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DOE STANDARD

FACILITY MAINTENANCE MANAGEMENT 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 (DOE) managers responsible for overseeing the Federal Technical Capability Program. This Panel is responsible for reviewing and approving the qualification standard for Department-wide application. Approval of this qualification standard by the Federal Technical Capability Panel is indicated by signature below.

KAREN L. BOARDMAN, CHAIRPERSON
FEDERAL TECHNICAL CAPABILITY PANEL

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ACKNOWLEDGEMENT

The Office of the Associate Administrator for Safety and Health, Office of Operations and Safety Engineering, is the sponsor for the Facility Maintenance Management Functional Area Qualification Standard (FAQS). The sponsor is responsible for coordinating the development and/or review of the FAQS by subject matter experts to ensure the technical content of the standard is accurate and adequate for Department-wide application for those involved in the Facility Maintenance Management program. The sponsor, in coordination with the Federal Technical Capability Panel, is also responsible for ensuring the FAQS is maintained current.

The following subject matter experts participated in the development and/or review of this qualification standard:

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DOE-STD-1181-2014

U.S. DEPARTMENT OF ENERGY
FUNCTIONAL AREA QUALIFICATION STANDARD

FACILITY MAINTENANCE MANAGEMENT

PURPOSE

The primary purpose of the Technical Qualification Program (TQP) is to ensure employees have the requisite technical competency to support the mission of the Department. The TQP forms the basis for the development and assignment of DOE personnel responsible for ensuring the safe operation of defense nuclear facilities. The technical qualification standards are not intended to replace the U.S. Office of Personnel Management (OPM) qualifications standards or other departmental personnel standards, rules, plans, or processes. However, the technical qualification standards should form the primary basis for developing vacancy announcements, qualification requirements, crediting plans, interview questions, and other criteria associated with the recruitment, selection, and internal placement of technical personnel.

APPLICABILITY

The Facility Maintenance Management Functional Area Qualification Standard (FAQS) establishes common functional area competency requirements for all DOE Facility Maintenance Management 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. This technical FAQS has been developed as a tool to assist DOE program and field offices in the development and implementation of the TQP in their organization. For ease of transportability of qualifications between DOE elements, program and field offices must use this technical FAQS without modification. Satisfactory and documented attainment of the competency requirements contained in this technical FAQS ensures personnel possess the minimum requisite competence to fulfill functional area duties and responsibilities common to the DOE complex. Additionally, needed office-/site-/facility-specific qualification standards, handled separately, supplement this technical FAQS and establish unique operational competency requirements at the headquarters or field element, site, or facility level.

It should be noted that the competencies of management and leadership, general technical knowledge, regulations, administrative capability, and assessment and oversight are embodied in the competencies in this standard. All these factors have a bearing on safety. Although the focus of this standard is technical competence, competencies such as good communication, recognized credibility, ability to listen and process information, and the ability to guide an effort to get it right the first time are recognized as important aspects of safety.

IMPLEMENTATION

This FAQS identifies the minimum technical competency requirements for DOE personnel. Although there are other competency requirements associated with these positions, this FAQS identifies the specific, common technical competencies required throughout all defense nuclear facilities for Facility Maintenance Management personnel.

The term “must” denotes a mandatory requirement, “should” denotes a recommended practice that is not required, and “may” denotes an option in this standard.

The competencies identify various levels of knowledge; and/or identify mandatory performance activities required to complete satisfactorily. These levels are defined as follows:

> **Familiarity level** is 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 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 DOE activities.
>
> **Mandatory performance activities** are performance factors that require the candidate to perform a specific and discrete task to demonstrate an understanding of the associated competency.

Headquarters and field elements must establish a program and process to ensure DOE personnel possess the competencies required by their position, including the competencies identified in this technical FAQS. Documentation of the completion of the requirements in this standard must be included in the employees’ training and qualification records. Satisfactory attainment of competency requirements contained in this technical FAQS may be documented using the example Facility Maintenance Management FAQS qualification card from the Federal Technical Capability Program Directives and Standards page, http://www.hss.energy.gov/deprep/ftcp/directives/directives.asp.

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 obtained through written and/or oral examinations. Equivalencies must be granted in accordance with the TQP plan of the site/office/headquarters organization qualifying the individual. Supporting knowledge and/or skill statements should, and mandatory performance activities must, be considered before granting an equivalency for a competency.

Training must be provided to employees in the TQP who do not meet competencies contained in this technical FAQS. 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 must be based on appropriate supporting knowledge and/or skill statements similar to those listed for each competency requirement. Headquarters and field elements should use the supporting knowledge and/or skill statements as a basis for evaluating the content of any training.

EVALUATION REQUIREMENTS

Attainment of competencies listed in this technical FAQS must be documented in accordance with the TQP plan or policy of the site/office/headquarters organization qualifying the individual and the requirements in DOE O 360.1C, *Federal Employee Training,* and DOE O 426.1, Chg.1, *Federal Technical Capability.*

The qualifying official or immediate supervisor should ensure the candidate meets the background and experience requirements of this FAQS. If the immediate supervisor is not qualified in this functional area, the supervisor should consult with a qualified individual prior to using one or a combination of the following individual competency evaluation methods:

- Satisfactory completion of a written examination
- Satisfactory completion of an oral examination
- Satisfactory accomplishment of an observed task or activity directly related to a competency
- Documented evaluation of equivalencies (such as applicable experience in the field) without a written examination

Field element managers/headquarters program managers must qualify candidates as possessing the basic technical knowledge, technical discipline competency, and position-specific knowledge, skills, and abilities required for their positions.

Final qualification of candidates must be performed using one or a combination of the following methods:

- Satisfactory completion of a comprehensive written examination with a minimum passing grade of 80 percent.
- Satisfactory completion of an oral examination by a qualified Senior Technical Safety Manager (STSM) or a qualification board of technically qualified personnel that includes at least one qualified STSM.
- Satisfactory completion of a walkthrough of a facility with a qualifying official for the purpose of verifying a candidate's knowledge and practical skills of selected key elements.

Guidance for oral interviews and written exams is contained in DOE-HDBK-1205-97, *Guide to Good Practices for the Design, Development, and Implementation of Examinations*, and DOE-HDBK-1080-97, *Guide to Good Practices for Oral Examinations.*

For oral examinations and walkthroughs, qualifying officials or board members should ask critical questions intended to integrate identified learning objectives during qualification. Field element managers/headquarters program managers or designees must develop formal guidance for oral examinations and walkthroughs that includes:

- Standards for qualification
- Use of technical advisors by a board
- Questioning procedures or protocol
- Pass/fail criteria
- Board deliberations and voting authorization procedures
- Documentation process

INITIAL QUALIFICATION AND TRAINING

Qualification of Facility Maintenance Management personnel must be conducted in accordance with the requirements of DOE O 426.1, Chg.1, *Federal Technical Capability.*

DOE personnel must participate in continuing education and training as necessary to improve performance and proficiency and ensure they stay up-to-date on changing technology and new requirements. This 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

A description of suggested learning activities and the requirements for the continuing education and training program for this FAQS are included in appendix A.

DUTIES AND RESPONSIBILITIES

The following are typical duties and responsibilities expected of personnel assigned to the Facility Maintenance Management functional area:

A. Conduct oversight and assessments of Nuclear Maintenance Management Program (NMMP) implementation and performance as specified in paragraph 4 of DOE O 433.1B and in accordance with DOE O 226.1B.

B. Review submitted NMMP description documentation and technical adequacy for compliance with the Specific Requirements in DOE O 433.1B CRD, Attachment 2.

C. Evaluate equivalencies and exemptions to maintenance requirements for technical adequacy and effectiveness.

D. Assist the contracting officer in incorporating nuclear maintenance management requirements into appropriate Management and Operating contracts.

E. Conduct self-assessments of Field Element oversight of NMMPs.

Position-specific duties and responsibilities for Facility Maintenance Management personnel are contained in office-/site-/facility-specific qualification standards and/or position descriptions.

BACKGROUND AND EXPERIENCE

The OPM *Qualification Standards Operating Manual* 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 Facility Maintenance Management personnel are:

1. Education

   Bachelor of Science degree in engineering or a related physical science degree from an accredited institution or meet the alternative requirements specified in the Qualification Standard Handbook for the GS-0800 Professional Engineering Series.

2. Experience

   Industrial, military, Federal, state, or other directly related background that has provided specialized experience in Facility Maintenance Management. 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 competencies contained in the General Technical Base (GTB) Qualification Standard. All Facility Maintenance Management personnel must satisfy the competency requirements of the GTB Qualification Standard prior to or in parallel with the competency requirements contained in this standard. Each competency requirement defines the level of expected knowledge and/or skill an individual must possess to meet the intent of this standard. Each competency requirement is further described by supporting knowledge and/or skill statements that describe the intent of the competency statement. In selected competencies, expected knowledge and/or skills have been designated as “mandatory performance activities.” In these competencies, the actions are not optional.

Note: When regulations, DOE directives, or other industry standards are referenced in this FAQS, the most recent revision should be used. It is recognized that some Facility Maintenance Management personnel may oversee facilities that utilize predecessor documents to those identified. In those cases, such documents should be included in local qualification standards.

Note: The Facility Maintenance Management FAQS are not intended to replace the competencies of the Federal Buildings Personnel Act of 2010.

Note: Competencies 1 through 17 are consistent with DOE O 433.1B. Successful completion of these competencies will demonstrate a working knowledge of DOE’s requirements for facility maintenance management.

1. Facility maintenance management personnel must demonstrate a familiarity level knowledge of the following Regulations, DOE orders (and their CRDs), standards, and guides.

Supporting Knowledge and/or Skills:

a. Discuss the purpose, scope, and requirements of these Directives and explain how they integrate with nuclear facility maintenance management.

1. DOE O 226.1B, *Implementation of Department of Energy Oversight Policy*
2. DOE O 231.1B, *ES&H Reporting*
3. DOE O 414.1D, *Quality Assurance*
4. DOE O 420.1C, *Facility Safety*
5. DOE O 430.1B, *Real Property Asset Management*
6. DOE O 440.1B, *Worker Protection Program for DOE (Including the National Nuclear Security Administration) Federal Employees*
7. DOE O 422.1, *Conduct of Operations*
8. DOE O 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*
9. DOE G 430.1-2, *Implementation Guide for Surveillance and Maintenance during Facility Transition and Disposition*
10. DOE O 436.1, *Department Sustainability*
11. DOE O 458.1, *Radiation Protection of the Public and the Environment*
12. DOE O 450.2, *Integrated Safety Management*

Code of Federal Regulations (CFRs):

1. 10 CFR 830, *Nuclear Safety Management*; Subpart A, *Quality Assurance Requirements*
2. Integrated Safety Management System (ISMS) provisions contained in 48 CFR 970.5223-1, *Integration of Environment, Safety, and Health into Work Planning and Execution*
3. 10 CFR 835, *Occupational Radiation Protection*
4. 10 CFR 850, *Chronic Beryllium Disease Prevention Program*
5. 10 CFR 851, *Worker Safety and Health Program*

b. Discuss each of the following nuclear safety orders, standards, and guides.

1. DOE G 421.1-2A, *Implementation Guide for Use in Developing Documented Safety Analyses to Meet Subpart B of 10 CFR 830*
2. DOE G 424.1-1B, *Implementation Guide for Use in Addressing Unreviewed Safety Question Requirements*
3. DOE O 425.1D, *Startup and Restart of Nuclear Facilities*
4. DOE O 460.1C, *Packaging and Transportation Safety*
5. DOE-STD-1083-95, *Requesting and Granting Exemptions to Nuclear Safety Rules*
6. DOE-STD-1186-2004, *Specific Administrative Controls*
7. DOE-STD-3009-94, *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses*
8. 10 CFR 830, Subpart B, *Safety Basis Requirements*

2. Facility maintenance management personnel must demonstrate a working level knowledge of nuclear facility Maintenance Organization and Administration.

Supporting Knowledge and/or Skills:

a. Discuss maintenance organizational structure, including roles and responsibilities of key positions in the organization.

b. Discuss maintenance staffing levels and resources, including indicators of inadequate staffing or resource levels.

c. Discuss maintenance organization interfaces with facility operations, quality assurance, procurement, nuclear safety, engineering, industrial hygiene and safety, and radiological safety.

d. Discuss how management and supervisory personnel can monitor and assess facility maintenance activities to improve all aspects of maintenance performance.

3. Facility Maintenance Management personnel must demonstrate a working level knowledge of the Master Equipment List.

Supporting Knowledge and/or Skills:

a. Discuss the development and maintenance of an up-to-date and comprehensive listing of SSCs that are a part of the safety basis.

b. Discuss the different uses of the MEL, including identification of appropriate controls of maintenance, maintenance history, minimum spares, vendor information, and safety category.

4. Facility maintenance management personnel must demonstrate a working level knowledge of Planning, Scheduling, and Coordination of Maintenance.

Supporting Knowledge and/or Skills:

a. Discuss the process for ensuring the appropriate level of detailed maintenance work instruction so that workers, schedulers, and other affected organizations can carry out the activities as planned.
b. Discuss the process for coordination of integrated discipline of maintenance work packages to ensure involvement of the appropriate persons and the proper sequence of carrying out the work.
c. Discuss how feedback and history from previous maintenance evolutions is recorded and used in the planning process.
d. Discuss work planning considerations such as material, tool, and manpower requirements; interdepartmental coordination; safety considerations; radiological protection requirements; and quality control requirements are included; and maintenance history records are considered where appropriate.
e. Discuss how prioritization, scheduling, and coordination of maintenance activities avoids unnecessary removal of equipment and systems from service, and uses manpower and outage time effectively, and controls backlog.
f. Discuss how System Engineering is involved in the following activities:
    - Remaining apprised of operational status and ongoing modification activities;
    - Assisting in review of key system parameters and evaluating system performance;

- Identifying trends from operations and maintenance, and providing assistance in determining operability, correcting out-of-specification conditions, and evaluating questionable data;
- Remaining cognizant of system-specific maintenance and operations history and industry operating experience, as well as manufacturer and vendor recommendations and any product warnings regarding safety SSCs in their assigned systems in order to advise the maintenance organization;
- Initiating actions to correct problems;
- Reviewing and concurring with design changes and maintenance modifications;
- Providing input to the development of special maintenance and test procedures.

5. Facility maintenance management personnel must demonstrate a working level knowledge of Types of Maintenance.

Supporting Knowledge and/or Skills:

a. Describe types of maintenance that can be used by nuclear facilities, their definitions, and applicability.
b. Discuss how maintenance strategies are balanced with respect to safety basis, high production, reliability, quality, and worker safety.
c. Discuss when a corrective or reactive maintenance strategy could be used as an alternative to proactive maintenance.
d. Discuss how Preventive Maintenance (PM) and Predictive Maintenance (PdM) are selected and assigned appropriate periodicity.
e. Discuss how PMs are waived or deferred.
f. Discuss how PdM can be used to limit unnecessary PMs.

6. Facility maintenance management personnel must demonstrate a working level knowledge of Maintenance Procedures.

Supporting Knowledge and/or Skills:

a. Discuss the development, review, approval, and revision of maintenance procedures including:
    - Ensuring procedures are clear, concise, and contain adequate information for users to understand and perform their activities effectively;
    - Verifying technical details such as set points, control logic, and equipment numbers are consistent among procedures, drawings, valve lineup sheets, and system descriptions;
    - Including hold-points such as quality and radiological protection checks in procedures, as needed;
    - Incorporating human performance factors into procedures to promote error-free performance;
    - Documenting post-maintenance/modification testing requirements and acceptance criteria, follow-on steps, and restoration instructions, where appropriate;
    - Checking new, changed, or revised procedures to ensure usability before or during initial use;
    - Application of the USQ process.
b. Discuss management’s expectations for procedure availability and use.

c. Discuss actions to be taken when procedures conflict, are inadequate for the intended tasks, or when unexpected results occur.

7. Facility maintenance management personnel must demonstrate a working level knowledge of Training and Qualification.

Supporting Knowledge and/or Skills:

a. Discuss the systematic approach to training as required by DOE O 426.2.
b. Discuss how maintenance personnel are qualified and/or certified.
c. Discuss how trade unions implement the apprentice and journeyman system and how it integrates into an M&O contractor T&Q program.
d. Discuss how worker qualification relates to work authorization.
e. Discuss how on-the-job training activities being evaluated for qualification sign-off are evaluated by personnel qualified as OJT instructors/evaluators.
f. Discuss how continuing training is performed to maintain and enhance worker proficiencies and qualifications, including lessons learned from industry and in-house operating experiences (including actual events) applicable to their craft.

8. Facility maintenance management personnel must demonstrate a working level knowledge of Configuration Management (CM).

Supporting Knowledge and/or Skills:

a. Describe the purpose and objectives of CM.
b. Discuss the five basic elements of CM from DOE-STD-1073-2003, with particular emphasis on change control/work control.
c. Discuss the process to document and maintain plant configuration and handle desired changes while maintaining the facility safety basis.
d. Discuss the process to authorize the use of equipment repair parts and a method for workers to verify this approval.
e. Discuss the role of the cognizant system engineer in configuration management according to DOE O 420.1C, *Facility Safety*.

9. Facility maintenance management personnel must demonstrate a working level knowledge of Procurement and Materials Management.

Supporting Knowledge and/or Skills:

a. Discuss the process to identify, order, receive, store, and install proper parts and materials for work activities while meeting all quality requirements.
b. Discuss how safety-related parts and components are properly controlled, segregated, identified, and issued in all material storage areas; and appropriate unused parts and materials are promptly returned to inventory.
c. Discuss how lead times, parts usage, and supplier reliability are factored into materials management.

10. Facility maintenance management personnel must demonstrate a working level knowledge of Maintenance Tool and Equipment Control.

Supporting Knowledge and/or Skills:

a. Discuss how proper tools, equipment, and consumable supplies support maintenance activities.
b. Discuss suitable storage for tools and equipment.
c. Discuss actions expected when worn or defective tools or equipment are identified.
d. Discuss the segregation and disposition of tools and equipment contaminated by radioactive or other hazardous material.
e. Discuss calibration and control of M&TE to provide accuracy and traceability.
f. Discuss actions required for equipment calibrated/inspected/maintained with out-of-tolerance test equipment.

11. Facility maintenance management personnel must demonstrate a working level knowledge of Suspect and Counterfeit Items.

Supporting Knowledge and/or Skills:

a. Discuss the controls established to assure that items and services meet specified requirements as required by DOE O 414.1D and 10 CFR 830, Subpart A.
b. Discuss the process to prevent entry, detect, control, report, and disposition of S/CIs required by DOE O 414.1D and DOE G 414.1-2B.

12. Facility maintenance management personnel must demonstrate a working level knowledge of Maintenance History.

Supporting Knowledge and/or Skills:

a. Discuss how maintenance history for SSCs that are part of the safety basis is recorded and used.
b. Discuss the consideration of maintenance history records in planning for corrective maintenance, periodic maintenance, and modifications.
c. Discuss periodic reviews of maintenance history to identify equipment trends and persistent maintenance problems to determine root causes and to assess the impact on facility safety and reliability.

13. Facility maintenance management personnel must demonstrate a working level knowledge of Aging Degradation and Technical Obsolescence.

Supporting Knowledge and/or Skills:

a. Discuss specific SSCs subject to aging degradation.
b. Discuss acceptance criteria, monitored parameters, and tracking/trending tools used to ensure SSCs continue to meet all safety basis requirements.
c. Discuss the monitoring, inspection, and testing frequency and sample size appropriate for timely detection of aging effects.
d. Discuss technical obsolescence and its influence on maintenance management.

14. Facility maintenance management personnel must demonstrate a working level knowledge of Seasonal Facility Preservation.

Supporting Knowledge and/or Skills:

a. Discuss weather and environmental conditions that should be considered when developing a seasonal facility preservation plan.

b. Discuss how nuclear safety SSCs with the potential for damage from seasonal weather and environmental conditions are identified and protected.
c. Discuss possible protective responses to different severe weather events.

15. Facility maintenance management personnel must demonstrate a working level knowledge of Performance Measures.

Supporting Knowledge and/or Skills:

a. Discuss how performance indicators are established, measured, trended, and analyzed to identify organizational conditions that are impacting mission goals, including safety and the reliability of SSCs that are part of the safety basis.
b. Discuss how goals should be established for these performance indicators/metrics.
c. Discuss how metrics that do not achieve their goal or have undesirable trends should be analyzed to determine the causal factors for this performance.
d. Discuss how corrective actions should be defined and implemented for unsatisfactory performance or trends in performance.
e. Discuss the process for validating the effectiveness of corrective action plans.
f. Discuss the routine management review of the status of performance indicators.
g. Discuss how performance measures are included in the organizational self-assessment program.

16. Facility maintenance management personnel must demonstrate a working level knowledge of Facility Condition Inspections.

Supporting Knowledge and/or Skills:

a. Discuss planning, conducting, and trending periodic inspections of the material condition of nuclear facilities and systems to support safe and reliable operation.
b. Discuss how material deficiencies are identified, logged, and corrected in the work control system.

17. Facility maintenance management personnel must demonstrate a working level knowledge of Post Maintenance Testing.

Supporting Knowledge and/or Skills:

a. Discuss when and how Post-Maintenance Testing should be specified.
b. Discuss how PMTs are documented and reviewed.
c. Discuss the role of the Cognizant System Engineer in PMT according to DOE O 420.1C.
d. Discuss actions required if a PMT cannot be completed immediately after maintenance is completed.

18. Facility maintenance management personnel must demonstrate a working level knowledge of assessment techniques (such as planning and use of observations, interviews, and document reviews) to assess facility performance, report results of assessments, and follow-up on actions as a result of assessments.

Supporting Knowledge and/or Skills:

a. Describe the role of facility maintenance management personnel with respect to oversight of Government-Owned Contractor Operated facilities.

b. Describe the assessment requirements and limitations associated with the interface with contractor employees.
c. Discuss the essential elements of a performance-based assessment including:
    - Investigation
    - Fact finding
    - Exit interview
    - Reporting
    - Follow-up
    - Closure
d. Describe the following assessment methods and the advantage or limitations of each method:
    - Document review
    - Observation
    - Interview
e. Describe the action(s) to be taken if the contractor challenges the assessment findings and explain how such challenges can be avoided.

Mandatory Performance Activity:

a. Participate as a team member on an assessment at a nuclear facility that includes the activities in c & d above.

19. Facility maintenance management personnel must demonstrate a working level knowledge of problem analysis and techniques.

Supporting Knowledge and/or Skills:

a. Discuss the elements of an analysis program.
b. Discuss the guidelines for information collecting.
c. Discuss event causal factors for human performance problems.
d. Discuss event causal factors for equipment performance problems.
e. Describe problem analysis techniques, including the following:
    - Root cause analysis
    - Causal factor analysis
    - Change analysis
    - Barrier analysis
    - Management oversight risk tree analysis
f. Describe the following root-cause analysis processes in the performance of occurrence investigations:
    - Events and causal factors charting
    - Root cause coding
    - Recommendation generation
g. Compare and contrast immediate, short-term, and long-term actions as the result of problem identification or an occurrence.
h. Describe various data gathering techniques and the use of trending/history when analyzing problems.

Mandatory Performance Activity:

a. Using problem analysis techniques identify the causes of a maintenance issue, identify effective actions that could correct the issue and prevent recurrence.

20. Facility maintenance management personnel must demonstrate a working level knowledge of the content of the safety basis requirements, as described in 10 CFR 830, Subpart B.

Supporting Knowledge and/or Skills:

a. Discuss the purpose and objective of the nuclear facility safety basis.
b. Describe how TSRs are derived and used, and what constitutes a violation.
c. Discuss the entry conditions and process for performing a USQ determination.
d. Discuss the actions to be taken by a contractor and DOE upon identifying information that indicates a potential inadequacy of the safety basis.

Mandatory Performance Activity:

a. Review and evaluate a USQ Determination, including walking down the proposed change/potential inadequacy.
b. Walk down a safety SSC to identify the safety controls contained in a TSR.

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APPENDIX A

CONTINUING EDUCATION, TRAINING AND PROFICIENCY PROGRAM

This standard does not require requalification.

Headquarters or field element managers must ensure the following:

1. Establish expectations related to the performance of duties and responsibilities in this FAQS, considering regulatory and/or contractual requirements as appropriate.
2. Identify specific continuing training requirements in the site/office/position specific qualification standard(s) or procedures.
3. Approve all established continuing training requirements related to defense nuclear facility safety oversight as determined for their office or site.

Facility Maintenance Management personnel must complete continuing technical education and/or training covering topics directly related to the Facility Maintenance Management FAQS as determined by the appropriate headquarters or field element managers as follows:

1. Address changes to DOE directives, guides, standards, policies, and rules since the last qualification was completed.
2. Perform practical factor exercises as appropriate, especially those that are mandatory and others as required by the associated FAQS.
3. Attend seminars, symposia, or technical meetings related to Facility Maintenance Management as resources are available.

   Note: Continuing technical education and/or training may include courses/training provided by the DOE, 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, and current technical issues related to the associated FAQS. Where continuing education is mandatory for maintaining professional registration (e.g., Professional Engineer) or professional certification (e.g., Certified Health Physicist), this will normally be sufficient, and only needs to be augmented by DOE directives reviews and any site-specific requirements (e.g., new/revised DSAs).

CONCLUDING MATERIAL

Review Activity:
EM
NNSA
NE
SC

Preparing Activity:
DOE office code

Project Number:
TRNG-XXX

Field and Operations Offices:
CBFO
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Site Offices:
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