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DOE–STD–1123–2009
July 2009

DOE STANDARD

SAFEGUARDS AND SECURITY GENERAL TECHNICAL BASE 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.

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Karen L. Boardman, Chairperson
Federal Technical Capability Panel

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ACKNOWLEDGMENT

The Office of Defense Nuclear Security is the sponsor for the Safeguards and Security General Technical Base Qualification Standard. The sponsor is responsible for coordinating the development and/or review of the Safeguards and Security General Technical Base 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 the Safeguards and Security program. The sponsor, in coordination with the Federal Technical Capability Panel (FTCP), is also responsible for ensuring that the standard is to be maintained current.

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DOE-STD-1123-2009

U.S. DEPARTMENT OF ENERGY
FUNCTIONAL AREA QUALIFICATION STANDARD

Safeguards and Security General Technical Base

PURPOSE

DOE M 426.1-1A, *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 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, interview questions, and other criteria associated with the recruitment, selection, and internal placement of technical personnel. The U.S. Office of Personnel Management (OPM) minimum qualifications standards will be greatly enhanced by application of appropriate materials from the technical Functional Area Qualification Standards (FAQSs).

The technical qualification standards are not intended to replace the OPM qualifications standards or other Departmental personnel standards, rules, plans, or processes. The primary purpose of the TQP is to ensure that 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 and secure operation of defense nuclear facilities.

The Safeguards and Security General Technical Base Qualification Standard is intended to ensure that all safeguards and security employees in the TQP have a common level of core technical knowledge. The Safeguards and Security Functional Area Qualification Standard builds on this base knowledge to provide greater knowledge and skills. Office-/site-/facility-specific qualification standards build upon the knowledge and skills of the functional area and provide the unique knowledge and skills for the functional area at a specific office, facility, or site.

APPLICABILITY

The Safeguards and Security General Technical Base Qualification Standard establishes common technical competency requirements for all DOE personnel who provide assistance in, direction or guidance to, or oversight or evaluation of contractor technical activities that could impact the safe and secure operation of DOE facilities. The Safeguards and Security General Technical Base Qualification Standard has been developed as a tool to assist program and field offices in the development and implementation of the TQP in their organizations. It is intended to provide a common base for further functional area qualifications. For ease of transportability of qualifications between DOE elements, program and field offices are expected to use this Safeguards and Security General Technical Base without modification. Needed additional office-/site-/facility-specific technical competencies should be handled separately.

It should be noted that the competencies of management and leadership, general technical knowledge, regulations, administrative capability, and assessment and oversight are all embodied in the competencies listed in this standard. All of these factors have a bearing on safeguards and security. 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 safeguards and security.

IMPLEMENTATION

This technical qualification standard identifies the minimum technical competency requirements for DOE personnel. Although there are other competency requirements associated with the positions held by DOE personnel, this Safeguards and Security General Technical Base Qualification Standard is limited to identifying the specific, common technical safeguards and security competencies required throughout DOE facilities. The competency requirements define the expected knowledge and/or skill that an individual must meet. Each of the competency requirements is further described by a listing of supporting knowledge and/or skill statements. The supporting knowledge and/or skill statements for each competency requirement are provided to challenge the employee in the breadth and depth of his/her understanding of the subject matter.

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

The competencies identify a familiarity level of knowledge and is 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.

Headquarters and field elements must establish a program and process to ensure that DOE personnel possess the competencies required by their position, including the competencies identified in this technical standard. Documentation of the completion of the requirements of this standard must be included in the employees’ training and qualification records. Satisfactory attainment of the competency requirements contained in this technical standard may be documented using the example Safeguards and Security General Technical Base qualification card that can be obtained from the Federal Technical Capability Program Directives and Standards page at http://www.hss.energy.gov/deprep/ftcp/directives/FAQcard.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. The supporting knowledge and/or skill statements should be considered before granting an equivalency for a competency.

Training must be provided to employees in the TQP who do not meet the competencies contained in this technical 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 must be based on appropriate supporting knowledge and/or skill statements similar to the ones listed for each of the competency requirements. 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 Safeguards and Security General Technical Base Qualification Standard competency requirements.

EVALUATION REQUIREMENTS

Attainment of the competencies listed in this standard 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 M 360.1-1B, *Federal Employee Training Manual*, and DOE M 426.1-1A, *Federal Technical Capability Manual*. Safeguards and security personnel must complete the qualification process 18 months after being enrolled in the TQP.

The qualifying official or immediate supervisor should ensure that the candidate meets the background and experience requirements of this standard. Unless stated otherwise within the program or site TQP plan, attainment of the competencies listed in the Safeguards and Security General Technical Base Qualification Standard should be evaluated and documented by either a qualifying official or immediate supervisor (Note: If the immediate supervisor is not a Safeguards and Security qualifying official, the supervisor must consult with a certified qualifying official to assist in qualifying a safeguards and security TQP candidate.)
using one or a combination of the following 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 should be performed using one or a combination of the following methods:

- Satisfactory completion of a comprehensive written examination. The minimum passing grade should be 80 percent.
- Satisfactory completion of an oral examination by a qualified Senior Technical Safety Manager (STSM) with safeguards and security qualifying official support or a qualification board of technically qualified personnel to include at least one qualified STSM for the safety-related competencies and a safeguards and security qualifying official for the security-related competencies.
- 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, as appropriate.

Guidance for oral examinations 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, supervisors, or board members should ask critical questions intended to integrate identified learning objectives during qualification. Field element managers/Headquarters program managers or designees should 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
- Deliberations and voting authorization procedures
- Documentation process

A study guide and references for Section A, Safety and Health Related Competencies, can be found on the FTCP Web site under the "Directives and Standards" link, at http://www.hss.energy.gov/deprep/ftcp/.

INITIAL QUALIFICATION, REQUALIFICATION, AND TRAINING

Qualification of safeguards and security personnel must be conducted in accordance with the requirements of DOE M 426.1-1A. Safeguards and security personnel must complete the qualification process 18 months after being enrolled in the TQP.

REQUALIFICATION REQUIREMENT — DOE program managers, site/service center managers, or National Nuclear Security Administration (NNSA) Deputy Administrators must require personnel completing Safeguards and Security General Technical Base Qualification Standard to requalify on a periodicity not to exceed 5 years. The DOE sponsor/Lead FTCP Agent shall establish the specific requalification training designed to update and maintain the Safeguards and Security General Technical Base qualifications. DOE program managers, site/service Center managers, or NNSA Deputy Administrators mustl document the requalification process which must, at a minimum, include the following:

1. Items added to the Safeguards and Security General Technical Base Qualification Standard since the individual's last qualification or requalification.

2. A combination of written examinations, oral examinations, or facility/site walkthroughs, as necessary, to demonstrate competency on the new material and those areas from the initial qualification where the individual has not demonstrated ongoing experience during the requalification period, not to exceed 5 years.

Note: The Safeguards and Security General Technical Base Qualification Standard contains competencies (summary and/or direct) from DOE-STD-1146-2007 for Section A, Safety and Health Related Competencies. Those safeguards and security employees that have already been qualified as having completed an earlier version of the General Technical Base Qualification Standard (DOE-STD-1146) will be grandfathered and, as such, are

not required to meet the Safeguards and Security General Technical Base Qualification Standard. However, on the 5-year anniversary date of their initial certification of qualification, they must be re-qualified under the Safeguards and Security General Technical Base Qualification Standard (DOE-STD-1123-2009) by conducting a gap analysis of the competencies between the original standard used for qualification and DOE-STD-1123-2009, and completing those competencies (the delta) as part of their Continuing Education, Training, and Proficiency Program. Re-qualification is required every five years thereafter.

Those safeguards and security employees that have not been qualified as having completed DOE-STD-1146-2007 (or its previous versions) should become qualified using the Safeguards and Security General Technical Base Qualification Standard in its entirety and should re-qualify every five years thereafter.

DOE personnel should 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. The intent for continuing education is to complete a gap analysis 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 the Safeguards and Security General Technical Base are included in Appendix A of this document.

DUTIES AND RESPONSIBILITIES

There are no duties or responsibilities associated with the Safeguards and Security General Technical Base Qualification Standard.

BACKGROUND AND EXPERIENCE

There are no background or experience recommendations associated with the Safeguards and Security General Technical Base Qualification Standard.

REQUIRED TECHNICAL COMPETENCIES

Each of the competency requirements 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 requirements is further described by a listing of supporting knowledge and/or skill statements that describe the intent of the competency statements.

Note 1: When regulations, DOE directives, or other industry standards are referenced in the Safeguards and Security General Technical Base, the most recent revision should be used. It is recognized that some safeguards and security personnel may oversee facilities that utilize predecessor documents to those identified. In those cases, such documents should be included in local qualification standards via the TQP.

Note 2: The Safeguards and Security General Technical Base Qualification Standard contains competencies (summary and/or direct) from DOE-STD-1146-2007 for Section A, Safety and Health Related Competencies. Those safeguards and security employees that have already been certified as having completed the General Technical Base Qualification Standard (DOE-STD-1146-2007) are not required to meet the Safeguards and Security General Technical Base Qualification Standard. Those safeguards and security employees that have not been certified as having completed DOE-STD-1146-2007 should become certified in the Safeguards and Security General Technical Base Qualification Standard.

A. SAFETY AND HEALTH RELATED COMPENTENCIES

Safeguards and security personnel must have a familiarity level knowledge of Federal Regulations, Federal Acts and DOE Orders and Manuals for environmental management, safety management, conduct of operation, safety basis requirements and documentation, and oversight functional areas. For reference, these Orders and Manuals include:

Federal Regulations

- 10 CFR 830 Subpart A, “Quality Assurance *Requirements*”
- 10 CFR 830 Subpart B, “Safety Basis Requiements”
- 10 CFR 835, “Occupational Radiation Protection”
- 10 CFR 850, “Chronic Beryllium Disease Prevention Program”
- 10 CFR 851, “Worker Safety and Health Program”
- 29 CFR 1910.120, “Hazardous Waste Operations and Emergency Response”

Department of Energy Orders and Manuals

- DOE O 151.1C, *Comprehensive Emergency Management System*
- DOE O 231.1A, Chg. 1, *Environment, Safety, and Health Reporting*
- DOE M 231.1-2, *Occurrence Reporting and Processing of Operations Information*
- DOE O 414.1C, *Quality Assurance*
- DOE O 420.1B, *Facility Safety*
- DOE O 433.1A, *Maintenance Management Program for DOE Nuclear Facilities*
- DOE O 435.1, Chg. 1, *Radioactive Waste Management*
- DOE O 440.1B, *Worker Protection Program for DOE (Including the National Nuclear Security Administration) Federal Employees*

- DOE O 450.1A, *Environmental Protection Program*
- DOE O 451.1 B, Chg. 1, *National Environmental Policy Act Compliance Program – Change 1*
- DOE O 5400.5, Chg. 2, *Radiation Protection of the Public and the Environment*
- DOE O 5480.19, Chg. 2, *Conduct of Operations Requirements for DOE Facilities*

Federal Acts

- National Environmental Policy Act (NEPA)
- Resource Conservation and Recovery Act (RCRA)
- Comprehensive Environmental Response, Compensation, and Liability Act—Superfund Act (CERCLA)
- Clean Water Act (CWA), including the National Pollutant Discharge Elimination System (NPDES)
- Clean Air Act (CAA)
- Emergency Planning and Community Right-To-Know Act (EPCRA)
- Federal Facilities Compliance Act (FFCA)
- Pollution Prevention Act of 1990 (PPA)
- Safe Drinking Water Act (SDWA)
- Superfund Amendments and Reauthorization Act (SARA)
- Toxic Substances Control Act (TSCA)
- Solid Waste Disposal Act (SWDA)

Industrial Standards

- National Fire Protection Association (NFPA) 70E, *Standard for Electrical Safety in the Workplace*

1. Personnel must demonstrate a familiarity level knowledge of basic nuclear theory and principles.

Supporting Knowledge and/or Skills

a. Identify and describe the three forces that are found within a nucleus.

b. Define the terms "mass defect" and "binding energy" and discuss how they are related.

c. Describe the decay chain process.

d. Define the terms “activity,” “radioactive half-life,” and “radioactive equilibrium.”

2. Personnel must demonstrate a familiarity level knowledge of basic fission process and the results obtained from fission.

Supporting Knowledge and/or Skills

a. Explain the fission process.

b. Identify the five factors that affect criticality.

c. Identify the hazards that result from an unwanted criticality.

d. Explain the double contingency principle as it relates to criticality control.

e. Discuss the potential hazards associated with accidental/unwanted criticality.

3. Personnel must demonstrate a familiarity level knowledge of radiological controls.

Supporting Knowledge and/or Skills

a. Define the following terms:

- Ionizing radiation
- Radioactivity
- Criticality

b. Describe how nuclear radiation is generated.

c. Describe the biological effects of ionizing radiation (acute and chronic).

d. Discuss radiation dose, including the terms rad, rem, roentgen, and international standards units, and how it is measured.

e. Discuss the meaning of ALARA and describe the basic methods for achieving ALARA .

f. Discuss the primary hazards to the human body (the whole body or the skin or that are internal) for each of the following type of radiation and the types of materials that are best suited for shielding the radiation types:

- Alpha
- Gamma
- Beta
- Neutron (slow and fast)

4. Personnel must demonstrate a familiarity level knowledge of contamination theory and control.

Supporting Knowledge and/or Skills

a. List the three types of contamination, how they are detected, and the three ways that they are controlled.

b. Describe three ways contamination could enter the body and the methods used to prevent internal contamination.

c. Describe the potential effects of radioactive contamination outside contamination areas.

d. Discuss the hazards, safe handling, storage requirements, and operational practices for each of the following nuclides in their various forms:

- Plutonium
- Uranium
- Tritium

e. Discuss the purpose and general requirements of the following:

- Access training
- Dose limits
- Posting types and use
- Access requirements

f. List the types of available Personal Protective Equipment (PPE) and how it is utilized.

5. Personnel must demonstrate a familiarity level knowledge of basic radiation detection methods and principles.

Supporting Knowledge and/or Skills

a. Describe the proper use and function of and radiation detected by different types of thermoluminescent dosimeters and self-reading dosimetry.

b. State the purpose and function of the following radiation-monitoring systems; criticality, area, process, and airborne.

6. Personnel must demonstrate a familiarity level knowledge of the sources and types of radioactive and hazardous waste associated with DOE facilities; and the DOE Orders, standards, regulations, and laws related to environmental protection, pollution prevention, environmental restoration, and waste management issues.

Supporting Knowledge and/or Skills

a. Discuss the purpose of Federal environmental laws as they apply to the Department and the contractors that operate its facilities.

b. Describe the differences, potential sources, and the various types of storage, treatment, and disposal used to manage each of the following types of waste in a DOE facility:

- Low-level radioactive waste
- Hazardous waste
- Transuranic waste
- High-level radioactive waste
- Mixed hazardous waste

c. Discuss the general activities required of the contractors with respect to the following:

- Cleanup operations

- Corrective actions
- Voluntary clean-up operations
- Operations involving hazardous wastes
- Emergency response operations

d. Discuss the potential personal and organizational liability associated with noncompliance with environmental laws.

7. Personnel must demonstrate a familiarity level knowledge of the Department's philosophy and approach to implementing Integrated Safety Management (ISM).

Supporting Knowledge and/or Skills

a. Explain the objective of ISM.

b. Describe how the seven guiding principles in the ISM policy are used to implement an ISM philosophy.

c. Describe the five core safety management functions in the ISM policy and discuss how they provide the necessary structure for work activities.

d. Discuss the DOE safety management system policy.

e. Discuss the interrelationships between quality assurance and ISM.

8. Personnel must demonstrate a familiarity level knowledge of worker safety and health and protection programs.

Supporting Knowledge and/or Skills

a. Discuss the requirements for the development and approval of worker safety and health programs.

b. Describe management responsibilities and worker rights and responsibilities.

c. Describe hazard identification, assessment, prevention, and abatement.

d. Discuss applicable safety and health standards.

e. Discuss the process for obtaining a variance from a safety and health standard.

9. Personnel must demonstrate a familiarity level knowledge of the Occupational Safety and Health Act (OSHA).

Supporting Knowledge and/or Skills

a. Describe DOE's responsibilities with respect to the OSHA.

b. Discuss workplace inspection techniques.

c. Discuss the major components of the OSHA hazard communication protocol.

d. Discuss how the OSHA Rule is invoked on DOE Federal and contractor staff.

10. Personnel must demonstrate a familiarity level knowledge of fire safety for Department facilities necessary to identify safe and unsafe work practices.

Supporting Knowledge and/or Skills

a. Discuss the critical aspects of fire prevention, fire response planning, and control of fires.

b. Describe fire hazards that could affect the safety of facility personnel.

c. Discuss the purpose of a fire hazard analysis.

d. Describe the characteristics of and the methods/agents used to extinguish the following classes of fires:

- Class A
- Class B
- Class C
- Class D
- Class K

e. Discuss the key components and use of building fire protection equipment, including detection, alarm, and communication systems, and extinguishing systems (automatic and manual).

f. Discuss the key elements of the NFPA Life Safety Code.

11. Personnel must demonstrate a familiarity level knowledge of electrical safety for Department facilities necessary to identify safe and unsafe work practices.

Supporting Knowledge and/or Skills

a. Discuss general safety precautions for working near low voltage electrical equipment and high voltage electrical equipment.

b. Describe basic electrical isolation devices and methods.

c. Describe how safety considerations differ for alternating current and direct current.

d. Describe basic office electrical safety precautions.

12. Personnel must demonstrate a familiarity level knowledge of industrial hygiene principles.

Supporting Knowledge and/or Skills

a. Define the term “industrial hygiene,” including the elements of anticipation,

recognition, evaluation, and control of health hazards in the workplace.

b. Discuss basic industrial hygiene concepts and terminology, including the following:

- Routes of exposure (inhalation, ingestion, dermal injection)
- Dose and toxicity (acute, chronic, concentration)
- Exposure limits [Permissible Exposure Limit (PEL), Time-Weighted Average (TWA), Threshold Limit Values (TLV), Short Term Exposure Limit (STEL), ceiling, action level, Parts per Million (PPM), milligrams per cubic meter (mg/m3)]
- Hierarchy of controls (engineering, substitution, administrative, PPE)
- Health hazards (chemical, physical, biological)
- Key elements of a carcinogen control program, including carcinogenic chemicals and asbestos control

c. Discuss the key elements (exposure assessment and monitoring, engineering controls, respiratory protection, PPE and clothing, housekeeping, labeling, training, medical surveillance, and record keeping) of an industrial hygiene program.

d. Discuss the key elements of a hazard communication program and the use of material safety data sheets.

e. Discuss the importance of the following types of equipment used for personnel protection and safety:

- Eye protection
- Ear protection
- Protective clothing/gloves
- Respiratory protection

f. Discuss Federal industrial hygiene requirements.

13. Personnel must demonstrate a familiarity level knowledge of the DOE principles of conduct of operations, safety and health reporting requirements, quality assurance requirements, and the emergency management guidelines and how they relate to an operational environment.

Supporting Knowledge and/or Skills

a. Discuss the standards and goals set forth for the establishment of the proper conduct of the operations environment.

b. Define the terms “root cause” and “lessons learned” and explain their importance in operational safety.

c. Describe stop work authority and the role of staff personnel in its application.

d. Describe the purpose of the lockout/tagout system.

e. Define the following terms:

- Event
- Condition
- Facility
- Notification report
- Occurrence report
- Reportable occurrence
- Facility representative

f. Describe, in general terms, the content and objectives of the quality assurance criteria in the following categories:

- Management
- Performance
- Assessment

g. Describe the Federal responsibilities for review, approval, and oversight of contractor quality assurance programs.

h. State what is meant by an operational emergency.

i. Describe the purpose of a facility emergency plan and implementing procedures.

j. Discuss the requirements for developing the hazards survey and the emergency planning hazards assessment.

k. Describe the key roles and safety considerations during emergency response:

- National Incident Management System
- Incident Command System
- Incident commander
- Emergency director

l. Discuss the requirements for testing emergency plans and for interfacing with state and local officials and the public.

14. Personnel must demonstrate a familiarity level knowledge of the safety basis and documentation requirements.

Supporting Knowledge and/or Skills

a. Describe the purpose of the Unreviewed Safety Question (USQ) process, reasons or situations that would require a USQ determination, and the contractors responsibilities for performing USQ a determination.

b. Define and compare the following terms:

- Hazard
- Risk
- Safety basis
- Design basis

- Authorization basis

c. Discuss the relationship of Documented Safety Analysis (DSA) to Technical Safety Requirements (TSRs) and the contractor's responsibilities for conducting a DSA and developing a TSR.

d. Discuss the possible source documents that may be used in developing TSRs and the conditions that constitute a violation of a TSR.

e. State the general requirements for a DSA and for a preliminary documented safety analysis.

f. Define the following terms and discuss the purpose of each:

- Safety limit
- Limiting control settings
- Limiting conditions for operation
- Surveillance requirements

g. Discuss the purpose and applicability of the requirements imposed on the contractors that operate DOE nuclear facilities.

h. Discuss, in general terms, the focus and the content of the following:

- Nuclear safety
- Fire protection
- Nuclear criticality safety
- Natural phenomena hazards mitigation
- Explosives safety
- Safety systems engineer and configuration management

B. SECURITY RELATED COMPETENCIES

Safeguards and security personnel must have a familiarity level knowledge of the purpose of DOE Safeguards and Security Orders and Manuals for all safeguard and security functional areas. For reference, these Orders and Manuals include the following:

- DOE O 226.1A, *Implementation of Department of Energy Oversight Policy*
- DOE P 470.1, *Integrated Safeguards and Security Management (ISSM) Policy*
- DOE O 470.2B, *Independent Oversight and Performance Assurance Program*
- DOE O 470.3B, *Graded Security Protection (GSP) Policy*
- DOE O 470.4A, *Safeguards and Security Program*
- DOE M 470.4-1, Chg. 1, *Safeguards and Security Program Planning and Management*
- DOE M 470.4-2, Chg. 1, *Physical Protection*
- DOE M 470.4-3, Chg. 1, *Protective Force*
- DOE M 470.4-3A, Contractor *Protective Force*
- DOE M 470.4-4A, *Information Security Manual*

- DOE M 470.4-5, *Personnel Security*
- DOE M 470.4-6, Chg. 1, *Nuclear Material Control and Accountability*
- DOE M 470.4-7, *Safeguards and Security Program References*
- DOE M 471.1-1, Chg. 1, *Identification and Protection of Unclassified Controlled Nuclear Information Manual*
- DOE O 471.1A, *Identification and Protection of Unclassified Controlled Nuclear Information*
- DOE M 471.2-3B, *Special Access Program Policies, Responsibilities, and Procedures*
- DOE O 471.3, *Identifying and Protecting Official Use Only Information*
- DOE M 471.3-1, *Manual for Identifying and Protecting Official Use Only Information*
- DOE G 473.2-1, *Guide for Establishment of a Contingency Protective Force*,
- DOE O 475.1, *Counterintelligence Program*
- DOE M 475.1-1B, *Manual for Identifying Classified Information*
- DOE O 475.2, *Identifying Classified Information*
- DOE O 1450.4, *Consensual Listening-in to or Recording Telephone/Radio Conversations*
- DOE O 5639.8A*, Security of Foreign Intelligence Information and Sensitive Compartmented Information Facilities*
- DOE O 5670.1A*, Management and Control of Foreign Intelligence*

15. Safeguards and security personnel must demonstrate a familiarity level knowledge of the standardized approach for protection program planning that will provide an information baseline for use in integrating Departmental S&S considerations, facilitating management evaluation of program elements, determining resources for needed improvements, and establishing cost-benefit bases for analyses and comparisons.

Supporting Knowledge and Skills

a. Discuss the essential elements for planning of S&S programs.

b. Discuss the parts of the S&S Management Plan.

c. Discuss the DOE's fundamental approach to protecting nuclear weapons and components, Special Nuclear Material (SNM), or targets subject to radiological or toxicological sabotage.

d. Discuss the purpose of an armed Protective Force (PF).

e. Discuss the concept of the tactical doctrine.

f. Discuss the purpose of the Tactical Response Force (TRF).

16. Safeguards and security personnel must demonstrate a familiarity level knowledge of the requirements of the Homeland Security Advisory System outlined in Homeland Security Presidential Directive-3, (HSPD-3), dated 3-11-02, and provides the responses specified in Presidential Decision Directive 39, *U.S. Policy on Counterterrorism* (U), dated 6-21-95.

Supporting Knowledge and Skills

a. Describe the meaning and use of threat indicators and Graded Security Protection (GSP) [formerly the Design Basis Threat (DBT)].

b. Describe the DOE SECON system and the measures to be taken in the five levels.

17. Safeguards and security personnel must demonstrate a familiarity level knowledge of the objective and elements that are contained in a Site Safeguards and Security Plan (SSSP), Site Security Plan (SSP), and Non-Possessing Security Plan.

Supporting Knowledge and Skills

a. Discuss the application, scope, and purpose of a SSSP.

b. Discuss the following elements of a SSSP:

- Site Description and Mission
- Site Threat Description and Target Identification
- Site Protection Strategies
- Physical Protection Systems
- Site PF
- Material Control and Accountability (MC&A) Program
- Site Personnel Security and Human Reliability Programs
- Automated Information Security Program
- S&S Equipment Maintenance and Testing Programs
- Site Protection Evaluation Program
- Deviations from DOE Directives
- Summary of Vulnerability Assessment (VA) and Risk Assessment Results

c. Discuss the application, scope, and purpose of a SSP.

d. Discuss the difference between the SSSP and the SSP.

e. Discuss the plan review and approval process.

f. Discuss the application, scope, and purpose of a non-possessing security plan.

18. Safeguards and security personnel must demonstrate a familiarity level knowledge of the objective and elements that are contained in a SSSP Resource Plan (RP).

Supporting Knowledge and Skills

a. Discuss the objective of the SSSP RP.

b. Describe the contents of the following RP elements:

- Operational Requirements

- Capital Equipment
- General Plan Projects
- Line Item Construction Projects
- Unfunded/Unsupported Requirements
- Data to be included in the RP

19. Safeguards and security personnel must demonstrate a familiarity level knowledge of the objective and elements that are contained in the VA Program.

Supporting Knowledge and Skills

a. Discuss the objectives for conducting a VA.

b. Discuss the determination and reporting requirements of system effectiveness.

c. Discuss the following levels of security system effectiveness:

- Low protection system effectiveness
- Marginal protection system effectiveness

d. Describe the purpose and application of the VA modeling tools.

e. Describe the purpose and application of the system performance effectiveness equation.

20. Safeguards and security personnel must demonstrate a familiarity level knowledge of the objective and elements that are contained in the Performance Assurance Program.

Supporting Knowledge and Skills

a. Discuss the following essential S&S protection elements validated by the Performance Assurance Program:

- Operability and effectiveness
- Continuity
- Reliability
- Performance tests
- Documentation

b. Discuss the objectives of the Performance Assurance Program Plan.

21. Safeguards and security personnel must demonstrate a familiarity level knowledge of the objective and elements contained in the DOE Oversight Policy.

Supporting Knowledge and Skills

a. Discuss the purpose and general requirements of the DOE Oversight Policy.

b. Describe the four essential elements of the DOE Oversight Model.

c. Describe the following security assurance activities:

- Assessments (including self-assessments or management assessments, operational awareness or management walk-throughs, quality assurance assessments, and internal independent assessments)
- Event reporting (including reporting, analyzing, and trending operational events)
- Worker feedback mechanisms
- Issues management (including analysis of causes, identification of corrective actions, corrective action tracking, monitoring and closure, verification of effectiveness, trend analysis, and identification of continuous improvement opportunities)
- Lessons learned

d. Discuss the activities conducted in contractor S&S oversight assessments.

22. Safeguards and security personnel must demonstrate a familiarity level knowledge of the objectives and elements that are contained in the surveys, reviews, and self-assessments conducted by different levels of DOE management.

Supporting Knowledge and Skills

a. Discuss the objectives of the survey, review, and self-assessment programs.

b. Discuss the various types and frequencies of the following surveys and assessments:

- Initial surveys
- Periodic surveys
- Special surveys
- Termination surveys
- Periodic reviews
- Self-assessments
- Reviews or inspections by other DOE elements or Other Government Agencies (OGA)
- Extension of frequency

c. Discuss the following activities and the methods that must be included in surveys and assessments:

- Compliance
- Performance
- Comprehensiveness
- Determinations of survey scope predicated on the nature or status of operations at the facility, activity, or element being surveyed

d. Discuss the survey or self-assessment procedures that must be developed, documented, approved by the Cognizant Security Authority (CSA), and performed including the following:

- Team composition
- Planning, scheduling, and integration
- Validation
- Exit briefing

e. Discuss the definition of the term “findings” as it relates to surveys, reviews, or self-assessment programs.

f. Discuss the requirements for the administration of the identified finding.

g. Discuss the following types of ratings that must be used for all surveys (except termination), reviews, and self-assessments:

- Satisfactory
- Marginal
- Unsatisfactory
- Inspection Ratings
- Does Not Apply (DNA)
- Not Rated (NR)

h. Discuss the factors used to determine the assigned ratings.

i. Discuss the items that must be contained in the following reports:

- Initial/periodic survey and self-assessment
- Special survey
- Non-possessing facilities
- Termination survey
- Memorandum

23. Safeguards and security personnel must demonstrate a familiarity level knowledge of the Foreign Ownership, Control, or Influence (FOCI) program requirements and criteria to facilitate the initial and continued Facility Clearance (FCL) eligibility of U.S. companies with or without foreign involvement.

Supporting Knowledge and Skills

a. Discuss the objectives of the FOCI Program.

b. Discuss the entities required to obtain FOCI determinations.

c. Discuss the DOE Acquisition Regulation (DEAR) restrictions on awarding of classified contracts prior the issuance of a FCL.

d. Describe the procedures for using the Department’s electronic system for applicants to submit FOCI information to DOE in an electronic format.

24. Safeguards and security personnel must demonstrate a familiarity level knowledge of the policies and procedures for FCLs and registration of S&S activities.

Supporting Knowledge and Skills

a. Discuss the eligibility requirements of the FCL Program.

b. Discuss the activities that occur on premises occupied by the Department or its contractors that require an FCL.

c. Discuss the procedures used to register FCL information in the Safeguards and Security Information Management System (SSIMS).

d. List the company officials that must be granted access authorizations in order for the company to qualify for an FCL involving classified information or matter, or SNM.

e. Define the term “non-possessing facility.”

25. Safeguards and security personnel must demonstrate a familiarity level knowledge of the policies and procedures for facility importance ratings.

Supporting Knowledge and Skills

a. Discuss the following importance rating criteria:

- “A” importance ratings
- “B” importance ratings
- “C” importance ratings
- “D” importance ratings
- “E” (Excluded Parent) importance ratings
- “PP” (Property Protection) importance ratings
- “NP” (Non-Possessing) importance ratings

b. Discuss the upgrading and downgrading of a facility’s assigned importance rating.

26. Safeguards and security personnel must demonstrate a familiarity level knowledge of the S&S Training Program.

Supporting Knowledge and Skills

a. Discuss the objectives of the S&S Training Program.

b. Discuss the following requirements of the S&S Training Program:

- Key program elements
- Job analysis
- Testing
- Training content
- Training course development.
- Training Approval Program (TAP)
- Training records management
- Training plans

27. Safeguards and security personnel must demonstrate a familiarity level knowledge of the S&S Awareness Program.

Supporting Knowledge and Skills

a. Discuss the objectives and requirements of the S&S Awareness Program.

b. Discuss the following types of briefings required by the S&S Awareness Program:

- Initial briefing
- Comprehensive briefing
- Refresher briefing
- Termination briefing

c. Discuss the administration, retention, and storage of the Classified Information Nondisclosure Agreement (SF 312).

28. Safeguards and security personnel must demonstrate a familiarity level knowledge of the policies and procedures contained in the Control of Classified Visits Program.

Supporting Knowledge and Skills

a. Discuss the procedures that must be in place at the local level for the control of classified visits.

b. Discuss the policies and procedures for classified visits by Departmental employees, contractors, and subcontractors.

c. Discuss the policies and procedures for classified visits to Department of Defense (DoD) and National Aeronautics and Space Administration (NASA) facilities.

d. Discuss the policies and procedures for Restricted Data (RD) visits by Nuclear Regulatory Commission (NRC) employees.

e. Discuss the policies and procedures for RD and other classified visits by DoD, NASA, and OGA employees.

f. Discuss the policies and procedures for Congressional and State classified visits.

g. Discuss the policies and procedures for emergency visits to classified areas and facilities.

29. Safeguards and security personnel must demonstrate a familiarity level knowledge of the policies and procedures, coordination, and approval levels that must be applied to any deviations from DOE S&S Program directive requirements.

Supporting Knowledge and Skills

a. Discuss the approval process for deviations from DOE S&S Program directive requirements.

b. Describe the policies and procedures for obtaining approval for variances, wavers, exceptions, and deviations from the site S&S Program directive requirements.

30. Safeguards and security personnel must demonstrate a familiarity level knowledge of the policies and procedures contained in the Incidents of Security Concern Program.

Supporting Knowledge and Skills

a. Discuss the objectives of the Incidents of Security Concern Program.

b. Discuss the elements that provide the basis for identification and categorization of incidents of security concern.

c. Discuss the incidents of security concern reporting requirements.

d. Discuss the authorization and limits of authority of inquiry officials.

e. Discuss the policies and procedures for cooperating with Federal, state, and local law enforcement personnel.

f. Discuss the actions that must be taken when conducting inquiries into incidents of security concern.

g. Discuss the requirements for inquiries into compromise of, potential compromise of, or missing classified information.

h. Discuss the required damage assessment procedures and the contents of the damage assessment reports.

31. Safeguards and security personnel must demonstrate a familiarity level knowledge of the Unclassified Visits and Assignments of Foreign Nationals program.

Supporting Knowledge and Skills

a. Discuss the policies and procedures for visits and assignments by foreign nationals.

b. Discuss the controls in place regarding the issuance of access badges for foreign nationals.

c. Discuss the policies and procedures for escorting foreign nationals.

d. Discuss the system for communicating between the various site organizations to ensure appropriate control and oversight of foreign nationals.

e. What are the prescribed timing requirements for advance notification of a visit of a foreign national?

f. Describe the processes in place for making changes to approved security plans for foreign nationals, for making changes in assigned escorts and how it is reported, and for submitting host reports.

32. Safeguards and security personnel must demonstrate a familiarity level knowledge of export controls/technology transfer requirements.

Supporting Knowledge and Skills

a. Describe conditions where export control and technology transfer are exempt from the requirements. Identify where the requirements for export controls/technology transfer are contained.

b. Discuss the systems in place to ensure there is no unauthorized access/unintentional disclosure of classified matter, SNM, and/or sensitive unclassified information/technology (including Cooperative Development Agreements and export control information).

33. Safeguards and security personnel must demonstrate a familiarity level knowledge of the PF Program and PF operations.

Supporting Knowledge and Skills

a. Discuss the planning requirements to ensure appropriate response or defense by the site PFs.

b. Discuss the purpose of the following types of PF operations:

- Security incident response
- Facility evacuation response
- Security contingency response
- Fresh pursuit for property or SNM theft

c. Describe the principle and applicability of non-Departmental law enforcement agency support.

d. Discuss the levels, associated responsibilities, and qualification requirements of PF personnel.

e. Discuss the allocation of PF personnel, at your current site, based on threat level, vulnerability analysis, etc.

f. Discuss the general guidelines for fresh pursuit.

34. Safeguards and security personnel must demonstrate a familiarity level knowledge of PF duties.

Supporting Knowledge and Skills

a. Discuss the general duties of the following three PFs levels:

- Active defense - Security Police Officer II - III
- Static defense - Security Police Officer I
- Response support - Security Officers

b. Discuss how responsibilities identified in a PF job analysis relate to proficiency in the skills and abilities necessary to perform job tasks.

c. Discuss the use of deadly force and limited arrest authority.

d. Discuss the following training requirements for an armed PF:

- Formal training
- Remedial training
- Shift training
- Training exemptions

35. Safeguards and security personnel must demonstrate a familiarity level knowledge of the missions and requirements of a Special Response Team (SRT).

Supporting Knowledge and Skills

a. Discuss the mission requirements of a SRT as they relate to the following:

- Interdiction
- Interruption
- Neutralization
- Containment
- Denial
- Recapture
- Recovery
- Pursuit

b. Discuss mission and special training requirements of Precision Rifle Forward Observer Team members and Tactical Entry Specialists.

c. Discuss the SRT program certification/recertification requirements.

36. Safeguards and security personnel must demonstrate a familiarity level knowledge of PFs equipment and facilities requirements.

Supporting Knowledge and Skills

a. Discuss the equipment and resources used to effectively and efficiently conduct routine and emergency operations.

b. Discuss the equipment and resources tailored to combat adversaries identified in the Graded Security Potection Policy.

37. Safeguards and security personnel must demonstrate a familiarity level knowledge of physical protection systems.

Supporting Knowledge and Skills

a. Discuss the three primary functions of a physical protection system.

b. Discuss the characteristics of an effective physical protection system.

c. Discuss the fundamental characteristics of exterior and interior intrusion sensors.

d. Describe the types of exterior and interior sensors used within DOE.

e. Describe the types of access control systems used within DOE.

f. Discuss the purpose of access delay in a physical protection system.

g. Describe the type of access delay mechanisms used within DOE.

h. Discuss the following terms:

- Defense-in-depth
- Probability of detection
- Delay time
- Active and passive barriers
- Complementary sensors
- Assessment
- Detection
- Compensatory measures

38. Safeguards and security personnel must demonstrate a familiarity level knowledge with the procedures used to protect nuclear weapons, components, and SNM.

Supporting Knowledge and Skills

a. Discuss the graded approach in relation to the protection of S&S interests.

b. Discuss the protection requirements for SNM.

c. Discuss the programs designed to mitigate radiological/toxicological sabotage.

d. Discuss access procedures to storage repositories.

e. Discuss procedures to prevent and detect unauthorized access to a storage repository.

f. Discuss escort responsibilities when SNM is in transit.

g. Discuss the protection standards for Category I thru IV SNM.

h. Discuss the requirements for intrusion detection and assessment systems.

39. Safeguards and security personnel must demonstrate a familiarity level knowledge of the protection of classified information.

Supporting Knowledge and Skills

a. Define classified information and classified matter.

b. Discuss the methods for protection and control of classified matter.

c. Discuss the access controls, such as need-to-know, that are established to detect and deter unauthorized access to classified matter.

d. Discuss procedures to prevent and detect unauthorized access to a storage repository.

40. Safeguards and security personnel must demonstrate a familiarity level knowledge of radiological, chemical, and biological sabotage protection programs.

Supporting Knowledge and Skills

a. Discuss the site/facility procedures for radiological, chemical, or biological sabotage protection.

b. Discuss the physical protection strategies that must be developed, documented, and implemented consistent with the GSP to protect radiological, chemical, or biological sabotage targets.

c. Discuss the prevention and mitigation measures that must be based on the results of the radiological, chemical, or biological sabotage analysis.

41. Safeguards and security personnel must demonstrate a familiarity level knowledge of security areas.

Supporting Knowledge and Skills

a. Discuss the controlled articles prohibited from security areas.

b. Discuss the level of protection, access requirements, storage requirements, and alarm response requirements given to concentric security areas and the assets they protect.

c. Discuss methods to detect, assess, deter, and prevent unauthorized access to security areas.

d. List the types of privately owned articles prohibited from a security area.

e. Discuss the specific access requirements for special designated security areas as applicable to your site.

42. Safeguards and security personnel must demonstrate a familiarity level knowledge of alarm management and control systems.

Supporting Knowledge and Skills

a. Discuss the characteristics/capabilities of alarm stations as they relate to monitoring and assessing alarms and initiating responses to incidents.

b. Discuss the following protection and access requirements for facilities holding Category I and II quantities of SNM, or other high-consequence targets as identified by VAs:

- Central Alarm Station and Secondary Alarm Station requirements
- Closed-circuit television systems
- Back-up power supplies
- Safeguards and Security Alarm Management and Control Systems (SAMACS) used in the protection of Category I and II quantities of SNM

43. Safeguards and security personnel must demonstrate a familiarity level knowledge of the security requirements for the protection and control of information and matter required to be classified or controlled by statutes, regulations, or DOE directives. The information security program includes Classified Matter Protection and Control (CMPC); Operations Security (OPSEC); Technical Surveillance Countermeasures (TSCM); security of Foreign Government Information (FGI) and Sensitive Compartmented Information (SCI); and security of special access programs.

Supporting Knowledge and Skills

a. Discuss the CMPC Program.

b. Discuss the training requirements for the CMPC program.

c. Discuss the storage requirements that apply to security containers, vaults, or Vault-Type Rooms (VTRs) that contain classified matter or other S&S interests.

d. Discuss the policies and procedures for the documentation requirements that must be met for each security container, vault, or VTR approved to store classified matter.

e. Discuss the requirements for classifying and protecting combinations for containers that store classified matter.

f. Discuss the requirements for classification review, markings, and working papers.

44. Safeguards and security personnel must demonstrate a familiarity of the policies and procedures for protection, control, reproduction, transmittal, and destruction of documents and other classified matter.

Supporting Knowledge and Skills

a. Discuss the general requirements for processing, handling, and storage of classified matter.

b. Discuss the policies and procedures pertaining to accountability of classified matter, including the purpose and requirements for inventories.

c. Discuss the proper methods for the identification of the classification level on all classified matter, including Classified Removable Electronic Media (CREM).

d. Discuss the requirements reguarding reproduction of classified documents.

e. Discuss the general rules for transmitting classified matter both internal and external.

f. Discuss the authorized types of destruction and the special requirements that must be satisfied when classified matter is destroyed.

45. Safeguards and security personnel must demonstrate a familiarity level knowledge of the policies and procedures for OPSEC.

Supporting Knowledge and Skills

a. Discuss the activities included in an OPSEC Program.

b. Discuss the identification and maintenance of Critical Program Information (CPI), including discussion of indicators of CPI.

c. Discuss the restrictions for information to be posted to publicly available web sites.

d. Discuss vulnerabilities and countermeasures.

46. Safeguards and security personnel must demonstrate a familiarity level knowledge of the access authorization (security clearance) process.

Supporting Knowledge and Skills

a. Discuss the following terms:

- Derogatory information
- Access authorization
- Types of access authorizations
- Types of background investigations
- Drug certification
- Reciprocity
- Suspension
- Administrative Review (AR)

b. Discuss the process for screening reports of investigation for “Q” and “L” access authorizations.

c. Explain the purpose of the personnel security interview.

d. Describe the tasks associated with issuing, downgrading, transferring, or extending an access authorization for access to classified matter or SNM.

e. Discuss the purpose a Report of Investigation (ROI).

47. Safeguards and security personnel must demonstrate a familiarity level knowledge of the Human Reliability Program.

Supporting Knowledge and Skills

a. Discuss the purpose of the Human Reliability Program.

b. Discuss drug testing requirements and procedures, and fitness for duty requirements.

c. Describe the process for identifying or removing positions from the Human Reliability Program.

48. Safeguards and security personnel must demonstrate a familiarity level knowledge of the MC&A Program .

Supporting Knowledge and Skills

a. Discuss the purpose of a Nuclear MC&A Program to include utilizing a graded approach to MC&A.

b. Describe the process for determining the attractiveness level and category level for the DOE approved nuclear materials.

c. Discuss the process for the termination of safeguards for SNMs.

d. Describe the purpose and program elements of a nuclear materials accounting program. Discuss the elements of a physical inventory program for nuclear materials to demonstrate that nuclear materials are present in their stated quantities and to detect unauthorized movement of nuclear materials.

e. Discuss the purpose and program elements of a nuclear materials measurements and measurement control program and why it is important to have to measurement control program.

f. Describe the purpose and program elements of a nuclear materials control program. Discuss the process or methods used to detect theft and diversion of nuclear materials.

49. Safeguards and security personnel must demonstrate a familiarity level knowledge of the DOE Cyber Security Program.

Supporting Knowledge and Skills

a. Discuss the requirements for cyber security planning.

b. Discuss the cyber risk management processes.

c. Discuss the Cyber Configuration Management Program.

d. Discuss how telecommunications security integrates with cyber security.

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 Safeguards and Security General Technical Base. It is extremely important that personnel involved with this program maintain their proficiency primarily by regularly demonstrating their competency through on-the-job performance, supplemented with 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 this standard and is not all-inclusive.

Based on the knowledge and experience of the subject matter experts, it is suggested that the following activities support the maintenance of proficiency in the Safeguards and Security General Technical Base after completion of the competencies in the standard and other requirements of the TQP.

LIST OF CONTINUING EDUCATION, TRAINING, AND OTHER ACTIVITIES

1. Continuing technical education and/or training covering topics directly related to the Safeguards and Security General Technical Base as determined appropriate by management. This may include courses/training provided by DOE, OGA, outside vendors, or local educational institutions. Continuing training topics should also address identified weaknesses in the knowledge or skills of the individual personnel.

2. Actively perform the duties of a security specialist at a DOE facility.

3. Attend seminars, symposia, or technical meetings related to S&S.

4. Engage in self-study of new regulations, requirements, or advances related to S&S.

5. Participation in practical exercises such as emergency or operational drills, simulations, or laboratory-type exercises.

6. Specific continuing training requirements must be documented in Individual Development Plans (IDPs).

7. Participate in a rotational assignment at another DOE site/facility or at Headquarters in the S&S area.

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DOE-STD-1123-2009

CONCLUDING MATERIAL

Review Activity:
EM
NNSA
NE
SC

Preparing Activity:
NA-70

Project Number:
TRNG-0068

Field and Operations Offices:
CBFO
CH
ID
ORO
ORP
RL
SR

Site Offices:
Argonne Site Office
Brookhaven Site Office
Fermi Site Office
Kansas City Site Office
Livermore Site Office
Los Alamos Site Office
NNSA Service Center
Nevada Site Office
Pantex Site Office
Savannah River Site Office
Sandia Site Office
Y-12 Site Office