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DOE STANDARD

TECHNICAL TRAINING FUNCTIONAL AREA QUALIFICATION STANDARD

DOE Defense Nuclear Facilities Technical Personnel



U.S. Department of Energy
Washington, D.C. 20585

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APPROVAL

The Federal Technical Capability Panel consists of senior U.S. Department of Energy managers responsible for overseeing the Federal Technical Capability Program. This Panel is responsible for reviewing and approving the Technical Training Functional Area Qualification Standard for Department-wide application. Approval of this Qualification Standard by the Federal Technical Capability Panel is indicated by signature below.


Roy J. Schepens
Chairman
Federal Technical Capability Panel

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ACKNOWLEDGMENT

The Oak Ridge Operations Office (ORO) is the Sponsor for the Technical Training Functional Area Qualification Standard. The Sponsor is responsible for coordinating the development and/or review of the Functional Area Qualification Standard by subject matter experts to ensure that the technical content of the standard is accurate and adequate for Department-wide application for those involved in Technical Training. The Sponsor, in coordination with the Federal Technical Capability Panel, is also responsible for ensuring that the Technical Training Functional Area Qualification Standard is maintained current.

The following subject matter experts (SMEs) participated in the development and/or review of this Qualification Standard:

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**U.S. DEPARTMENT OF ENERGY
FUNCTIONAL AREA QUALIFICATION STANDARD**

Technical Training

PURPOSE

DOE M 426.1-1, Federal Technical Capability Manual, commits the Department to continuously strive for technical excellence. The Technical Qualification Program, 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 the Technical Qualification Standards should be aligned with and integrated into the recruitment and staffing processes for technical positions. The Technical Qualification Standards should form the primary basis for developing vacancy announcements, qualification requirements, crediting plans, interviewing questions, and other criteria associated with the recruitment, selection, and internal placement of technical personnel. Office of Personnel Management minimum qualifications standards will be greatly enhanced by application of appropriate materials from the technical Functional Area Qualification Standards.

The Technical Qualification Standards are not intended to replace the OPM Qualifications Standards nor other Departmental personnel standards, rules, plans, or processes. The primary purpose of the Technical Qualification Program is to ensure that employees have the requisite technical competency to support the mission of the Department. The Technical Qualification Program forms the basis for the development and assignment of DOE personnel responsible for ensuring the safe operation of defense nuclear facilities.

APPLICABILITY

The Technical Training Functional Area Qualification Standard establishes common functional area competency requirements for Department of Energy personnel who provide assistance, direction, guidance, oversight, or evaluation of contractor technical activities that could impact the safe operation of DOE's defense nuclear facilities. The technical Functional Area Qualification Standard has been developed as a tool to assist DOE Program and Field offices in the development and implementation of the Technical Qualification Program in their organization. For ease of transportability of qualifications between DOE elements, Program and Field offices are expected to use this technical Functional Area Qualification Standard without modification or additions. Needed additional office/site/facility specific technical competencies should be handled separately. Satisfactory and documented attainment of the competency requirements contained in this technical Functional Area Qualification Standard ensures that personnel possess the requisite competence to fulfill their functional area duties and responsibilities. Office/Facility-Specific Qualification Standards supplement this technical Functional Area Qualification Standard and establish unique operational competency requirements at the Headquarters or Field element, site, or facility level.

IMPLEMENTATION

This technical Functional Area Qualification Standard identifies the minimum technical competency requirements for Department of Energy personnel. Although there are other competency requirements associated with the positions held by DOE personnel, this Functional Area Qualification Standard is limited to identifying the specific technical competencies. The competency statements define the expected knowledge and/or skill that an individual must meet. Each of the competency statements is further explained by a listing of supporting knowledge and/or skill statements.

The 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 reference appropriate materials and/or expert advice as 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.

Headquarters and Field elements shall establish a program and process to ensure that DOE personnel possess the competencies required of their position. That includes the competencies identified in this technical Functional Area Qualification Standard. Documentation of the completion of the requirements of the Standard shall be included in the employee's training and qualification record.

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 upon 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 Technical Qualification Program Plan of the office qualifying the individual. The supporting knowledge and/or skill statements, while not requirements, should be considered before granting equivalency for a competency.

Training shall be provided to employees in the Technical Qualification Program who do not meet the competencies contained in the technical Functional Area Qualification Standard. Training may include, but is not limited to, formal classroom and computer based courses, self-study, mentoring, on the job training, and special assignments. Departmental training will be based upon appropriate supporting knowledge and/or skill statements similar to the ones listed for each of the competency statements. Headquarters and Field elements should use the supporting knowledge and/or skill statements as a basis for evaluating the content of any training used to provide individuals with the requisite knowledge and/or skill required to meet the technical Functional Area Qualification Standard competency statements.

EVALUATION REQUIREMENTS

Attainment of the competencies listed in this technical Functional Area Qualification Standard should be documented by a qualifying official, immediate supervisor, or the team leader of personnel in accordance with the Technical Qualification Program Plan of the office qualifying the individual.

CONTINUING EDUCATION, TRAINING, AND PROFICIENCY

DOE personnel 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 may include courses and/or training provided by:

- Department of Energy;
- Other government agencies;
- Outside vendors; and
- Educational institutions.

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

- Self Study;
- Attendance at symposia, seminars, exhibitions;
- Special assignments; and
- On-the-job experience.

A description of suggested learning proficiency activities and the requirements for the continuing education and training program for Technical Training personnel are included in Appendix A of this document.

DUTIES AND RESPONSIBILITIES

The following are the typical duties and responsibilities expected of personnel assigned to the Technical Training Functional Area:

1. Analyze contractor and federal training and qualification requirements contained in DOE Orders, rules, and other directives. Assess these regulatory requirements for impact on the organization's training budget and level of effort to meet these requirements.
2. Facilitate the assessment and prioritization of individual training and development needs. Collaborate with managers, supervisors, and individual staff to establish Individual Development Plans (IDPs) that document those needs.
3. Assess and prioritize organizational training needs and requirements based on data from IDPs, needs assessments conducted with supervisors and managers, and other known factors having an impact upon training needs.
4. Develop and implement strategies, plans, and budgets to meet organizational training needs and requirements.
5. Evaluate both internal and vendor provided training products. Determine the best source of training based on cost and usefulness to the organization and individual.

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6. Collaborate with the DOE-wide training community to analyze, design, develop, implement, evaluate, and share required courses and programs that have application beyond the local organization.
7. Design and develop training curriculum and/or courses using methods suitable for the target audience, including technology-supported learning when appropriate and cost-effective.
8. Conduct training sessions and formal presentations.
9. Provide training resources such as DOE guides to good practices.
10. Update employees on new training materials and products.
11. Provide technical assistance to line management in the development and implementation of the department's Technical Qualification Program for federal personnel.
12. Evaluate contractor training and qualification programs to ensure compliance with applicable orders and regulations, and that personnel possess the requisite knowledge and skills required of their positions.
13. Evaluate the adequacy of contractor organization and infrastructure to ensure that training and qualification programs are implemented consistently, effectively, and economically.
14. Develop written reports to document the results of training and qualification program evaluations. Monitor, track, and evaluate actions to ensure that identified deficiencies are corrected. Close-out corrective actions.

Position-specific duties and responsibilities for Technical Training personnel are contained in their Office/Facility-Specific Qualification Standard or Position Description.

BACKGROUND AND EXPERIENCE

The U. S. Office of Personnel Management's Qualification Standards Handbook establishes minimum education, training, experience, or other relevant requirements applicable to a particular occupational series/grade level, as well as alternatives to meeting specified requirements.

The preferred education and experience for Technical Training personnel is:

1. Education:

Bachelor's degree in instructional technology, training, or education; or meet the alternative requirements specified in the *Qualification Standards Handbook*.
2. Experience:

Industrial, military, Federal, State, or other directly related background that has provided specialized experience in Technical Training, particularly, experience in technical training program design, development, implementation, and management. Individuals performing training and qualification program evaluations should possess technical abilities similar to the area being evaluated, and have prior experience in training program management and implementation. Specialized experience can be demonstrated through possession of the competencies outlined in this Standard.

REQUIRED TECHNICAL COMPETENCIES

The competencies contained in this Standard are distinct from those competencies contained in the General Technical Base Qualification Standard. All Technical Training personnel must satisfy the competency requirements of the General Technical Base Qualification Standard prior to or in parallel with the competency requirements contained in this Standard. 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. The supporting knowledge and/or skill statements further describe the intent of the competency statements.

Note: When regulations, Department of Energy directives, or other industry standards are referenced in the Qualification Standard, the most recent revision should be used.

General Technical

Systematic Approach to Training

1. **Technical training personnel shall demonstrate an expert level of knowledge and ability to implement the systematic approach to training model. This includes the ability to:**
 - **Conduct a job or task analysis or needs assessment, analyze the data, and provide recommendations based on results;**
 - **Design a training course or program to satisfy training requirements;**
 - **Develop a training course and supporting materials;**
 - **Implement a training course or program; and**
 - **Evaluate a training course or program as part of the systematic approach to training process or to assess return on investment.**

Supporting Knowledge and/or Skills

- a. State the five steps of the systematic approach to training process and produce a basic sketch showing the relationship between the steps.
- b. Referring to DOE-HDBK-1078-94, *Training Program Handbook: A Systematic Approach to Training*, describe in detail the activities that occur in each of the five steps of the systematic approach to training process, and list the products that may result from each of the steps.
- c. Describe the purpose and process for conducting a needs analysis, job analysis and task analysis.
- d. Describe the functional relationship between tasks, learning objectives, training materials, and trainee evaluations.
- e. State and describe the components of an internal training program evaluation process to assess the effectiveness of training.
- f. Based on an analyzed training need, design, develop, implement, and evaluate a course of instruction.
- g. Evaluate how well a given training organization has implemented the five steps of the systematic approach to training process.

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2. Technical training personnel shall demonstrate a working level knowledge of DOE training organizations, strategic initiatives, roles and responsibilities, and training administration and infrastructure.

Supporting Knowledge and/or Skills

- a. Describe the current initiatives of the DOE Office of Training and Human Resources Development, and explain how they apply to the field and headquarters training offices.
- b. Describe the Federal Technical Capability Program (as listed in DOE M 426.1-1, *Federal Technical Capability Manual*) and its application to the field and headquarters training offices.
- c. State and discuss some of the attributes of an efficient and effective technical training organization at a defense nuclear facility.
- d. State and discuss the advantages and the disadvantages of centralized and decentralized training organizations.
- e. Explain the purpose of a training policy and procedure manual and discuss the typical policies and procedures that may be found in this manual.
- f. Describe the roles and responsibilities of line management, the training organization, and the employee as related to training and qualification.
- g. Explain how to use facilities, equipment and materials in an efficient manner to implement the training process.
- h. Describe the purpose and attributes of a technical training resource library.
- i. Describe the process necessary to share training materials and resources among the federal and contractor training organizations.
- j. Participate on a local headquarters-sponsored fact-finding team, working group, or related training and human resources initiative that assesses impact, supports, or implements a DOE human resources initiative.
- k. Using DOE-HDBK-1001-96, *Guide to Good Practices for Training and Qualification of Instructors*, describe the qualification, requalification and monitoring of trainers, including OJT instructors, needed to ensure the effectiveness of training.

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3. Technical training personnel shall demonstrate the ability to plan, conduct, and document a training needs assessment or job analysis of a position to determine the training requirements associated with that position.

Supporting Knowledge and/or Skills

- a. Using DOE-HDBK-1078-94, *Training Program Handbook: A Systematic Approach to Training*, Section 2 and associated attachments, DOE-HDBK-1074-95, *Alternative Systematic Approach to Training*, DOE-HDBK-1076-94, *Table-Top Job Analysis*, and DOE-HDBK-1103-96, *Table-Top Needs Analysis*, describe in detail the process for identifying and documenting performance-based training requirements (including alternate methods). Discuss the conditions for using an alternate methodology.
- b. Identify the position to be assessed.
- c. Gather appropriate reference and resource materials related to the position.
- d. Interview subject matter expert(s) and supervisors associated with the position to determine the duties and responsibilities in terms of tasks and/or competencies.
- e. Determine the knowledge, skills, and abilities (or specific training) required to support the identified duties and responsibilities.
- f. Assist employees with the preparation of their individual development plans (IDPs), using the results of job/position and task analyses, and related information.
- g. Compile the IDPs and other training needs information into an organizational needs assessment, and prepare a prioritized (according to organizational requirements) listing of annual training and education needs.
- h. Research and present the findings to office management of how a developmental need is fulfilled.
- i. Validate the results of the needs assessment with other subject matter experts and/or the responsible supervisor.

4. Technical training personnel shall demonstrate a working level knowledge of training course and/or program design techniques and methodologies.

Supporting Knowledge and/or Skills

- a. Using DOE-HDBK-1078-94, *Training Program Handbook: A Systematic Approach to Training*, Section 3 and associated attachments, DOE-HDBK-1074-95, *Alternative Systematic Approach to Training*, DOE-HDBK-1086-94, *Table-Top Training Program Design*, describe the following:
 - Process for designing training programs (including alternate methods);
 - Conditions for using alternate methodologies; and
 - Entry-level requirements and how they influence the training program or course design.

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- b. Using DOE-HDBK-1200-97, *Guide to Good Practices for Developing Learning Objectives*, describe the process for developing learning objectives stressing following:
 - Development and validation of learning objectives;
 - Differences between terminal and enabling learning objectives;
 - Attributes of well-written objectives; and
 - Grouping and sequencing of learning objectives.
 - c. Describe and differentiate the design features for the various training settings (including technology-supported learning) that may be selected when designing a training curriculum.
 - d. Prepare the learning objectives and identify the corresponding media, method, or setting for an assigned training program or course.
- 5. Technical training personnel shall demonstrate a working level knowledge of the process, techniques and methodology associated with training material development.**

Supporting Knowledge and/or Skills

- a. Explain why formal and documented training materials are necessary in a formal, systematic approach to training process.
- b. Explain the relationship between learning objectives, training materials, and the presentation of instruction.
- c. Using DOE-HDBK-1078-94, describe the attributes, content and format of available training methods.
- d. Using DOE-HDBK-1078-94, describe the attributes, content, and format of lesson plans.
- e. Using DOE-HDBK-1078-94, describe the attributes, content, format, and selection of training support material.
- f. Describe the advantages and disadvantages of traditional and nontraditional (such as technology-supported learning) delivery systems, associated materials and media, and such issues as cost and scheduling.
- g. Using the results of a training needs assessment or job analysis, develop a course outline, learning objectives, and a lesson plan to reflect the required knowledge and skills.
- h. Develop training materials to support the presentation of an assigned classroom, self-study, or laboratory training session.
- i. Describe the methods used to validate training prior to implementation.

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- 6. Technical training personnel shall demonstrate a working level knowledge of adult learning methodologies, instructional media and methods, and instructor techniques required to conduct a training session or evaluate the effectiveness of training sessions.**

Supporting Knowledge and/or Skills

- a. State and discuss the factors that an instructor can control that affect learning during classroom instruction, including a discussion of dealing with difficult trainees.
- b. Describe the attributes of an effective classroom learning environment.
- c. Compare and contrast various classroom instructional methodologies including lecture, role-play, case studies, discussions, and practical classroom demonstrations.
- d. Describe the attributes of an effective classroom instructor including use of training and media materials, effective speaking, questioning techniques, and subject matter expertise.
- e. Conduct a classroom training session or make a formal presentation to a group of personnel.
- f. Prepare and administer a technology-based training program.

- 7. Technical training personnel shall demonstrate a working level knowledge of on the-job training (OJT) techniques, methodology, and implementation and apply that knowledge to implement and/or evaluate OJT programs in the field.**

Supporting Knowledge and/or Skills

- a. Using DOE-HDBK-1206-98, *Guide to Good Practices for On-The-Job Training* and DOE-HDBK-1205-97, *Guide to Good Practices for the Design, Development, and Implementation of Examinations*, describe in detail the following:
 - Advantages and disadvantages of OJT;
 - Development of OJT;
 - Conduct of OJT;
 - Evaluation of OJT performance;
 - Use of open-ended questioning; and
 - Documenting OJT performance.
- b. State and describe the roles and responsibilities of the training organization and line management to ensure effective implementation of an OJT program.
- c. Discuss the differences between formal and informal OJT.
- d. Describe the role of the trainer, the evaluator, and the trainee in the OJT process.
- e. List and discuss the process steps that OJT instructors use to help trainees learn on the job.

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- f. Describe the format and content of a typical OJT training guide and job performance measure or evaluation standard, including a discussion of the essential elements of each.
- g. List and discuss the key elements and components of a valid and reliable practical evaluation process for evaluating trainee knowledge and skill upon completion of OJT.
- h. Prepare and administer an OJT session and corresponding performance evaluation for an assigned training program or course.

8. Technical training personnel shall demonstrate a working level knowledge of oral, written, and performance evaluation techniques and methodologies, and other techniques used to evaluate the effectiveness of a training program.

Supporting Knowledge and/or Skills

- a. Using DOE-HDBK-1078-94, DOE-HDBK-1204-97, *Guide to Good Practices for the Development of Test Items*, and DOE-HDBK-1205-97, *Guide to Good Practices for the Design, Development, and Implementation of Examinations*, describe in detail the following:
 - Purpose of testing;
 - Correlation between tests and learning objectives;
 - Types of test item formats;
 - Selection of test item formats;
 - Use of test item statistics to evaluate the quality (validity and reliability) of test items and training material; and
 - Use and control of examination banks.
- b. List and discuss the key elements and components of a valid and reliable testing program to evaluate trainee knowledge during, or upon completion of classroom training.
- c. Prepare and administer a training evaluation for an assigned training program or course.
- d. Using DOE-HDBK-1078-94 and DOE-HDBK-1201-97, *Guide to Good Practices: Evaluation Instrument Examples*, describe the methods used to monitor the effectiveness of training, including:
 - Operating experience;
 - Supervisor feedback; and
 - Trainee feedback.

9. Technical training personnel shall demonstrate a working level knowledge of the requirements and attributes associated with an effective records management system.

Supporting Knowledge and/or Skills

- a. Describe the difference between individual training records and program training records.
- b. Describe the difference between training records and qualification records.

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- c. List and discuss the items that would typically be found in an individual training and qualification record.
 - d. List and discuss the items that would typically be found in a training program record.
 - e. Explain the legal aspects associated with accessing individual training and qualification records.
 - f. Describe the difference between an archival records system and a dynamic record retrieval system.
 - g. Audit the training and qualification records for an assigned area or office, and report the results of the audit, including recommendations for improvement.
 - h. Discuss the training and qualification documentation expected to be found in the training and qualification records for instructors, including OJT instructors.
 - i. Audit the training and qualification records for a training organization and report the results of the audit, including recommendations for improvement.
 - j. Using DOE-HDBK-1118-99, *Guide to Good Practice for Continuing Training*, describe the elements of an adequate continuing training program for operators, supervisors, technical personnel, and maintenance personnel, and the records for each.
- 10. Technical training personnel shall demonstrate the ability to plan, conduct, and document an overall evaluation of a technical training and qualification program or activity, and report those results to management in a concise and effective manner.**

Supporting Knowledge and/or Skills

- a. Using DOE-STD-1070-94, *Guidelines for Evaluation of Nuclear Facility Training Programs*, describe the elements of an evaluation of a nuclear facility training program.
- b. Establish the criteria to be used as a basis for conducting the evaluation.
- c. Establish points of contact with the organization being evaluated.
- d. Gather information pertinent to the evaluation by reviewing training materials, interviewing personnel, observing training activities, and reviewing training records.
- e. Document the results of the data collection phase in field notes.
- f. Compare the results of the review phase with the criteria established for the evaluation and determine if deficiencies exist.
- g. Document the results of the overall training and qualification evaluation in a formal written report that includes the status of meeting the established criteria, identifies deficiencies or good practices, and suggests recommendations for improvement.
- h. Resolve conflicting or inconclusive observations or findings obtained from other

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evaluators on an evaluation team.

- i. Verbally report the results of the evaluation to contractor facility management and DOE management.
- j. Perform follow-up activities as applicable to ensure implementation of corrective actions, including tracking and close-out.
- k. Describe the process for determining and calculating a return on investment for a given training course or program.

Integrated Safety Management

- 11. Technical training personnel shall demonstrate a working level knowledge of the principles and functions of the Integrated Safety Management System (ISMS) and how integrated safety management (ISM) contributes to personnel competence.**

Supporting Knowledge and/or Skills

- a. Describe how the Guiding Principles in the ISM Policy are used to implement an ISM philosophy in Headquarters and Field Element technical training activities.
- b. Describe the core safety management functions in the ISM Policy and discuss how they provide the necessary structure for Headquarters and Field Element technical training activities.
- c. Discuss the role of the technical trainer in the fulfillment of the third ISM principle, Competence Commensurate with Responsibility, ensuring that personnel “possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities.”
- d. Identify specific and significant site or Headquarters work activities where the third ISM principle has been applied to improve safety.
- e. Describe and cite examples of how technical training personnel contribute to the ISM function, Provide Feedback and Continuous Improvement, such as with lessons learned programs.
- f. Review and revise an existing training program or course to incorporate applicable ISM principles, functions, and/or practices.

Regulatory

- 12. Technical training personnel shall demonstrate a working level knowledge of DOE O 360.1B, *Federal Employee Training*, DOE M 360.1-1B, *Federal Employee Training Manual*, and DOE M 426.1-1, *Federal Technical Capability Manual*, sufficient to ensure that training programs for federal personnel are accomplished in accordance with the requirements of the order.**

Supporting Knowledge and/or Skills

- a. Discuss the duties and responsibilities of line management, headquarters personnel and training support personnel as indicated in the order and manual.

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- b. Explain the latitude and restrictions associated with employee training.
- c. Describe the requirements for training plans, resources, and reports.
- d. Explain the requirements associated with requesting and using training resources as described in the order.
- e. State the purpose and requirements associated with establishing workforce development programs with employees.
- f. Describe the requirements of the Federal Technical Capability Program including the Technical Qualification Program.
- g. Conduct a gap analysis of the requirements of the above directives regarding how or whether they are being implemented in the assigned organization.

13. Technical training personnel shall demonstrate a working level knowledge of the content and applicability of the DOE resources and guidance documents related to the implementation of DOE federal and contractor training programs.

Supporting Knowledge and/or Skills

- a. Describe the general content and explain the use and applicability of the DOE guides to good practice for training and qualification programs and processes.
- b. Research such professional sources as the American Society for Training and Development (ASTD), American Nuclear Society (ANS), and American National Standards Institute (ANSI), as may be found on the Internet, for applicable technical training and qualification information and materials; incorporating the research results into an assigned training project or program.

Management, Assessment, and Oversight

14. Technical training personnel shall demonstrate a working level knowledge of the requirements of applicable DOE orders and rules to determine if a contractor at a facility is implementing effective training and qualification programs.

Supporting Knowledge and/or Skills

- a. Referring to the following sample of orders and rules, describe the purpose, applicability, and roles and responsibilities as they pertain to oversight of contractor training and qualification programs.
 - 10 CFR 820, *Procedural Rules for DOE Nuclear Activities*;
 - 10 CFR 830, *Nuclear Safety Management*;
 - 10 CFR 835, *Occupational Radiation Protection*;
 - DOE Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*;
 - DOE Order 5480.20A, *Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities*;
 - DOE O 151.1B, *Comprehensive Emergency Management System*;
 - DOE O 350.1, *Contractor Human Resource Management Programs*;
 - DOE O 414.1A, Chg 1, *Quality Assurance*;
 - DOE O 425.1C, *Start-up and Restart of Nuclear Facilities*; and

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- DOE O 430.1B, *Real Property Asset Management*.
- b. Identify, retrieve, and prepare a summary of all the applicable orders and rules for training and qualification oversight activities for a given DOE facility.
- c. State and describe the purpose and applicability of DOE-STD-1070-94, *Guidelines for Evaluation of Nuclear Facility Training Programs*.
- d. Apply the evaluation process indicated in DOE-STD-1070-94, including evaluation methods, evaluation frequency, and the application of a graded approach to an assigned evaluation of a contractor's training program, and report the results.
- e. Describe the process for determining adequate compliance with the requirements listed in the above orders and rules and the severity and consequences associated with not being in compliance.

15. Technical training personnel shall demonstrate a working level knowledge of basic assessment principles and processes associated with evaluating DOE contractors such as operational readiness reviews (ORRs), readiness assessments (RAs), and business management oversight reviews. This includes the planning and use of observations, interviews, and document reviews to assess compliance with established criteria or requirements.

Supporting Knowledge and/or Skills

- a. Describe the role of the evaluator with respect to performance of oversight of contractors at government-owned, contractor-operated facilities.
- b. Describe the requirements and limitations associated with the evaluator's interface with contractor employees when conducting assessments or evaluations.
- c. Explain the impact of the Price-Anderson Amendments Act upon contractor oversight activities, particularly in the conduct of performance evaluations and enforcement actions associated with 10 CFR Parts 820, 830, and 835.
- d. Explain the essential elements of a performance-based assessment including the areas of investigation, fact-finding, and reporting.
- e. Explain the purpose and contents of a typical assessment report, and describe how to determine who should be on the distribution list for the report.
- f. Explain the essential elements and processes associated with the following assessment activities:
 - One-on-one interviews;
 - Entrance and exit meetings;
 - Corrective action implementation; and
 - Closure process.
- g. Describe the actions to be taken if the contractor challenges the assessment findings and explain how such challenges can be avoided.
- h. Participate on assigned contractor training and qualification assessments (including on-site evaluations, such as ORRs and RAs, and document reviews), preparing a report of the results of the assessment.

Other

16. Technical training personnel shall demonstrate a working level knowledge of contracts and procurement processes and procedures, and how they apply to procurement of training-related services or products.

Supporting Knowledge and/or Skills

- a. Describe the process and requirements for paying for individual training courses as detailed in DOE O 360.1B, *Federal Employee Training*, and DOE M 360.1-1B, *Federal Employee Training Manual*.
- b. Explain how procurement requests are generated and approved for training services.
- c. State and discuss the requirements and limitations associated with open competition for services and products.
- d. Describe how the type of contract, such as performance-based contracts and fee-based contracts, affects the assessment and evaluation of a contract.
- e. Describe the process for developing a scope of work, request for proposal, and evaluation criteria to determine the best source or provider of training services or products.
- f. Describe the requirements and process for using existing government sources for training services and products including:
 - Management and operating contractors;
 - Support services contractors;
 - Other government agencies; and
 - Local schools and universities.
- g. Describe the roles and responsibilities of the contracting officer representative and explain the relationship between the contracting officer representative, the contracting officer, and the contractor.
- h. Conduct a cost-benefit review and analysis for the selection of one of two given vendor courses, and report the results.

17. Technical training personnel shall demonstrate a familiarity level of knowledge of project management practices sufficient to manage training-related programs and projects.

Supporting Knowledge and/or Skills

- a. Explain the purpose of project management and, describe the life cycle of a typical project.
- b. Describe the applicable Federal rules and regulations, along with the typical documents and data sources used in project management.

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- c. Identify and explain the major elements of a project, and discuss their relationship.
- d. Explain the purpose and use of a project management plan.
- e. Discuss the relationship between a work breakdown structure and the cost and schedule.
- f. Describe the purpose of schedules, and discuss the use of milestones and activities.
- g. Describe the critical path method of scheduling.

APPENDIX A
CONTINUING EDUCATION, TRAINING AND PROFICIENCY PROGRAM

The following list represents suggested continuing education, training, and other opportunities that are available for DOE personnel after completion of the competency requirements in this technical Functional Area Qualification Standard. It is extremely important that personnel involved with this program maintain their proficiency through continuing education, training, reading, or other activities such as workshops, seminars, and conferences. The list of suggested activities was developed by the Subject Matter Experts involved in the development of the Functional Area Qualification Standard and is not all-inclusive.

LIST OF CONTINUING EDUCATION, TRAINING, AND OTHER ACTIVITIES

Technical Training personnel shall participate in an Office/Facility-specific continuing training and qualification program (recording the requirements in their IDPs) that includes the following elements:

1. Complete continuing technical education and/or training covering topics directly related to the Technical Training area as determined appropriate by management (examples follow). This may include courses/training provided by Department of Energy, other government agencies, outside vendors, or local educational institutions. Continuing training topics should also address identified weaknesses in the knowledge or skills of the individual personnel.
 - Learning theory;
 - Learning, instructional, and performance technology;
 - Technology-based training attributes and implementation requisites;
 - Federal and DOE initiatives and regulations, e.g.,
 - Federal Appropriations Law and updates
 - Environmental rules and regulations, and updates
 - OSHA rules and regulations, and updates; and
 - Management and administrative systems, e.g.,
 - Integrated safety management systems
 - Performance-based management contracting
 - Contractor performance-based business management processes.
2. Actively perform the duties of Technical Training specialist at a Department of Energy facility a minimum of number of hours per year, as determined by local management.
3. Attend seminars, symposia, or technical meetings related to Technical Training.
4. Engage in self-study of new regulations, requirements, or advances related to Technical Training.
5. Participate in practical exercises such as emergency or operational drills, simulations, or laboratory-type exercises.

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CONCLUDING MATERIAL

Review Activity:

EM
NNSA
EH
NE
SC

Preparing Activity:

DOE-ORO (EH-22)

Project Number:

TRNG-0044

Field and Operations Offices

CBFO
CH
ID
OH
OR
ORP
RFFO
RL
SR

Area and Site Offices

Argonne Area Office
Brookhaven Area Office
Fermi Area Office
Kansas City Site Office
Livermore Site Office
Los Alamos Site Office
Nevada Site Office
Pantex Site Office
Princeton Area Office
Savannah River Site Office
Sandia Site Office
Y-12 Site Office