

**U.S. DEPARTMENT OF ENERGY
OAK RIDGE OFFICE**



**TECHNICAL TRAINING
OFFICE/FACILITY-SPECIFIC
QUALIFICATION STANDARD**

**Revision 1
January 2008**

CONCURRENCE AND APPROVAL

The DOE Oak Ridge Office (ORO) Human Resource Division is the sponsor for this Technical Training Office/Facility-Specific (OFS) Qualification Standard. The Human Resource Division organization is responsible for reviewing this 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 ORO management is indicated by the signatures below.

The Human Capital Assessment Group (HCAG) coordinates implementation of the Technical Qualification Program (TQP) and assists line managers in the development of ORO office/facility-specific qualification standards. Concurrence with this qualification standard by the Deputy Director of Human Resources is indicated by the signature below.

The ORO Federal Technical Capability Program (FTCP) Panel is the approval authority for this qualification standard and is indicated by the signature of the ORO FTCP Panel Chair below.

CONCURRENCE:



William J. (Jim) Vosburg, Deputy Director, ORO Human Resources Division

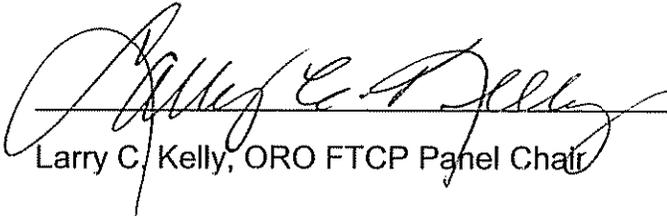
1-7-08
Date



Daniel H. Wilken, Assistant Manager for Administration

1/8/08
Date

APPROVAL:



Larry C. Kelly, ORO FTCP Panel Chair

1-8-08
Date

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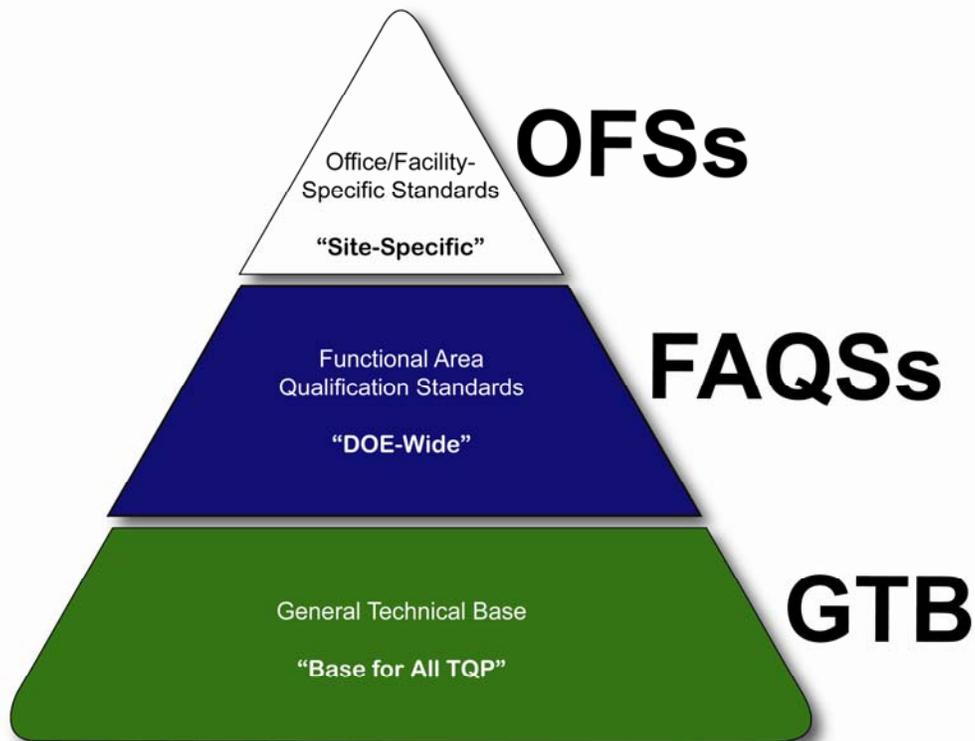
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PURPOSE

DOE M 426.1-1, *Federal Technical Capability Manual*, commits the Department to continuously strive for technical excellence. The Technical Qualification Program (TQP), along with the supporting technical qualification standards, complements the personnel processes that support the Department's drive for technical excellence. In support of this goal, the competency requirements defined in this technical qualification standard should be aligned with and integrated into the recruitment and staffing processes for technical positions. This OFS qualification standard contributes to the basis for developing vacancy announcements, qualification requirements, crediting plans, interviewing questions, and other criteria associated with the recruitment, selection, and internal placement of Technical Training personnel.

This ORO OFS qualification standard is required by DOE M 360.1-1, *Federal Employee Training Manual*, DOE O 360.1, *Federal Employee Training*, and DOE M 426.1-1, *Federal Technical Capability Manual*, as part of the Technical Qualification Program (TQP) and as outlined in the illustration below, supplements the department-wide General Technical Base (GTB) qualification standard and Functional Area Qualification Standards (FAQSs).



APPLICABILITY

This ORO OFS qualification standard establishes common office/facility-specific area competency requirements for all ORO Technical Training personnel who provide assistance, direction, guidance, oversight, or evaluation of contractor technical activities that could impact the safe operation of DOE's nuclear and non-nuclear facilities.

IMPLEMENTATION

This ORO OFS qualification standard identifies the minimum technical competency requirements for DOE ORO Technical Training personnel. The competency statements define the expected knowledge and/or skill that an individual must meet. Each of the competency statements is further described by a listing of supporting knowledge and/or skill statements, which although not required, do describe the intent of the competency statements. In some cases, expected knowledge and/or skills have been designated as "Mandatory Performance Activities." These actions are not optional and can not be exempted.

Generally, TQP competencies identify a familiarity level, a working level, or an expert level of knowledge; or they require the individual to demonstrate the ability to perform a task or activity. 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 recognize the need to seek and obtain appropriate expert advice (e.g., technical, legal, safety) or consult appropriate reference materials required to ensure the safety of Departmental 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.

Equivalencies should be used sparingly and with the utmost rigor and scrutiny to maintain the spirit and intent of the TQP. Equivalencies may be granted for individual competencies based on objective evidence of previous education, training, certification, or experience. Objective evidence includes a combination of transcripts, certifications, and in some cases, a knowledge sampling through a written and/or oral examination. Equivalencies shall be granted in accordance with the TQP Manual and the supporting knowledge and/or skill statements should be considered before granting equivalency for a competency.

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.

Each fulfillment method, such as those below, is required to be documented.

- Formal education (college courses and academic degrees)
- Training (DOE, DOE contractor, other agency, vendor)
- DOE experience
- Equivalencies for prior experience, education, and training
- Documented oral evaluation
- Documented observation of performance
- Documented results of a written examination

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 delegated management, or by a subject matter expert (SME) designated by ORO management. Any of the following methods may be used to evaluate a 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)

Whoever performs 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. Documented satisfactory completion of the competencies contained in this qualification standard ensures that the Technical Training personnel enrolled in the TQP are qualified to fulfill their duties and responsibilities.

Technical Training personnel input, track, and print completion reports on technical qualification competency information using DOE's web-based Employee Self Service (ESS), which is located at <http://mis.doe.gov/ess/>. Upon completion of the qualification standards, the completion reports are sent to the ORO Human Capital Assessment Group (HCAG) for input into a centralized TQP Administration Module database.

Participants should read the TQP Manual posted on the HCAG web site prior to inputting information in ESS. The TQP Manual and other TQP resources are available through the HCAG web site at <http://www.oro.gov/tdd/QualPrgm/qualprgm.htm>.

INITIAL QUALIFICATION, REQUALIFICATION, AND TRAINING

This ORO OFS qualification standard has been constructed using information from position descriptions, DOE and ORO orders, and discussions with incumbents. The format of this document follows the department-wide functional area qualification standards developed by the DOE Federal Technical Capability Program.

Qualification of Technical Training personnel shall be conducted in accordance with the requirements of DOE O 360.1 *Federal Employee Training*, DOE M 360.1-1, *Federal Employee Training Manual*, and DOE M 426.1-1, *Federal Technical Capability Manual*. Personnel are not required to requalify; however, they shall participate in continuing education and training as necessary to improve their performance and proficiency and ensure that they stay up-to-date on changing technology and new requirements. This continuing education and training shall be documented in the employees Individual Development Plan (IDP) and may include courses and/or training provided by:

- DOE
- Other government agencies
- Outside vendors
- Educational institutions

Beyond formal classroom or computer-based courses, continuing training may include:

- Self-study
- Attendance at symposia, seminars, exhibitions
- Special assignments
- On-the-job experience

DUTIES AND RESPONSIBILITIES

The responsibilities of Technical Training personnel at the DOE ORO organizations generally fall into two areas:

- Analysis, design, development, implementation, and evaluation of Federal technical training, which includes the administration of the Technical Qualification Program, and coordination, procurement, and, on occasion, delivery of the training
- Oversight and evaluation of the DOE contractors' training, qualification, and certification programs.

These responsibilities are collective but typically carried out singly or by several persons. Specific duties and responsibilities of personnel who fulfill this ORO OFS are contained in each employee's position description.

REQUIRED TECHNICAL COMPETENCIES

Each of the competency statements defines the level of expected knowledge and/or skill that an individual must possess to meet the intent of this standard. Each of the competency statements is further described by a listing of supporting knowledge and/or skill statements, which although not requirements, do describe the intent of the competency statement. In some cases, expected knowledge and/or skills (at least one per working level and expert level competencies) have been designated as “Mandatory Performance Activities.” These actions are not optional.

Important Note: When regulations, DOE directives, or other industry standards are referenced in this OFS, the most recent revision should be used.

1. Technical Training personnel shall demonstrate a familiarity level knowledge of the basic operations and processes for DOE ORO nuclear and non-nuclear facilities.

Supporting Knowledge and/or Skills

- a. Discuss the primary mission(s) of the major ORO facilities.
- b. Describe some of the key operations processes performed at ORO nuclear and non-nuclear facilities.
- c. Discuss the major nuclear safety risks to workers and the public resulting from operations at ORO nuclear facilities.
- d. Identify the major non-nuclear hazards associated with ORO facility operations.
- e. Discuss the contractor training organizations serving the ORO facilities, with emphasis on training management contacts, organization staffing, and relationship of the training organization to the facility line management.

2. Technical Training personnel shall demonstrate the ability to review a facility Training Implementation Matrix (TIM) and other types of training plans for adequacy and track implementation and corrective actions.

Supporting Knowledge and/or Skills

- a. Discuss the purpose and intent for requiring contractors to produce training plans.
- b. Using a graded approach, review a training plan against DOE Order 5480.20, *Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities*, and 10 CFR 830.122, “Quality Assurance Criteria,” Subsection (b) Criterion 2 – Management/Personnel Training and Qualification, or similar contractual requirements.
- c. Coordinate review comment resolution on a TIM (or similar training plan) in the approval process

- d. Determine that schedules and milestones are adequate to implement the TIM (or similar training plan) commitments.
- e. Describe tracking methods used to verify contractor compliance actions with the TIM (or similar training plan).

3. Technical Training personnel shall demonstrate a working level knowledge of problem-solving and decision-making in order to manage activities and ensure issues are identified and appropriate actions taken to resolve and close them.

Supporting Knowledge and/or Skills

- a. Explain the importance of problem identification and the use of occurrence reports, trending, and lessons learned for preventive and predictive actions.
- b. Define root cause.
- c. Explain the necessity of root cause determination in problem solving.
- d. Describe methods of root cause determination.
- e. Discuss problem solutions and weighing of risks.
- f. Explain progress monitoring and verification methods for closure of activities.

4. Technical Training personnel shall demonstrate a working level knowledge of the Federal Technical Capability Program (FTCP), which includes the Technical Qualification Program (TQP).

Supporting Knowledge and/or Skills

- a. Discuss the requirements of the FTCP and how it is implemented in Oak Ridge.
 - 1) Explain the role of the individual and management in the FTCP.
 - 2) Describe the responsibilities and functions of the Oak Ridge (OR) FTCP Panel.
 - 3) Participate in an OR FTCP Panel meeting.
- b. Discuss the requirements of TQP as described in DOE P 426.1, *Federal Technical Capability Policy for Defense Nuclear Facilities*, M 426.1-1, *Federal Technical Capability Manual*, O 360.1, *Federal Employee Training* and M 360.1-1, *Federal Employee Training Manual*
 - 1) Explain the role of the individual and management in the TQP.
 - 2) Describe the process for individual qualification.
 - 3) Discuss resources available for use in qualification, such as Lead Site materials, courses, and other training activities.

- 4) Explain the process of TQP documentation and records, in particular the role of the Corporate Human Resources Information System (CHRIS) and the Employee Self Service system.

5. Technical Training personnel shall demonstrate a working level knowledge of HCAG management processes.

Supporting Knowledge and/or Skills

- a. For each of the following describe its purpose, scope, and use:
 - Individual Development Plan
 - Handbook for Training Program Evaluation
 - HCAG guidance
 - ORO Directives with training emphasis
- b. Describe the relationship between HCAG and ORO line managers with regard to responsibility for nuclear and non-nuclear facility training programs.
- c. Participate in the development or the review of HCAG procedures, training policy, or guidance documents.
- d. Explain how HCAG can provide assistance to ORO managers in establishing or reviewing training, qualification, or employee development programs or requirements for their staff; and conducting human capital analyses to support ORO management in strategic planning and implementation.
- e. Discuss the purpose and applications of HCAG's training records and information system.

Mandatory Performance Activity:

- a. Conduct and report a human capital analysis or related activity.

6. Technical Training personnel shall demonstrate the ability to provide input for the development of the HCAG Annual Training Plan (ATP) and to use the ATP in work activities.

Supporting Knowledge and/or Skills

- a. Discuss the purpose, scope, and use of the ATP.
- b. Describe how the ATP is used for planning HCAG activities and measuring performance.
- c. Describe how milestones and deliverables are established and prioritized.

- d. Develop task description sheets for work assignments.
- e. Track work assignments using the ATP.

7. Technical Training personnel shall demonstrate a working level knowledge of the influences on training of external groups and DOE actions related to these external factors.

Supporting Knowledge and/or Skills

- a. Discuss the purpose and mission of the DOE Office of Science initiative, OneSC, and how it pertains to technical training.
- b. Explain the DOE Office of Science Integrated Support Center concept is applied across the Complex.
- c. Describe the purpose, scope, charter, and authorities of the Defense Nuclear Facilities Safety Board (DNFSB).
- d. Discuss the training impact of current DNFSB Recommendations.
- e. Describe important changes in the conduct of training that occurred in response to past recommendations, such as 93-3, *Improving DOE Technical Capability in Defense Nuclear Facilities Programs*.
- f. Describe training aspects of the Tennessee Oversight Agreement.
- g. Research the DNFSB Recommendations and prepare a timeline of the evolution of Federal technical training requirements.

8. Technical Training personnel shall demonstrate a familiarity level knowledge of emerging safety issues within DOE.

Supporting Knowledge and/or Skills

- a. Describe the integrated safety management initiatives resulting from DOE P 450.4, *Safety Management System Policy*.
- b. Discuss the Price-Anderson Amendments Act (PAAA) and its effect on DOE and its contractors.
- c. Summarize the purpose and scope of the PAAA rules.
- d. Explain the impact of rule making on DOE and its contractors and the basic process of implementing rules.

- e. Discuss the Work Smart Standards approach as it relates to compliance.
- f. Discuss ORO's use of the Standards/Requirements Identification Documents.

9. Technical Training personnel shall demonstrate a working level 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 purpose of ORRs as outlined in DOE O 425.1, *Startup and Restart of Nuclear Facilities*.
- b. List the conditions which require performance of ORRs and circumstances when only readiness assessments would be allowable.
- c. Describe the qualification requirements and any limitations for serving on an ORR.
- d. Discuss the minimum core requirements, with respect to training, when developing the depth and breadth of an ORR.
- e. Outline the responsibilities of ORR team members.

Mandatory Performance Activities:

- a. Participate on an ORR team, conduct work in preparation for an ORR, or complete an ORR training course.
- b. Review ORR reports and discuss the relevant training findings.

10. Technical Training personnel shall demonstrate the ability to conduct technical support activities associated with contractor training programs.

Supporting Knowledge and/or Skills

- a. Explain the process for evaluating contractor training programs in accordance with DOE O 5480.20, *Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities*.
- b. Discuss the requirements for use of DOE Standard DOE-STD-1070-94, *Guidelines for Evaluation of Nuclear Facility Training Programs*.
- c. Develop a training program evaluation plan.
- d. Conduct a training program evaluation.
- e. Prepare a training program evaluation report.

11. Technical Training personnel shall demonstrate a working level knowledge of the conduct of self-assessments of Technical Qualification Program implementation and the DOE TQP Accreditation process.

Supporting Knowledge and/or Skills

- a. Explain the self-assessment requirements of DOE O 360.1, *Federal Employee Training*, DOE M 360.1-1, *Federal Employee Training Manual*, and DOE M 426.1-1, *Federal Technical Capability Manual*.
- b. Describe the DOE TQP Accreditation process and how ORO contributes to it.
- c. Discuss the elements that should be assessed to determine effective implementation of the TQP.
- d. Develop a sample check list, or critique and discuss an existing checklist for use in a TQP implementation or accreditation self-assessment.
- e. Describe a plan, with supporting methods, for assessing ORO progress with TQP implementation.
- f. List the ORO organizations that should have staff participating in the TQP and describe or identify the positions that should participate in the program.
- g. Participate on a DOE TQP accreditation or FTCP assessment team.

12. Technical Training personnel shall demonstrate the ability to establish performance indicators and measure performance, to ensure effectiveness and efficiency in the use of resources.

Supporting Knowledge and/or Skills

- a. Discuss the purpose/value of using prescribed measures of performance.
- b. List performance indicators used to demonstrate effective use of HCAG resources in meeting identified needs and plans.
- c. Participate in data gathering, analysis, measurement, and assessment of the information used to measure performance for HCAG activities.
- d. Describe the results and significance of HCAG performance measures.