

U.S. DEPARTMENT OF ENERGY  
OFFICE/FACILITY-SPECIFIC  
QUALIFICATION STANDARD

**PORTSMOUTH SITE OFFICE**



**TECHNICAL QUALIFICATION PROGRAM  
Office/Facility Specific  
Qualification Standard  
PORTS-361.1**

REVISION 1  
January 2003

## CONCURRENCE AND APPROVAL

The DOE-Oak Ridge Operations Office (ORO) Portsmouth Site Office (PORTS) Manager is the management sponsor for this PORTS Qualification Standard. As the management sponsor, the PORTS Manager is responsible for reviewing the qualification standard to ensure that the technical content is accurate and adequate for its intended application and for ensuring that the qualification standard is maintained current. Concurrence with this qualification standard by the PORTS Manager is indicated by signature below.

The Training and Development Division (TDD) Director coordinates implementation of the technical qualification program and assists line managers in the development of ORO office/facility-specific qualification standards. Concurrence with this qualification standard by the TDD Director is indicated by signature below.

The ORO Assistant Manager for Environmental Management (AMEM) is the approval authority for this qualification standard. Approval of this qualification standard by the AMEM is indicated by signature below.

### CONCURRENCE:

Russ Vranicar, Portsmouth Site Office Manager (Acting)



Date

2/21/03

W. J. Vosburg, Training and Development Division Director



Date

2/29/03

### APPROVAL:

Gerald Boyd, Assistant Manager for Environmental Management



Date

3/4/03

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**PORTSMOUTH SITE OFFICE**

The Portsmouth Site Office (PORTS) is a Department of Energy Oak Ridge Operations Office (ORO) organization. PORTS includes technical and administrative personnel who are assigned the responsibility to ensure protection of the health and safety of DOE and contractor employees and the public, and to ensure the protection of government and public property and the environment at the Portsmouth Gaseous Diffusion Plant (GDP). In this role, PORTS staff performs numerous tasks and activities in support of that responsibility.

***PURPOSE***

The PORTS Office/Facility-Specific Qualification Standard defines the qualification competencies required for carrying out the duties and responsibilities outlined above and detailed on subsequent pages. This standard is part of the Technical Qualification Program (TQP) required by DOE Order 360.1, *Training*, and supplements the department-wide General Technical Base and functional area qualification standards. It contains the competency requirements PORTS staff assigned to the Technical Qualification Program need (as a composite) in order to perform assigned activities. Documented satisfactory completion of the competencies contained in this qualification standard ensures that the PORTS staff is qualified to fulfill their duties and responsibilities.

***QUALIFICATION STANDARD DEVELOPMENT***

This qualification standard has been constructed using information from PORTS position descriptions, PORTS procedures, Regulatory Oversight Agreement (ROA) procedures, DOE and ORO orders, and interviews with PORTS staff. The format of this document follows the department-wide functional area qualification standards developed by DOE Human Resources Office of the Technical Personnel Program Coordinator.

## **APPLICABILITY**

This qualification standard applies to selected PORTS staff, and other Federal personnel temporarily assigned to PORTS, who provide management direction or technical oversight that could impact the safe operation of PORTS as a defense nuclear facility.

## **IMPLEMENTATION REQUIREMENTS**

The competencies contained in the Standard are divided into the following categories:

1. General Technical
2. Administrative
3. Management and Assessment

Each of the categories contains one or more competency statements indicated by bold print. The competency statements define the expected capabilities that an individual must possess. A listing of supporting knowledge and/or skill statements that further amplify and describe the intent of the competency follows each of the competency statements. The supporting knowledge and skill statements are not additional requirements and do not necessarily have to be fulfilled to meet the intent of the competency.

All of the competencies identify a familiarity level, working level, or expert level of knowledge, or they require the individual to demonstrate the ability to perform a task or activity (refer to attached matrix). These levels are defined as follows:

**FAMILIARITY LEVEL** is defined as basic knowledge of or exposure to the subject or process adequate to discuss the subject or process with individuals of greater knowledge.

**WORKING LEVEL** is defined as the knowledge required to monitor and assess operations/activities, to apply standards of acceptable performance, and to reference appropriate materials and/or expert advice as required to ensure the safety of Department activities.

**EXPERT LEVEL** is defined as a comprehensive, intensive knowledge of the subject or process sufficient to provide advice in the absence of procedural guidance.

**DEMONSTRATE THE ABILITY** is defined as the actual performance of a task or activity in accordance with policy, procedures, guidelines, and/or accepted industry or Department practices.

This qualification standard contains a composite of all the competencies applicable to the PORTS staff members who are enrolled in the TQP. No one individual is expected to be qualified on all the competencies. The PORTS Manager assigns to each participating PORTS member the specific competencies from this qualification standard that the participant is required to complete. Exemptions are not used in this phase of the qualification program. Only those competencies assigned by management are required to be completed. The AMEM reviews the competencies selected for the PORTS Manager to complete.

Equivalencies may be granted for individual competencies based upon an objective evaluation of the employee's prior education, training, and/or experience. Documentation of equivalencies shall indicate how the competency requirements have been met. The supporting knowledge and skill statements should be considered when evaluating an employee's ability with respect to each competency requirement.

Competencies can be achieved in numerous ways including on-the-job training; formal training and education courses, on and off the job; self-study; rotational assignments; mentoring; etc.

Classroom instruction, computer-based training, interactive television broadcasts, and self-study guides are available to individuals preparing to meet competencies in their qualification standards.

Training courses used to acquire needed competencies should be selected with care to best satisfy the competencies. DOE orders are frequently referenced as standards for competencies. Individuals assigned such competencies and those evaluating the performance must be aware that many DOE orders in the directive system are being deleted, consolidated, or phased out. When DOE orders and other documents are referenced in the qualification standard, the most recent approved revision should be used for study and evaluation.

TQP participants use this qualification standard in conjunction with their Technical Qualification Records to document implementation and completion of the office/facility-specific qualification requirements. Documented completion of the requirements of this qualification standard will be included in the employee's training record.

## **DUTIES AND RESPONSIBILITIES**

The following duties and responsibilities may be assigned to PORTS staff whose position requires them to provide management direction or oversight that could impact the safe operation of a defense nuclear facility and who provide technical support to line management for review and assessment of contractor programs.

1. Assure that United States Enrichment Corporation (USEC) maintains leased facilities in accordance with the most current approved lease between DOE and USEC.
2. Oversee all assigned program activities and serve as the Contracting Officer's Representative (COR), Contracting Officer's Technical Representative (COTR), and/or Contract Technical Monitor (CTM) for technical direction to the contractor(s) providing mission support and support services to the Portsmouth Gaseous Diffusion Plant (GDP).
3. Review/assess changes and additions to regulatory requirements, evaluate, and report potential impact of changes/additions on Portsmouth Site Office activities and projects.
4. Conduct self-assessments of Portsmouth Site Office processes, procedures, and practices. Identify and report accomplishments, strengths, weaknesses, and improvement areas.
5. Keep abreast of state-of-the-art technologies in assigned technical areas such as environmental restoration, uranium enrichment technology, safe industrial practices, and applicable codes and standards.
6. Evaluate Portsmouth GDP environmental compliance activities and contractor performance to ensure the adequacy and effectiveness of:
  - Technical performance
  - Plans, policies, and procedures
  - Management controls
  - Regulatory compliance
  - Worker and public health/safety programs
  - Environmental monitoring
  - Quality assurance programs
  - Pollution prevention
  - Waste minimization
7. Ensure fulfillment of ORO obligations with respect to implementation of the National Contingency Plan (regarding unplanned releases of hazardous materials).

8. Communicate with HQ, DOE-ORO and state and local governments to exchange information concerning Portsmouth GDP environmental restoration programs.

9. Perform as liaison between DOE-ORO Portsmouth Site Office and the Federal Bureau of Investigation (FBI).

10. Evaluate security programs at Portsmouth engaged in such activities as Refeed, special nuclear material (SNM) processing, uranium enrichment, nuclear material control and accountability (MC&A), security lease management, international security protocol, non-proliferation, and counterintelligence investigations.

11. Coordinate with the Site, Field, and Headquarters and other agencies in the overall administration, cultural assistance, permanent presence, security issues, procedures and notifications/reports, and overall logical efforts related to Russian Transparency and the International Atomic Energy Agency (IAEA) at Portsmouth.

12. Serve as a member of the Site Emergency Cadre.

13. Oversee real properties and all security related areas for on-site tenants (e.g., Ohio Army National Guard).

### ***REQUIRED COMPETENCIES***

The competencies contained in this qualification standard are distinct from those competencies contained in the General Technical Base Qualification Standard and the series of department-wide functional area qualification standards. Participating individuals must complete the competency requirements of the General Technical Base Qualification Standard and a primary functional area qualification standard prior to or in parallel with the completion of assigned competency requirements in this qualification standard.

Selected PORTS staff should complete training associated with the topics listed below as co-requisites to the requirements of this qualification standard (see attached matrix). Most ORO sites have training requirements on these topics in order to access facilities to work. The specific training courses required for PORTS staff should be identified in Individual Development Plans.

- General Employee Training
- Radiation Worker I (or II) Training
- Nuclear Criticality Safety Training
- HAZWOPER Training

## ***EVALUATION REQUIREMENTS***

The evaluation process identified below serves as a measurement tool for assessing whether or not the participants have acquired the technical competencies in this qualification standard. The following requirements apply to the completion of this qualification standard. Verifying and documenting that the competencies have been met may be accomplished by the PORTS Manager, or by a subject matter expert (SME) designated by the PORTS Manager. Any of the following methods may be used to evaluate incumbent competency. Each evaluation method is required to be documented.

- Formal education (college courses and academic degrees)
- Training (DOE, DOE contractor, other agency, vendor)
- DOE experience/on-the-job training
- Equivalencies for prior experience, education, and training
- Documented oral evaluation
- Documented observation of performance
- Written examination (including test out)

The PORTS Manager or SME performing the verification must provide some level of evaluation to confirm the participant's level of understanding when self-study of DOE orders, Federal and state/local regulations, procedures, or required reading is used to satisfy a competency. In all cases the evaluation is documented by signature on the participant's Technical Qualification Record.

## ***CONTINUING TRAINING AND PROFICIENCY REQUIREMENTS***

Re-qualification on the competencies contained in this qualification standard is not required. PORTS staff should participate in continuing learning activities in order to maintain and improve previously acquired knowledge and skills and to acquire new knowledge and skills where necessary. Continuing training and education to maintain technical proficiency includes the following elements:

1. Technical education and/or training on topics directly related to PORTS duties and responsibilities.
2. Training on topics that address an individual's knowledge and/or skill deficiencies.

3. Training in areas added to the qualification standard since initial qualification. Competencies added to the qualification standard are documented in the Technical Qualification Record and are addressed like other qualification standard competencies.

Specific continuing training or education needs should be documented in Individual Development Plans.

## **1.0 GENERAL TECHNICAL COMPETENCIES**

### **1.1 Portsmouth Site Office personnel shall demonstrate knowledge of the construction, operation, and basic theory of uranium enrichment as performed in the gaseous diffusion process.**

Given a one-line diagram of a typical "000" gaseous diffusion cell or on a facility walkthrough, identify the following components and describe their interrelation and purpose:

- Compressor
- Electric motor
- Converter
- Gas cooler
- Stage control valve
- Stage
- Cells
- Cascade

### **1.2 Portsmouth Site Office personnel shall demonstrate knowledge of the basic requirements of material control and accountability.**

Supporting Knowledge and/or Skills

a. Explain the purpose, scope, and applicability of DOE Order 474.1A, *Control and Accountability of Nuclear Materials*, to PORTS facilities.

b. Explain the following nuclear material control and accountability requirements for

PORTS facilities using the site Material Control and Accountability Plan:

- Measurements and measurement control
- Threat considerations
- Physical inventories
- Control limits
- Loss of detection elements
- Nuclear material alarms
- Nuclear material access control
- Containment
- Surveillance

c. Discuss *defense-in-depth* as it relates to material control and accountability at PORTS.

d. Explain the material control and accountability components of the PORTS facility emergency plans.

e. Locate the approved material control and accountability storage locations on site.

f. Review and assess the PORTS administrative controls designed to prevent and detect material losses and diversions (include reviews and assessments).

**1.3 Portsmouth Site Office personnel shall demonstrate knowledge of the following types of emergency actions per PORT-5008, *Emergency Protective Actions*:**

- Emergency Response to Fires
- Emergency Evacuation/Sheltering (Radiological and Non-radiological)
- Site-wide evacuation
- Severe Weather Response
- Earthquake Response
- Bomb Threat Response
- Personnel Accountability notification and reporting

**1.4 Portsmouth Site Office personnel shall demonstrate knowledge of the lease agreement between DOE and USEC dated July 1, 1993.**

- Authorities, roles and responsibilities
- DOE Material Storage Areas (DMSA)

**1.5 Portsmouth Site Office personnel shall demonstrate knowledge of visitor access requirements at the Portsmouth plant site.**

- Requesting access
- Visitor information requirements (PORT-5002, *Visitor Control*)
- Limitations/exclusions
- Escorting duties (PORT-5015, *Limiting Access to Classified Information and Escorting*)
- Completion of visitation duties/documentation

**1.6 Portsmouth Site Office personnel shall demonstrate knowledge of environmental and waste management programs at Portsmouth (Waste certification processes, Major waste streams, Pollution Prevention and Waste Reduction programs).**

- Identify major waste streams and storage areas
- Describe process for evaluating and identifying new waste streams
- Describe the major components of the Pollution Prevention and Waste Reduction programs
- Administrative Consent Order dated June 1997
- Consent Decree dated August 1989
- DUF6 and Lithium Director's Final Findings and Orders dated February 1998
- Integrated Units Director's Final Findings and Orders dated March 1999
- Site Treatment Plan dated October 1995
- Toxic Substances Control Act Compliance Agreement dated February 1992

**1.7 Portsmouth Site Office personnel shall demonstrate knowledge of the Portsmouth Oversight Program.**

- Describe the purpose and applicability of DOE Order 414.1A, *Quality Assurance*
- Describe the purpose and applicability of DOE PORTS Site Office procedures:
  - PORTS-QI-300, *Portsmouth Site Office Contractor Oversight Program Plan*
  - PORTS-QI-301, *ES&H Walkthrough Program*
  - PORTS-QI-302, *Technical Assessment Program*
  - PORTS-QI-303, *Corrective Action Closeout Program*
- Describe the process of Integrated Safety Management System and know the major elements

## **2.0 ADMINISTRATIVE COMPETENCIES**

### **2.1 Portsmouth Site Office personnel shall demonstrate knowledge of the Price-Anderson Amendment Act of 1988 and its impact on Department of Energy Portsmouth activities.**

Supporting Knowledge and/or Skills

- a. Discuss the purpose and scope of the Price-Anderson Amendment Act.
- b. Interpret the Act's applicability to the ORO management activities.
- c. Summarize the civil and criminal penalties imposed on the Department, management and operating contractors, and subcontractors as the result of a violation of applicable rules and regulations related to ORO environmental restoration.
- d. Interpret the requirements associated with the topics below, as the rule-making aspect of the Price-Anderson Amendment Act affects them:
  - Safety Analysis Reports or Documented Safety Analyses
  - Unreviewed Safety Questions
  - Quality Assurance Requirements
  - Defect Identification and Reporting
  - Conduct of Operations at DOE Nuclear Facilities
  - Technical Safety Requirements
  - Training and Certification
  - Maintenance Management
  - Categorization, Notification, Reporting, and Processing of Operational Occurrences at DOE Nuclear Facilities
- e. Translate the role of Portsmouth Site Office personnel with respect to implementing the requirements of the Price-Anderson Amendment Act.

### **2.2 Portsmouth Site Office personnel shall demonstrate knowledge of Records Management and Document Control per PORTS-SS-701, Control of Classified Documents and Information and Title 10, Code of Federal Regulations, Chapter III, Part 830.120.**

- Identify the purpose and applicability for Records Management and Document Control
- Identify what documents need to be controlled
- Identify various forms of records
- Describe the process for determining a record and controlling distribution

### **3.0 MANAGEMENT AND ASSESSMENT COMPETENCIES**

#### **3.1 Portsmouth Site Office personnel shall demonstrate knowledge of the requirements for startup and restart of nuclear facilities and the conduct of Operational Readiness Reviews (ORRs).**

Supporting Knowledge and/or Skills

- a. Discuss the criteria and process of facility categorization.
- b. Discuss the purpose of ORRs as outlined in DOE Order 425.1 B, *Startup and Restart of Nuclear Facilities*.
- c. List the conditions that require performance of ORRs and circumstances when only readiness assessments would be allowable.
- d. For an actual or simulated ORR, perform the following:
  - Formulate the personnel qualification requirements and any limitations for serving on the team
  - Resolve the minimum core requirements for developing the depth and breadth of the review
- e. Outline the responsibilities of ORR team members.
- f. Participate on an ORR team, conduct work in preparation for an ORR, or complete an ORR training course.
- g. Review ORR reports and discuss the relevant findings.