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REGULATORY GUIDE

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TRAINING AND QUALIFICATION OF SECURITY PERSONNEL AT NUCLEAR POWER REACTOR FACILITIES

A. INTRODUCTION

This regulatory guide describes approaches and methodologies that the United States Nuclear Regulatory Commission (NRC) staff considers acceptable for the training and qualification of security personnel at nuclear power reactor facilities.

This regulatory guide applies to operating power reactors licensed in accordance with Title 10 of the *Code of Federal Regulations* Part 50, "Domestic Licensing of Production and Utilization Facilities" (10 CFR Part 50) (Ref. 1), and with 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants" (Ref. 2). New applicants should consider this guidance in preparing an application for a combined license under 10 CFR Part 52.

In 10 CFR Part 73, "Physical Protection of Plants and Materials," Section 73.55, "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors against Radiological Sabotage," paragraph (b), the Commission establishes design requirements for the physical protection program at nuclear power reactor facilities. The requirements of 10 CFR 73.55 include performance criteria for detecting, assessing, interdicting, and neutralizing threats up to and including the design basis threat (DBT) of radiological sabotage, thereby preventing significant core damage and spent fuel sabotage. Consistent with 10 CFR 73.55(c)(4), licensees must establish, maintain, implement and follow a Commission-approved training and qualification plan which describes how the licensee will implement the criteria in Section VI, "Nuclear Power Reactor Training and Qualification Plan for Personnel Performing Security Program Duties," of Appendix B, "General Criteria for Security Personnel."

Licensees and applicants should use this guidance to select, train, equip, test, qualify, and re-qualify armed and unarmed security personnel, watchpersons, and other members of their security organization to ensure that these individuals possess and maintain the knowledge, skills, and abilities required to carry out their assigned duties and responsibilities effectively.

This regulatory guide contains information collection requirements covered by 10 CFR Parts 50, 52, 72, and 73 that the Office of Management and Budget (OMB) approved under OMB control numbers 3150-0011, 3150-0151, 3150-0132, and 3150-0002, respectively. The NRC may neither conduct nor sponsor, and a person is not required to respond to, an information collection request or requirement unless the requesting document displays a currently valid OMB control number.

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B. DISCUSSION

Background

This guide applies to operating reactors licensed consistent with 10 CFR Part 50 and 10 CFR Part 52. The specific regulatory requirements for nuclear power reactor physical protection programs appear in 10 CFR Part 73 (for the purposes of this document, physical protection program refers to the prevention of significant core damage and spent fuel sabotage, implementation of the Commission-approved security plans, licensee response strategy, and implementing procedures). Licensee and applicant training and qualification plans must describe how the requirements in Section VI of Appendix B to 10 CFR Part 73 will be implemented. Consistent with 10 CFR 73.55(d)(3)(i) and Section VI, paragraph A.2, of Appendix B to 10 CFR Part 73, the licensee must ensure that security personnel are adequately trained, equipped, and qualified to effectively perform their assigned duties and responsibilities related to the implementation of the site physical protection program and protective strategy, consistent with NRC regulations and NRC-approved security plans. The performance-based requirements of Section VI of Appendix B to 10 CFR Part 73 provide the minimum training and qualifications for individuals assigned to implement the physical protection program at NRC-licensed nuclear power reactor facilities. Implementation of these requirements at each site must consider site-specific conditions to ensure that the licensee's training and qualification program provides the site-specific knowledge, skills, and abilities that individuals need to effectively protect against the DBT of radiological sabotage.

Systematic Approach to Training

Acceptable training methodologies include the following:

a Performance-Based Training,
b Instructional Systems Design,
c Criterion Referenced instruction, and
d Training Systems Development.

The following example from the Institute of Nuclear Power Operations shows one approach or method that the NRC staff has found acceptable. This example is intended to generically represent the Systematic Approach to Training (SAT).

Example: Training System Development
Training System Development (TSD) represents one approach to training and qualification. This overview describes the TSD model and its inputs, methods, and products. Subsequent pages summarize TSD analysis, design, development, implementation, and evaluation phases. Activities within each phase are discussed, and their respective products are identified. Although shown in the sequence appropriate for initial development, TSD activities should be period based on the status of existing programs and other practical constraints. TSD offers a framework for action. When used to complement existing efforts and guide new developments, it can help improve training system performance.

ANALYSIS provides a method of responding to changes in human resource requirements, solving job performance problems, and learning from operating experience. It begins by gathering the facts needed to make informed training development decisions. This is necessary to make sure that apparent concerns can be resolved through training. If the facts confirm a valid training need, job analysis uses existing job data and incumbent employees to identify and rate job tasks. Tasks rated difficult and important are selected for training. Their exact methods of correct performance and underlying competencies are then determined

through task analysis. Completing this process reveals reliable information on safe work practices. The skills, knowledge, and attitudes identified provide a task-specific content reference for both new and existing programs.

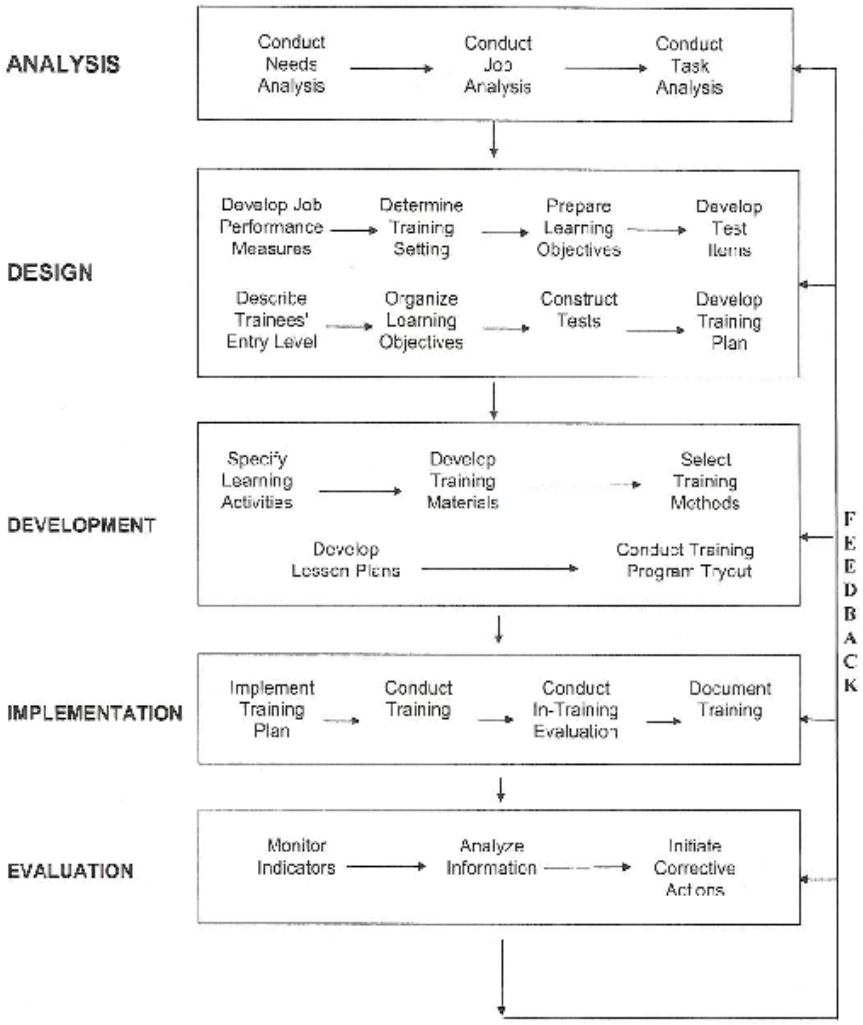
DESIGN uses the task performance information collected during analysis to specify, in measurable terms, the job skills, knowledge, and attitudes that training will develop in the learner. Job performance measures are prepared for each task. By defining how individual tasks are performed, they focus training development efforts and support in plant training and qualification. Learning objectives are developed for groups of task related knowledge and skills. These written statements define exactly when, what, and how well the trainee must perform during training. Tests are produced to ensure that these competencies are reliably evaluated. Together, these measures of observable employee behavior serve as the program design basis. Decisions on training setting, trainee entry qualifications, and organization of learning objectives are also made. Design concludes with the development of a training plan.

DEVELOPMENT organizes the instructional materials needed for trainees to achieve the learning objectives. Emphasis is on maximizing the use of existing materials and resources. Instructor and trainee activities are defined using the job performance measures, learning objectives, and tests produced in design. These activities describe how the instructor and trainees will perform during training to achieve the learning objectives. Existing, suitable training materials and lesson plans are selected, and new ones are produced as required. Resulting training materials are reviewed for technical accuracy, tried out with a group of trainees, and revised as necessary. Performance-based training materials are the products of this phase.

IMPLEMENTATION is the process of putting training programs into operation. It begins by activating the training plan. Instructors are selected and trained, and the availability of trainees, facilities, and resources is confirmed. Training is delivered as planned, and trainee and instructor performance is evaluated. These evaluations serve two purposes. First, they verify that trainees have achieved the learning objectives. Second, instructor performance problems can be detected and solved. Key records are maintained to support management information needs and to document the performance both of trainees and instructors.

EVALUATION ensures training's continuing ability to produce qualified employees. By monitoring such indicators as employee job performance, plant and procedure changes, and operating experience, evaluation helps maintain and improve the training program. It is the dynamic process of assessing performance, identifying concerns, and initiating corrective actions. The program feedback it yields enables training to respond adaptively to unforeseen problems or changing conditions. Completing evaluation steps produces the performance data and feedback vital to any training system.

ADDIE Model (Analysis Design Development Implementation and Evaluation)



Reference

Training System Development Model Overview, September 1993 ACADEMY DOCUMENT, 84-032

C. REGULATORY POSITION

1. General Requirements and Introduction

a. In accordance with 10 CFR Part 73, Appendix B, Section I, power reactor licensees and applicants subject to 10 CFR 73.55 must comply with the requirements in Section VI of Appendix B to 10 CFR Part 73, and these licensees may consider the approaches and methodologies addressed in this regulatory guide for developing and implementing a site-specific training and qualification program. Applicants for an operating license may consider the approaches and methodologies addressed in this regulatory guide for preparing an application for a combined license to meet the requirements of 10 CFR Part 52.

b. Licensees may consider using approaches and methodologies other than those described in this regulatory guide provided that the chosen approaches and methodologies satisfy applicable NRC requirements. The approaches and methodologies described in this regulatory guide provide one method for satisfying NRC requirements addressed in Section VI of Appendix B to 10 CFR Part 73, for training and qualification of security personnel at nuclear power reactor facilities. The regulatory requirements discussed here include (1) minimum employment suitability and qualification, (2) minimum physical qualifications, (3) minimum psychological qualifications, (4) re-qualification of individuals, (5) duty and on-the-job training, (6) weapons and tactical response training, exercises, and drills, (7) demonstration of individual knowledge, skills, and abilities, (8) readiness of individuals to perform assigned duties and responsibilities, (9) maintenance of equipment, (10) maintenance and retention of program records, and (11) the conduct of reviews and self-audits.

c. The primary duties and responsibilities of security personnel are to execute the licensee's physical protection program. According to Section VI, paragraph A.1, of Appendix B to 10 CFR Part 73, each licensee must ensure that the personnel assigned to implement the physical protection program meet minimum training and qualification requirements and that each individual has the knowledge, skills, and abilities required to carry out duties and responsibilities assigned to him or her. The purpose of the training and qualification plan is to describe how each licensee will meet the minimum training and qualification requirements at its site and to establish the site-specific training and qualifications guidelines needed to ensure that each individual is properly suited, trained, equipped, and qualified to effectively perform assigned duties and responsibilities.

d. The licensee may consider establishing a methodology for identifying and accounting for site-specific conditions.

e. The identification of site-specific conditions will aid the licensee in determining the specific actions, duties, and responsibilities required to sustain the effectiveness of the physical protection program. Site-specific conditions must be accounted for in the development of the site training and qualification program. Section VI, paragraph A.5, of Appendix B to 10 CFR Part 73 requires that armed security personnel be trained and qualified with equipment equivalent to that required to implement the site protective strategy and that site-specific training activities simulate, as closely as practicable, the site-specific conditions under which those duties and responsibilities will be performed during both normal and contingency operations. Any changes to site-specific conditions that occur over time should be identified and reviewed for applicability when planning training activities.

f. Consistent with Section VI, paragraph A.6, of Appendix B to 10 CFR Part 73, the licensee may

not allow any individual to assume security duties and responsibilities until that person has satisfied the minimum Commission training and qualification requirements. The Commission also recognizes that knowledge, skills, and abilities are perishable or can be lost or forgotten over time. To ensure that individuals maintain knowledge, skills, and abilities after their initial qualification, the licensee training and qualification program should also provide for periodic re-qualification and remedial training, as needed. When determining appropriate training frequencies, the licensee should consider the perishable nature of each knowledge, skill, or ability and give the greatest attention to those that are not used for long periods of time (i.e., between training cycles) but are critical when needed and are most likely to be necessary under high-stress conditions.

g. Consistent with Section VI, paragraph A.7, of Appendix B to 10 CFR Part 73, training requirements must be scheduled on an annual basis (as defined in the glossary).

2. Employment Suitability and Qualification

a. Consistent with Section VI, paragraph B.1, of Appendix B to 10 CFR Part 73, individuals who are assigned security duties and responsibilities must meet minimum requirements to determine their initial and continued suitability (i.e., acceptability) and to ensure that they are and continue to be qualified (i.e., proven capable) to provide the required services before employment or assignment to the security organization. To accomplish this, the licensee security personnel training and qualification program should ensure that personnel performing security functions achieve and maintain an acceptable level of professional competence in the performance of requisite duties and responsibilities that are integral to the licensee's physical protection program and to the effective implementation of the NRC-approved security plans.

b. Consistent with Section VI of Appendix B to 10 CFR Part 73, the licensee must document each individual's qualification as a record of that individual's demonstrated abilities. Qualified personnel must record the suitability and qualification of each individual to perform assigned duties and responsibilities.

2.1 Suitability

a. Section VI, paragraph B.1.a.(1), of Appendix B to 10 CFR Part 73 addresses the Commission's suitability requirements. Consistent with these requirements and before an individual can be employed by, or assigned to, the security organization, the licensee must verify that the individual possesses, as a minimum, a high school diploma or has passed an equivalent performance examination. The Commission has determined that a General Education Development (GED) test designed to measure basic job-related mathematical, language, and reasoning skills is an acceptable alternative to a high school diploma.

b. In addition, Section VI, paragraph B.1.a.(2), of Appendix B to 10 CFR Part 73 requires members of the security organization to have reached the age of 21 before they can be assigned duties and responsibilities involving the possession or use of a firearm and to have attained the age of 18 before they can be assigned duties and responsibilities in an unarmed capacity. The licensee may consider establishing and implementing reasonable process and verification requirements to satisfy this requirement and confirm the age of potential employees before employment or assignment.

c. To determine suitability, a background check must be completed for security personnel who are assigned duties and responsibilities involving the possession of firearms. Licensees may use the results of background investigations as directed by 10 CFR 73.56, "Personnel Access

Authorization Requirements for Nuclear Power Plants," and 10 CFR 73.57, "Requirements for Criminal History Checks of Individuals Granted Unescorted Access to a Nuclear Power Facility or Access to Safeguards Information by Power Reactor Licensees," to supplement the background check in determining suitability.

d. To satisfy Section VI, paragraph B.1.a.(3), of Appendix B to 10 CFR Part 73, the licensee must ensure that members of the security organization do not have felony convictions that reflect negatively on the individual's trustworthiness and reliability to perform their assigned duties and responsibilities consistent with Commission regulations. The licensee should adjudicate potentially derogatory information about an individual consistent with 10 CFR 73.56, whether such information is obtained during pre-employment application or after hiring. In addition, as outlined in the Violent Crime Control Act of 1994 (Public Law 103-322, H.R. 3355) and the Lautenberg Amendment (1996) to the Gun Control Act (Public Law 104-208, 18 U.S.C. § 922(g)(9)), the licensee should ensure that armed members of the security organization do not have any felony convictions involving the use of any type of weapon or any legal restraints preventing the possession of a firearm consistent with the requirements of the U.S. Department of Justice and the Bureau of Alcohol, Tobacco, Firearms, and Explosives.

2.2 General Physical Qualifications

Consistent with Section VI, paragraph B.2, of Appendix B to 10 CFR Part 73, personnel assigned security duties and responsibilities must demonstrate, before assignment to the security organization, the necessary physical qualifications to effectively perform those assigned duties. Personnel may not have any physical conditions that would adversely affect their ability to perform their assigned duties within required performance standards and, as described in Sections 2.3 through 2.7 of this document.

2.3 Physical Examination

Consistent with Section VI, paragraphs B.2.a.(1) through (4) and B.5.a, of Appendix B to 10 CFR Part 73, before assignment, and annually thereafter, all individuals who are performing security functions for the security organization must be subject to a physical examination administered by a licensed health professional, with final determination being made by a licensed physician. The purpose of this physical examination is to verify the individual's physical capability to perform assigned duties and responsibilities as identified in Commission-approved security plans and implementing procedures. Physical examinations should be commensurate with assigned duties, and the licensed health professional administering the examination should have knowledge of the assigned security duties. Personnel not assigned to the security organization who are performing watchman-type duties required to implement the physical protection program (i.e., personnel performing material searches and personnel assigned to perform vehicle escort duties) must also have physical examinations. In such cases, physical examinations should be limited to the physical attributes required to perform the specific security function. Licensees and licensed health professionals should consider the physical demands associated with security duties when certifying the individual's physical capability to perform them. The following are examples of factors the licensed health professional should consider when conducting medical certifications for duty within the security organization:

(1) physical fitness test,
(2) firearms activities to include the tactical course of fire,
(3) central alarm and secondary alarm station activities,
(4) contraband searches to include vehicle searches,
(5) equipment that individuals need to carry, wear, or operate,

(6) protected and vital area posts and patrol routes, and
(7) the ability to respond to contingency events.

2.4 Vision and Hearing

Section VI, paragraphs B.2.b and B.2.c, of Appendix B to 10 CFR Part 73 requires the licensee to ensure that individuals who are assigned security duties and responsibilities meet these minimum requirements for vision and hearing to effectively perform their duties and responsibilities. Personnel who exhibit a mild color vision defect or minor hearing loss may be subject to a performance-based evaluation to determine if they can meet the required performance standards. The results of this evaluation should be documented.

2.5 Existing Medical Conditions

Consistent with Section VI, paragraph B.2.d, of Appendix B to 10 CFR Part 73, individuals should not have an established medical history or medical diagnosis of existing medical conditions that could interfere with or prevent the individual from effectively performing assigned duties and responsibilities. If a medical condition exists, the individual must provide medical evidence that the condition can be controlled with medical treatment in a manner that does not adversely affect the individual's fitness-for-duty, mental alertness, physical condition, or capability to otherwise effectively perform assigned duties and responsibilities.

2.6 Addiction

Consistent with Section VI, paragraph B.2.e, of Appendix B to 10 CFR Part 73, individuals should not have any established medical history or medical diagnosis of habitual alcoholism or drug addiction. Where this type of condition has existed, the individual must provide certified documentation of the completion of a rehabilitation program that would give a reasonable degree of confidence that the individual would be able to perform assigned security job duties. Additional Commission requirements for certification regarding fitness-for-duty appear in 10 CFR Part 26, "Fitness for Duty Programs."

2.7 Other Physical Requirements

Consistent with Section VI, paragraph B.2.f, of Appendix B to 10 CFR Part 73, individuals assigned duties and responsibilities for the security organization who have been incapacitated as the result of a serious illness, injury, disease, or medical operation, which could interfere with the effective performance of assigned duties and responsibilities, must, before resuming their assigned duties, provide documented medical evidence of recovery and ability to perform their duties and responsibilities. A licensed health professional familiar with the specific physical demands of security-related duties and responsibilities at a nuclear facility should concur that the individual is able to perform assigned duties before these individuals are allowed to return to a duty status.

2.8 General Psychological Qualifications

Individuals responsible for implementing the site security plans must demonstrate the required psychological qualifications consistent with Section VI, paragraph B.3, of Appendix B to 10 CFR Part 73.

2.9 Medical Examinations and Physical Fitness Test

a. Consistent with Section VI, paragraph B.4.a, of Appendix B to 10 CFR Part 73, armed members

of the security organization must be subject to a medical examination by a licensed physician to determine their fitness to participate in physical fitness tests. This examination may be administered by a licensed health professional with the final determination being made by a licensed physician to verify the individual's physical capability to perform assigned duties and responsibilities. Consistent with Section VI, paragraph B.4.(1), of Appendix B to 10 CFR Part 73, the licensee must obtain and retain a written certification from the licensed physician that the medical examination detected no medical conditions that would preclude the individual from participating in the physical fitness tests or meeting the physical fitness attributes or objectives associated with assigned duties.

b. Consistent with Section VI, paragraph B.4.b, of Appendix B to 10 CFR Part 73, before assignment, armed security personnel must demonstrate they are physically fit to perform assigned security-related duties through the conduct of a practical physical fitness test. As required by Section VI, paragraph B.4.b(1), of Appendix B to 10 CFR Part 73, the physical fitness test must include elements that simulate site-specific, scenario-specific, or task-specific conditions and actions associated with the required performance standards. To ensure the effectiveness of the physical protection program, these simulated elements should equate to the normal and emergency conditions that could be encountered.

c. Consistent with Section VI, paragraph B.4.b(2), of Appendix B to 10 CFR Part 73, the licensee must describe the physical fitness test to be used in its Commission-approved training and qualification plan. Implementing procedures should contain the site-specific details of the physical fitness test, which is subject to NRC inspection. Implementing procedures must include the physical attributes and performance objectives that demonstrate the strength, endurance, and agility required of the individual to effectively perform the assigned security-related duties. Each licensee should identify and analyze its site-specific conditions to determine the appropriate elements to be applied for training purposes.

d. Consistent with Section VI, paragraph B.4.b(4), of Appendix B to 10 CFR Part 73, the licensee must document each individual's physical fitness qualification and retain this documentation in accordance with Commission requirements.

2.10 Physical Re-qualification

Individuals assigned security duties and responsibilities must meet the requirements for physical re-qualification in Section VI, paragraph B.5, of Appendix B to 10 CFR Part 73.

2.11 Documentation

a. A qualified training instructor must document the qualification of each individual to perform assigned duties and responsibilities. A security supervisor must attest to this qualification.

b. This record should be based on personal observation or input from (1) other qualified training organization personnel, (2) subject matter experts or field training officers, or (3) a medical, psychological, or other professional who is qualified to make such determinations consistent with NRC regulations and applicable local, State, and Federal laws to provide suitability and qualification determinations for the category of information addressed by the record.

3. Individual Training and Qualification for Duty

Consistent with Section VI, paragraph C.1, of Appendix B to 10 CFR Part 73, all personnel who are assigned to perform security-related duties or responsibilities must be trained and qualified to perform assigned duties and responsibilities. Security-related duties and responsibilities include, but are not limited to, those identified in the NRC-approved security plans, site protective strategy, and physical protection program implementing procedures. This training and qualification should ensure that each individual has the minimum knowledge, skills, and abilities required for effective performance of assigned duties and responsibilities. This requirement includes facility personnel assigned to perform security-related duties such as, but not limited to, material searches and vehicle escort. To accomplish this, each individual's training criteria should include both general and position-specific training determined to be necessary for the effective implementation of the physical protection program and Commission-approved security plans during routine, emergency, and threat situations, including response strategies.

3.1 Critical Function Job Tasks

a. Consistent with the requirements of Section VI, paragraph C.1, of Appendix B to 10 CFR Part 73, the licensee must identify, in the NRC-approved training and qualification plan, the tasks that must be performed to provide a specified security function and the knowledge, skills, and abilities required by assigned personnel to ensure that the intended function can be performed.

b. Before performing security-related duties within the security organization, each officer must be trained and qualified to perform those critical tasks applicable to their duty position.

c. The security training program must contain a list of elements that support each task and identify specific knowledge, skills, and abilities to be met for each qualification.

d. During the analysis phase, those responsible for security training should develop a comprehensive list of training elements for each of the critical tasks listed in the training and qualification plan. The table in Attachment 1 provides an example of in-depth training task list for the key positions in the security organization.

e. The following codes are used in the "Performance Method" column of the table in Attachment 1:

   (1) M—Must Perform: The individual must actually perform the indicated task under the supervision of a qualified individual. This element or critical task must be performed annually and is not subject to the SAT analysis process.

   (2) P—Perform: The individual performs the actual task. However, where there is an alternate approach listed, then that may be used to demonstrate adequate ability to perform the task (e.g., written examinations).

   (3) S—Simulate: The individual simulates, under realistic conditions, the completion of the indicated task.

   (4) D—Discuss: The individual must be orally examined to determine the adequacy of knowledge to perform the indicated task.

f. Where multiple codes are listed, the code listed first is the preferred option and should be followed, unless personnel safety or plant operations would be adversely affected. If this is the

case, then the evaluator should document the need to invoke the alternate method. "Must Perform" steps cannot be changed to "Simulate" or "Discuss."

g. The licensee's Commission-approved training and qualification plan should reflect the 28 critical tasks listed in Table 1 of the attachment, unless the task is not applicable to the security program at a specific facility. Licensees may consider adding additional tasks to their Commission-approved training and qualification plan based on site-specific duties (e.g., spent fuel transfer to an independent spent fuel storage installation).

3.2 Security Personnel Training

a. To satisfy Section VI, paragraph C.1.a, of Appendix B to 10 CFR Part 73, the licensee must describe in the NRC-approved training and qualification plan those areas of knowledge, skills, and abilities required by security personnel to carry out their assigned duties and responsibilities. In accordance with 10 CFR 73.55(d)(3) and (d)(3)(i), the licensee shall provide training through licensee training programs to each individual that implements any part of the physical protection program to ensure each individual is trained, qualified, and periodically re-qualified to perform assigned duties.

b. The licensee may consider the following listing of security program topic areas during the development of site-specific critical tasks:

(1) protection of nuclear facilities and special nuclear material (SNM),
(2) NRC requirements and guidance for physical security at nuclear facilities,
(3) the role of private security officers in providing physical protection for the nuclear industry,
(4) authority of private officers,
(5) use of nonlethal weapons,
(6) use of deadly force as authorized by State or Federal law,
(7) power of arrest and authority to detain individuals consistent with local, State, and Federal laws,
(8) authority to search individuals and seize property,
(9) adversary group operations,
(10) motivation and objectives of adversary groups,
(11) tactics and force that adversary groups might use to achieve their objectives,
(12) recognition of sabotage-related devices and equipment that might be used against the licensee's facility,
(13) facility security organization and operation,
(14) types of physical barriers,
(15) weapons and lock and key control system operation,
(16) location of SNM and/or vital areas within a facility,
(17) protected area security and vulnerability,
(18) types of alarm systems used,
(19) response to and assessment of alarm annunciations and other indications of intrusion,
(20) general concepts of security systems,
(21) vulnerabilities and consequences of theft of SNM or radiological sabotage of a facility,
(22) protection of security system information,
(23) personal equipment use and operation for normal and contingency operations,
(24) surveillance and assessment systems and techniques,
(25) communications systems and operation,

(26) access control systems and operation for individuals, packages, and vehicles,
(27) contraband detection systems and techniques,
(28) barriers and other delay systems around protected access or vital areas,
(29) exterior and interior alarm systems operation,
(30) duress alarm operation,
(31) alarm stations operation,
(32) response force organization,
(33) response force mission,
(34) response force operation,
(35) response force engagement,
(36) security command and control system during normal operation,
(37) security command and control system during contingency operation,
(38) fixed-post station operations,
(39) access control system operation,
(40) search techniques and systems for individuals, packages, and vehicles,
(41) escort and patrol responsibilities and operation,
(42) contingency response to confirmed intrusion or attempted intrusion,
(43) security system operation after component failure,
(44) security coordination with law enforcement agencies (local, State, and Federal),
(45) security and situation reporting, documentation, and report writing,
(46) contingency duties,
(47) self-defense,
(48) use of and defenses against incapacitating agents,
(49) security equipment testing,
(50) contingency procedures,
(51) night-vision devices and systems,
(52) mechanics of detention,
(53) basic armed and unarmed defensive tactics,
(54) response force deployment,
(55) security alert procedures,
(56) security briefing procedures,
(57) response force tactical movement,
(58) response force withdrawal,
(59) response force use of support fire,
(60) response to bomb and attack threats,
(61) response to civil disturbances (e.g., strikes, demonstrations),
(62) response to confirmed attempted theft of SNM and/or radiological sabotage of facilities,
(63) response to hostage situations,
(64) response to tampering events,
(65) site-specific armed tactical procedures and operation, and
(66) security response to emergency situations other than security incidents.

3.3 Training of Facility Personnel

In accordance with Section VI, paragraph C.1.a, of Appendix B to 10 CFR Part 73, facility personnel who perform a security-related duty or responsibility shall be trained and qualified to perform assigned duties and responsibilities. Facility personnel should be trained and qualified to perform only those critical task elements applicable to the security duty position they will fulfill as identified in Section 3.1 of this regulatory guide. Facility personnel must be requalified consistent with Section VI, paragraph D.2, of Appendix B to 10 CFR Part 73 and the Commission-approved training and qualification

plan. The licensee should use the same training methodology, delivery, and implementation to train and qualify facility personnel on specific security-related critical tasks as used to train security personnel in the performance of similar critical tasks.

4. On-the-Job Training

a. Consistent with the requirements of Section VI, paragraph C.2, of Appendix B to 10 CFR Part 73, the licensee training and qualification program must include on-the-job training (OJT) performance standards and criteria to ensure that each individual demonstrates the requisite knowledge, skills, and abilities for effective performance of assigned duties and responsibilities. The licensee should implement OJT to ensure that individuals have a basic level of hands-on experience in nuclear security functions before they are considered qualified and assigned duties and responsibilities. Licensees may consider the use of a formalized OJT checklist to identify those duties and responsibilities associated with each duty position and job task. Typically, qualified security training instructors and field training officers and/or subject matter experts (SMEs) designated by the security training staff conduct the OJT. A security supervisor must attest to all OJT, and the records must be documented by a qualified training instructor and retained consistent with 10 CFR 73.70, "Records."

b. Individuals who are assigned duties and responsibilities related to implementing the safeguards contingency plan (e.g., response team leaders, alarm station operators, armed responders, and armed security officers designated as a component of the protective strategy) must complete 40 hours of OJT (consistent with Section VI, paragraph C.2.b, of Appendix B to 10 CFR Part 73), in which each individual will be required to demonstrate his or her ability to apply the knowledge, skills, and abilities required to effectively implement the site protective strategy. OJT contingency activities and drills must, at a minimum, meet the criteria listed in Section VI, paragraph C.2.c, of Appendix B to 10 CFR Part 73. Trained and qualified security personnel reassigned or promoted to new or additional duties and responsibilities should receive OJT commensurate with the newly assigned duty positions (e.g., through the SAT process).

c. Basic steps of an OJT training program using the SAT for each duty position include the following:

(1) preparation/introduction,
(2) demonstration,
(3) practice, and
(4) documentation of successful demonstration.

4.1 Duty Positions

The licensee should identify each duty position separately within the OJT program. Each duty position would include applicable job tasks to ensure that the trainee understands the knowledge, skills, and abilities required for effective implementation of the Commission-approved physical security plan, the safeguards contingency plan, and the licensee implementing procedures. Licensees may consider, but are not limited to, the following positions:

(1) armed security officer,
(2) armed responder,
(3) alarm station operator,
(4) response team leader, and
(5) security shift supervisor (SSS).

4.2 On-the-Job Trainers and Evaluators

Personnel assigned to provide OJT instruction and oversight should themselves possess and have demonstrated the requisite knowledge, skills, and abilities required to effectively meet the performance standards of the specific duties and responsibilities associated with the OJT.

4.3 On-the-Job Training Documentation

a. Licensees may consider creating OJT documentation that identifies the critical elements associated with each critical task for the knowledge, skills, and abilities required to perform the duties and responsibilities of all duty positions. A duty position may comprise multiple critical tasks and elements, and its description should indicate the appropriate level of knowledge standard required for each element and task. The OJT documentation for individuals who are assigned duties and responsibilities related to implementing the safeguards contingency plan may consider an area identified to log time associated with the performance of OJT to ensure that the trainee has met the program minimum OJT time (40 hours).

b. Licensees may consider a process that includes the trainee's completion of each element and task of the OJT form and signing of the form acknowledging OJT instruction for that particular section. The OJT trainers and evaluators conducting the training would also sign the form to indicate that the trainee has completed the OJT for that section and has achieved the knowledge standard. Once completed, the form is submitted to the qualified security training instructor for final assessment and documentation, and consistent with Section VI, paragraph C.2.b, of Appendix B to 10 CFR Part 73, a security supervisor must attest to the training.

5. Performance Evaluation Program

To satisfy the requirements of Section VI, paragraph C.3, of Appendix B to 10 CFR Part 73, the licensee must conduct security tactical response drills and force-on-force (FOF) exercises. These drills and exercises are vital components of a comprehensive training program that enables the security force to gain experience in tactics, protective strategy, and assigned duties within the contingency response plan.

5.1 Tactical Response Drills and Force-on-Force Exercises

Consistent with Section VI, paragraph C.3(l)(1) of Appendix B to 10 CFR Part 73, each member of each shift who is assigned duties and responsibilities required to implement the safeguards contingency plan and licensee protective strategy participates in at least one tactical response drill quarterly and one FOF exercise annually. Individuals may participate in any of the following roles to satisfy this requirement as a player: response team leaders, alarm station operators, armed responders, and armed security officers designated as a component of the protective strategy. The triennial FOF exercise conducted by the NRC may be counted as the annual FOF exercise for the contingency response personnel involved.

5.2 Types of Tactical Response Drills and Force-on-Force Exercises

a. Consistent with of Section VI, paragraph C.3, of Appendix B to 10 CFR Part 73, drills and exercises are training activities that focus on maintaining and improving the knowledge, skills, and capabilities of the individual or the group and thus must be part of the ongoing training provided to the security force personnel.

b. Tactical response drills provide a structured process to train personnel and evaluate key elements

of the protective strategy by focusing on specific aspects of the strategy without conducting a fully integrated FOF exercise. Consistent with Section VI, paragraph C.3.f, of Appendix B to 10 CFR Part 73, the scope of tactical response drills conducted for training purposes shall be determined by the licensee and must address site specific, individual or programmatic elements, and may be limited to specific portions of the site protective strategy. Drill plans and drill documentation must clearly identify the elements to be evaluated.

c. The types of drills may include the following:

(1) ***Tabletop drills*** are performed to demonstrate the protective strategy using a mockup of the facility. Tabletop drills allow security force members to demonstrate their understanding of the protective strategy and their individual response requirements. This type of drill may also be used as an evaluation tool for the protective strategy.

(2) ***Timeline drills*** are performed to demonstrate the response timelines established for the protective strategy. Drills can be used to test either the validity of the timelines established for the protective strategy or to test the ability of the security response personnel to respond to their assigned response position within the established timeline.

(3) ***Limited-scope tactical response drills*** are performed to evaluate the ability of one or more security response force members to effectively implement their protective strategy responsibilities. These drills are conducted as needed for each individual, group, or shift to validate and test the protective strategy.

d. The structure of a drill or exercise must ensure that it provides a credible, realistic, and thorough test of the protective strategy. The drill plan and scenarios used should ensure the satisfaction of the key program elements addressed in this section of the regulatory guide. Other program elements that support the key program elements should also be considered in the development of drill plans and scenarios to test, evaluate, and improve these areas. Section 5.2 of this regulatory guide gives examples of these elements.

e. FOF exercises are an integrated response exercise that includes the participation of the licensee's response force executing the protective strategy against an opposing force with the characteristics and attributes of the DBT. FOF exercises are designed to train and/or evaluate response force personnel on the complete implementation of the licensee's protective strategy and the evaluation and improvement of that strategy against the characteristics and attributes of the DBT.

f. Three types of exercises are described below: (1) fully integrated FOF exercises, (2) security response FOF exercises, and (3) limited scope FOF exercises. The fully integrated exercise is used to qualify the minimum number of response force personnel as identified in the site-specific security plan. Following participation as players and satisfying their qualification requirements in the fully integrated exercise, these individuals can be credited for participation in security response and limited scope exercises to fulfill exercise and/or drill requirements for other positions they may be assigned. Individuals not participating as players in the fully integrated exercise are required to participate as players in security response exercises for the purpose of maintaining their qualifications. The limited scope exercise is applicable only to those few individuals not able to participate in fully integrated or security response exercises because of illness, family leave, military deployment, or other unavoidable circumstances keeping the individuals from fulfilling the requirements of Section 5.3 of this guide, which further discusses player participation in these drills.

(1) ***Fully integrated FOF exercises.*** These exercises consist of a planned response effort across various plant disciplines (e.g., local law enforcement agency (LLEA), security, plant operations, emergency preparedness) to minimize or mitigate the threat.

(2) ***Security response FOF exercises.*** These exercises involve the full security response force and a mock adversary force without a planned response effort across various plant disciplines (e.g., LLEA, plant operations, emergency preparedness) and focus primarily on security response.

(3) ***Limited scope FOF exercises.*** These exercises focus on the security response by using the minimum number of members of the response force and the mock adversary team sufficient to execute the scenario being tested. They should be a credible, realistic and thorough test of a portion of the site protective strategy and evaluate the key security program performance elements bounded by the DBT. The exercise provides scenario controls and exercise controllers and includes a post-exercise critique and required exercise documentation.

The licensee should ensure that at least one fully integrated site FOF exercise is conducted annually or more frequently, as needed, to ensure proficiency in integrated response for an actual event or NRC-evaluated exercise.

5.3 Defining Participation

a. Consistent with Section VI, paragraph C.3.l.(1), of Appendix B to 10 CFR Part 73, each member of each shift who is assigned duties and responsibilities required to implement the safeguards contingency plan and licensee protective strategy must participate in at least one tactical response drill quarterly and one FOF exercise annually. Individuals should participate in one of the following roles to satisfy this requirement as a player: response team leaders, alarm station operators, armed responders, or armed security officers designated as a component of the protective strategy.

b. In accordance with 10 CFR 73.55(d)(3), the licensee may not permit any individual to implement any part of the physical protection program unless the individual has been trained, equipped, and qualified to perform their assigned duties and responsibilities in accordance with Appendix B of 10 CFR Part 73 and the licensee' Training and Qualification Plan. Additionally, individuals who are trained and qualified to perform contingency duties for multiple-response team duty positions should participate as a player in drills or exercises for each position for which they are qualified. This requirement can be satisfied by participating in each position during the course of four quarterly drills and one annual exercise during the year (e.g., a security force member can serve as a response team leader in the first quarter drill, a central or secondary alarm station operator during the second quarter drill, and an armed responder in the annual exercise). During the 3-year training cycle, this participation should be rotated so that the security force member gains experience in each position in various drills and exercises.

c. Individuals who do not participate as a player in scheduled annual FOF exercises because of illness, family leave, military deployment, or other circumstances can fulfill the annual FOF exercise participation requirement by one of the following:

(1) completion of initial 40-hour protective strategy OJT and additional site-specific protective strategy OJT for any additional qualified positions (alarm station operator, response team leader) as outlined in Section 4 of this guide, or

(2) participation as a player in a limited scope FOF tactical exercise with the following characteristics:

(a) focuses only on the security response by using only the members of the response force and the mock adversary team sufficient to execute the scenario being tested,
(b) credibly, realistically, and thoroughly tests a portion of the site protective strategy,
(c) evaluates the key security program performance elements bounded by the DBT, as identified in Section 5.4 a(1) to a(5) of this guide,
(d) includes appropriate additional program elements as identified in Section 5.4 b(1) to b(15) of this guide,
(e) provides scenario controls and exercise controllers, and
(f) includes a post-exercise critique and required exercise documentation.

Note:
Response team member (player) resources used to support and achieve the objective of the limited scope exercise may receive credit for their annual force-on-force exercise requirement. Licensees may consider using additional response team members who are trained and qualified on multiple-response team duties to assist them in meeting their participation requirements.

d. Consistent with 10 CFR 73, Appendix B Section VI.C.3(h), licensees must document the participation in drills and exercises by response team members to monitor and manage individual participation over the training cycle.

e. When planning drills and exercises, personnel should be identified to fill each of the roles and response team duty positions required to support the selected scenario and the type of evolution being conducted.

5.4 Key Program Elements

a. The licensee should use the following key program elements of the protective strategy in developing scenarios for tactical response drills and FOF exercises to demonstrate an effective protective strategy as described in Section II, paragraphs B.3.c.(v)(1) through (6), of Appendix C to 10 CFR Part 73:

(1) Responding with sufficient numbers of security personnel. The licensee has the required number of response personnel to effectively implement the protective strategy and protect the target sets against the DBT.
(2) Responding within appropriate timelines. Response personnel have adequate time to reach their response positions in advance of the adversary timelines.
(3) Responding to protected positions. Response personnel use appropriate protection and cover.
(4) Responding with appropriate armament. Response personnel are supplied with, or have readily available, the weapons and equipment necessary to execute their responsibilities and are appropriately trained and qualified in the use of the weapons and equipment.
(5) Providing target set protection. Response plan and response personnel prevent the DBT from completing sabotage of all components of any target set.

b. To be an effective evaluation tool, each tactical response drill should include at least one key program element. An FOF exercise should include all five key program elements. The following other program elements also contribute to the successful demonstration of the key elements:

(1) coordination and planning,
(2) command and control,
(3) communications,
(4) alarm station operations,
(5) individual responder tactics,
(6) team response tactics,
(7) use of deadly force as authorized by Federal or State law,
(8) alarm assessment and intrusion detection equipment,
(9) access control and search equipment,
(10) weapons handling and proficiency,
(11) controller participation,
(12) post-drill briefing and critiques,
(13) integrated response (plant operations, LLEA, and/or Emergency Preparedness (EP)),
(14) proper use of defensive positions, and
(15) deployment of responders and equipment.

5.5 Drill and Exercise Scenario Development

a. The effectiveness of a drill or exercise as an evaluation tool largely depends on the scenario development phase. To satisfy the requirements of Section VI, paragraph C.3.d, of Appendix B to 10 CFR Part 73, "Performance Evaluation Program," the proposed scenario must be designed to ensure that it adequately challenges the selected program elements. With a properly planned scenario, the critique and evaluation can provide meaningful insights into the effectiveness of the protective strategy and any enhancements or corrections that may be needed.

b. Consistent with Section VI, paragraph C.3, of Appendix B to 10 CFR Part 73, the licensee must develop a scenario to support the conduct of each drill or exercise. The scenarios should be designed to encourage open decision-making consistent with the protective strategy. In some cases, the scope of a drill may be more narrowly focused and not involve an adversary team. In those cases, only the relevant planning elements need be included. During scenario planning, attention to the key program elements is essential to the effectiveness of the drill or exercise as an evaluation tool. The design of the scenarios must ensure that they evaluate the effectiveness of the licensee's protective strategy.

5.6 Identification of Target Sets

Drill and exercise scenarios should also be developed with target sets as the basis for the scenario. Target sets identified as "attractive" for reasons of accessibility and the security conditions that exist in the specific area are the optimum choice for a drill or exercise scenario. Scenarios involving attractive targets generally pose the greatest challenge to the protective strategy and can be the basis of improvements to physical protection systems and protective strategies. The licensee may take credit for actions or equipment that protects a target set from destruction or disablement only if that action or equipment is listed as a component of the target set and is agreed to by consensus before initiation of the exercise. A licensee may not take credit for actions or equipment outside of the predetermined target set for the

purpose of determining the effectiveness of the protective strategy or the capability of security personnel to carry out their assigned duties and responsibilities. Credit for equipment and actions within a target set will be given only if the following criteria are met:

(1) sufficient time is available to implement these actions,
(2) environmental conditions allow access where needed,
(3) adversary interference is precluded,
(4) any equipment needed to complete these actions is available and ready for use,
(5) approved procedures exist, and
(6) training is conducted on the existing procedures under conditions similar to the scenario assumed.

5.7 Simulations and Artificialities

a. Drill and exercise scenarios should be developed to challenge the execution of the protective strategy during a variety of environmental and plant conditions. To replicate these conditions, it may be necessary to incorporate certain artificialities into the drill or exercise scenarios. Plant conditions identified in the scenario may range from operating at power to refueling or other major maintenance activities. Environmental conditions identified in the scenarios should include time of day or night, and, if possible, the drill or exercise should be conducted during the time identified to address relative daylight or darkness and various conditions of security readiness. If no acceptable artificialities are available for use or it is unsafe to incorporate the conditions into the drill or exercise scenario, a tabletop method may be used to simulate that condition, consistent with the licensee's site-specific analysis for how that specific condition affects implementation of NRC requirements.

b. The scenario may also need to include other intricate artificialities to simulate actions and activities that cannot actually be performed for reasons of practicality and the safety of personnel and plant equipment. During scenario development, activities, such as the use of firearms with blank ammunition and the use of mock explosive devices, and the presence of drill or exercise participants in certain areas must be considered to ensure the continued safe operation of the plant and the safety of personnel. Drill and exercise scenarios should be developed to accommodate overall safety through the incorporation of acceptable artificialities to simulate the occurrence of these actions and activities (e.g., the inclusion of task times, timeouts, tabletop exercises). Simulations and artificialities may apply to both armed responders and mock adversaries and should be thoroughly integrated and accounted for during the planning process. To enable controllers to properly inject simulations and artificialities into the scenario and oversee the actions resulting from them, the licensee's drill and exercise scenario matrix should incorporate specific guidance for simulations and artificialities. The licensee should try to minimize the number of simulations and artificialities in the development of scenarios to ensure that each scenario provides an accurate performance standard.

5.8 Cautions and Restrictions

Certain areas of the plant, such as the control room and areas where work is ongoing, may be considered off limits to drill or exercise activity. Participants should receive this information at the drill or exercise briefing, along with details of how the activities will be simulated or affected by these areas being off limit to drill or exercise activity. In addition, the following should be treated with caution during drill and exercise planning:

(1) areas with sensitive plant equipment,
(2) personnel safety, and
(3) radiological controls.

5.9 Communications

The means of communication for the drill or exercise activity should be designated during the preparation phase. Planning for communication needs should consider plant operations, the on-duty security force, the participants, the controllers, and the adversaries, as well as a means to communicate the conduct of the drill or exercise to all plant personnel.

5.10 Scheduling and Planning

5.10.1 Scheduling

a. The licensee should consider developing and maintaining a schedule that supports the drill or exercise plan to ensure the efficiency and productivity of drills and exercises. In schedule development, the licensee should consider factors such as projected station outage schedules, re-qualification requirements, and FOF tactical exercise requirements. An effective program schedule would provide a detailed listing of the following:

(1) type of drills/exercises to be conducted,
(2) when the drills/exercises will be conducted,
(3) key program elements or evaluation standards to be satisfied by the planned evolution, and
(4) the participants in the evolution.

5.10.2 Planning Guide

a. The licensee should consider use of a structured plan to assist in the coordination, execution, and documentation of activities associated with the drill and exercise process. The plan can provide consistency to the process and help ensure satisfaction of all program requirements. The plan is also the foundation of the remainder of the drill or exercise documentation. The drill or exercise plan should address the following:

(1) drill or exercise specifics (number, date, shift/personnel involved, location),
(2) pre-notifications (operations, radiation protection, station management, etc.),
(3) safety briefings,
(4) radiological briefings,
(5) specific drill objectives or key elements evaluated,
(6) participants (players, controllers, adversaries),
(7) adversary characteristics (equipment, routes taken, actions taken, target, etc.),
(8) scenario being used,
(9) sequence of events (event description, anticipated response, estimated timelines),
(10) development of a controller matrix (written scenario for controllers) to outline scenario events,
(11) simulations and artificialities to be considered or integrated into the evolution safety review,
(12) adversary briefings (providing details of the scenario, equipment used, routes, targets, etc., and allowing for intelligence-gathering from an insider),

(13) controller/evaluator briefings (scenario, assignments, simulations, cautions, concerns, etc.),
(14) equipment consideration, and
(15) initial plant/security status.

b. Consistent with Section VI, paragraph C.3.l.(2), of Appendix B to 10 CFR Part 73, planners must ensure that the scenario maintains consistency with the DBT of radiological sabotage established by the Commission. The mock adversaries are expected to perform in a manner consistent with the DBT capabilities.

c. In planning the drill or exercise, it is important for the integrity of the process that the confidentiality of the scenario be maintained.

5.11 Preparation and Conduct of Drills and Exercises

5.11.1 Command and Control

a. A system of command and control is necessary to ensure maintenance of an environment free of the recognized hazards associated with tactical drills and exercises. The command and control system helps to ensure that the rules of engagement are followed and hazards and safety concerns are appropriately addressed. Industry experience in the conduct of tactical drills and exercises as well as emergency preparedness exercises have demonstrated the need for a structured command and control process. This structure includes the reporting relationship of all controllers to the lead controller. This section covers their duties and responsibilities.

b. All tactical drills and exercise activities must be regulated by controllers under the guidance and supervision of the lead controller. Consistent with Section VI, paragraph C.3.l.(4), of Appendix B to 10 CFR Part 73, drill and exercise controllers are trained and qualified to ensure that each controller has the requisite knowledge and experience to control and evaluate exercises. These individuals must be properly trained to fulfill this responsibility to ensure that activities are accomplished safely.

c. An exercise command and control system depends on a cadre of qualified personnel selected and specifically trained to conduct tactical drills and exercises. In addition to being trained to oversee exercises, controllers must receive training commensurate with the scope, complexity, and special nature of the activity.

d. A controller's primary responsibility is ensuring safety during drill or exercise engagement. The controller organization should be structured in a manner that facilitates the control of all affected locations and the control and coordination of all events to be initiated during an exercise.

5.11.2 Controller Training and Qualification Process

a. Consistent with Section VI, paragraph 3.l.(4), of Appendix B to 10 CFR Part 73, drill and exercise controllers are trained and qualified to ensure that each controller has the requisite knowledge and experience to control and evaluate exercises.

b. This section provides a basic overview of an acceptable process to ensure consistent development and implementation of controller training and qualification. It also describes the training feedback process to ensure continual improvement in both industry wide and site-specific training programs.

c. The goals of the process are the following:

(1) establish a common baseline of controller knowledge, skills, and abilities,
(2) identify and respond to station and industry controller performance gaps,
(3) facilitate peer sharing of controller resources for exercise activities, and
(4) support continual improvement in controller performance.

5.11.3 Controller Knowledge

a. As a minimum, each controller should have the knowledge and experience to do the following:

(1) Provide timely and accurate information to the players to ensure consistent and orderly continuation of the drill or exercise in line with the scenario.
(2) Evaluate the application of the no-play area (to include radiation boundaries) and control measures.
(3) Evaluate tactical decisions made by the composite adversary force to include alternate avenues of approach, entry points, targets of opportunity, and control measures and tools required to facilitate entry.
(4) Evaluate the application of the use of cover and concealment to include natural and fabricated defensive positions by all exercise players.
(5) Evaluate the tactical use of exercise weapons including their effective range and capabilities.
(6) Evaluate the application of target identification, acquisition, and engagement by players.
(7) Evaluate the tactical use of hand-carried explosive devices on equipment and personnel and their effects upon detonation.
(8) Evaluate the effectiveness of body armor employed by players and its ballistic protection during the exercise.

b. All controllers need to be aware of the entire exercise scenario, including the actions expected of the participant they are monitoring. The controller should evaluate actions that deviate from the expected scenario to ensure that the intent of the exercise scenario is being realized. Additionally, licensees should also consider requiring that controllers have knowledge and experience in the following areas:

(1) the use and understanding of the dispersal and effects of chemical agents and smoke grenades,
(2) the protective mask (gas mask) used and its limitations,
(3) the overall procedure for conducting FOF exercises, including the use of Multiple Integrated Laser Engagement System (MILES) equipment,
(5) applicable site-specific delay barriers and movement timelines,
(6) the site's policy on use of deadly force policy, and
(7) exercise and site safety procedures.

5.11.4 Training Design, Development, and Implementation

a. Licensees should develop controller training lesson plans and learning objectives for initial and refresher controller training. The controller training program should include, but not be limited to, the following:

(1) procedures, guidelines, and references,
(2) introduction/history,
(3) safety,
(4) communication,
(5) terminology,
(6) command and control,
(7) controller knowledge,
(8) position and exercise pace,
(9) rules of engagement,
(10) use and effects of explosives,
(11) rules of conduct,
(12) MILES equipment,
(13) site exclusion areas, and
(14) critique process.

b. The training, at a minimum, should include site-specific information, industrial safety requirements, weapons safety requirements, radiological safety, delay barrier movement timelines and use of deadly force. It should also include example scenarios and/or practical demonstrations related to controller activities and calls such as the following:

(1) drill timeline coordination (situational awareness and proper cue injects),
(2) cover and concealment assessment,
(3) MILES equipment usage and safety,
(4) weapons/explosives capabilities and simulation methods, and
(5) safety control.

c. All controllers should complete this basic controller training before participating as a controller in an FOF exercise. Completion of the training should be documented. To ensure currency of controller knowledge and familiarity with industry and station controller issues, controllers should complete documented initial or refresher training within the 12 months preceding their participation in an annual FOF exercise. Additionally, controllers should maintain proficiency by routine participation in station FOF exercises.

d. In addition to the described training, the selection of controllers for specific assignments must consider previous experience, skills, and physical abilities. For example, an adversary controller for an FOF exercise should have previously functioned in that position and has the physical capabilities to remain with the adversary force. The controller briefing for FOF exercises should include just-in-time training to remind controllers of specific situational calls, safety issues, and critical communications that they could encounter during the scenario.

e. The level of support needed for the conduct of a drill will be significantly less than for an exercise, depending on the complexity of the drill. The licensee may consider the following positions of responsibility and personnel when planning for drills and exercises:

(1) Lead Controller—The exercise leader with overall knowledge of security shift operations. This individual may be selected from the security staff or other organization as appropriate.
(2) Controllers—Designated individuals assigned to specific participants or areas who have the necessary training to observe, evaluate, and control the drill or exercise activities of their assigned participant or control area.

(3) Adversaries—Appropriately equipped and trained mock attackers with the required physical abilities to engage the licensee exercise participants in an armed attack to test their ability to defend against the DBT. Within the control and safety parameters established for the exercise, the adversary team will actually perform the normal physical and tactical activities (such as movement, communication, and carrying of simulated explosives and equipment) required to accomplish their assigned mission. To execute such operations and tactics, it is essential that adversary team members are trained in small-unit tactics and scenario planning. Typically, the adversary force is from the licensee's security force, from other nuclear plants, or from local law enforcement tactical response units.

(4) Insider—A knowledgeable individual who provides inside intelligence information to the mock adversaries. This individual could be a member of the plant technical staff, operations staff, or the security force. Before a drill or exercise, sufficient time should be allotted for the adversary team to gain intelligence information from the insider.

(5) On-Duty Security Force—Non-drill personnel who are used during an FOF tactical exercise to ensure that the exercise meets all requirements identified in the site-specific physical security plan and procedures.

(6) Central Alarm Station (CAS)/Secondary Alarm Station (SAS) Participants—Security force members stationed in the alarm stations who will perform CAS/SAS duties as drill participants during the drills and exercises. They will be briefed on drill conditions as required.

(7) Security Drill or Exercise Players—Security responders who respond to the mock security contingency event (i.e., response team leaders, alarm station operators, armed responders, and armed security officers designated as a component of the protective strategy).

(8) Plant Operations Participant(s)—Individual(s) who would normally be assigned to a command and control function. This participant is required only when significant simulated plant operations are expected from the scenario. Only plant operator actions listed in a target set should be used in determining whether an entire target set was compromised. If credit is taken for plant operator actions, an evaluation must be conducted to ensure that actions credited as part of the target set for mitigation or recovery are achievable under the postulated scenario conditions.

5.11.5 Conduct of Drills and Exercises

5.11.5.1 Safety

a. The conduct of drills and exercises is a significant element of the security training program. Regardless of the scale of the evolution, preparation, coordination, and control are key to the effectiveness of a drill or exercise.

b. To ensure exercise safety and provide consistent and effective performance, the licensee should consider the following criteria when conducting drills or exercises:

(1) Weapons/Ammunition Safety—Weapons and ammunition safety is paramount. It is crucial that proper attention is given during exercise planning and performance to ensure that drill participants do not carry or have available live-fire weapons or ammunition. The adversaries and the response force team should use training weapons that are easily identifiable as such. Weapons should be marked so they can be easily identified as training weapons. Live-fire weapons should not be used during drills or exercises. If a live-fire weapon is used, then it should be rendered safe and incapable of firing.

(2) Exercise Participant Safety—The following criteria should be part of the safety briefing for exercise participants:

(a) Physical contact should occur only after a participant has been disabled, surrendered, or neutralized and only with the approval of a controller.
(b) No attempt should be made to disarm an opponent in any way.
(c) All ascents and descents from elevated positions will involve a ladder, stairway, or other safe method. There should be no jumping from one elevation to another.
(d) All exercise controllers and participants will be briefed on the radiological and industrial safety restrictions and concerns.
(e) Participants should monitor their own condition for overexertion.
(f) Anyone who observes an injured or ill participant should immediately call a timeout, render assistance, and notify a controller/evaluator or call the CAS or SAS.
(g) The lead controller should discuss plant and weather conditions before the start of each exercise and address limitations on running, jogging, or walking.
(h) All participants should use personal protective equipment unless otherwise determined by a controller.

(3) Initiation and Termination—The lead controller should initiate the exercise with the concurrence of the on-duty security supervisor and operations shift manager/supervisor, if applicable. The initiation of the exercise should be communicated on appropriate radiofrequencies and/or the plant paging system. The lead controller should conduct radio checks as appropriate to ensure that all controllers are prepared for the initiation or resumption of the drill or exercise. The exercise will be terminated when one or more of the following occur:

(a) All adversaries are neutralized or have given up the mission.
(b) A complete target set has been destroyed.
(c) It is determined that an actual condition exists that cannot be quickly corrected or is of such magnitude as to preclude the continuation of the drill.
(d) A condition adverse to personnel or plant safety exists.
(e) The lead controller directs that the exercise stop.

5.11.5.2 Participant Responsibilities

The licensees should consider including the following criteria the briefing for participants on their duties and responsibilities associated with the exercise:

(1) Each participant is personally responsible for his or her safe conduct.
(2) Each participant should monitor his or her condition.
(3) Participants who hear an announcement to stop the exercise should immediately stop all exercise activity and maintain their position until they receive additional instructions.
(4) Participants will comply with all plant operations, security, and radiation protection requirements. The pre-exercise safety briefing will address radiation protection entry and exit procedures.
(5) All participants should follow controller commands and requests. The post-exercise critique should address differences in interpretations of scenario evolutions.

(6) After the conclusion of the drill or exercise and before the critique, all participants should have an opportunity to document their participation in the drill or exercise so that their actions may be discussed and reviewed in the critique process.

5.11.5.3 Rules of Conduct

The licensees should consider the following rules of conduct as part of the briefing for participants on the conduct of the drill or exercise:

(1) Safety is paramount. The safety of participants, controllers/evaluators, plant personnel, and the plant should never be compromised.
(2) If identifying clothing or items such as armbands are assigned, participants should wear them at all times during the drill or exercise.
(3) Participants will follow all instructions given by a controller.
(4) Any participant may stop the drill or exercise for safety reasons. The lead controller should determine the resumption of the drill or exercise.
(5) If the drill or exercise is temporarily halted, all participants should stop at their locations, cease all firing and movement, and wait for direction.
(6) Once neutralized, a participant should immediately cease all firing, movement, and communications. The participant should remain in place until the drill or exercise is terminated or the controller directs otherwise.
(7) Alarm station operators and/or participants may not engage in pre-drill or pre-exercise intelligence-gathering. Participants who attempt to circumvent the rules will be removed from the drill or exercise.
(8) The controllers/evaluators observing and evaluating the activity should determine all neutralizations. Training equipment such as MILES gear can be used to assist in this determination.
(9) At the conclusion of each drill or exercise, participants should ensure that all radiological boundary controls are intact and that security doors involved in the drill or exercise are secure.
(10) The announcement "this is a drill" should be transmitted during the first drill activity once the drill window is opened. This announcement should also be transmitted periodically throughout the drill and before any drill event after a long period of inactivity.
(11) To be successful, the mock adversaries should actually deposit simulated explosives at doors, gates, and inside the target areas. If possible, the mock adversary should place the explosive at the specific location where the equipment damage is intended to occur. If the actual equipment cannot be reached, the mock adversary may provide specific detail as to exactly where it intended to place the explosive and the amount to be placed.
(12) On-duty security force personnel should not assist or impede the participants in any fashion unless the circumstance pertains to a safety-related issue or to a real security situation or response.
(13) Participants should observe the deadly force rules of engagement as authorized by Federal or State law and as defined by station policy.
(14) At no time should drill or exercise participant(s) manipulate any plant component. It should be stressed that extreme caution is to be used near plant equipment, and backpacks, mock weaponry, and associated drill or exercise equipment should be kept clear of plant equipment.
(15) Controllers/evaluators ensure that drill or exercise participants do not voluntarily or accidentally touch plant equipment, controls, or instrumentation. If at any time

inadvertent contact is made with plant equipment, controls, or instrumentation, the controller/evaluator should immediately notify operations of the incident.

(16) The mock adversaries and the insider must replicate, as closely as possible, the specific characteristics or requirements detailed in the DBT.

(17) Sufficient time should be allotted for the mock adversary team to gain intelligence information from the insider.

(18) Plant familiarity for the mock adversary force should consist of only what the force has developed through information obtained from the insider or from public tours of the facility.

(19) Mock adversaries should begin the exercise from the point where they would first have the potential for identification by or interaction with the licensee's security program measures.

(20) Consistent with Section VI, paragraph C.3.l.(2), of Appendix B to 10 CFR Part 73, during the conduct of drills/exercises, the mock adversaries are required to carry mock equipment with them similar in size, shape, and weight to the equipment indicated within the scenario matrix.

(21) Consistent with Section VI, paragraph C.3.l.(2), of Appendix B to 10 CFR Part 73, the mock adversaries will adhere to the equipment and explosive weight limitations detailed in the DBT.

(22) When penetrating barriers (fences, doors, walls, etc.), the mock adversaries' entire task time (e.g., set time, time to achieve standoff distance, time to recover the standoff distance, and traverse the barrier) should be factored into the act. Proper care should be given to personal safety and protection when making entry. If portable blast protection is used, this equipment may be considered as part of the equipment carried in by the adversary team.

(23) Incapacitation criteria detailed in the DBT for weapons such as fragmentation devices, smoke grenades, and distraction devices will be followed during the exercise.

5.12 Critique and Evaluation

a. The licensee's protective strategy may be considered successful or effective if the adversary is detected, assessed, interdicted, and neutralized before successfully disabling all target set components within a single target set for the time necessary to cause significant core damage and spent fuel sabotage. The licensee may take credit for actions or equipment that protect a target set from destruction or disablement only if that action or equipment is listed as a component of the target set and is agreed to by consensus before initiation of the exercise. A licensee may *not* take credit for actions or equipment that are outside of the predetermined target set for the purpose of determining the effectiveness of the protective strategy or the capability of security personnel to carry out their assigned duties and responsibilities. Pursuant to 10 CFR 73.55(b)(10), the licensee shall enter identified drill or exercise programmatic deficiencies that adversely affect or decrease the protective strategy and physical protection program into the plant's corrective action program or training program and correct the identified deficiencies. Licensees should review the programmatic deficiencies for information that meets the protection requirements of 10 CFR 73.21.

b. Members of the armed response team should be evaluated on all aspects of response, including but not limited to timeliness, use of cover and concealment, tactical movement and firing techniques, assessment, and communication. Alarm station personnel should be evaluated for assessment, communication, coordination, LLEA notification/coordination, and other aspects of their duties under emergency situations. The response team leader should be evaluated for performance in command and control and direction of response personnel to interdict and neutralize the threat. Controllers should be evaluated for accurately assessing the individual and overall security force

response to a contingency event.

c. The critique process is a crucial aspect of the drill and exercise program. This process involves evaluation of participant performance through specific critique criteria, participant self-assessment, and observations by controllers/evaluators. The critique criteria should support the evaluation standards and performance criteria identified for the scenario.

5.12.1 Critique and Evaluation Material

The following criteria should be considered when developing critique material for drill or exercise evaluation purposes:

(1) Each position and participant should be evaluated.
(2) The ability of each participant to satisfy the performance criteria associated with his or her position should be evaluated.
(3) Criteria not evaluated should be indicated on the critique. Evaluators should consider using "NE" (not evaluated) instead of "NA" (not applicable).
(4) The form should indicate whether the individual satisfied the performance criteria.
(5) Any issues identified as a result of the individual's performance should be documented. Issues should be correlated to their respective evaluation standards.
(6) Controller/evaluator performance evaluation comments should be solicited.
(7) The critique material should give participants the opportunity to critique their own actions and to provide feedback on the drill or exercise.
(8) The critique should include an overall assessment of the success of the drill or exercise in meeting the key program elements identified.

5.12.2 Critique Process

a. At the conclusion of a drill or exercise, the lead controller should facilitate the critique. All controllers/evaluators, adversaries, and participants should normally participate. These critiques give the participants the opportunity to receive direct feedback from the controllers/evaluators. In addition, they allow the participants to provide direct input to the critique process.

b. The following format can be an effective means of performing critiques:

(1) All participants in the drill or exercise should attend.
(2) The scenario, including goals and objectives, should be reviewed with the participants. (A projector can be useful in providing this overview.)

c. Each participant and corresponding controller/evaluator who had an engagement during the drill or has pertinent feedback will summarize his or her actions and should consider the following when providing an action summary:

(1) If a participant took action that resulted in his or her neutralization or the neutralization of an adversary or adversaries, then the participant and controller report should provide specific details of the actions taken. The participant/controller information should include engagement distance, number of adversaries engaged, number of rounds fired and number of seconds, the probability of neutralizing the adversary (high, medium, or low), and if the neutralization(s) resulted from MILES.

(2) If a participant took action that resulted in friendly fire, then the participant and controller report should provide specific details of the actions.
(3) A controller/evaluator whose participant had no interaction with the adversary force and had no effect on the outcome of the drill or exercise should minimize his or her response.
(4) A controller/evaluator whose participant was actively involved in the outcome of the drill or exercise and who interdicted the adversaries should concur with the player's comments if applicable. If the controller/evaluator does not concur, he or she should provide details.
(5) At the conclusion of critiques, the lead controller should review the results of the drill or exercise and discuss the positive and negative aspects of the activities.
(6) During the review of the results, participants should be asked for suggestions for correcting issues and concerns, and these suggestions should be discussed.
(7) As a conclusion to the critique, the lead controller should review the goals, objectives, and key program elements of the drill or exercise and discuss how each was or was not met.

5.13 Final Report

a. The final results of the drill or exercise should be detailed in a final drill report. The following information should be part of the final drill report:

(1) date and time,
(2) number or other identifier,
(3) lead controller,
(4) plant conditions, security system status, and weather conditions,
(5) scenario description,
(6) key elements and evaluation criteria in the drill,
(7) deficiencies identified,
(8) actions taken on deficiencies,
(9) program or process strengths identified,
(10) whether the goals, objectives and key program elements of the drill or exercise were or were not met, and
(11) corrective actions (plant corrective action or training program) and the timeframe or priority given for resolution and identification of the individual responsible for resolution.

b. The drill planning package developed for the evolution should be attached to the final report.

5.14 Identification and Resolution of Deficiencies

a. After the final critique results are prepared, the licensee can determine the disposition of each deficiency. Consistent with Section VI, paragraph C.3.(j), of Appendix B to 10 CFR Part 73, the licensee must protect deficiencies identified during a drill or exercise consistent with the requirements of 10 CFR 73.21. The training program normally addresses issues or deficiencies related to training and human performance. However, key program element deficiencies should be evaluated, tracked, and resolved using the plant's corrective action program.

b. Identification of issues from the drills or exercises is only the first step in the corrective action process. Management should thoroughly review each deficient item identified and promptly develop and take corrective action. To ensure resolution of issues, the licensee should regularly review the corrective actions identified through the drill and exercise process and evaluate their effectiveness.

5.15 Documentation

a. It is important that drill and exercise activities be properly documented, to ensure appropriate levels of review and resolution of issues. Not all documents generated in the process of performing drills or exercises must be maintained as records.

b. The licensee may consider retaining the following documents:

(1) attendance roster for all drill- and exercise-related training and briefings,
(2) scenarios,
(3) participation records showing which security force personnel participated in tactical drills and FOF tactical exercises,
(4) completed critique material, including chronologies,
(5) final drill or exercise report, and
(6) resolution or proposed resolution of critique items.

c. Documents that are to be retained as records should be legible and completed appropriately. They must be maintained consistent with 10 CFR 73.70, 73.21, 73.22., and 2.390.

6. Duty Qualification and Re-qualification

a. Consistent with Section VI, paragraphs C and D, of Appendix B to 10 CFR Part 73, the licensee must ensure that individuals assigned duties and responsibilities in the Commission-approved physical security plan or safeguards contingency plan must, before assignment, be trained and qualified to perform these duties and responsibilities consistent with the Commission-approved plans, licensee protective strategy, and implementing procedures.

b. Consistent with site procedures and 10 CFR 73.55(b)(10), the licensee must ensure that the site corrective action program includes deficiencies identified in the training and qualification program.

6.1 Qualification

6.1.1 Written Examination

Consistent with Section VI, paragraph D.1.(b)(1), of Appendix B to 10 CFR Part 73, individuals assigned security duties and responsibilities must demonstrate the required knowledge by completing an initial written exam on security duties as identified in the Commission-approved training and qualification plan. A minimum score of 80 percent is required to demonstrate an acceptable understanding of assigned duties and responsibilities, to include the recognition of potential tampering involving both safety and security equipment and systems.

6.1.2 Hands-On Performance Demonstration

Consistent with of 10 CFR 73.55(b)(5) and Section VI, paragraph D.1.b.2, of Appendix B to 10 CFR Part 73, individuals assigned security duties and responsibilities must demonstrate the ability to perform their assigned duties and responsibilities through a practical hands-on performance demonstration of required tasks. The hands-on performance demonstration must ensure that theory and associated learning objectives for each required task are considered and that each individual demonstrates the

knowledge, skills, and abilities required to effectively perform the task. With the exception of elements or critical tasks categorized as M (must-perform), the demonstration mshould be performed annually and is not subject to the SAT analysis process.

6.1.3 Annual Written Examination

a. The licensee must administer an annual examination for armed security personnel to verify that they have the required knowledge, skills, and abilities identified in the Commission-approved training and qualification plan.

b. Personnel must achieve a minimum score of 80 percent to demonstrate an acceptable understanding of assigned duties and responsibilities.

c. This examination should, at a minimum, include the following elements:

(1) role of security personnel in supporting safe operations of the facility,
(2) the use of deadly force, including the principles involved in the application, escalation, and de-escalation of force,
(3) 10 CFR Part 73 requirements for the protection of Safeguards Information,
(4) the authority of private security personnel,
(5) knowledge of who has power of arrest and authority to detain,
(6) authority to search individuals and seize property,
(7) offsite law enforcement response,
(8) tactics and force that an adversary group might use to achieve its objectives, and
(9) response force deployment, tactical movement withdrawal, and use of support fire.

6.2 Re-qualification

a. Section VI, paragraph D.2.a, of Appendix B to 10 CFR Part 73 requires individuals to re-qualify, consistent with the Commission-approved training and qualification plan.

b. The periodicity of task re-qualification may be determined by applying an analysis of the training program similar to the SAT. Personnel may demonstrate and be evaluated on knowledge, skills, and abilities during routine performance as part of normal duties or by re-qualification in a manner similar to the initial qualification, with the exception of M (must-perform) elements. The individual should actually perform the indicated task under the supervision of a qualified individual. This element or critical task should be performed annually and is not subject to the SAT analysis process.

c. If unable to achieve the requisite re-qualification, the individual must not return to security duties until he or she has successfully re-qualified. Re-qualification completion must be documented in the individual's training record.

d. The qualification of each individual to perform assigned duties and responsibilities must be documented by a qualified training instructor and attested to by a security supervisor.

6.3 Short-Cycle Re-qualification

a. Consistent with Section VI, paragraphs A.7 and D.2.a, of Appendix B to 10 CFR Part 73, annual re-qualification requirements must be scheduled at a nominal 12-month periodicity (also referred

to as the baseline qualification date). The actual scheduled date (baseline) for the re-qualification of an annual requirement can be changed (re-baselined) by conducting training earlier than the originally scheduled (baseline) date. The next scheduled date for re-qualification, from that point forward, must be nominally 12 months from the new (re-baselined) qualification date.

b. Licensees must ensure that, when applying this short-cycle provision to the training schedule for their annual requirements, their schedule for weapons range activities still meets the nominal 4-month periodicity identified in Section VI, paragraph E.1.f, of Appendix B to 10 CFR Part 73.

7. Certifications of Instructors and Armorers

7.1 Security Training Instructors

To satisfy the requirements of Section VI, paragraphs D.2.b and E.1.b, of Appendix B to 10 CFR Part 73, each licensee should establish a formal program for training and qualifying security instructors. The program should include guidance on instructor development and qualification. Security instructors who implement the security training program should normally be included in the station's existing instructor training program. When using contract instructors or trainers, the licensee should either include those personnel in the station's instructor training program or establish comparable criteria to be met by the vendor's program.

7.1.1 Initial Instructor Qualification

Initial security training instructor qualifications may include the following skills:

a. *Presentation skills* such as vocal inflection, voice analysis, gestures, eye contact, verbal communication, and nonverbal communication.
b. *Instructional skills* such as introducing a lesson; presenting content; monitoring performance; providing feedback; summarizing a lesson; applying adult learning theory; conducting practical demonstrations; maintaining and using individual trainee records and training program records; designing training programs; planning and developing lessons; selecting, developing, and modifying training materials; presenting laboratory instruction; managing individualized instruction; conducting walkthroughs and plant tours; conducting simulator training; and supervising OJT.
c. *Facilitation skills* such as establishing a positive climate, setting up a classroom, starting a course, maximizing learner confidence and self-esteem, increasing participation and involvement, managing classroom time, motivating learners, addressing individual needs, managing small group activities, promoting transfer of skills, managing group dynamics, facilitating discussions, applying questioning techniques, handling resistance, and handling difficult learners.

7.1.2 Continuing Training for Security Instructors

Continuing training for security instructors is recommended and should be conducted consistent with the station's existing instructor training program. Training needs analysis, feedback on training performance, and other inputs as defined in the following sections should be the basis of continuing training programs. Qualified instructors should review the initial instructor training elements to enhance their knowledge, skill, and ability.

7.1.3 Subject Matter Experts

Subject matter experts (SMEs) may or may not be qualified security instructors. SMEs should be fully proficient in the tasks they are assigned to instruct and evaluate. At a minimum, they should have the following attributes:

(1) field knowledge, skill, and ability,
(2) effective interpersonal communication skills,
(3) effective observation skills,
(4) acceptance of self-development, and
(5) professionalism.

7.1.4 Firearms Instructor

a. Consistent with Section VI, paragraph E.1.b, of Appendix B to 10 CFR Part 73, firearms instructors must be trained and certified by a State or nationally recognized entity for each weapon type (handgun, rifle, shotgun) for which the individual will be providing instruction. Firearms instructors must follow the recertification criteria set by the certifying entity, but recertification must occur at least every 3 years. A certified firearms instructor must train and qualify members of the security organization for the use and maintenance of each assigned weapon to include, but not be limited to, marksmanship, assembly, disassembly, cleaning, storage, handling, clearing, loading, unloading, and reloading.

b. Examples of a recognized entity may be the National Rifle Association's law enforcement firearms instructor courses and those offered by a Federal, State, or State-certified local law enforcement agency.

7.1.5 Armorer

To satisfy the requirements of Section VI, paragraph G.3.a, of Appendix B to 10 CFR Part 73, armorers, whether station employees or a contracted service, must be certified. If the licensee does not employ a certified armorer, it may send the weapons to a certified offsite armorer for required maintenance.

8. Weapons Training

8.1 General Firearms Training

a. Consistent with Section VI, of Appendix B to 10 CFR Part 73, armed security personnel must complete firearms training to demonstrate basic skills and the safe handling of assigned firearms. The objective is to conduct firearms training drills and courses of fire to teach the necessary skills and abilities to armed security personnel.

b. The Commission-approved training and qualification plan must include, but is not limited to, the following areas:

(1) mechanical assembly, disassembly, weapons capabilities, and fundamentals of marksmanship,
(2) weapons cleaning and storage,
(3) combat firing, day and night,
(4) safe weapons handling,

(5) clearing, loading, unloading, and reloading,
(6) firing under stress,
(7) zeroing duty weapon(s) and weapons sighting adjustments,
(8) target identification and engagement,
(9) weapons malfunctions,
(10) cover and concealment, and
(11) weapons familiarization.

8.1.1 Mechanical Assembly, Disassembly, Weapons Capabilities, and Fundamentals of Marksmanship

All armed members of the security organization should be trained to disassemble and reassemble each assigned weapon according to the manufacturer's recommendations. Training on weapons capabilities should include the maximum effective range and the penetration capabilities of all licensee-issued firearms and ammunition. Armed security personnel should participate in training on the fundamentals of marksmanship (grip, stance or position, trigger control, sight alignment, sight picture, breathing, follow through) to emphasize the development of shooting skills.

8.1.2 Weapons Cleaning and Storage

The licensee's firearms maintenance program must include instruction in the care, cleaning, and storage of firearms. Section 10.3.1 of this regulatory guide discusses firearms maintenance.

8.1.3 Combat Firing (Day and Night)

a. Armed officers should be trained in weapons practices used in combat situations (e.g., firing on the move, double tapping). The goal of this type of weapons training is to teach weaponry techniques to achieve a level of conditioning that provides the officer with enhanced firearms shooting skills. Training for combat firing should focus on the armed officer's ability to identify the opportunities that exist in the contingency environment and to take decisive and effective advantage of them.

b. The training should be performed both during the night and during the day. Additional considerations for training at night may include, but are not limited to, use of an appropriate flashlight, limited illumination, and additional range safety measures. Night training may be simulated through a variety of techniques, such as, but not limited to, the use of indoor firing ranges or the use of tinted eyewear. This training may also be conducted as dry-fire training or as FOF training with the use of MILES, simulated weapons systems, paintball systems, or other techniques.

c. This training may need to be adjusted to be consistent with applicable local, State, and Federal laws or agreements regarding the use of firearms. Licensees may consider the following in the development of the combat firing training:

(1) assessment

(a) (before engagement) situational awareness and surveillance of the operator's horizon and identification of cover and concealment, and
(b) (after engagement) adversary status, communications, weapons condition, and ammunition management.

(2) identification

(a) identification of friend or foe and the decision to engage,
(b) threat management (from immediate to impending threats), and
(c) situational training (threat amidst non threat-related targets).

(3) target acquisition

(a) from the ready, holster, or carry (safety circle),
(b) rapid acquisition techniques (initial acquisition and adjusted acquisition),
(c) single threat or a single threat amidst non threat-related targets,
(d) multiple threat or a multiple threat amidst non threat-related targets, and
(e) threat management (from immediate to impending threats, sequential acquisition).

(4) Engagement

(a) use of cover and concealment,
(b) techniques of effective rapid fire (all weapons),
(c) recovery from malfunctions (immediate action/feedway clearance),
(d) weapons transitions,
(e) shooting while moving (advancing, evading, and lateral movement),
(f) stationary and moving threat,
(g) threat management (engagement of immediate to impending threat, sequential fire),
(h) multiple threat (sequential fire) or multiple threat amidst non threat-related targets,
(i) recovery from engagement (back to assessment) and continuation of mission, and
(j) close-quarter firing.

8.1.4 Safe Weapons Handling

a. Training in safe weapons handling skills should be developed for each type of weapon assigned to the licensee's armed security personnel. This training should incorporate the following firearms safety rules:

(1) Treat all firearms as loaded at all times.
(2) Always keep the firearm's muzzle pointed in the safest direction and never intentionally cross anything you are not prepared to shoot.
(3) Always keep your trigger finger straight on the firearm's frame, unless you are prepared to shoot.
(4) Never place the selector level in the fire position unless you are ready to fire.
(5) Verify the position of the firearm's selector lever if your weapon is bumped.
(6) Never handle firearms if you are taking any prescription or nonprescription drugs that could affect your ability to safely handle or fire a firearm.
(7) Always load and unload firearms in the designated loading and unloading area.
(8) Never handle any firearm by the barrel.

b. The firearms training program should include, but is not limited to, the following range safety guidelines:

(1) Firearms range safety rules should be followed at all times.
(2) Firearms range safety guidelines should incorporate industry operating experience and other related events.
(3) Firearms range safety guidelines should also address armed officer safety.
(4) Range safety rules should be reviewed before conducting any range activities.

8.1.5 Clearing, Loading, Unloading, and Reloading

Clearing, loading, unloading, and (tactical and speed) reloading procedures for each assigned firearm must be practiced. Training for the retention of unused ammunition during tactical reloads should be considered.

8.1.6 Firing Under Stress

Firearms training programs should include training exercises that induce physical and/or mental stress. The following are examples of elements that can be introduced into the weapons training environment to induce stress:

(1) time limitations (exercise completion times, reduced target exposure times),
(2) physical activity (running, climbing stairs),
(3) loud audible noise (simulated small arms fire, explosions),
(4) weapon malfunctions (immediate action, feedway clearance, weapons transitions),
(5) limited lighting conditions at night,
(6) simulated equipment failures (primary sighting system inoperable, magazine fails to feed),
(7) simulated incapacitation (incapacitation exercises, non dominant (support) hand firing),
(8) simulated use of chemical agents, and
(9) donning of a protective mask (gas mask).

8.1.7 Zeroing Weapons and Weapons Sighting Adjustments

Firearms training programs should include instruction for armed personnel to understand basic zeroing and adjustment of weapon sighting mechanisms for all assigned weapons and to perform these functions, if appropriate, and as described in site procedures. The NRC recognizes that some weapons do not allow a shooter to manually perform zeroing without specialized tools. Sighting systems should be inspected daily to ensure that they are operable (e.g., front/rear sights not bent or broken, glass in-scope-type systems not cracked, batteries replaced if needed, night sights illuminate, sighting systems mounted properly and not loose) using appropriate safety rules for weapons handling.

8.1.8 Target Identification and Engagement

a. Training in target identification and engagement should be designed to enhance the armed security officer's ability to identify adversarial threats. Target identification and engagement training should focus on the development of the following:

(1) assessment (situational awareness and surveillance of the operator's horizon),
(2) identification (identification of friend or foe and the decision to engage),
(3) target acquisition (from the ready, holster, or carry (safety circle)), and
(4) engagement (adequate for neutralization and recovery and mission continuation).

b. Target identification and engagement training may be conducted to reflect the environment and

conditions the security force would encounter when exercising the licensee's protective strategy (e.g., while moving, in the open, from cover).

8.1.9 Weapons Malfunctions

In accordance with Section VI, paragraph E, of Appendix B to 10 CFR Part 73, the licensee's weapons training program must include training to apply weapons-clearing techniques such as immediate action, as well as weapons feedway clearances. The prescribed method for causing malfunctions during training may include the use of inert training ammunition commonly referred to as "dummy rounds" or simulated weapons systems.

8.1.10 Cover and Concealment

Consistent with Section VI, paragraph C.2.c, of Appendix B for 10 CFR Part 73, armed personnel must be trained to recognize and effectively use cover and concealment. Training should include methods of approaching, moving, and shooting around various forms of cover and concealment. Cover is an object offering protection from weapons fire. Examples of cover are concrete walls, steel beams, large trees, heavy metal machine parts, or large pipes. Cover can deteriorate rapidly under weapons fire and should be considered consumable. Concealment is provided by vegetation, terrain features, terrain relief and drainage, manmade structures, weather conditions, such as fog and precipitation, and darkness. Proper evaluation of these aspects differentiates concealment from cover. Concealment is effective only when individuals do not disclose their location by fire or maneuver.

8.1.11 Weapons Familiarization

a. In accordance with Section VI, paragraph E, of Appendix B to 10 CFR Part 73, the objective of firearms familiarization training is to conduct initial and annual firearms drills and courses of fire to improve the skill and ability of armed security personnel. Firearms familiarization, at a minimum, must include the following:

(1) firearms handling drills,
(2) clearing, loading, unloading, and reloading procedures for each firearm,
(3) training for engaging potential targets when obstacles such as smoke, fencing, doors, and walls are encountered during a contingency event,
(4) drills that demonstrate the ability to transition from one firearm type to another,
(5) drills that demonstrate the ability to recover from simulated weapon malfunctions (e.g., dummy rounds),
(6) cover and concealment drills,
(7) nonlethal weapons training and drills, and
(8) cleaning and maintenance procedures for each firearm.

b. The licensee may also consider these topics:

(1) weapons nomenclature (safety features, certain design characteristics such as gas operating system),
(2) weapons functioning (cycle of operation, the action of all working parts),
(3) dry-fire range familiarization (stressing range safety procedures),
(4) live-fire range familiarization (e.g., familiarization with the report and recoil of the weapon),
(5) firing positions (e.g., prone, kneeling, sitting), and

(6) timed-fire exercises (e.g., from ready, carry, or holster using firing positions such as prone or kneeling).

c. Advanced training for weapons familiarization may be considered for all assigned weapons systems and should include the following advanced skills:

(1) rapid fire techniques,
(2) non dominant (support) hand fire,
(3) shooting while moving (laterally, advancing, and evading),
(3) shooting from elevated positions, and
(4) firing with field protective mask (gas mask) donned.

8.2 Use of Deadly Force

In accordance with to satisfy Section VI, paragraph E.1.e, of Appendix B to 10 CFR Part 73, each licensee must ensure that all armed members of the security organization are instructed on the use of force continuum, including the use of deadly force as authorized by applicable State law. Each member of the security organization, commensurate with his or her assigned duties, must thoroughly understand the proper use of force within the force continuum.

8.3 Range Periodicity

In accordance with Section VI, paragraph E.1.f, of Appendix B to 10 CFR Part 73, armed security officers must participate in range activities on a nominal 4-month periodicity. The activities may be conducted up to 5 weeks before or 5 weeks after the scheduled date, but the next scheduled date must be 4 months from the original scheduled date. This provision is intended to account for unexpected site-specific circumstances that may delay an individual's ability to participate in range activities on a specified date.

9. Weapons Qualifications and Re-qualifications

a. In accordance with Section VI, paragraphs D.2, E.1.b and F.5.a, of Appendix B to 10 CFR Part 73, all armed personnel must be qualified and re-qualified on assigned weapons. Qualifications should be accomplished with the assigned weapon and ammunition (i.e., equivalent or similar in recoil) used while on duty. Non duty ammunition (i.e., frangible ammunition) may be used in lieu of the duty ammunition for firearms qualifications provided that the ammunition meets the requirements in Section VI of Appendix B to10 CFR Part 73 and the Commission-approved training and qualification plan.

b. If unable to achieve a requisite qualification or re-qualification, an individual must not be assigned or returned to armed duty until the individual has completed qualification or re-qualification on that task. Licensees may provide remedial training for personnel requiring additional firearms instruction to qualify on the specific firearms qualification course. Typical remedial firearms training could include the following:

(1) one-on-one instruction on basic fundamentals of marksmanship beginning with dry-firing exercises, if applicable, advancing to live-fire practice, and culminating in a qualification attempt, and
(2) analysis of all results with the shooter to remedy the identified problem(s).

c. A qualified training instructor must document, with input from other qualified training organization personnel, as appropriate, and a security supervisor must attest to, the qualification and re-qualification of each individual.

9.1 Alternate Firearms Qualification Programs

Licensees may utilize a firearms qualification programs other than those listed in Appendix B to 10 CFR Part 73, if the applicant or licensee documents how the alternative firearms qualification program satisfies NRC requirements.

9.2 Firearms Qualification Courses

a. In accordance with Section VI, paragraph E.1.b., of Appendix B to 10 CFR Part 73, all armed personnel assigned duties and responsibilities involving the use of weapons must be qualified on each weapon type that the individual will be assigned. In accordance with Section VI, paragraph F.4, of Appendix B to 10 CFR Part 73, armed personnel must qualify by achieving the standards and scores established by a Federal- or State-approved law enforcement qualification course or an equivalent nationally recognized course. Examples of the latter include courses recognized by the National Rifle Association, U.S. Department of Defense, and the International Association of Law Enforcement Firearms Instructors.

b. Once the qualification courses have been designed, licensees may submit them to the recognized entity for certification before the courses are implemented. The licensee may use current qualification courses developed and certified by the above-listed entities; however, such courses may not be modified

9.3 Handgun

a. Consistent with Section VI, paragraph F.3(a) and (b), of Appendix B to 10 CFR Part 73, licensees must conduct handgun qualification courses for daylight and night fire to evaluate the shooter's marksmanship and firearm manipulation skills under both daylight and reduced-light conditions. The minimum qualifying score for each course must be 70 percent of the maximum obtainable target score.

b. Qualification courses should include a predetermined amount of ammunition, type of target(s), and scoring system to be used (e.g., 60 rounds fired at a B-27-type target with the maximum score of 300 points divided by 3).

c. Licensees may develop a typical daylight handgun qualification course, which includes the following:

(1) moving from one shooting position to another (e.g., standing to kneeling, standing to prone) before, or during, a course of fire,
(2) reloading,
(3) dominant (firing) hand and non dominant (supporting) hand shooting,
(4) timed stages of fire (e.g., two rounds in 3 seconds, two rounds in 5 seconds, depending on distance from target) and multiple rounds fired at the target (stationary or turning) during the stage of fire (e.g., two rounds, four rounds, eight rounds, and reload),

(5) shooters engaging the targets from multiple distances, starting from a close or distant proximity to the target and gradually increasing or decreasing distance from the target (i.e., 7, 10, 15, and 25 yard lines or 25, 15, 10, and 7 yard lines),
(6) shooters engaging the targets from the standing, kneeling, and prone positions, and
(7) shooters engaging the targets while drawing the firearm from the holster.

9.4 Semiautomatic Rifle

a. Consistent with Section VI, paragraph F3(a) and (b), of Appendix B to 10 CFR Part 73, licensees must conduct semiautomatic rifle qualification courses for daylight and night fire to evaluate the shooter's marksmanship and firearm manipulation skills under daylight and reduced-light conditions. The minimum qualifying score for each course must be 80 percent of the maximum obtainable target score.

b. Pursuant to Section VI, paragraph C.b.3, of Appendix B, all armed members of the licensee's security organization that use multiple sighting systems must qualify with the primary sighting system and successfully complete familiarization training with applicable weapons using each secondary sighting system (i.e., optics, thermal scope, iron sights) as required to implement the site's protective strategy.

c. The use of multiple brands and models of primary sights may require multiple qualifications. If a documented evaluation determines that the magnification and minutes of angle of different brand and model sights are sufficiently similar, then a separate qualification with each sight is not required.

d. Qualification courses should include a predetermined amount of ammunition, type of target(s), and scoring system to be used (e.g., 60 rounds fired at a B-27-type target with the maximum score of 300 points divided by 3). For range facilities that cannot accommodate firing at increased distances, licensees may use smaller targets to simulate increased distances consistent with the target manufacturer's specifications (e.g., a 50-percent reduction in target size will increase the distance by a factor of 2).

e. Licensees may develop a typical daylight semiautomatic rifle qualification course, which includes the following:

(1) moving from one shooting position to another (e.g., standing to kneeling, standing to prone),
(2) re-loading,
(3) timed stages of fire (e.g., two rounds in 5 seconds depending on distance from target) and multiple rounds fired at the target (stationary or turning) during the stage of fire (e.g., two rounds, four rounds, eight rounds, and reload),
(4) shooters engaging the targets from multiple distances between 25 and 200 yards or up to the maximum distance of the range and/or defensive strategy requirements for engagement with adversaries,
(5) shooters engaging the targets from the standing, kneeling, and prone positions, and
(6) use of rifle slings and/or bipods or tripods for shooting support (if used on duty).

9.5 Shotgun

a. Consistent with Section VI, paragraph F3(a) and (b), of Appendix B to 10 CFR Part 73, licensees

must conduct shotgun qualification courses for daylight and night firing to evaluate a shooter's marksmanship and firearm manipulation skills under daylight and reduced-light conditions. The minimum qualifying score for each course must be 70 percent of the maximum obtainable target score. Typically, when the target is scored for a shotgun qualification course, any projectile impression or cutting of the silhouette of the human form is scored as one point.

b. Typical qualification courses should quantify a shooter's ability to accurately discharge his or her firearms in a controlled environment. Licensees should develop and conduct qualification courses as a performance-based, critical-task test of each shooter's ability to meet the requirements in the licensee's approved training and qualification plan. Qualification courses should include a predetermined amount of ammunition, type of target(s), and scoring system to be used (i.e., 8 rounds of 00 buckshot fired at a B-27-type target with the maximum score of 72 points or a minimum of 10 rounds of rifle slugs fired at a B-27-type target with the maximum score of 10 points).

c. Licensees may develop a typical daylight shotgun qualification course, which includes the following:

(1) moving from one shooting position to another (i.e., standing to kneeling) before, or during, a course of fire,
(2) re-loading,
(3) strong hand and support hand (non dominant, commonly known as weak hand) shooting,
(4) timed stages of fire (i.e., two rounds in 3 seconds, two rounds in 5 seconds, depending on distance from target) and multiple rounds fired at the target (stationary or turning) during the stage of fire (i.e., two rounds, four rounds, and reload),
(5) shooters engaging the targets from multiple distances, starting from close or distant proximity to the target and gradually increasing or decreasing distance from the target (i.e., 10, 15, or 25 yards or beyond for buckshot and out to 50 or 100 yards for slugs,
(6) shooters engaging the targets from the standing and kneeling positions, and
(7) shooters engaging the targets from the ready/carry positions (i.e., weapon in shooter's hands with no sight alignment attained).

9.6 Low-Light Qualifications

a. Reduced-light (night-fire) qualification courses should be developed to include some of the elements listed above for the daylight qualification course. Night-fire qualifications should apply conditions that reasonably approximate expected loss-of-lighting conditions at the site. Licensee light-level standards and procedures should be used during periods of reduced-light range activities and are site specific. Licensee procedures would normally address these requirements. Qualification courses should include a predetermined amount of ammunition, type of target(s), and scoring system to be used (e.g., 60 rounds fired at a B-27-type target with the maximum score of 300 points divided by 3).

b. A heightened level of safety should be maintained during reduced-light qualification. Training to familiarize personnel with operations in reduced-light training should be provided. Substituting commercially available light-reducing equipment (e.g., welder's goggles or dark-light simulator eyewear) should not be allowed when conducting reduced-light qualification.

c. Control of range activities during reduced-light qualification is critical for the overall safety of all personnel. Firearms instructors may consider the use of lighting devices to identify themselves, as

well as shooters, during reduced-light qualification. Firearms instructors may consider the preservation of all personnel's night vision when using these lighting devices.

d. The security staff of licensees that approve the use of flashlights for range activities should become familiar with the equipment. Licensees should develop specific reduced-light courses of fire that include shooting both with and without flashlights.

e. Licensee light-level standards and procedures should be used during periods of reduced-light range activities and are site specific. Licensee procedures would normally address these requirements.

9.7 Tactical Weapons Qualification Course

a. Consistent with Section VI, paragraph F.2, of Appendix B to 10 CFR Part 73, a tactical qualification course must be conducted for each weapon used by an armed member of the licensee's security organization. The licensee's developed tactical qualification and requalification courses must describe the performance criteria needed to include the site specific conditions (such as lighting, elevation, fields-of-fire) under which assigned personnel shall be required to carry out their assigned duties. The course should assess the shooter's ability to perform realistic and simulated aspects of the site's protective strategy with all contingency equipment. The design of the tactical qualification course would exercise and evaluate a shooter's ability to perform required armed officer skills and marksmanship fundamentals while experiencing stress from performing non routine tasks, such as tactically moving, pivoting, engaging multiple targets, recovering from simulated weapons malfunctions (using dummy rounds), using available cover, or firing after donning a protective mask (gas mask). Each site may determine its own specific tactical requirements (e.g., barrier or fence, specific no-shoot areas or devices) and incorporate them into the course. Since range facilities differ from site to site, the courses may be modified to accommodate the safety requirements for each range.

b. The tactical qualification course emphasizes armed officer and marksmanship skills relating to assessment and identification, tactical engagement and movement, and advantageous use of environment and resources while facing multiple threats (targets). The licensee should consider designing the course to replicate licensee defensive positions (e.g., size of shooting ports, elevations), distance or yardage of shots, and potential site situations.

c. Consistent with Section VI, paragraph F.3.c, the minimum qualifying score for tactical weapons must be a score of 80 percent of the maximum obtainable score. The licensee's protective strategy should be considered in developing the course of fire. The course should reflect specific implementation aspects that the licensee identifies in its contingency plan, licensee training and qualification plan, and implementing procedures.

d. The tactical qualifications course should be conducted consistent with all firearms safety instructions and applicable site-specific safety instructions. Limitations on range use must be observed, and all tactical shooting courses should be conducted with a ratio of at least one instructor to one shooter. For all tactical firing courses, the firearms should be loaded in the standard duty configuration and carried consistent with the site security plans and implementing procedures.

e. The annual tactical qualification course includes the combined use of the handgun and shoulder-fired weapons employed in a contingency event at the site. Each shooter must achieve an overall combined qualifying score of 80 percent that accounts for all weapons systems used. The scoring

for this course should incorporate proficiency criteria from both weapons operations and marksmanship and physical and tactical ability.

f. Qualification standards should be based on the percentage derived from the number of targets successfully engaged and the successful completion of the course within the specified time. To determine the qualifying score, the licensee should establish a basis for the maximum achievable score/percentage for the weapons operation and marksmanship aspect of the course (e.g., 100/100 percent). A point value should be assigned to each target consistent with the total number of targets within the course that equals the maximum achievable score/percentage (e.g., 25 targets at four points each equals 100/100 percent). The licensee should then establish a basis for the maximum allowable time to successfully complete the course. For this aspect of the qualification criteria, the licensee should use known timelines consistent with the implementation of its protective strategy for movement, tactics, and the negotiation of obstacles within the course. The standard should also include reasonable consideration for the time duration of firing engagements (target exposure time), range equipment operations (delays in target system operations), and safety (any measure instituted to increase safety). The standard for the maximum allowable time to successfully complete the course could be associated with a percentage of score or a pass/fail in the form of a time limitation. Each licensee should document its methodology for determining that successful completion of its tactical qualification course demonstrates acceptable proficiency. The expectation for the qualification criteria of this course must not be less than the minimum total of 80 percent and a time that is less than the maximum allowable time limit as identified in the licensee training and qualification plan and implementing procedures. A qualifying score of less than 80 percent or a course completion time in excess of the maximum allowable time limit as identified in the licensee training and qualification plan would require remedial training and subsequent re-qualification.

9.7.1 Course of Fire Requirements for the Tactical Qualification

a. To satisfy the requirements of Section VI, paragraph F.5, of Appendix B to 10 CFR Part 73, as a minimum, the course of fire should include the following:

(1) the combined use of handguns and shoulder-fired weapons employed during a contingency event according to the site's protective strategy,
(2) firing from a reasonable and representative facsimile of licensee defensive positions, elevations, and distances,
(3) appropriate levels of stress and physical demands (e.g., engaging targets while on the move),
(4) proper cover and concealment tactics while engaging multiple targets, moving targets, and decision making targets,
(5) the ability to transition from one type of firearm to another,
(6) the ability to recover from simulated weapon malfunctions (e.g., dummy rounds),
(7) adherence to the safe handling of firearms during simulated courses of fire,
(8) firing at multiple targets, loading, and reloading while wearing a protective mask (gas mask),
(9) non dominant (support) hand shooting, and
(10) use of the minimum quantity of combined handgun and shoulder-fired weapon ammunition necessary to demonstrate the ability to effectively implement the licensee's protective strategy.

b. Regarding the last requirement listed above, the amount of ammunition distributed among all

weapons and fired during the course should be consistent with the licensee's protective strategy (i.e., it must match the standard ammunition load carried by the armed responder), as identified in the licensee's contingency plan and implementing procedures. If the protective strategy identifies ammunition resupply points, the tactical course of fire may include them as well.

c. When developing the tactical qualification course, licensees should rely on the experience and expertise of trained and qualified firearms instructors. Certified instructors should use available resource material (internal and external), including firearms manuals and best practices benchmarked throughout the industry. A list of additional resources that may assist a licensee in the development of the tactical course of fire appears at the end of this guidance document within the References section.

d. A tactical course of fire should challenge the tactical knowledge, skill, and ability of the shooter at various stages of practical demonstration when performing simulated but realistic aspects of the site's protective strategy. The course should reflect specific implementation aspects that the licensee identifies in its contingency plan and implementing procedures and that the licensee's training and qualification plan and implementing procedures must support. For example, in its contingency response plan and implementing procedures, a licensee identifies towers that are located at the perimeter for the interdiction of adversaries approaching the protected area (consistent with the licensee's use of force continuum). The licensee should consider the development of a stage of fire within its tactical course of fire that addresses this aspect. The licensee's implementing procedures for training would also have to address this aspect, including existing documentation demonstrating that the shooter received (at a minimum) familiarization training in this area.

e. The course of fire should include specific pieces of equipment staged throughout the range that are designed to provide the shooter with simulated, but realistic, aspects of the site's protective strategy. The equipment should include barricades to simulate walls or sides of buildings found inside the protected area or actual or replicated pieces of plant equipment (e.g., piping or pumps that have been retired or replaced and plant stairwells) staged throughout the range for added realism. The range design should include replicas or reasonable facsimiles of towers and defensive positions found inside the protected area. The licensee should assess the impact of the changes to the range configuration for shooter safety and overall range safety.

9.7.2 Course of Fire Stages for the Tactical Qualification Course

a. As with any live firearms training or qualification evolutions, certain aspects of an actual firearms engagement cannot be demonstrated as they might actually occur because of safety concerns. It is also understood that a trained and qualified firearms instructor may have to specifically control certain aspects of a firearms qualification course to cause a shooter to demonstrate all required skills as well as to ensure safety. Actions that address safety and the complete demonstration of all required skills must be considered and implemented in the development and conduct of a tactical qualification course. Licensees should attempt to minimize instructor controls and interaction during the conduct of tactical qualification courses to ensure that the shooter has the ability to operate in a contingency environment while demonstrating all skills required of an armed officer.

b. Safety is paramount during all stages of the tactical qualification course. Some stages within the course of fire may require the shooter to have all contingency equipment donned (or available) to demonstrate the ability to effectively implement the NRC requirements, NRC-approved site security plans, site contingency procedures, and site implementing procedures. Guidance for the

course of fire is provided below for each element of the tactical qualification course.

(1) *Element 1, Objective:* Combined use of handguns and shoulder-fired weapons employed during a contingency event.

Guidance:

(a) The shooter must carry or have available all handguns and shoulder-fired weapons, consistent with the site's protective strategy, for the entire course of fire.
(b) Weapons and equipment carried and/or readily available must be consistent with the licensee's protective strategy.
(c) The shooter may use any weapon at any stage of the course to effectively engage the required number of targets.
(d) If the licensee uses more than one specific type of shoulder-fired weapon consistent with its contingency plan, protective strategy, and implementing procedures (e.g., M-4 and AR-15 or M-4 and shotgun), then the tactical course of fire must include the additional shoulder-fired weapons.
(e) All weapons included in the tactical course of fire must be used in the course consistent with their use and identification in the licensee's contingency plan, protective strategy, and implementing procedures (e.g., AR-15 in fixed posts, M-4 for armed responders).
(f) Sighting system configuration and use in the tactical course of fire must be consistent with that identified by the licensee as the primary sighting system for the particular weapon system, as employed and identified in the licensee's contingency plan, protective strategy, and implementing procedures
(g) If other sighting systems are used as secondary sighting systems (e.g., iron sights) or for specific applications (e.g., thermal scopes), the licensee's familiarization fire training and marksmanship qualification courses will include training and qualification using those systems.
(h) The use of sighting systems other than that identified by the licensee as the primary sighting system for the specific weapon during the conduct of the tactical qualification course is left to the discretion of the licensee.
(i) The shooter would not have to carry more than one shoulder-fired weapon at any one time unless required to do so by the site protective strategy.
(j) Additional shoulder-fired weapons could be located at other stages of the course of fire, and the shooter could transition to those weapon(s) in some situations, at a time specified by the certified firearms instructor or at a predetermined time during the course of fire.
(k) Range designs and range safety should be considered to determine the use of specific contingency or enhanced equipment or weapons (e.g., considering yard line or distance of target engagement and backstop configuration for the safe use of each weapon) during each stage within the course of fire.

(2) *Element 2, Objective:* Firing from a reasonable and representative facsimile of licensee defensive positions, elevations, and distances.

Guidance:

(a) The licensee's tactical course of fire must have reasonable facsimiles of licensee defensive positions, elevations, and distances and include those facsimiles as a stage or stages in the course of fire.
(b) The shooter must negotiate the course and engage the required targets, to provide reasonable assurance of his or her ability to effectively execute the duties required by the protective strategy.
(c) The facsimile of the defensive positions must be constructed out of alternate materials and built with the objective of giving the shooter a similar perspective of elevations, fields of fire, and distances that exist in the actual defensive positions used for the protective strategy inside the protected area.
(d) The elevations and distances of the defensive position facsimiles do not have to exactly match the actual ones in the protected area.
(e) The design of the facsimiles must include consideration of actual protected area shooting positions, shooting port size, and approximate fields of fire and reasonably replicate the height, distance, and angle on a representative scale to produce similar effects. Firearms training resource manuals and documents for elevated position design and angle calculations are useful in this task. Smaller targets can be used to simulate distance and distant target acquisition for the shooter.
(f) If the licensee's protective strategy requires the armed responder to engage moving targets from ground defensive positions and elevated defensive positions to defend the facility, then the tactical course of fire must include stages for moving target engagement both from ground and elevated positions.
(g) Each licensee must be able to articulate in writing its methodology for replicating and simulating the actual defensive positions used in the training conducted at the firing range for the tactical qualification course.

(3) *Element 3, Objective:* Appropriate levels of stress and physical demands (e.g., engaging targets while on the move).

Guidance:

(a) The course of fire must include levels of stress and physical demands representative of the site's protective strategy.
(b) Physical stress inducers such as running can be used to mimic the actual physical stress a responder experiences during a contingency event in the protected area. If running is used to induce stress, then the specific distance associated with the most demanding timeline should be used.
(c) Physical stress may be induced by actually running the predetermined distance or running in place for a specific period of time before negotiating the course or engaging targets.
(d) Mental stress inducers (e.g., having the shooter simulate communication with the CAS or demonstrating tactical reloads) can add realism and should be included during the course of fire.
(e) Additionally, physical and mental stress can be simulated by having the

shooter engage targets while on the move between positions of cover. This demonstration or stage would require the shooter to implement reactionary measures such as engaging the target in the open while advancing to cover, or obtaining cover rapidly and returning fire.

(f) The course of fire must also include other physical demands (e.g., moving from multiple positions of cover, out of the prone and kneeling positions, or up and down elevated positions or stairwells) that reflect the plant environment and the implementation of the licensee's protective strategy.

(4) *Element 4, Objective:* Proper cover and concealment tactics while engaging multiple targets, moving targets, and decision making targets.

Guidance:

(a) To successfully complete the course of fire, the shooter must be able to recognize and then use proper techniques for cover and concealment.

(b) The shooter must demonstrate appropriate methods of approaching, moving from, and using cover and concealment while engaging multiple targets, moving targets, and situational or decision making targets (i.e., threat versus non threat-related).

(c) Although the determination of the proper application of this aspect is subjective, licensees should consider some method of accountability for improper application that may negatively affect the shooter's qualification score.

(5) *Element 5, Objective:* The ability to transition from one type of firearm to another (in the event of a weapons malfunction or change in deployment technique).

Guidance:

(a) The course of fire must give the shooter the opportunity to demonstrate the ability to safely transition from one type of weapon to another during the course of fire (e.g., transition from rifle to handgun).

(b) The actual weapons transition should take place without the assistance or direction of the certified firearms instructor.

(c) However, the certified firearms instructor must be able to react to safety concerns or unsafe conditions when warranted during the course of fire.

(d) A common practice to achieve adequate safety controls for this type of firearms drill is to have an instructor/safety officer accompany each shooter through the course on a one-on-one basis.

(e) Safety officers may be other qualified and experienced armed security officers, security supervisors, or other security staff. Acceptable methods for this stage of fire include a built-in weapon malfunction scenario during the course or an instructor-induced weapon malfunction at a certain stage, which would require the shooter to transition to another firearm**.** This transition may be demonstrated with or without the use of cover or concealment.

(f) Audible commands such as "gun down" or "malfunction" are not recommended as signals for a simulated weapon malfunction as they are inconsistent with the physical stimuli experienced during an actual

weapon stoppage or malfunction.

(g) The use of dummy rounds exactly replicates a weapons stoppage or malfunction through the physical stimuli associated with the event. Exact and realistic re-creation of this event develops the shooter's sense of recognition and reactionary response to actual weapons stoppages or malfunctions.

(h) The weapon stoppage or malfunction can be accomplished by causing the shooter to perform a retention or tactical reload with a magazine possessing one, two, or three live rounds at the top followed by a dummy round that would cause the malfunction.

(i) As an alternative, the instructor can provide the magazine to the shooter at the position of cover just before the stage, or the magazine may be color-coded and carried by the officer with pre-designated instructions to use it at the proper stage in the course. This will ensure that the malfunction will occur at the proper stage of the course.

(j) Alternatively, all of the shooters' magazines could be loaded to have a dummy round in either the second, third, or fourth position (each magazine would be different) to ensure that a malfunction occurs on each magazine at the desired stage without the officer's absolute knowledge.

(k) If the shooter performed an immediate action instead of a weapons transition and continued with the primary weapon system, the stage of fire for the weapons transition requirement would be lost.

(l) All reloads for this stage of fire should be performed at a position of cover before negotiating this particular part of the course.

(6) *Element 6, Objective:* The ability to recover from simulated weapon malfunctions (e.g., dummy rounds).

Guidance:

(a) The course of fire must give the shooter an opportunity to demonstrate the ability to perform the appropriate immediate action for stoppages or malfunctions occurring with each weapon type used during the course of fire.

(b) Recovery also includes the shooter's ability to reacquire the target after the weapon malfunction is cleared or when the shooter transitions to another weapon. This should be accomplished through the use of dummy rounds that are preloaded in the ammunition magazines before the start of the course.

(c) As a minimum, one dummy round should be loaded in each magazine before the beginning of the course and should be staggered to minimize predictability.

(7) *Element 7, Objective:* Adherence to the safe handling of firearms during simulated courses of fire.

Guidance:

(a) Throughout the various stages of the course of fire, the shooter must demonstrate the ability to handle each weapon type safely.

(b) This includes consideration of muzzle control; safe movement with loaded, charged, and drawn weapons; trigger finger placement; and properly clearing and restoring all weapons to a safe condition.

(c) A demonstrated disregard for the safe handling of firearms and range safety must cause the instructor/safety officer to stop the course, provide the officer with remedial training on the safe handling of firearms, and require the officer to perform the course again in its entirety.

(8) *Element 8, Objective:* Firing at multiple targets, loading, and reloading while wearing a protective mask (gas mask).

Guidance:

(a) The course of fire must give the shooter an opportunity to demonstrate the ability to use a protective mask (gas mask).

(b) While wearing the protective mask (gas mask), the shooter must engage a minimum of two targets and demonstrate a reload. For example, a licensee tactical qualification course may require the shooter to don his or her protective mask (gas mask) and fire at multiple targets while loading and reloading with the contingency weapon.

(c) This same tactical qualification course does not have to include the use of the protective mask (gas mask) with the handgun; however, the use of a protective mask (gas mask) with the handgun must be demonstrated in another area of the training program (e.g., firearms familiarization).

(d) The certified firearms instructor can initiate the shooter's use of the protective mask (gas mask) by giving the audible warning of "gas, gas, gas," or the shooter can begin using the mask at a predetermined stage within the course signaled by the deployment of smoke in the immediate vicinity of the shooter.

(e) The protective mask (gas mask) must be deployed from its staging area or pouch as required by the site protective strategy and within an acceptable timeline identified for the specific mask type and consistent with the manufacturer's specifications and the licensee's training and qualification plan and implementing procedures.

(f) During this stage of fire, it is important to ensure that officers do not break the seal of the protective mask (gas mask) to accommodate stock-to-cheek weld when firing shoulder-fired weapons.

(g) This stage of the course should require the shooter to demonstrate the ability to communicate while wearing the protective mask (gas mask).

(9) *Element 9, Objective:* Non dominant (support) hand shooting.

Guidance:

(a) Once an individual has demonstrated the required level of proficiency with dominant hand shooting and during any stage of fire within the course, the shooter must demonstrate the use of the supporting or non dominant hand to fire.

(b) The purpose of this element is for the shooter to gain familiarity with shooting and handling the assigned weapon(s), including reloading and

target acquisition, with the supporting or non dominant hand when aspects of the site's protective strategy or an injury cause the shooter to use this technique to engage a threat.

(c) This objective may be met by requiring the shooter to engage targets with shoulder-fired weapon(s), the handgun, or both using the support or non dominant hand technique.

(d) Licensees that include support or non dominant hand aspects in their protective strategy must ensure that designated personnel satisfy this training objective before they are assigned contingency duties.

(e) Licensees that develop tactical qualification courses that require support or non dominant hand firing using only one of the weapons systems carried by their response force members must ensure that this technique is demonstrated for the remaining weapons systems in another area of their training programs (e.g., firearms familiarization).

(10) *Element 10, Objective:* Use of the minimum quantity of combined handgun and shoulder-fired weapon ammunition necessary to demonstrate the ability to effectively implement the licensee's protective strategy.

Guidance:

(a) The amount of ammunition distributed among all weapons and fired during the course must be consistent with the licensee's protective strategy.

(b) The shooter must carry the minimum amount of duty ammunition required by the protective strategy at the site during the conduct of the tactical qualification course.

(c) The standard ammunition load identified in the licensee's contingency plan, protective strategy, and implementing procedures for armed responders must be carried during the tactical course of fire. The total number of rounds includes dummy rounds.

9.7.3 General Implementation Guidance

a. Typically, a tactical qualification course should be a timed evolution for the shooter and consist of a combination of all the elements required in the licensee's contingency response plan, protective strategy, and implementing procedures, which must be consistent with the licensee's training and qualification plan. The elements should be presented in a continuous evolution (i.e., elements should not be broken out into discrete training evolutions or other courses of fire), with various stages of fire that constitute a single course. All elements and stages of the tactical qualification course should consider range safety. The time given to a shooter for completion of the tactical qualification course should be consistent with response timelines in the protective strategy and include the time needed to complete each stage of the course and range safely. Each licensee should document and be able to articulate its methodology for determining an acceptable time interval for safe and successful completion of the course of fire.

b. If a firing range malfunction or a weapon or equipment malfunction beyond the shooter's ability to safely resolve hinders the shooter's ability to complete the tactical qualification course, the shooter should be allowed to continue after resolution of the problem (if feasible) or repeat the course. If such incidents occur, range safety should always be addressed and ensured first (e.g., by clearing

and unloading the weapon and practicing muzzle discipline); then the specific problem should be addressed. The shooter's time should also be stopped and the shooter held in place while the issue is resolved. Once the issue has been resolved and the firing range is considered clear, the instructor/safety officer should cause the shooter to load and ready the weapons and then continue the course (along with the shooter's time) when directed.

9.8 Weapons Re-qualifications

Consistent with Section VI, paragraph F.1.c, of Appendix B to 10 CFR Part 73, annual requirements must be scheduled at a nominal 12-month periodicity. Annual requirements may be completed up to 3 months before or 3 months after the scheduled date. However, the next annual training must be scheduled 12 months from the previously scheduled date rather than from the date the training was actually completed.

9.9 Short-Cycle Re-qualification

a. Consistent with Section VI, paragraph D.2.a, of Appendix B to 10 CFR Part 73, annual re-qualifications must be scheduled at a nominal 12-month periodicity (also referred to as the baseline qualification date). The actual scheduled date (baseline) for the re-qualification of an annual requirement can be changed (re-baselined) by conducting training earlier than the originally scheduled (baseline) date. The next scheduled date for re-qualification, from that point forward, must be nominally 12 months from the new (re-baselined) qualification date.

b. Licensees must ensure that, when applying this short-cycle provision to the training schedule for their annual requirements, their schedule for weapons range activities still meets the nominal 4-month periodicity identified in Section VI, paragraph E.1.f, of Appendix B to 10 CFR Part 73.

10. Weapons, Personal Equipment, and Maintenance

To satisfy the requirement in Section VI, paragraph G.2.a, of Appendix B to 10 CFR Part 73, the licensee must ensure that each individual is equipped or has ready access to all personal equipment or devices required for the effective implementation of the Commission-approved security plans, the licensee's protective strategy, and implementing procedures. The security supervisor, or another individual designated by the licensee, should conduct equipment inspections daily or at a frequency that ensures the proper care and serviceability of the equipment and provides assurance that the equipment will operate as intended, when needed.

10.1 Weapons

a. Assigned weapons and ammunition are expected to meet the following minimum specifications:

(1) semiautomatic rifles:

(a) .223 caliber,
(b) muzzle velocity of 1,980 feet per second,
(c) muzzle energy of 955 foot-pounds,
(d) magazine or clip load of 10 rounds,
(e) magazine reload of less than 10 seconds, and
(f) operable in any environment in which it will be used.

(2) 12-gauge shotguns:

(a) four-round pump or semiautomatic,
(b) operable in any environment in which it will be used, and
(c) full or modified choke.

(3) semiautomatic pistols or revolvers:

(a) .354 caliber,
(b) muzzle energy of 250 foot-pounds,
(c) full magazine or cylinder reload capability of less than 6 seconds,
(d) muzzle velocity of 850 feet per second,
(e) full cylinder or magazine capacity of six rounds, and
(f) operable in any environment in which it will be used.

(4) ammunition:

(a) two fully loaded licensee-issued handgun magazines per handgun or three fully loaded revolver speed-loaders (minimum of 18 rounds),
(b) 100 rounds per semiautomatic rifle, and
(c) three basic magazine loads of 00 gauge or slug rounds per shotgun (e.g., a 6-round capacity magazine would have a total of 18 shotgun rounds).

b. The ammunition available on site should be twice the amount stated above for each weapon. Ammunition should be readily available for armed personnel to resupply if necessary during a contingency event.

10.2 Personal Equipment

a. As stated in Section VI, paragraph G.2.a, of Appendix B to 10 CFR Part 73, the licensee must ensure that each individual is equipped or has ready access to all personal equipment or devices required for the effective implementation of the NRC-approved security plans, the licensee's protective strategy, and implementing procedures. Licensees must provide armed security personnel, at a minimum, with the following:

(1) Protective Mask (Gas Mask)

(a) Licensees that issue respiratory protection equipment for the purpose of complying with Commission-approved security plans should establish a respiratory protection program consistent with 29 CFR 1910.134, "Respiratory Protection."
(b) Licensees should develop and implement a written respiratory protection program that outlines specific procedures and elements required for respirator use. A suitably trained program administrator should manage the program. Licensee respiratory protection programs should include the following program elements:
[1] proper selection of respirators,
[2] medical evaluation and fit testing,
[3] care and maintenance,
[4] training program, and

[5] program evaluation.

(c) Properly selected and worn respirators are an effective method of protection against designated hazards. Respirators that are improperly used or that are not in proper condition can become a hazard to the user.

(d) Licensees should also consider limitations appropriate to the type and mode of use. When selecting respiratory devices, the licensee should provide for vision correction equipment (i.e., prescription glasses, goggles, or inserts) for each individual assigned respiratory protection. The individual should use this equipment in such a way that it does not interfere with the proper operation of the respirator.

(e) Licensees should comply with all instructions provided by the manufacturer on limitations, care, and maintenance of the respirators. Licensees should issue respirators that are tested and certified by the National Institute for Occupational Safety and Health (NIOSH) to protect against contaminants listed in the DBT. When using equipment that NIOSH has not tested or certified, or for which there is no schedule for testing or certification, licensees should ensure that the material and performance characteristics of the equipment can provide the proposed degree of protection given the anticipated conditions of use. This should be demonstrated either by licensee testing or reliable test information. Licensees should evaluate additional site-specific chemicals or materials (e.g., ammonia, caustic soda, or acid) that, if released or damaged in a design-basis attack or explosion, could reduce or incapacitate the security force performing assigned duties in a contingency event.

(2) Body Armor

The National Institute of Justice certifies body armor levels. Based on extensive laboratory tests, body armor is designated as meeting one of six levels (I, IIA, II, IIIA, III, and IV). Level I body armor offers the lowest level of protection, and Level IV offers the highest. The type of weaponry a particular type of body armor can guard against is often used to determine its level. The lowest level body armor can be relied on only to protect against bullets with relatively low energy, which tend to have less force on impact. Some higher level body armor can protect against higher energy bullets (i.e., .44 magnum and .357 magnum). Body armor at Levels I through IIIA is soft and can be concealed. At Levels III and IV, body armor uses hard or semirigid plates to defeat high-energy rifle rounds. Licensees that issue body armor equipment for the purpose of complying with Commission-approved security plans should consider a level of protection commensurate with the DBT.

(3) Ammunition or Equipment Belt

(a) Ammunition used for live-fire training and qualification, blank ammunition for Engagement Simulation System training, and ammunition for other nonlethal training (e.g., dye-marking cartridges) should be of suitable quality for the intended use. Reloaded, reprocessed, or military surplus ammunition should not be used for duty or qualification. Licensees should conduct quality assurance verifications of blank or live ammunition to identify ammunition that does not meet manufacturer specifications.

(b) Ammunition may also have an adverse impact on weapon performance. The licensee should verify that ammunition is properly stored and rotated.

Ammunition stored in a high-temperature area, such as a turbine building, may degrade over time. In addition, ammunition handled daily may also degrade. Therefore, licensees should factor the rotation of ammunition into the overall assessment of weapon functionality and reliability.

(c) Many types of ammunition pouches, belts, and tactical vests are available to licensees. Multiple individuals should field test all equipment issued to security officers to ensure its practicality and durability. All individuals must be trained and qualified in the use of the equipment before its issuance. Individuals must configure the issued equipment during range activities as if they are performing assigned security duties.

(4) Two-Way Portable Radio

(a) The licensee should establish and maintain continuous communication capability with onsite and offsite resources, as required, to ensure effective command and control during both normal and emergency situations. Each on-duty security officer, watch person, vehicle escort, and armed response force member must be capable of maintaining continuous communication with an individual in each alarm station.

(b) Each two-way radio should have a minimum of two channels for security operations, one for operating and one for emergencies. Alternate means of communication (e.g., plant paging system, telephone) should be provided for use in areas of the facility where radio communication is not possible because of radio transmission interference or in situations when it is not advisable.

(c) "Dead spots" created by manmade or natural objects can cause transmission interference. Radio transmissions will reflect off any large object located between the transmitter and the receiver or repeater. This commonly occurs when radio transmission is attempted from inside buildings with thick, reinforced concrete walls or at subterranean levels. Cellular telephones are typically used in these instances. Hard-wired telephones or intercom systems can also be used, although they create their own set of tactical disadvantages. In many cases, however, dead spots can be eliminated to a degree by installing radio repeaters in appropriate locations.

(d) Radio transmissions have the potential to create problems with solid-state electrical components. The impact of radiofrequency interference (RFI) on electrical components of nuclear power plants should be evaluated to determine where RFI should be avoided. To prevent potential mishaps, areas where RFI has been determined to have a negative impact on electrical components should be identified. (The licensee's safety/security interface program should address the shielding of vital electrical components.) Radio transmissions should be avoided when in the proximity of any known or suspected explosive device. Explosive initiators are often designed to use RFI to actuate the explosive train. Cellular and cordless telephones also produce RFI, and their use should be avoided under similar circumstances.

b. On the basis of its protective strategy and the specific duties and responsibilities assigned to each individual, the licensee should consider providing the additional equipment described below.

(1) Flashlights and Batteries

(a) When choosing a flashlight, licensees should ensure that the flashlight be dependable and strong and provide sufficient illumination. Armed responders should be trained and qualified to operate the flashlight while conducting firearms activities.
(b) Spare batteries should be available, and a battery replacement schedule should be created.

(2) Nonlethal Weapons

(a) Licensees should provide the necessary training for each nonlethal weapon (e.g., baton, Taser, mace, or oleoresin capsicum (OC) spray) before issuance. Nonlethal weapons instructors should be certified by an organization recognized nationally (e.g., National Rifle Association, Federal Bureau of Investigation, the military) or by the State (e.g., Police Officer Standards and Training).
(b) This certification should specify the nonlethal weapon type(s) that the instructor is qualified to teach. The licensee's instructors should be recertified consistent with the standards recognized by a national or State entity at intervals not to exceed 3 years. The licensee should document the training in accordance with the critical task matrix of the Commission-approved plans.

(3) Handcuffs

(a) Handcuffing is a common method of restraint within the law enforcement community and is used to inhibit an individual's upper body mobility, thereby preventing individuals from using their arms to cause harm to themselves or another individual. Handcuffing may fall into more than one level of the force continuum, depending on the situation and how the techniques are applied.
(b) Compliance handcuffing techniques are normally associated with the restraint of a compliant individual who is receptive and cooperative when given verbal commands. Caution should always be exercised when applying compliance handcuffing techniques because a compliant individual may become combative. Because of the lack of physical force associated with compliance handcuffing, it may be associated with soft physical techniques within the force continuum.
(c) Noncompliant handcuffing is the act of forceful physical restraint against the will of an individual who has demonstrated combative characteristics by actively attempting to escape, evade, or engage other individuals in a harmful or offensive manner. Extreme caution should be used before and during the application of noncompliant handcuffing techniques to ensure the safety of all involved. Because of the physical force associated with noncompliant handcuffing (i.e., defensive tactics such as blows, strikes, takedowns), it is normally associated with hard physical techniques within the force continuum.
(d) It is recommended that licensees include both compliant and noncompliant handcuffing techniques and associated defensive tactics in their training programs to ensure the safety of the security force and other plant personnel. Licensees should also consider including in their training programs situational training (live scenarios and exercises) that includes the application of the force continuum and the measures within the force continuum (e.g., OC spray, defensive tactics, baton, handcuffing). Before issuing defensive equipment, licensees should be sure that personnel have been trained by a qualified instructor.

(4) Security Enhancements (Other Equipment)

(a) Licensees should consider the use of other equipment to augment the equipment they possess and to enhance the capabilities of their physical protection programs. Equipment such as binoculars, night vision aids, illumination devices (hand-fired flares, remote-operated spotlights), and remote-operated duress alarms may be used to enhance detection, assessment, and identification capabilities.

(b) Licensees may use other enhancements, such as nonlethal gas (incapacitating agents) through various delivery methods, to delay the approach of adversaries to vital areas and potential targets within the protected area.

10.3 Firearms Maintenance Program

To satisfy the requirements in 10 CFR 73.55(n) and Section VI, paragraph G.3, of Appendix B to 10 CFR Part 73, the licensee must develop a maintenance and accountability program for all licensee-assigned firearms to ensure that the firearms function as designed by the manufacturer. No modifications are to be made to any firearms, firearm accessories (magazines, sights, holsters), or contingency equipment that is not approved by the firearm or equipment manufacturer. A qualified armorer or gunsmith should make all modifications to any firearm.

At a minimum, the licensee must implement the following maintenance program:

a. Semiannual Test Firing for Accuracy and Functionality

(1) Consistent with Section VI, paragraph G.3.a, of Appendix B to 10 CFR Part 73, all firearms, whether licensee- or contractor-owned, must be test fired semiannually. A qualified armorer or a qualified training instructor should conduct or observe the test firing, consistent with procedures and criteria approved by a qualified armorer to ensure accuracy and reliability. The test firing should be conducted semiannually (a nominal 6-month period). The semiannual test fire should include the discharge of 10 or more rounds, at a minimum, to determine the functionality, reliability, and accuracy of each weapon. The assessment should also consider seasonal conditions.

(2) The licensee's firearms maintenance procedure should detail this provision. The procedure should also detail a method for documenting test-firing results.

(3) This provision can be satisfied during scheduled range activities. However, weapons that are unassigned and those that have not been cycled through the range activities within a 6-month period must be test fired and the results documented, consistent with Section VI, paragraph G.3.a, of Appendix B to 10 CFR Part 73.

b. Firearms Maintenance and Cleaning Schedule

(1) Consistent with 10 CFR 73.55(n) and Section VI, paragraph G.3.a, of Appendix B to 10 CFR Part 73, the licensee must develop firearms maintenance procedures, which should, at a minimum, document the requirements in the firearms manufacturer's recommendations for proper maintenance. Procedures should outline a regular schedule for inspections, types of preventive maintenance, the name of the individual who completed the inspection, the date of the inspection, whether repair is needed, and what actions are necessary before the firearm can enter service (i.e., test fire, function check). If repairs are performed, a new test firing should be completed before the firearm returns to service.

(2) Consistent with Section VI, paragraph G.3.a, of Appendix B to 10 CFR Part 73, cleaning procedures must be established for all licensee owned firearms to ensure that they are operational and can implement the site's protective strategy. Firearms should be cleaned consistent with the manufacturer's recommendations. A cleaning schedule must be implemented to ensure that all licensee firearms are maintained in a reliable operating condition. All firearms should be cleaned after firing. Additional consideration should be given to firearms that are stored or carried in a high-humidity environment (i.e., rain, snow, heavy fog) to reduce the possibility of corrosion. All firearms must be unloaded before cleaning. Unloading should be performed in an authorized area. Firearms cleaning procedures should include, but are not limited to, the following activities:

(a) removing magazine or ammunition source (unloading of firearm),
(b) inspecting the magazine well area of the weapon,
(c) locking open the action of the weapon (lock slide to rear or bolt to rear) and opening the action mechanism to the rear),
(d) inspecting the chamber to ensure that no ammunition is present,
(e) disassembling the firearm consistent with the manufacturer's recommendations for standard operator maintenance,
(f) using solvents, oils, and lubricants recommended by the manufacturer(s),
(g) using cleaning tools that match the caliber of the firearm to avoid damage to the surface areas, barrel, and muzzle areas,
(h) cleaning all areas of the firearm(s) with a cloth and/or brush treated with a small amount of cleaning solvent consistent with the manufacturer's recommendations,
(i) removing all traces of powder residue and fouling from the barrel of the firearm(s),
(j) lubricating the firearm according to the manufacturer's specifications,
(k) assembling the firearm consistent with the manufacturer's recommendations, and
(l) conducting a function check for the operability of the assembled firearms.

Once cleaned, the exterior of the firearm should be wiped with an oily rag to remove surface fingerprints. The acid content in fingerprints can result in surface rusting. Spray-type oil solutions (e.g., mixtures that are both penetrating and lubricating in design) should never be applied to loaded firearms because of the potential for the oil to penetrate the primers and cartridges, which may make them incapable of discharging.

c. Documentation

(1) Consistent with the requirements in 10 CFR 73.55(q) and Section VI, paragraph H, of Appendix B to 10 CFR Part 73, licensees must maintain and retain documentation of firearms maintenance in a manner similar to that for other security equipment that is relied on for effective implementation of the licensee's physical protection program. The documentation should be detailed enough to determine the nature of the malfunction or inoperable condition, when it occurred, when the weapon was taken out of service, how the problem was resolved and by whom, and when the weapon was returned to service. The documentation should also positively identify the weapon.

(2) Consistent with Section VI, paragraph G.3.a, of Appendix B to 10 CFR Part 73, the licensee must document and maintain firearms testing and maintenance activity consistent with Commission-approved security plans. The licensee should maintain a record of weapons testing and maintenance for each of its firearms for at least 3 years. The licensee

should consider retaining the firearms maintenance records for the life of the firearm to assist in evaluating the performance and dependability of the firearm in case of programmatic problems.

d. Accountability (Weapons and Ammunition)

(1) Consistent with Section VI, paragraph G.3.a, of Appendix B to 10 CFR Part 73, the licensee must implement a system of accountability for all firearms and ammunition. Firearms and ammunition should be stored in areas with access limited to personnel who are qualified to perform maintenance on or carry firearms. Licensees should account for all in-service firearms and duty ammunition daily and periodically account for out-of-service firearms and additional ammunition. The phrase "account for" means to provide a satisfactory record or explanation of the location or disposition of each firearm and all ammunition through visual or physical verification. Licensees should account for firearms that cannot be visually or physically accounted for because of their location (e.g., those that have been shipped off site for maintenance or other reasons) by verifying the documentation for the disposition of the firearm. Accountability for firearms that are stored in weapon safes or other tamper-proof containers, which are sealed with approved tamper-indicating devices (i.e., tamper seals), can be achieved by physically inspecting the integrity of the seal.

(2) Licensees should account for all protective strategy ammunition once per shift. Protective strategy ammunition (the ammunition the licensee requires for the effective implementation of the site's protective strategy) could be stored in the following locations:

(a) on the bodies of individual response and supplemental force personnel (i.e., in pouches, belts, and vests),
(b) in pouches, belts, vests, or containers located in defensive posts or in other licensee-approved locations throughout the site, and
(c) in additional contingency weapons staged for use during a contingency event.

(3) Visual or physical verification of sealed boxes, loaded magazines, or loose ammunition by licensee personnel assuming post responsibilities is acceptable for part of daily shift accountability. Licensees should consider placing a portion of additional ammunition in appropriate weapon(s) magazines. Ammunition should be readily available for armed personnel to resupply if necessary during a contingency event.

e. Firearm and Ammunition Storage

(1) Licensees should consider storing weapons and ammunition in approved storage areas or containers that prevent tampering or unauthorized possession and offer a high degree of assurance of safety and reliability. Storage areas or containers should provide easy access for authorized person(s) to retrieve the weapons and ammunition expeditiously.

(2) The primary considerations for storage are that the weapon does not sustain any damage, particularly to its sights, and that performance is not adversely impacted. In assessing a weapons storage area or container, the licensee should consider the potential impact of temperature, moisture, and particles, such as dust and sand, on the weapon(s). The storage area or container should also prohibit unauthorized access to a weapon.

f. Records

The licensee must retain all reports, records, or other documentation required by Appendix B to 10 CFR Part 73, consistent with the requirements of 10 CFR 73.55(q).

g. MILES Weapons

Licensees should consider implementing a similar firearms maintenance program for their exercise simulation system equipment.

11. Audits and Reviews

The licensee should review the Commission-approved training and qualification plan consistent with the requirements of 10 CFR 73.55(m) and Section VI, paragraph I, of Appendix B to 10 CFR Part 73.

12. Basis

The NRC used additional information in the following documents as a basis for this regulatory guide:

(1) 10 CFR Part 73, "Physical Protection of Plants and Materials,"
(2) 29 CFR 1910.134, "Respiratory Protection,"
(3) 71130.03, "Contingency Response FOF Testing,"
(4) Colt Carbine and Rifle Armorer Manual,
(5) Draft SFAQ-05-17, "Scheduling of Annual Training,"
(6) Federal Law Enforcement Training Center, Firearms Training Lesson Plan, Annex F, "Special Shooting Situations,"
(7) Federal Law Enforcement Training Center, Firearms Training Lesson Plan, Annex D, "Observational Techniques,"
(8) Federal Law Enforcement Training Center, Firearms Training Lesson Plan, "Marksmanship Fundamentals,"
(9) International Atomic Energy Agency (IAEA)-Tec Doc-1392, "Development of Instructors for Nuclear Power Plants Personnel Training,"
(10) Langevin Learning Services (instructor certification),
(11) Lesson learned from NRC security baseline inspection program (industry best practices);
(12) Marine Rifle Company/Platoon FMFM 6-4,
(13) National Rifle Association, "Law Enforcement Handgun/Shotgun Instructor Manual,"
(14) National Rifle Association, "Law Enforcement Patrol Rifle Instructor Manual,"
(15) Nuclear Energy Institute (NEI) 03-12, current revision, "Physical Security Plan Template,"
(16) National Institute of Justice Standard 0101.04, "Ballistic Resistance of Personal Body Armor,"
(17) NRC Information Notice 89-05, "Use of Deadly Force by Guards Protecting Nuclear Power Reactors Against Radiological Sabotage," January 19, 1989,
(18) NRC-issued security orders,
(19) security-related NRC generic communications (e.g., information notices and security advisories),
(20) SFAQ-05-10, "Tactical Qualification Course of Fire,"
(21) Sigarms Armorer Certification Training Program,
(22) U.S. Department of the Army, FM 23-9, "Rifle Marksmanship,"

(23) U.S. Department of the Army, Pamphlet 385-63, "Range Safety,"
(24) U.S. Marine Corps, MCRP 3-01A, "Rifle Marksmanship," and
(25) U.S. Marine Corps, MCRP 3-01B, "Pistol Marksmanship."

D. IMPLEMENTATION

The purpose of this section is to provide information to applicants and licensees regarding the NRC's plans for using this regulatory guide. The NRC does not intend or approve any imposition or backfit in connection with its issuance.

In some cases, applicants or licensees may propose or use a previously established acceptable alternative method for complying with specified portions of the NRC's regulations. Otherwise, the methods described in this guide will be used in evaluating compliance with the applicable regulations for license applications, license amendment applications, and amendment requests.

BACKFIT STATEMENT

The NRC prepared a backfit analysis for the final power reactor security rule for which this regulatory guide provides guidance. *See* 74 FR 13926, 13968 (March 27, 2009). This regulatory guide presents the first instance of NRC staff guidance on the amended rule. Accordingly, the backfit statement in the final 2009 power security rules applies to this regulatory guide. No further consideration of backfitting is necessary for this regulatory guide.

GLOSSARY

NOTE: This glossary applies only to the requirements of Appendix B to 10 CFR Part 73.

action—functional parts of a firearm that move together to place a cartridge in the chamber or otherwise ready a cartridge for firing.

annual/annually—requirements specified as "annual" should be scheduled at a nominal 12-month periodicity. Performance may be conducted up to three months before to three months after the scheduled date.

automatic—a firearm using gas pressure or force of recoil and mechanical spring action for repeatedly performing the entire firing cycle (i.e., fire, unlock, extract, eject, cock, feed, chamber, and lock) with a single press of the trigger.

barrel—the part of the firearm, usually made from iron or steel, through which the projectile(s) pass(es) when the firearm is fired.

barricade—a linear structure used as an obstacle or as support during the firing of a firearm.

bolt—a metal cylinder or block that drives the cartridge into the chamber of a firearm, locks the breech, and usually contains the firing pin and extractor.

bore—the interior of the barrel, the diameter of which determines the caliber or gauge of the firearm.

breech—the part of the firearm to the rear of the bore that accepts ammunition.

bullet—the projectile that is expelled from a firearm when it is fired.

caliber—the diameter of the bore of a firearm or diameter of a bullet.

carbine—a compact, lightweight, short-barreled, rifled-bore, shoulder-fired firearm.

cartridge—a single piece of firearm ammunition consisting of casing, powder, primer, and projectile.

chamber—the part of the barrel's bore that holds the cartridge or a compartment in the cylinder of a revolver.

charge—to cause the action of a firearm to move, resulting in a cartridge being placed in the chamber and readied for firing.

clear—to ensure that a firearm has no cartridge in the chamber, cylinder, or loading mechanism and, if magazine fed, that the magazine is also removed.

clip—a device used to hold multiple cartridges together. It is used as an aid in loading firearms magazines or cylinders. It has no moving parts and is usually not retained in the firearm.

close-quarter battle—intensive combat situations at distances less than 21 feet, generally with multiple participants with firearms, other weapons, or hand-to-hand combat.

contraband—firearms, explosives, incendiary devices or other items that may be carried or concealed by personnel, packages, materials or vehicles and could be used to commit radiological sabotage.

course—an orderly progression of manipulating and shooting a firearm through specified stages and strings designed to exercise and evaluate firearm manipulation and shooting skills.

cover—protection from incoming projectiles.

cylinder—the rotating chambers of a revolver that hold the cartridges.

draw—to bring out a firearm, usually a handgun, from a holster worn on the body and direct it toward a target.

dry fire—to manipulate a firearm and practice firing with no live cartridges or to use inert (dummy rounds) ammunition.

fire—to discharge a firearm.

firearm—a weapon from which a projectile(s) is discharged by gun powder, particularly small arms such as rifles or handguns.

force continuum (use of force continuum)—a standard that provides individuals with guidelines as to how much force may be used against a resisting or combative subject in a given situation.

fratricide—the employment of friendly weapons and munitions with the intent to neutralize the enemy or destroy his equipment, or facilities, which results in unforeseen and unintentional death or injury to friendly personnel.

gauge—a measuring system used to determine the bore diameter of a shotgun barrel based upon the number of balls of bore diameter that can be produced from a pound of lead.

grip—(verb) to place one or more hands on a firearm to permit effective firing. (noun) The portion(s) of a firearm designed for holding it in order to fire.

hammer—the part of a firearm that strikes the primer, firing pin, or percussion cap, causing the firearm to fire a projectile.

handgun—a firearm capable of being held and fired with one hand.

magazine—component in some types of firearms, occasionally a detachable metal box, in which cartridges are placed. The magazine contains a spring and a follower and is part of the mechanism by which cartridges are fed into the chamber.

muzzle—the discharge end of a barrel.

other items—items that have an apparent primary use as a weapon (e.g. crossbow, brass knuckles, swords, nunchucks, etc.) or destructive devices as defined in 26 U.S.C. 5845(f) intended for use in the commission of radiological sabotage and does not apply to ordinary tools or materials routinely used in the operation and maintenance of a commercial nuclear power reactor facility that could potentially be used in a manner for which they are not intended.

pistol—a handgun with a chamber that is integral with the barrel.

player—individuals must participate in one of the following roles to satisfy this requirement as a player (i.e. response team leaders, alarm station operators, armed responders, armed security officers designated as a component of the protective strategy).

print—perforation on a target caused by a projectile.

projectile—a fired, projected object, such as a bullet or pellet having no capacity for self propulsion, directed toward a nuclear power plant that could cause concern for its continued operability, reliability, or personnel safety.

quarterly—requirements that are specified as "quarterly" should be scheduled at a nominal 13-week periodicity. Performance may be conducted up to four weeks before to four weeks after the scheduled date. The next scheduled date is 13 weeks from the originally scheduled date.

revolver—a handgun with a cylinder of multiple chambers brought successively into line with the barrel and discharged by the same hammer.

rifle— a shoulder-fired firearm with a rifled barrel designed for single-shot, semiautomatic, or full-automatic firing.

round—common term for a single cartridge.

scope—an optical instrument used to aid the human eye in sighting a firearm.

semiautomatic—a firearm using gas pressure or force of recoil and mechanical spring action to complete one cycle of the firing sequence (fire, unlock, extract, eject, cock, feed, chamber, lock) with a single pull of the trigger. The trigger must be released and re-pressed to begin a second firing sequence.

shot—a projectile, such as a bullet or pellet, from a firearm. This term typically refers to small, round pellets fired from a shotgun.

shotgun—a smooth-bore shoulder firearm for firing single (slug) or multiple projectiles (pellets), usually at moderate distance.

sight alignment—correct positioning of the front sight within the center space of the rear sight. For firearms equipped with a scope, the scope must be aligned with the bore before shooting.

sight picture—correct alignment of the target with the correctly aligned sight(s) to ensure that a projectile strikes the target at the point of aim.

slug—an elongated projectile of bore diameter for a shotgun that may have a hollow base and spiral driving bands (rifling) on its surface.

stage—a segment of a firearms qualification course, which may consist of one or more strings using similar techniques at a specified distance.

string—a segment of a stage, usually fired within a specified time limit.

tampering—deliberately damaging, disabling, or altering equipment necessary for safe shutdown or security equipment necessary for the protection of the facility in order to defeat their function and/or prevent them from operating.

training cycle—a period over which the continuing training program is conducted and evaluated (normally over a three year period).

zero—to adjust a firearm's sighting mechanism(s) to cause a projectile to strike a target at the point of aim. This term may also refer to the number before 1.

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Public Law 104-208, *United States Code*, Section 922(g)(9), "Gun Ban for Individuals Convicted of a Misdemeanor Crime of Domestic Violence" (also know as the 1996 Lautenberg Amendment to the Gun Control Act of 1994).

[1] All NRC regulations listed herein are available electronically through the Electronic Reading Room on the NRC's public Web site, at http://www.nrc.gov/reading-rm/doc-collections/cfr/. Copies are also available for inspection or copying for a fee from the NRC's Public Document Room (PDR) at 11555 Rockville Pike, Rockville, MD; the mailing address is USNRC PDR, Washington, DC 20555; telephone (301) 415-4737 or (800) 397-4209; fax (301) 415-3548; and email PDR@nrc.gov.

[2] All *Federal Register* notices listed herein were issued by the U.S. Nuclear Regulatory Commission are available for inspection or copying for a fee from the NRC's Public Document Room (PDR) at 11555 Rockville Pike, Rockville, MD; the mailing address is USNRC PDR, Washington, DC 20555; telephone (301) 415-4737 or (800) 397-4209; fax (301) 415-3548; and email PDR@nrc.gov. Many are also available electronically through the *Federal Register* Main Page of the public GPOAccess Web site, which the U.S. Government Printing Office maintains at http://www.gpoaccess.gov/fr/index.html.

ATTACHMENT 1

Table 1. Critical Functions Job Tasks Qualification Table

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
1. Perform Critical Administrative Items: Perform administrative tasks associated with the conduct of security operations consistent with station procedures.								
• Identify the role of security personnel in supporting safe operation of the facility	X	X	X	X	X	X		D
• Identify the 10 CFR 73.21 requirements for the protection of Safeguards Information	X	X	X	X	X	X		D
• Identify security chain of command	X	X	X	X	X	X		D
• Conduct shift turnover				X	X	X		P/S/D
• Conduct post turnover	X	X	X	X	X	X		P/S/D
• Prepare duty roster				X	X	X		P/S/D
• Verify inventory of security keys		X	X	X	X	X		P
• Verify inventory of security equipment		X	X	X	X	X		P
• Perform pre-job briefing				X	X	X		P/S
• Inspect security posts				X	X	X		P/D
• Issue vital area keys		X	X	X	X	X		P/S/D
• Identify/perform reportability		X	X	X	X	X		P/S/D
• Change vital area keys and cores/safeguards combinations		X	X	X	X	X		P/S

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
• Evaluate individuals for the symptoms, contributing factors, and effects of fatigue					X	X		P/S/D
• Perform emergency plan security positions	X	X	X	X	X	X		P/D
• Perform annual station-specific training	X	X	X	X	X	X	A	M
2. Perform Visitor Access Control: Verify identification, authorization for entry, appropriate badge and/or key card and presence of an escort before allowing entry to the protected area, consistent with site security plans and implementing procedures.								
• Verify identification of individuals authorized unescorted access and visitors	X	X	X	X	X	X	A	M
• Verify that visitors are not on the denied access list	X	X	X	X	X	X	A	M
• Identify access badges	X	X	X	X	X	X		D
• Issue visitor badges	X	X	X	X	X	X	A	M
• Issue escort badge and escort instructions	X	X	X	X	X	X		S/D
3. Control Personnel Access to Protected and Vital Areas: Verify identity and authorization of individual seeking ingress and permit or deny entry accordingly; communicate required logging information to the alarm station operator or record data, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Control access to vital area (VA)		X	X	X	X	X		S/D
• Control access to protected area (PA)		X	X	X	X	X		S/D
• Control access to remote portals		X	X	X	X	X		S/D
• Control PA/VA access during a declared emergency		X	X	X	X	X		D
• Test/operation of hand geometry/iris scan	X	X	X	X	X	X	A	M

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
• Respond to anti-pass back alarm		X	X	X	X	X		S/D
4. Conduct Personnel Searches: Using special-purpose detectors, by means of visual observation, by hands-on techniques, or by combinations of these methods, complete search to detect or rule out the presence of unauthorized firearms, explosives and incendiary devices, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures, including excepted situations.								
• Use and test hand-held metal detector	X	X	X	X	X	X	A	M
• Monitor/operate walk-through metal detector	X	X	X	X	X	X	A	M
• Monitor/operate explosive detector	X	X	X	X	X	X	A	M
• Conduct hands-on search of personnel	X	X	X	X	X	X	A	M
• Recognize/detect contraband	X	X	X	X	X	X	A	M
• React to detection of contraband	X	X	X	X	X	X	A	S/D
• Test access control equipment	X	X	X	X	X	X	A	M
• Operate portable explosive detector	X	X	X	X	X	X	A	M
5. Perform Material Search: Complete package and material search requirements, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures, including excepted situations.								
• Search/identify and properly handle cargo/package	X	X	X	X	X	X	A	M
• Recognize/detect contraband	X	X	X	X	X	X	A	M
• Monitor/operate x-ray machine	X	X	X	X	X	X	A	M
• Conduct package search	X	X	X	X	X	X	A	M
• React to detection of contraband	X	X	X	X	X	X	A	S/D

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
• React to detection of radioactive material	X	X	X	X	X	X		S/D
6. Perform Vehicle Search: Verify/obtain access authorization; complete search requirements; prepare appropriate forms on vehicle; ensure driver is searched; determine need for escort and complete vehicle entry requirements, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures, including excepted situations.								
• Search vehicle	X	X	X	X	X	X	A	M
• Operate explosive detector (e.g., Itemizer)	X	X	X	X	X	X	A	M
• Control vehicle access to PA/owner-controlled area (OCA)		X	X	X	X	X		S/D
• Recognize/detect contraband	X	X	X	X	X	X	A	M
• React to detection of contraband	X	X	X	X	X	X	A	S/D
• React to discovery of radioactive material	X	X	X	X	X	X		S/D
• Log vehicles into and out of the PA	X	X	X	X	X	X		P/D
7. Perform Vehicle and Material Escort Functions: Demonstrate the ability to escort a vehicle and any material, to immobilize a vehicle if left unattended, and make reports, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Escort/disable vehicles		X	X	X	X	X		S/D
• Escort vehicles with hazardous material		X	X	X	X	X		S/D
• Escort excepted material		X	X	X	X	X		S/D

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
8. Conduct Security Patrols: Patrol and inspect assigned area to include PA, VA, and vehicle barriers and observe area of responsibility for suspicious events, obvious indications of tampering, unauthorized persons, vehicles, materials, or activities, consistent with station procedures. Make or document appropriate reports in response to alarms and investigations, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Conduct OCA/PA/VA patrol		X	X	X	X	X		P/D
• Identify PA and OCA barrier characteristics	X	X	X	X	X	X		D
• Inspect active/passive vehicle barriers		X	X	X	X	X		P/D
• Inspect gates/locks/access portals and intrusion detection system		X	X	X	X	X		P/D
• Observe employees/visitors for suspicious behavior	X	X	X	X	X	X		D
• Check for obvious indications of tampering during rounds		X	X					D
• Respond to confirmed tampering events		X	X					D
9. Conduct Security Communications: Demonstrate proper operation techniques to transmit and receive messages, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Establish radio communications	X	X	X	X	X	X	A	M
• Establish alternate communications	X	X	X	X	X	X	A	M
• Identify security command and control communication structures during normal and contingency operations	X	X	X	X	X	X		D

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
10. Communicate with Duress System: Determine appropriate conditions and initiate duress alarm or communications signal and respond to a duress alarm, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Use duress alarm(s)	X	X	X	X	X	X		P/S/D
• Initiate/receive/act on duress alarms	X	X	X	X	X	X		S/D
11. Operate Perimeter Security Barriers: Identify perimeter barriers and operate them, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Demonstrate operation of active vehicle barrier(s)		X	X	X	X	X		P/S
• Demonstrate motor-operated gate operation		X	X	X	X	X		P/S
12. Test Intrusion Detection Equipment and Special-Purpose Detectors: Demonstrate the ability to properly test intrusion detection equipment and/or special-purpose detectors using appropriate test methods and test devices, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Test intrusion detection system	X	X	X	X	X	X		P/S
• Test special-purpose detection system	X	X	X	X	X	X		P/S
13. Provide Compensatory Measures: Locate and describe post locations, areas of responsibility, timing of actions and communication requirements for each assigned posting, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• React to loss of security lighting		X	X	X	X	X		S/D
• React to loss of security computer		X	X	X	X	X		S/D
• React to loss of communications		X	X	X	X	X		S/D
• React to loss of intrusion detection		X	X	X	X	X		S/D

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
• React to loss of closed-circuit television		X	X	X	X	X		S/D
• React to loss of PA/VA barrier		X	X	X	X	X		S/D
• React to loss of vehicle barrier		X	X	X	X	X		S/D
14. Conduct Area Searches: Demonstrate appropriate search techniques to recognize and properly respond upon discovery of contraband and prohibited items, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Search OCA, PA, and VA	X	X	X	X	X	X		S/D
• Recognize contraband and prohibited items	X	X	X	X	X	X	A	M
• React to discovery of contraband and prohibited items	X	X	X	X	X	X		P/S/D
15. Respond to Protected and Vital Area Alarms: On dispatch from the alarm station operator, proceed to the area in alarm within a specified timeframe and investigate the cause of alarm by using proper assessment procedures, and report to the alarm station operator, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Respond to alarms		X	X	X	X	X		P/S/D
16. Determine Amount of Force Required To Prevent an Unauthorized Act: Demonstrate understanding of situation in which the use of force is authorized and demonstrate the appropriate degree and type of force necessary, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Conduct arrest/detention		X	X	X	X	X		S/D
• Determine if a legal search may be performed		X	X	X	X	X		
• Determine if a legal arrest may be made		X	X	X	X	X		

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
• Field search an arrested person		X	X	X	X	X		S/D
• Determine when the use of nonlethal and lethal force is justified (force continuum)		X	X	X	X	X		D
• Identify situations when search and seizure by private security personnel are legal		X	X	X	X	X		D
• Handcuff and search a suspect		X	X	X	X	X		P/S/D
17. Perform Central and Secondary Alarm Station Functions: Demonstrate routine alarm station functions and contingency response procedures, including communications, for alarm stations, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Respond to alarm				X	X	X	A	M
• Encode and/or activate key card badges				X	X	X	A	M
• Log vehicles into and out of the PA				X	X	X		P/D
• Initiate and monitor patrols				X	X	X		P/D
• Logon/logoff security computer				X	X	X	A	S
• Operate security computer system				X	X	X	A	M
• Run required reports				X	X	X	A	M
• Identify actions upon loss of intrusion detection system				X	X	X		P/D
• Monitor personnel working in the isolation zone				X	X	X		P/D

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
18. Operate the Base Station Radio and Security Communications Equipment: Select the proper communications equipment on the appropriate frequency as required, operate equipment by using correct communications procedures, contact fixed posts, patrols, responders, and local law enforcement agency (LLEA) recording the check, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Identify available LLEA communication channels				X	X	X		D
• Contact LLEA (primary and alternate)				X	X	X		P/S/D
• Use emergency call list				X	X	X		D
• Monitor/operate communication systems				X	X	X	A	M
19. Operate and Monitor Access Control, Observation, Detection and Assessment Equipment: Operate and monitor access control, observation, detection, and assessment systems to verify operability, acknowledge any alarm indication and initiate response within a specified timeframe, annotate appropriate records and complete other activities, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Operate card access system				X	X	X	A	M
• Change status and monitor zones				X	X	X	A	S
• Activate/deactivate alarm point				X	X	X	A	S
• Respond to system errors				X	X	X		P/D
• Test intrusion detection system				X	X	X		P/D
• Monitor and respond to loss of power alarm(s) (e.g., uninterrupted power supply, backup, secondary)				X	X	X		P/D

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
• Operate and test video cassette recorder				X	X	X	A	M
• Monitor/control cameras				X	X	X	A	M
• Operate video capture				X	X	X	A	M
• Identify actions upon loss of video assessment system				X	X	X		P/D
20. Respond to Contingency Events and Execute Defensive Strategy: Within a specified timeframe, respond to contingency events as directed or required by communicating with alarm station(s), using contingency equipment as directed, observing/reporting information; and correctly implementing supervisory directions and proper tactics, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Identify defensive positions			X	X	X	X		D
• Identify targets and target sets			X	X	X	X		D
• Identify offsite law enforcement response	X	X	X	X	X	X		D
• Identify tactics and force that an adversary group might use to achieve its objectives			X	X	X	X		D
• Identify response force deployment, tactical movement, withdrawal, and use of support fire			X	X	X	X		D
• Identify integrated response plan with LLEA and State and Federal resources			X	X	X	X		D
• Identify response timelines			X	X	X	X		D
• Conduct/report tactical observations	X		X	X	X	X		D
• Identify safeguards contingency threat situations		X	X	X	X	X		D
• Identify/react to changes in threat level		X	X	X	X	X		D
• Participate in quarterly tactical drills			X	X	X	X	Q	M

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
• Participate in annual force-on-force exercise			X	X	X	X	A	M
21. Direct Response Team Activities: Within a specified timeframe, implement security response to safeguards contingency events by instructing, directing, deploying, and coordinating individuals and teams, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Coordinate response team				X	X	X		S/D
• Redirect team to respond to threat				X	X	X		S/D
22. Comply with Physical Fitness Performance Requirements: Demonstrate the level of physical fitness necessary to perform assigned duties and responsibilities, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Demonstrate strength, endurance, and agility required to perform the assigned security-related duties		X	X	X	X	X	A	M
23. React to Bomb, Hostage, and Civil Disturbance Situations: Demonstrate the ability to execute station procedures and respond correctly to a potential bomb threat, hostage situation, or civil disturbance near the facility, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Execute mob and crowd control formations		X	X	X	X	X		S/D
• Don/use riot protective equipment		X	X	X	X	X	A	M
• Receive/react to a bomb/attack/extortion threat	X	X	X	X	X	X		S/D
• React to a hostage situation		X	X	X	X	X		D
• React to civil disturbance situation		X	X	X	X	X		D
• Respond to a hostage or duress situation	X	X	X	X	X	X		D

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
• Conduct an investigation and prepare a report				X	X	X	A	M
24. Perform Nonlethal Defense Measures: Demonstrate proper use of nonlethal defensive measures, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Demonstrate the use of chemical agent		X	X	X	X	X	A	M
• Demonstrate CS/CN smoke grenades		X	X	X	X	X	A	M
• Demonstrate 37-mm gas launcher		X	X	X	X	X	A	M
• Use shotgun as a gas launcher		X	X	X	X	X	A	M
• Demonstrate the use of baton		X	X	X	X	X	A	M
• Conduct unarmed self-defense		X	X	X	X	X	A	M
25. Demonstrate Proficiency with Handgun: Satisfactorily achieve basic and advanced weapons qualification to demonstrate tactical use of assigned weapon in support of the defensive strategy, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Engage target with handgun		X	X	X	X	X	A	M
• Clean/inspect/maintain handgun		X	X	X	X	X	A	M
• Load/clear stoppage/unload/reload handgun		X	X	X	X	X	A	M
• Demonstrate proper firearms handling		X	X	X	X	X	A	M
• Demonstrate weak-hand shooting using handgun		X	X	X	X	X	A	M
• Demonstrate use of clearing trap		X	X	X	X	X	A	M
• Demonstrate proficiency under simulated tactical situation		X	X	X	X	X	A	M
• Demonstrate principles of good marksmanship and weapons safety		X	X	X	X	X	A	M
• Demonstrate the ability to transition from one firearm type to another		X	X	X	X	X	A	M

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
• Demonstrate the proper use of cover and concealment		X	X	X	X	X	A	M
• Perform annual daylight Appendix B firearms qualification		X	X	X	X	X	A	M
• Perform annual night fire qualification with the handgun in conditions that reasonably approximate expected loss of lighting conditions that would occur because of loss of offsite power		X	X	X	X	X	A	M
• Demonstrate the ability to load, unload, and clear all assigned weapons in conditions that reasonably approximate expected loss of lighting conditions		X	X	X	X	X	A	M
• Demonstrate combined use of handguns and shoulder-fired weapons		X	X	X	X	X	A	M
• Demonstrate ability to perform under stress and physical demands		X	X	X	X	X	A	M
• Demonstrate proper cover and concealment tactics while engaging multiple targets, moving targets, and decision-making targets		X	X	X	X	X	A	M
• Demonstrate the ability to recover from simulated weapon malfunctions and safe handling of firearms simulated as appropriate		X	X	X	X	X	A	M
• Demonstrate firing at multiple targets, loading, and reloading while wearing a protective mask		X	X	X	X	X	A	M
26. [Demonstrate Proficiency with 12 Gauge Shotgun]: Satisfactorily achieve basic and advanced weapons qualification to demonstrate tactical use of assigned weapon in support of the defensive strategy, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Engage target with shotgun		X	X	X	X	X	A	M
• Clean/inspect/maintain shotgun		X	X	X	X	X	A	M
• Load/clear stoppage/unload/reload shotgun		X	X	X	X	X	A	M
• Demonstrate use of clearing trap		X	X	X	X	X	A	M

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
• Demonstrate proper firearms handling		X	X	X	X	X	A	M
• Demonstrate proficiency under simulated tactical situation		X	X	X	X	X	A	M
• Demonstrate principles of good marksmanship and weapons safety		X	X	X	X	X	A	M
• Engage potential targets when obstacles such as smoke, fencing, doors, and walls are encountered during a contingency event		X	X	X	X	X	A	M
• Demonstrate the ability to transition from one firearm type to another		X	X	X	X	X	A	M
• Demonstrate the ability to recover from simulated weapons malfunctions (e.g., dummy rounds)		X	X	X	X	X	A	M
• Demonstrate the proper use of cover and concealment		X	X	X	X	X	A	M
• Perform annual daylight firearms qualification		X	X	X	X	X	A	M
• Perform annual night fire qualification with the shotgun in conditions that reasonably approximate expected loss of lighting conditions that would occur because of loss of offsite power		X	X	X	X	X	A	M
• Demonstrate the ability to load, unload, and clear all assigned weapons in conditions that reasonably approximate expected loss of lighting conditions		X	X	X	X	X	A	M
• Demonstrate combined use of handguns and shoulder-fired weapons		X	X	X	X	X	A	M
• Demonstrate firing from a reasonable and representative facsimile of defensive positions, elevations, and distances		X	X	X	X	X	A	M
• Demonstrate ability to perform under stress and physical demands		X	X	X	X	X	A	M
• Demonstrate proper cover and concealment tactics while engaging multiple targets, moving targets, and decision-making targets		X	X	X	X	X	A	M
• Demonstrate the ability to transition from one firearm type to another		X	X	X	X	X	A	M

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
• Demonstrate firing at multiple targets, loading, and reloading while wearing a protective mask		X	X	X	X	X	A	M
27. Demonstrate Proficiency in Use of Semiautomatic Rifle: Satisfactorily achieve basic and advanced weapons qualification to demonstrate tactical use of assigned weapon in support of the defensive strategy, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Engage target with rifle		X	X	X	X	X	A	M
• Clean/inspect/maintain rifle		X	X	X	X	X	A	M
• Load/clear stoppage/unload/reload rifle		X	X	X	X	X	A	M
• Demonstrate use of clearing trap		X	X	X	X	X	A	M
• Demonstrate proper firearms handling		X	X	X	X	X	A	M
• Demonstrate proficiency under simulated tactical situation		X	X	X	X	X	A	M
• Demonstrate principles of good marksmanship and weapons safety		X	X	X	X	X	A	M
• Engage potential targets when obstacles such as smoke, fencing, doors, and walls are encountered during a contingency event		X	X	X	X	X	A	M
• Demonstrate the ability to transition from one firearm type to another		X	X	X	X	X	A	M
• Demonstrate the ability to recover from simulated weapons malfunctions (e.g., dummy rounds)		X	X	X	X	X	A	M
• Demonstrate the proper use of cover and concealment		X	X	X	X	X	A	M
• Perform annual daylight Appendix B firearms qualification		X	X	X	X	X	A	M
• Perform annual night fire qualification with rifle in conditions that reasonably approximate expected loss of lighting conditions that would occur because of loss of offsite power		X	X	X	X	X	A	M

Tasks	Watchperson	Armed Security Officer (A)	Armed Responder (AR)	Alarm Station Operator (ASO)	Response Team Leader (RTL)	Security Shift Supervisor (SSS)	Frequency*	Performance Method
• Demonstrate the ability to load, unload, and clear all assigned weapons in conditions that reasonably approximate expected loss of lighting conditions		X	X	X	X	X	A	M
• Demonstrate combined use of handguns and shoulder-fired weapons		X	X	X	X	X	A	M
• Demonstrate firing from a reasonable and representative facsimile of defensive positions, elevations, and distances		X	X	X	X	X	A	M
• Demonstrate ability to perform under stress and physical demands		X	X	X	X	X	A	M
• Demonstrate proper cover and concealment tactics while engaging multiple targets, moving targets, and decision-making targets		X	X	X	X	X	A	M
• Demonstrate the ability to transition from one firearm type to another		X	X	X	X	X	A	M
• Demonstrate firing at multiple targets, loading, and reloading while wearing a protective mask		X	X	X	X	X	A	M
28. Demonstrate Use of Protective Equipment: Demonstrate proper donning and use of protective response equipment, consistent with NRC requirements, NRC-approved site security plans, and site implementing procedures.								
• Inspect/use protective equipment		X	X	X	X	X	A	M
• Demonstrate use of gas mask		X	X	X	X	X	A	M

Frequency: A = Annual Requirement, not subject to the SAT process
Q = Quarterly

Performance Method: M = Must Perform, not subject to the SAT process