspection procedure is used.

### **3.0 INSPECTION REQUIREMENTS**

#### **3.1 Adequacy and Effectiveness of RCP Training Program Content**

- 3.1.1 The inspector should verify the Contractor has established a radiological control training program consistent with RPP requirements and other WTP authorization basis commitments. (RPP, Requirements 101 through 105)
- 3.1.2 The inspector should verify the RCP training program is inclusive of radiation safety and radiological control topics required by the authorization basis. (RPP, Requirement 103; QAM, Policy Q-02.2; and SRD SC 5.0-1, 5.0-2, 7.2-1, 7.2-2, and 7.2-3)
- 3.1.3 The inspector should verify the Contractor uses radiation safety and radiological control training materials recognized by the DOE in the development of the RCP training program. (RPP, Requirement 101)

#### **3.2 Adequacy and Effectiveness of RCP Training Program Implementation**

- 3.2.1 The inspector should verify the RCP training program is implemented in accordance with approved procedures. (RPP, Requirement 22; and QAM, Policy Q-05.1)
- 3.2.2 The inspector should verify RCP periodic re-training is accomplished as required. (RPP, Requirements 101, 104, and 105; SRD, SC 7.2-1 and 7.2-2)
- 3.2.3 The inspector should verify RCP training is accomplished whenever significant changes to the RCP and/or RCP implementing procedures are made. (RPP, Requirement 105)

#### **3.3 Adequacy and Effectiveness of RCP Qualification Program**

- 3.3.1 The inspector should verify the RCP qualification program is established, documented, and approved for radiological control technicians (RCTs), their supervisors, and radiological workers (RWs). (RPP, Requirement 21; and SRD SC 7.2-1)
- 3.3.2 The inspector should verify the RCP qualification program is implemented in accordance with approved procedures and codes of practice. (RPP, Requirement 22; QAM, Policy Q-05.1)

#### **3.4 Adequacy and Effectiveness of RCP Training of Managers, Supervisors, Workers, and Support Personnel**

- 3.4.1 The inspector should verify RCP training provided to managers, supervisors, workers, and support personnel is adequate and effective. (RPP, Requirement 21; QAM, Policy Q-02.2)

- 3.4.2 The inspector should verify individuals responsible for developing and implementing the RCP have appropriate education, training, and skills to discharge their responsibilities. (RPP, Requirement 21)

### **3.5 Adequacy and Effectiveness of Records**

The inspector should verify there is a system of records for RCP training and qualification sufficient to demonstrate compliance with requirements. (RPP, Requirement 90; QAM Policy Q-17.1)

## **4.0 INSPECTION GUIDANCE**

Guidance is provided to assist the inspector in addressing the requirements in Section 3.0 of this procedure.

The inspector should review applicable parts of 10 CFR 835 and 10 CFR 830, Subpart A. The inspector should also be familiar with the content of the documents listed in Section 5.0, "References."

NOTE: The Contractor is not committed to the implementation guidance for radiation safety training presented in DOE G 441.1-12; however, this document provides useful information describing an effective radiation safety training program.

The guidance below includes suggested sample sizes of documents and records to be reviewed, and personnel to be interviewed. The inspector may choose a different sample size based on the life cycle of the facility, the initial observations in any area, or previous inspection reports. The samples should be of sufficient size to provide confidence: (1) the Contractor has an adequate RCP training program, (2) the RCP training program is being implemented appropriately, (3) personnel are properly qualified to discharge their responsibilities, (4) managers, supervisors, workers, and support personnel are appropriately trained, and (5) there is adequate documentation and records to demonstrate compliance with the requirements.

### **4.1 Adequacy and Effectiveness of RCP Training Program Content**

- 4.1.1 The inspector should review three training modules to ensure a RCP training program has been established. Elements of a RCP training program include the following:

- Lesson plans including learning objectives
- Instructor notes
- Student handouts
- Student demonstrations
- Examinations
- Training schedules
- Attendance logs.

4.1.2 The inspector should review content of the RCP training program to ensure it is comprehensive in radiation safety and radiological control topics. The topics must include those listed in 10 CFR 835.901(c), lessons learned from industry experience, and those listed in Contractor job descriptions and training and qualification documents. The inspector should also ensure the RCP training materials are appropriate for the position being trained and as such, tailored for the following:

- ALARA design engineers
- Emergency response personnel.
- General employees
- Managers
- Personnel required to wear respirators
- Planners
- Radiological control support personnel
- Radiological control technicians
- Radiological control technician supervisors
- Radiological workers
- Schedulers
- Supervisors of radiological work activities
- Visitors

4.1.3 The inspector should review three RCP training modules and determine the basis upon which the RCP training program is developed. References should include regulations, authorization basis commitments, and DOE guidance. In-house materials should have documentation of technical accuracy. Generic materials should be supplemented with site-specific information. Several facts from the training modules should be checked to verify they are in agreement with the reference document.

## **4.2 Adequacy and Effectiveness of RCP Training Program Implementation**

4.2.1 The inspector should review three RCP training modules and observe training to ensure it is delivered as designed. The inspector should look at training schedules, student sign in logs, examination results, training evaluations, instructor qualifications, student pre-qualifications, and other documents as necessary. The inspector should also interview at least one instructor and at least two students.

4.2.2 The inspector should review three individual training records to ensure each worker has received the required initial training and periodic retraining. Reviews should include the individual's job description and qualifications, training schedules, training logs, exam results, control area entry logs, and other documents as necessary.

Note: The time interval to conduct these training activities may be exceeded by a period not to exceed 30 days to accommodate scheduling needs.

- 4.2.3 The inspector should review revisions to the RCP and RCP implementation procedures since the last inspection in this area. The inspector should then determine if the Contractor has made a determination as to whether or not the revision is significant and requires immediate retraining of affected personnel. The inspector should then determine if the training is scheduled and has been accomplished in the required time frame.

### **4.3 Adequacy and Effectiveness of RCP Qualification Program**

- 4.3.1 The inspector should review the *BNI Training Program* to verify the qualification criteria for three specific positions, i.e., radiological engineer, ALARA specialist, and RCT. The program should include job description, job analysis, training and qualification requirements for the position, training pre-requisites, and QAM requirements.
- 4.3.2 The inspector should review a sample of three qualification records for specific individuals to ensure they are complete, correspond to the job description for the individual, and are current.

### **4.4 Adequacy and Effectiveness of RCP Training of Managers, Supervisors, Workers, and Support Personnel**

- 4.4.1 The inspector should observe, when possible, the performance of activities covered by the RCP. This might include the preparation of a Radiation Work Permit, operator access to a High Radiation Area, or monitoring by a RCT. If performance is deficient, determine if the deficient performance is connected with the training program. Indications of poor training would include failure to attend training or retraining on the activity, training does not cover the specific deficient performance due to poor instruction, or the training fails to cover the topic.
- 4.4.1.1 The inspector should review occurrence reports involving radiological controls since the last inspection. Select a few reports and determine if the root or contributing cause is attributed to poor radiological training. If training is found deficient, review the corrective action, and determine if it has been implemented.
- 4.4.1.2 The inspector should verify an audit addressing RCT training has been performed within the last 36 months. Review the audit findings. Follow up selected deficiencies to determine if corrective actions have been implemented. If corrective actions have been implemented, determine the effectiveness of one or two actions having the greatest potential impact on radiation safety.
- 4.4.2 The inspector should review the overall radiological performance of the Contractor since the last inspection by reviewing RCP inspection reports, occurrence reports, 10 CFR 835.102 audit reports, Contractor assessments, and assessments made by other DOE organizational units or outside agencies. If deficient radiological safety performance is identified, determine if the cause is attributed to the qualifications or training of individuals responsible for developing and implementing the RCP. If qualification or training is responsible, determine if appropriate corrective actions are

proposed and implemented, and if the Contractor evaluates the effectiveness of its corrective actions.

#### **4.5 Adequacy and Effectiveness of Records**

ITP I-151, "RCP Documents, Records, and Reports Assessment," and QAM inspections will routinely address the adequacy of the Contractor's radiological program records management system. During the conduct of this inspection, confirm documents, records, and reports used, related to the RCP training and qualification program, meet the technical and regulatory requirements. No additional records need be reviewed to establish the effectiveness of the training and qualification records.

### **5.0 REFERENCES**

10 CFR 830, Subpart A, "Quality Assurance Requirements," *Code of Federal Regulations*, as amended.

10 CFR 835, "Occupational Radiation Protection," *Code of Federal Regulations*, as amended.

*BNI Training Program*, Bechtel National, Inc., as amended.

DOE G 441.1-12, *Radiation Safety Training Guide*, U.S. Department of Energy, 1999.

*Safety Requirements Document*, 24590-WTP-SRD-ESH-01-001-02, Volume II, Rev. 3, Bechtel National, Inc., 2003.

*Radiation Protection Program for Design and Construction*, 24590-WTP-RPP-ESH-01-001, Rev. 0, Bechtel National, Inc., 2001.

RL/REG-98-26, *Inspection Technical Procedures* (ITP), U.S. Department of Energy, Office of River Protection, 2003.

ITP I-106, "Personnel Training and Qualification Assessment"

ITP I-151, "RCP Documents, Records, and Reports Assessment"

*Quality Assurance Manual*, 24590-WTP-QAM-QA-01-001, Rev. 4a, Bechtel National, Inc., 2003.

### **6.0 LIST OF TERMS**

ALARA	as low as is reasonably achievable
BNI	Bechtel National, Inc.
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
ISMP	Integrated Safety Management Plan



ITP	Inspection Technical Procedure
ORP	Office of River Protection
QAM	Quality Assurance Manual
RCP	Radiological Control Program
RCT	Radiological Control Technician
RPP	Radiation Protection Program
RW	Radiological Workers
SRD	Safety Requirements Document
WTP	River Protection Project - Waste Treatment and Immobilization Plant

Attachments: None

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