ORDER

DOE O 473.3

Approved: 6-27-2011

PROTECTION PROGRAM OPERATIONS

U.S. DEPARTMENT OF ENERGY

Office of Health, Safety and Security

PROTECTION PROGRAM OPERATIONS

1. PURPOSE. This Order establishes requirements for the management and operation of the Department of Energy (DOE) Federal Protective Forces (FPF), Contractor Protective Forces (CPF), and the Physical Security of property and personnel under the cognizance of DOE. The order does this by combining into one Protection Program Operations (PPO) order the baseline requirements which were contained in the manuals for physical protection, CPF, and FPF. This Order establishes requirements for the physical protection of interests under DOE's purview ranging from facilities, buildings, Government property, and employees to national security interests such as classified information, special nuclear material (SNM), and nuclear weapons. A graded approach for the protection of the lowest level of government property and layered to the most critical are described in this Order and its appendix and attachments. PPO and its constituent components; physical security and protective forces must be integrated with other safeguards and security (S&S) programs such as program planning and management, information security, personnel security, and nuclear material control and accountability.

2. CANCELLATIONS. DOE M 470.4-2A, *Physical Protection*, dated 7-23-09; DOE M 470.4-3A, *Contractor Protective Force*, dated 11-15-08; and DOE M 470.4-8, *Federal Protective Force*, dated 7-15-09, are canceled. NOTE: Appendix C *Safeguards and Security Alarm Management and Control Systems*, of DOE M 470.4-2A, is retained and incorporated into this Order as Attachment 3, Annex 1.

   Cancellation of a directive does not, by itself, modify or otherwise affect any contractual or regulatory obligation to comply with the directive. Contractor Requirements Documents that have been incorporated into a contract remain in effect throughout the term of the contract unless and until the contract or regulatory commitment is modified to either eliminate requirements that are no longer applicable or substitute a new set of requirements.

3. APPLICABILITY.

   a. Departmental Applicability. The requirements in this Order apply to all DOE elements.

   b. The Administrator of the National Nuclear Security Administration (NNSA) will ensure that NNSA employees comply with their respective responsibilities under this Order. Nothing in this Order will be construed to interfere with the NNSA Administrator's authority under section 3212(d) of Public Law (P.L.) 106 65 to establish Administration-specific policies, unless disapproved by the Secretary.

   c. The BPA Administrator will assure that BPA employees and contractors comply with their respective responsibilities under this directive consistent with BPA's self financing, procurement and other statutory authorities.

d. DOE Contractors.

(1) Except for the equivalencies/exemptions in paragraph 3.d., the Contractor Requirements Document (CRD) (Attachment 1) sets forth requirements of this Order that will apply to contracts that include the CRD.

(2) The CRD must be included in the site/facility management contracts that involve classified information or matter, or nuclear materials and contain DOE Acquisition Regulation (DEAR) clause 952.204-2, titled Security Requirements.

(a) Departmental elements must notify contracting officers of affected site/facility management contracts to incorporate this directive into those contracts.

(b) Once notified, contracting officers are responsible for incorporating this directive into the affected contracts via the Laws, Regulations, and DOE directives clause of the contracts.

(3) A violation of the provisions of the CRD relating to the safeguarding or security of Restricted Data or other classified information may result in a civil penalty pursuant to subsection a. of section 234B, of the Atomic Energy Act of 1954 (42 U.S.C. 228b.). The procedures for the assessment of civil penalties are set forth in 10 CFR Part 824, *Procedural Rules for the Assessment of Civil Penalties for Classified Information Security Violations*.

e. Equivalencies/Exemptions. Equivalencies and exemptions from the requirements of this Order are processed in accordance with DOE O 251.1C, Departmental Directive Program. When conditions warrant, equivalencies or exemptions from the requirements in this Order, requests must be supported by a vulnerability assessment (VA) when required by the assets being protected, or by sufficient analysis to form the basis for an informed risk management decision, the analysis must identify compensatory measures, if applicable, or alternative controls to be implemented.

f. All approved equivalencies and exemptions under this Order must be entered in the Safeguards and Security Information Management System (SSIMS) database and incorporated into the affected security plan(s). Approved equivalencies and exemptions become a valid basis for operation when they have been entered in SSIMS and documented in the appropriate security plan, and they must be incorporated into site procedures at that time.
Many DOE safeguards and security (S&S) Program requirements are found in or based on regulations issued by Federal agencies, and codified in the CFR or other authorities, such as Executive Orders or Presidential Directives. In such cases, the process for deviating from those requirements found in the source document must be applied. If the source document does not include a deviation process, the

DOE Office of General Counsel, or NNSA Office of General Counsel if an NNSA element is involved, must be consulted to determine whether deviation from the source can be legally pursued..

Exemption. Requirements in this Order that overlap or duplicate requirements of the Nuclear Regulatory Commission (NRC) related to radiation protection, nuclear safety (including quality assurance), and S&S of nuclear material do not apply to the design, construction, operation, and decommissioning of DOE facilities and activities regulated by the NRC. This exemption does not apply to requirements for which the NRC defers to DOE or does not exercise regulatory jurisdiction.

g. Exclusion. In accordance with the responsibilities and authorities assigned by Executive Order 12344, codified at 50 USC sections 2406 and 2511, and to ensure consistency throughout the joint Navy and DOE organization of the Naval Nuclear Propulsion Program, the Deputy Administrator for Naval Reactors (Director) will implement and oversee all requirements and practices pertaining to this DOE Order for activities under the Director's cognizance, as deemed appropriate.

4. REQUIREMENTS. Departmental Elements must establish and maintain standardized requirements for management direction, training program administration, maintenance of qualifications, and execution of operations for the various PF and physical protection activities within DOE. The requirements for Federal Protective Forces can be found in Appendix A. Requirements for Contractor Protective Forces are found in Attachment 2 and those for Physical Protection in Attachment 3.

a. General. Must effect the policy in DOE P 470.1A, *Safeguards and Security Program*, dated 12-29-10, by integrating PF and physical security into DOE operations as determined by DOE line management and according to sound risk management practices.

(1) DOE P 470.1A is the Department's philosophical approach to management of the S&S Program.

(2) This approach includes individual responsibility and implementation of the security requirements found in this Order.

(3) Establish and maintain minimum requirements for the arming of DOE PF personnel, firearms operations and physical protection of DOE security interests. Whenever a legal, regulatory, or other external standard, or a DOE Policy, Order, Notice or Manual is referenced within this Order, and such standard is amended or superseded, the successor standard is applicable under this Order.

(4) The Department intends that the highest level of protection be given to security interests and activities whose loss, theft, compromise, and/or unauthorized use would seriously affect national security, the environment, Departmental programs, and/or the health and safety of the public or employees. Therefore, field elements, such as the Power Marketing Administrations, that do not posses arming and arrest authority under the aegis of either section 161k, of the Atomic Energy Act or section 661 of the DOE Organization Act and that perceive a need to arm their security officers, may do so provided they comply with the requirements of the jurisdiction in which their officers will operate. Until such time as affected field elements are accorded DOE arming and arrest authority, and consistent with statutory authorities and local determination based on risk and/or vulnerability assessments, selected provisions of this Order may be used as a guide when approved by the head of the field element or his/her designee.

b. Planning. The implementation of graded physical protection programs required by this Order must be systematically planned, executed, evaluated, and documented as described by a site security plan that appropriately addresses all national and DOE requirements (see DOE O 470.4B, App. A, Section 1, Chapter I.1.).

(1) PPO elements must be based on DOE O 470.3B, *Graded Security Protection Policy (GSP)*, dated 8-12-08, and used in conjunction with local threat guidance. The GSP applies to all DOE facilities including those that do not possess classified material or SNM.

(2) Departmental interests must be protected from malevolent acts such as theft, diversion, and sabotage and events such as natural disasters and civil disorder by considering site and regional threats, protection planning strategies, and protection measures.

(3) SNM must be protected at the higher level when roll up to a higher category can occur within a single security area unless the facility has conducted an analysis that determined roll up was not credible.

(4) Sites upgrading security measures must consider the benefits provided using security technology by conducting life cycle cost benefit analyses comparing the effectiveness of security technology to traditional manpower based methodologies. However, at Category I/II facilities various manpower alternatives to include security technologies must be used to allow protective force personnel to concentrate on the primary mission of protecting nuclear weapons, SNM, and designated high value targets.

c. Implementation. Requirements that cannot be implemented within 6 months of the effective date of this Order or within existing resources must be documented

by the ODFSA and submitted to the relevant program officers; the Under Secretary; the Under Secretary for Science or the Under Secretary for Nuclear Security, NNSA; and the Office of Security, Office of Health, Safety and Security. The documentation must include timelines and resources needed to fully implement this Order. The documentation must also include a description of the vulnerabilities and impacts created by delayed implementation of the requirements.

5. RESPONSIBILITIES.

a. DOE Line Management.

(1) Provide guidance and oversight to site and facility management and operations offices that oversee the physical security, DOE PF, PF firearms programs for the purposes of protecting S&S interests.

(2) Implement the requirements in paragraphs 4.a through 4.c.

b. Heads of Field Elements and Headquarters Departmental Elements.

(1) Administer DOE physical security, PF and PF firearms programs for the purposes of protecting S&S interests.

(2) Notify contracting officers of affected site/facility management contracts that must include the CRD.

(3) Review procurement requests for new non-site/non-facility-management contracts that involve classified information or matter, or nuclear materials and contain DEAR clause 952.204-2, titled, *Security Requirements*. If appropriate, notify contracting offices that the requirements of the CRD to the Order must be included in the contract.

c. ODFSA and ODSAs**.** Fulfill requirements and responsibilities that are delegated to them from DOE or NNSA.

d. Contracting Officers. Upon notification of its applicability, insert the CRD into affected contracts via the Laws, Regulations, and DOE directives clause of site/facility management contracts. Assist originators of procurement requests who want to incorporate the requirements of this Order in new non-site/facility management contracts, as applicable.

6. REFERENCES.

a. References commonly used in the S&S Program are located in the Health, Safety and Security Policy Information Resource web site, http://pir.pnl.gov/. Non HSS policies are available on the DOE Directives Web page.

b. Title XXXII of P.L. 106-65, *National Nuclear Security Administration Act*, as amended, which established a separately organized agency within the Department of Energy.

7. DEFINITIONS. Terms commonly used in the program are defined in the Health, Safety and Security Policy Information Resource web site, http://pir.pnl.gov/. Use of these definitions is not mandatory. They are provided as a resource to information security planners, managers and practitioners.

a. Officially Designated Federal Security Authority (ODFSA): ODFSAs are Federal employees that possess the appropriate knowledge and responsibilities for each situation to which they are assigned through delegation.

Delegation authority for these positions is originated according to direction from the accountable Program Secretarial Officer, (or the Secretary or Deputy Secretary for Departmental Elements not organized under a Program Secretarial Office), who also provides direction for which of the ODFSA positions may be further delegated. Each delegation must be documented in written form. It may be included in other security plans or documentation approved by or according to direction from the accountable principal.

Each delegator remains responsible for the delegatee's acts or omissions in carrying out the purpose of the delegation.

b. Officially Designated Security Authority (ODSA): ODSAs are Federal or contractor employees that possess the appropriate knowledge and responsibilities for each situation to which they are assigned through delegation.

Delegation of authority for these positions is originated according to direction from the accountable Program Secretarial Officer, (or the Secretary or Deputy Secretary for Departmental Elements not organized under a Program Secretarial Office), who also provides direction for which of the ODFSA positions may be further delegated. Each delegation must be documented in written form. It may be included in other security plans or documentation approved by or according to direction from the accountable principal.

Each delegator remains responsible for the delegatee's acts or omissions in carrying out the purpose of the delegation.

8. CONTACT. Questions concerning this Order should be addressed to the Office of Security Policy, Office of Health, Safety and Security at 301-903-6209.

BY ORDER OF THE SECRETARY OF ENERGY:

DANIEL B. PONEMAN
Deputy Secretary

APPENDIX A FEDERAL PROTECTIVE FORCE

- Sections A-G provide direction for administering the DOE FPF and FPF firearms programs for the purposes of protecting S&S interests.
- Annex 1 provides guidelines for legal authority, fresh pursuit, and rules of engagement.
- Annex 2 discusses performance testing used in the program.
- Annex 3 contains requirements specific to the Department's Federal Officer program.

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SECTION A. MANAGEMENT

1. MISSION AND RESOURCE PLANNING. FPF programs, functions, or activities must incorporate basic planning principles to ensure that they accomplish their intended purpose.

   a. Mission. FPF programs/elements, regardless of size, must clearly identify the mission to be fulfilled by the organization. Broad mission statements may be supported by establishing more specific goals and objectives for the FPF element to achieve.

   b. Resource Requirements. FPF programs/elements must document resources requirements necessary to successfully accomplish mission objectives. Sources of these requirements may include Federal laws and regulations; DOE directives; site security plans (SSPs); protection strategies; operational needs; production, inspection or transportation schedules; and investigative workload projections.

   c. Authorizations. Authorizations may be identified in terms of full-time equivalents (FTEs), the total number of personnel needed, total number of direct man-hours, and/or quantities of equipment items needed to perform work.

   d. Actuals. FPF programs/elements must maintain a process that monitors and periodically reports actual personnel and sensitive equipment items (e.g., military/ law enforcement equipment restricted from public sale) currently on hand.

   e. Funding. FPF programs/elements must develop funding requirements that provide direct relationships between costs and identified personnel and equipment authorizations.

2. OPERATIONAL GUIDANCE AND WRITTEN DIRECTIVES SYSTEM. To ensure that FPF missions/functions are accomplished as intended, sufficient operational guidance must be provided through the establishment and maintenance of a formalized written directives system.

   a. Development. Written plans, orders and procedures covering FPF routine, emergency, and administrative duties; tactical deployment; and where required, other operational requirements must be developed and must ensure FPF assignments are oriented to allow maximum concentration of resources in a tactical posture. Plans, orders, and procedures must be clear, concise, and current. These documents may include, but are not limited to, plans, standard operating procedures, and/or desktop procedures.

   b. Plans. Required protection strategies; tactical response options, actions, and times; and other applicable response requirements must be addressed in response plans or Tactical Standard Operating Procedures (SOP). FPF plans must provide specific response direction and required actions to FPF personnel for applicable

containment, denial, recapture, recovery and pursuit strategies and to support interruption/neutralization operations before completion of adversary task times.

c. SOPs. Administrative, training, and other non-response-related operational requirements, which include specific rules of engagement (see Annex 1), must be addressed in procedures. Detailed additional program specific requirements for the Federal Agent and Special Agent programs must be provided in SOPs developed and approved by the Office of Secure Transportation and the Office of Headquarters Security Operations respectively. Other Offices with Federal Officer programs see Annex 3 of this Attachment for baseline SOP requirements.

d. Desktop Procedures. A detailed description of a basic task needed to accomplish a specified job efficiently, effectively, and/or safely must be written.

e. Non-DOE Law Enforcement Agency (LEA) Support. If local, State, or Federal LEAs are used to protect security interests on a regular or recurring basis, cooperative agreements outlining the specific support to be provided must be established. These agreements must be documented in appropriate security plans.

f. Configuration Control. The written directives system must incorporate a controlled and documented process that ensures that changes to operational guidance are adequately reviewed and approved by authorized FPF management representatives.

g. Availability. Written directives must be available to FPF personnel for reference and guidance in the performance of routine and emergency duties.

h. Review. Written operational and emergency response guidance, procedures, and cooperative agreements must be reviewed for currency when response requirements, duties, or administrative requirements are changed or at least annually (at least every 12 months).

3. DOE PERSONNEL MANAGEMENT.

a. FPF Positions. FPF positions are those used in either an armed or unarmed status for the purpose of protecting and/or investigating offenses against DOE assets including facilities, personnel, sensitive materials, and other property. Detailed requirements for the FPF positions identified below are contained in this Order and applicable guidelines. This Order (473.3) does not extend criminal law enforcement authority and jurisdiction beyond what is permissible under the Atomic Energy Act (42 USC 2201 (k)), and 42 USC 7270a (Guards for Strategic Petroleum Reserves) or that provided pursuant to deputization by the U.S. Marshals Service.

(1) Federal Agents (FAs) are Federal employees of the DOE Office of Secure Transportation (OST) who require firearms/arrest authority pursuant to

section 161 k of the Atomic Energy Act [42 U.S.C. 2201(k)] as an official function or duty.

(2) Federal Officers (FOs) (unarmed) are Federal employees who conduct interviews, inquiries, inspections, surveys, investigations, and liaison activities with law enforcement officials. These FOs are not authorized to carry firearms and are not empowered with any arrest authority.

(3) FOs (armed) are Federal employees who require firearms/arrest authority pursuant to section 161 k of the Atomic Energy Act [42 U.S.C. 2201(k)] or section 661 of the DOE Organization Act (42 U.S.C. 7270a) as an official function or duty.

(4) Special Agents (SAs) are Federal employees of the DOE Office of Special Operations who require firearms/arrest authority pursuant to section 161 k of the Atomic Energy Act (42 U.S.C. 2201[k]) as an official function or duty while participating in special operations such as executive protection, making an arrest, or conducting an investigation.

b. Human Reliability Program. DOE line management must identify positions that meet requirements of the Human Reliability Program (HRP) [see 10 CFR Part 712, *Human Reliability Program*]. In addition to those categories of positions listed in 10 CFR Part 712.10(a)(1) through (3), at sites where armed personnel are in HRP, armorers with unescorted access to their firearms also must be enrolled in the HRP.

c. Training. See DOE O 360.1B, *Federal Employee Training*; DOE O 470.4B, *Safeguards and Security Program*, and this Order.

d. Records. See Schedule 18 of the General Records Schedule (GRS) or the DOE Records Schedules.

e. Reporting Requirement. Supervisors in the FPF command structure and the manager in charge of onsite FPF operations must ensure that any suspected criminal violations are reported in accordance with DOE O 470.4B, *Safeguards and Security Program*, and, where appropriate, DOE O 231.1A Chg 1, *Environment, Safety and Health Reporting*. All FPF employees must comply with DOE O 221.1A, *Reporting Fraud, Waste and Abuse to the Office of Inspector General* and DOE 221.2A, *Cooperation with the Office of Inspector General*.

4. QUALIFICATION REQUIREMENTS. FPF personnel must comply with the Departmental medical, physical fitness, and firearms qualifications and training requirements as applicable.

a. Security Clearance.

(1) FPF personnel must possess an access authorization (security clearance) commensurate with the highest level of classified information or matter to which they have, or potentially have, access. Security clearances must be obtained in accordance with DOE M 470.4-5, *Personnel Security*. All FPF personnel with security clearances are subject to the Department's random drug testing requirements.

(2) Armed FPF personnel must possess an L or Q security clearance.

(3) FPF personnel with access to fully automatic firearms, nuclear weapons, nuclear test devices, complete nuclear assemblies or Category I and II quantities of special nuclear material (SNM); must possess Q security clearances.

b. Medical, Physical Fitness, Firearms, and Training Standards. FOs/FAs/SAs must complete a formal training and qualification program before assignment to duties. The training program must be based on assigned functions and site requirements. Firearms, physical fitness, and medical qualifications must meet DOE and/or Office of Personnel Management (OPM) requirements for the position assignment and organizational requirements as specified in the respective SOPs.

(1) At a minimum, all armed FPF personnel must conform to the medical standards for armed protective force personnel as contained in 10 CFR Part 1046, *Physical Protection of Security Interests*, or those specified by the Office of Personnel Management.

(2) At a minimum, all armed FPF personnel must conform annually to a physical fitness standard of a 0.5-mile run in 4 minutes and 40 seconds and a 40-yard prone-to-running dash in 8.5 seconds or those specified in a validated Office of Security Operations Physical Readiness SOP.

c. Confidentiality of Medical Information. The DOE-designated physician will notify FPF management of medical restrictions. FPF management must approve and implement site/organization-specific plans to ensure confidentiality of FPF medical information.

d. Special Skills Qualifications.

(1) Site/organization-specific conditions may justify requirements for FPF personnel to possess qualifications for special skills.

(2) Responsible managers must ensure that personnel assigned to these duties are trained, formally evaluated, and certified, if required, by an appropriate accrediting authority before performing those duties.

(3) Certifications required by specific job functions (e.g., a Federal Aviation Administration license for pilots) must be kept current. The employing

organization for each individual must maintain a record of qualification and/or certification.

e. Firearms. No person will be authorized to carry a firearm as a FPF officer until DOE line management is assured that the individual is qualified in accordance with an approved firearms qualification standard. Approved DOE firearms qualifications courses are those that have gone through the official approval process established by the Office of Security. They are located on the Office of Health, Safety and Security website, www.hss.energy.gov. Firearms operations must be in accordance with requirements outlined in this Order and the approved DOE or FLETC firearms qualification courses.

f. Suspending/Revoking Authority. The ODFSA may suspend or revoke the FO/FA/SA's credentials and suspend/revoke the use of any/all firearms when any of the below circumstances exist.

(1) The FO/FA/SA is no longer eligible to carry a firearm due to lapses in firearms training or failure to qualify with the firearm despite attempts at remediation as described in this policy.

(2) The FO/FA/SA is suffering from a medical, physical, or emotional condition that may impair his/her judgment or ability to properly deploy a firearm.

(3) The FO/FA/SA has made an unauthorized discharge of his/her issued firearm.

(4) The FO/FA/SA has demonstrated a lack of sound judgment in handling a firearm in accordance with DOE directives, policies and guidelines.

(5) The FO/FA/SA's security clearance has been suspended or revoked through appropriate administrative processes.

(6) The FO/FA/SA has been convicted of a misdemeanor charge of domestic violence. *The Gun Control Act of 1968* as amended by the Lautenberg Amendment (effective on September 30, 1996), makes it a felony for any person convicted of a misdemeanor crime of domestic violence to possess, ship, transport, or otherwise dispose of firearms or ammunition.

(7) The FO/FA/SA displays threatening or abusive behavior or makes threats (implied or actual) of personal injury to himself or others.

(8) The FO/FA/SA misuses, loses, or improperly displays a weapon or displays improper safeguarding or handling of a weapon.

NOTE: Should an FO/FA/SA's DOE credentials be suspended or revoked, they must also surrender issued Special Deputy U.S. Marshal credentials.

NOTE: Reissuance of credentials must in accordance with Attachment 3, Section A, Chapter XI of this Order.

g. Qualification Requirements. Each FO/FA/SA must qualify with each firearm that is reasonably expected to be used during duty assignment on the qualification course indicated in the DOE-approved firearms qualification courses, or as prescribed in respective SOPs, and any applicable approved site/organization-specific supplemental qualification course.

(1) Initial firearms qualifications and semi-annual re-qualifications must be completed in accordance with requirements of this Order.

(2) Before any range activity, each person must be given a briefing on the basic principles of firearms safety. However, a firearms safety briefing is not required for each qualification course using the same firearm after the initial safety presentation for that firearm.

(3) Failure to qualify will result in suspension of the authority to carry firearms and make arrests. Upon failure, an FO/FA/SA will enter a standardized, remedial firearms training program approved by the Chief Health, Safety and Security Officer. The remedial firearms training program will include basic firearm manipulation skills, firearms safety, and necessary individual training to afford a reasonable opportunity to meet the firearms qualification standards.

(4) FPF organizations that do not fire individually issued firearms during qualification must have written procedures authorizing the specific model and associated features of all firearms to be used. These procedures must be approved by DOE line management.

(5) The requalification may occur at any time during the requalification month. If an FO/FA/SA does not requalify before or during the requalification month, the individual's authority to carry firearms and make arrests must be suspended until such time as requalification is completed.

(6) An FO/FA/SA may be required to demonstrate the ability to meet qualification standards during an inspection, survey, review, audit, or other situation directed by DOE line management. Failure to meet the performance standard will be treated as if the individual failed the first attempt during semi-annual qualification. Procedures in paragraph 4g(3) above must be followed in the event of a failure.

h. Authority to Carry Firearms.

(1) The employing organization must maintain written documentation signed by the employee indicating each individual who is authorized to carry

firearms and make arrests without warrant while performing official duties. This documentation must include:

(a) the basis of arming authority;

(b) an outline of arrest and use of force authority and limitations that has been approved by the Chief Health, Safety and Security Officer or the Assistant Deputy Administrator for Secure Transportation, as applicable, with concurrence by the DOE Office of the General Counsel or the National Nuclear Security Administration (NNSA) Office of General Counsel, as appropriate;

(c) an outline of armed duties that specifies the procedures for the carrying of weapons (to include off duty limitations and safe storage requirements) both on and off Federal property; and

(d) weapons qualification requirements, to include frequency and scoring.

(2) Firearms instructors who are not currently assigned FPF duties may carry firearms when performing their instructional duties if authorized by DOE line management.

5. CREDENTIAL AND SHIELDS. PLEASE SEE ATTACHMENT 3, SECTION A, CHAPTER XI.

6. SAFETY. FPF activities may be conducted under the aegis of other Federal agencies, e.g., at the FLETC or U.S. Department of Defense facilities. Adherence to the controlling agency's safety requirements is authorized.

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SECTION B. TRAINING

1. TRAINING AND QUALIFICATION.

   a. The ODFSA must establish a formal training and qualification program to meet requirements for Federal Officer (FO), Federal Agent (FA), and Special Agent (SA) as applicable to the site/facility/organization. Qualification requirements must be based on assigned functions, 10 CFR Part 1046, DOE and/or Office of Personnel Management requirements for the position assignment, and this Order.

   b. The requirements must be designed to ensure that FOs/FAs/SAs are competent to perform the tasks within their assigned responsibilities. The qualification requirements must be supported by a formal training program that develops and maintains the knowledge, skills, and abilities (KSAs) required to perform assigned tasks. The qualification and training programs must be based on criteria established and approved by the DOE, to include Training Approval Program (TAP) certification.

   c. The ODFSA must establish additional FO/FA/SA training criteria needed by site/organization-specific requirements. DOE personnel responsible for training FO/FA/SA personnel must prepare and annually (at least every 12 months) review a Job Analysis (JA) detailing the required actions or functions for each specific job assignment.

   d. The JA must be used as a basic input document for local training requirements approved by the ODFSA and reviewed and updated annually (at least every 12 months). Training must be provided to ensure performance of assigned functions and tasks under both normal and emergency conditions.

   e. Any individual previously qualified as a Federal protective force (FPF) officer who has been deployed to military active duty for up to 36 months may return to active status after completing prescribed refresher training for the assigned position.

2. PROGRAM REQUIREMENTS. The formal training and qualification program must meet requirements established by the DOE NTC.

3. OPPOSITION FORCE TRAINING. FPF personnel participating in performance tests as Graded Security Protection (GSP) Policy comparable adversary combatants will be trained in tactics and techniques to challenge the ability of the FPF to defeat an armed adversary. Use of the DOE NTC Opposition Force Training course is encouraged.

4. WEAPONS QUALIFICATIONS.

a. Each FO/FA/SA must qualify semi-annually (at least every 6 months) with all assigned weapons and special skills weapons (as designated by job assignments) using the DOE or FLETC daylight and reduced lighting firearms qualification and other applicable courses in the DOE-approved firearms qualification courses.

b. Where DOE firearms qualification courses do not exist for a weapons system (e.g., belt-fed machine gun, grenade launcher, aerial firing platform, etc.) required to address site/organization-specific concerns, both daylight and reduced lighting site/organization-specific supplemental qualification courses must be developed. These courses must include minimum scoring requirements constrained by time limits. With approval by the local ODFSA, these scoring requirements will be submitted to the Chief Health, Safety and Security Officer for review and approval. National Nuclear Security Administration sites will request approval of their site/organization-specific courses of fire from the Associate Administrator for Defense Nuclear Security, who will coordinate with the Chief Health, Safety and Security Officer prior to approval.

5. KNOWLEDGE, SKILLS, AND ABILITIES (KSAs). KSAs necessary to competently perform the tasks associated with assigned FPF duties must be identified based on the analysis applicable for each job assignment. FPF personnel must demonstrate familiarity with, and knowledge of, the responsibilities identified in the JA for their assignment and must demonstrate proficiency in the skills and abilities necessary to perform required assigned job tasks. All FPF personnel, as identified in the JA, must demonstrate the following:

a. knowledge of and ability to perform routine and emergency duty requirements safely;

b. operation of assigned equipment and vehicles;

c. operation of communication equipment employed including proficiency in accepted communication terminology, acronyms, and phonetics, and the methods for verifying operator identity of incoming signals and signaling duress;

d. knowledge of, and the ability to apply, DOE directives, organization policies, plans, standard operating procedures, specific operational instructions, and orders and procedures governing assigned routine and emergency duties;

e. knowledge of Federal- and State-granted authority applicable to assigned activities and responsibilities between the FPF and other law enforcement authorities; and

f. knowledge of security practices and procedures.

6. SPECIAL SKILLS.

a. Personnel assigned specialized responsibilities outside the scope of normal duties must successfully complete the appropriate basic, refresher, and periodic training.

b. This training must be designed to enable the individual to achieve and maintain the level of skill and knowledge needed to competently perform the tasks associated with the specialized job responsibilities and to maintain mandated certification, if applicable. Such personnel include, but are not limited to, instructors, armorers, crisis negotiators, investigators, exercise controllers/evaluators, and law enforcement specialists.

c. Each crisis negotiator must have successfully completed a DOE-approved crisis negotiation training course.

7. SUPERVISORS. FPF personnel who are assigned supervisory responsibilities must successfully complete the appropriate basic and annual training necessary to competently perform their supervisory responsibilities. The required tasks and expected levels of competency must be based on a site/organization-specific JA.

8. INSTRUCTORS. All FPF personnel assigned instructor duties must be currently certified to the level of training delivered according to applicable DOE NTC requirements.

a. Certification Requirements. At a minimum, the current instructor certification requirements must be met.

b. Recertification. The applicable minimum FPF instructor recertification requirements must be met. Frequency of instructor recertification must occur according to current DOE requirements established by the NTC. FPF management must ensure that each instructor is evaluated for competency at least once every 36 months.

9. FIREARMS INSTRUCTORS. Before initial assignment to duty as a firearms instructor, FPF personnel must at least successfully complete a DOE or FLETC FIC according to an approved standard operating procedure. These instructors must pass the firearms qualification courses for assigned firearms and for firearms that are the subject of instruction.

a. Refresher Training. Each firearms instructor must successfully complete formal annual refresher training to maintain the level of competency required for the successful performance of tasks associated with firearms instructor responsibilities. The type and intensity of training must be based on a JA and be approved by the ODFSA.

b. Recertification. The DOE or FLETC firearms instructor recertification requirements must be met.

10. INTERMEDIATE FORCE AND GROUND CONTROL INSTRUCTORS. Before initial assignment to duty as intermediate force instructors and ground control instructors, personnel must successfully complete the DOE Basic IFIC course and/or GCIC course.

    a. Refresher Training. Each intermediate force and ground control instructor must successfully complete formal annual refresher training to maintain the minimum level of competency required for the successful performance of tasks associated with intermediate force and ground control instructor responsibilities. The type and intensity of training must be based on a site/organization-specific JA and approved by the ODFSA.

    b. Recertification. The applicable DOE intermediate force instructor recertification requirements must be met. Frequency of instructor recertification must occur according to current DOE requirements established by the NTC

11. ARMORERS. All FPF organizations must have (onsite, under contract offsite, or in association with another DOE element) an armorer with the knowledge, capability, and responsibility for inspecting, maintaining, and repairing all firearms available for use. The armorer and all other personnel are prohibited from modifying the basic design of a firearm or any of the firearm's operating or safety components without specific written approval from the Chief Health, Safety and Security Officer or from the Associate Administrator for Defense Nuclear Security in coordination with the Chief Health, Safety and Security Officer. DOE armorers must complete the DOE Armorer Certification requirements. Each armorer must successfully complete formal refresher training, where applicable, to maintain the minimum level of competency required for the successful performance of tasks associated with site/organization-specific armorer responsibilities. At a minimum, armorers must have a favorably adjudicated national agency check with local agency and credit check (NACLC) and participate in the HRP before receiving unescorted access to weapons used by protective forces which are in HRP.

    a. Certification. Armorer certification must be in accordance with DOE requirements.

        (1) The DOE armorer must successfully complete the DOE Armorer Certification Course, as approved by the Office of Health, Safety and Security.

        (2) The DOE armorer shall successfully complete a manufacturer's armorer course for the specific weapons employed for site use, where available.

        (3) The DOE armorer must successfully complete a manufacturer's or military armorer course for the specific weapons employed for site use when such courses are not delivered by the DOE NTC.

    b. Recertification. Armorer re-certification must be in accordance with DOE requirements to include the following:

(1) The DOE NTC must evaluate each armorer for competency and recertification at least once every 3 years.

NOTE: Verification of compliance with this requirement must consist of observation of armorer performance during actual duties and/or by performance testing activities, and inspection of required armory firearms records and other applicable documentation.

(2) The evaluation must consist of verification of armorer knowledge of all firearms in inventory and available for use on the site, in the following areas:

(a) conducting firearms inspections;

(b) performing required firearms repairs;

(c) using written procedures and technical specifications;

(d) updating firearms maintenance records;

(e) maintaining firearms in a serviceably clean and good condition, free from unapproved modifications;

(f) using proper tools necessary to perform required maintenance, repairs, and inspection duties;

(g) using a proper tag out system for firearms in need of repair and properly segregating tagged out firearms;

(h) adhering to separate storage requirements for live firearms and engagement simulation systems firearms; and

(i) having armorer currency in factory requirements for the specific weapons systems available for use onsite.

c. Refresher Training. Each armorer must successfully complete formal refresher training, where applicable, to maintain the minimum level of competency required for the successful performance of tasks associated with site specific armorer responsibilities. The type and intensity of training must be based on emerging and changing maintenance and repair technologies associated with site specific employed firearms and developed, when applicable, by the DOE NTC in conjunction with firearms factory guidelines. Refresher training may be conducted during the DOE NTC armorer recertification and/or factory armorer recertification process.

12. TRAINING EXERCISES. Exercises and performance tests of various types must be included in the training process for the purposes of achieving and maintaining skills and

assessing individual and team competency levels. The types and frequency of training exercises must be based on the training needs analysis and approved by the ODFSA.

13. NON-DOE TRAINING COURSES. Attendance by FPF personnel at non-DOE Government or private training courses must be approved by the ODFSA or designee. With the exception of those courses offered by the Federal Law Enforcement Training Center, attendance by FPF personnel at non-DOE Government or private training courses must be approved by the ODFSA or designee.

SECTION C. ADMINISTRATION

1. GENERAL FEDERAL PROTECTIVE FORCE (FPF) POSITIONS. FPF positions include both armed and unarmed positions for the purpose of protecting Department of Energy (DOE) assets including facilities, personnel, sensitive materials, and other property against threats identified in the DOE O 470.3B, *Graded Security Protection (GSP) Policy*.

   a. Federal Agents (FAs). Armed DOE FPF personnel designated as FAs under the authority of the Assistant Deputy Administrator for Secure Transportation must provide for the safe, secure, offsite domestic transportation of materials approved by the Assistant Deputy Administrator for Secure Transportation.

   b. Federal Officers (FOs). DOE Federal employees designated as FOs by the Chief Health, Safety and Security Officer or the ODFSA may or may not possess firearms/arrest authority pursuant to section 161 k of the Atomic Energy Act or section 661 of the DOE Organization Act.

   c. Special Agents (SAs). Armed DOE Federal employees designated as SAs by the Chief Health, Safety and Security Officer possess firearms/arrest authority pursuant to section 161 k of the Atomic Energy Act, may be deputized by the U.S. Marshals Service.

2. EQUIPMENT.

   a. In accordance with the requirements identified in the approved Job Analysis (JA), FPFs must be equipped and provided with the necessary resources to effectively, efficiently, and safely perform both routine and emergency duties in daylight or under reduced visibility conditions.

   b. Equipment, specifically weapons and communications systems, must be tailored to effectively combat and defeat adversaries identified in the GSP and site/organization-specific threat guidance or as specified in the site security plan (SSP) under all environmental and tactical conditions. Equipment must be available in sufficient quantities and properly maintained to support the FPF mission. Armed FPFs must be equipped with and trained in the use of an intermediate force weapon.

3. FACILITIES.

   a. Suitable facilities to support applicable FPF activities must be provided and maintained based on mission-specific needs.

   b. Local, State, and Federal law enforcement agencies and Department of Defense/National Guard training facilities are acceptable alternatives to DOE-

owned facilities as long as required DOE certifications and safety guidelines are maintained.

c. A memorandum of understanding delineating such use must be completed by the ODFSA and approved by DOE line management. [See DOE O 440.1B, *Worker Protection Program for DOE* (Including the National Nuclear Security Administration) Federal Employees.]

4. SUPERVISORS. Supervisors must demonstrate familiarity with, and knowledge of, the responsibilities identified in the site/organization-specific JA and must show proficiency in the skills and abilities necessary to perform required assigned job tasks.

5. INSTRUCTORS. Each instructor must possess the skills and knowledge necessary as required by approved standard operating procedures to instruct FPF personnel in the requirements for protecting S&S interests. Persons assigned as full-time staff FPF instructors must be qualified through prior experience or specialized courses for the material they instruct and receive organizational on-the-job familiarization with the duties performed by those they will instruct. All such training/ familiarization should be completed within one year of assignment to instructor duties. Instructors must demonstrate knowledge of the responsibilities identified in the JA and proficiency in the skills and abilities necessary to instruct assigned subjects.

SECTION D. FIREARMS TRAINING

1. REQUIREMENTS. Firearms training programs must be based on criteria established by the Department of Energy (DOE) as discussed in the following paragraphs.

   a. During firearms training, all personnel must have access to an instruction manual for each type of firearm with which they may be armed while on duty and must demonstrate both technical and practical knowledge of the contents of the manual governing the safe use of that firearm.

   b. Training records for personnel authorized to carry firearms must be available for review by appropriate safety and security personnel.

   c. All firearms training, qualification, practice and test firing activities must be conducted by personnel who are qualified in the principles of operation for the specific weapon system on which training is provided.

   d. Lesson plans for all firearms training must be available for review by appropriate safety and security personnel. Such lesson plans must incorporate safety in addition to other training objectives and task performance standards. The DOE National Training Center must provide training on how to develop the categorical information to be contained in typical lesson plans for training performed at DOE facilities.

      (1) Lesson plans must include a safety briefing for all participants and authorized observers. The briefing must be conducted by personnel experienced in performing exercises and knowledgeable about the firearms to be used.

      (2) Lesson plans must be written and include safety requirements for any course of fire.

   e. Standard Operating Procedures (SOPs).

      (1) All firearms training must be conducted in accordance with this Order and local SOPs developed in response to specific site/organizational needs and tactics as designated by the ODFSA. SOPs must include detailed procedures emphasizing the safety of participants, observers, and bystanders and the use of personal protective equipment (PPE).

      (2) All SOPs must be reviewed and approved by appropriate safety and Federal protective force (FPF) personnel at least annually (every 12 months) or more frequently if significant revisions are made in the training program. The ODFSA and safety personnel review and approve SOPs initially and whenever significant changes are made.

f. The Four General Firearms Safety Rules.

(1) All firearms are always loaded.

(2) Never point a firearm at anything you are not willing to destroy.

(3) Keep your finger off the trigger until your sights are on the target.

(4) Be sure of your target.

g. Specific Range Safety Rules.

(1) It is mandatory to use approved eye and ear protection and other PPE as required by the range safety officer.

(2) Unsafe conditions must be reported immediately to an instructor.

(3) A firearm may only be exchanged with another shooter under the direct supervision of an instructor.

(4) Firearms must not be left unattended or unsecured.

(5) Firearm loading and firing may commence only on command.

(6) Shooters are not permitted to talk during a firing activity except in reply to an instructor as a part of the activity or to shout “cease fire” in an unsafe situation.

(7) Until the firing line has been declared safe by the firearms instructor, shooters must not move past or bend over on the line.

(8) All shooters must be trained on what constitutes an unsafe condition and to shout “cease fire” when such a condition is observed.

(9) Smoking, eating, or drinking must be prohibited while shooting.

(10) Alcoholic beverages and drugs are prohibited on firing ranges. Shooters taking medication must report this fact to the firearms instructor before reporting to the firing line. The firearms instructor is responsible for determining whether a shooter is fit to use the range. The determination will be based on the medication taken, the physical condition of the shooter, and/or whether other reasons exist to believe the shooter may be under the influence of alcohol or drugs. A physician may be consulted if necessary.

(11) Shooters must take precautions to prevent hot spent cartridges and gunshot residues from getting inside their clothing.

(12) When a training session is completed, each firearm must be physically examined by the shooter and by a designated range safety officer or qualified firearms instructor to ensure that it is unloaded and in safe condition before leaving the range. If the shooter is using a duty firearm on the range, he or she may reload that weapon at the range if returning directly to duty.

(13) Shooters must collect unexpended ammunition and return it to a firearms instructor.

(14) While a firearm is being cleaned, live ammunition must not be allowed in the cleaning area.

h. All firearms training and qualification activities require instructor-to-shooter ratios with no more shooters than:

(1) One instructor to one shooter.

(a) Any initial automatic firing (e.g., submachine gun, machine gun or rifle).

(b) Any initial live fire training of the machine gun (e.g., M60, M249, M240).

(c) Any initial explosive projectile (e.g., M79, M203, M72).

(d) Any initial advanced course of fire with any firearm involving movement of the shooter other than straight down range or with a fan of fire greater than 10 degrees.

(e) Any initial shoot on the move live fire training.

(2) One instructor to no more than four shooters.

(a) Special response force courses.

(b) Re-qualification and tactical training requirements include:

1 automatic firing,

2 machine gun,

3 explosive projectile,

4 night fire in semiautomatic mode and handguns, and

5 initial training in semiautomatic mode and handguns.

(3) One instructor to no more than five shooters.

Advanced course of fire with any firearm involving movement of the shooter other than straight down range, or with a fan of fire greater than 15 degrees, or on an indoor range, whether daylight or simulated night fire, one instructor to five shooters.

(4) One instructor to no more than eight shooters.

One instructor to eight shooters when firing in the semiautomatic mode (e.g., automatic rifle in semiautomatic mode, shotgun, semiautomatic rifle, and pistols).

NOTE: Range-driven, specific risk analysis may require more instructors than those listed for live fire.

(5) A range safety officer or an instructor with specific delineated responsibilities for range safety (e.g., to monitor the safety performance of the shooters as well as overall safety of the firing range) must be present during all firearms training and qualification activities.

(a) When the instructor-to-shooter ratio requires only one instructor on the firing line, he or she must be assigned range safety responsibilities if approved by the range master/lead instructor/officer-in-charge (OIC).

(b) When the instructor-to-shooter ratio requires two or more instructors on the firing line, a lead instructor must preside over the firing activities (i.e., "calling the line") who will not be assigned additional instructional duties or be included in the instructor-to-shooter ratio, but may be assigned range safety responsibilities. To accomplish these activities, the lead instructor may be positioned either behind the firing line, in a booth, or in a tower, whichever location provides the greatest safety and control.

i. All Federal organizations with employees using firearms in non-security-related activities must develop a program of firearms safety specific to those activities. The program must be approved by the ODFSA. Specific written procedures must be developed and approved for any activity not addressed elsewhere in this Order that involves the planned discharge of firearms, e.g., testing activities, competitive shooting matches, public hunting, or pest control.

2. <u>BASIC TRAINING.</u>

a. Basic firearms safety training and demonstrated technical knowledge and practical proficiency is required before firearms are permitted to be carried on duty. Safety training must be conducted semiannually (at least every 6 months) at

which time safety proficiency must be demonstrated in order to retain weapon carrying status.

b. Basic firearms training must be conducted at a site approved by the ODFSA.

c. Basic firearms safety training must include the following:

(1) general firearms safety orientation;

(2) instructions on the capabilities of firearms and ammunition and their implications; and, where applicable, instructions on the hazards associated with the impact of bullets and other projectiles on nuclear explosives, nuclear weapons, explosives, and other possible items that could result in a significant release of energy or toxic substances;

(3) firearms safety information for each type of firearm required by duty assignment;

(4) practice with the unloaded firearm in the teaching environment;

(5) range safety procedures and demonstration of safe firing techniques on the range;

(6) dry-firing techniques and hazards associated with dry firing;

(7) handling of misfires;

(8) detailed procedures on clearing, handling of malfunctions, inspecting, cleaning, loading, unloading, and other specific tasks related to each firearm for which the student receives training, which may include instruction and practice in assembly/disassembly but must not include repair, modification, or replacement of parts;

(9) details of firearms accidents and how they could have been prevented; and

(10) the Four General Firearms Safety Rules.

3. ADVANCED TRAINING. The firearms safety portions of advanced firearms training must follow the same rules as 2c above.

4. RANGE OPERATIONS AND PROCEDURES.

a. Specific site range safety rules and regulations must be developed and implemented by the organization designated to be responsible for operating a live fire range. Such rules and regulations must be formal, provide a disciplined approach to range operations, and include rules and regulations on pre- and post firing range activities.

b. A risk analysis or a Safety Analysis Report must be prepared for the facilities and the operations of each live fire range. The report must be reviewed and approved by safety personnel and the ODFSA.

c. Range safety rules must be conspicuously posted at the entrance to each DOE controlled live fire range or range complex.

d. Before firing commences, a safety briefing for all participants must be conducted that will include the basic range safety rules, the capabilities of the firearms to be used, and the safe operating procedures for the course of fire to be undertaken.

e. Dry-fire practice must be conducted only in an approved area under the direct supervision of a firearms instructor.

f. A scarlet streamer must be prominently displayed at outdoor DOE live fire ranges at all times during daylight firing. The streamer must be replaced with a blinking or pulsating red light for night firing. These day and night range warning indicators must be visible to aircraft. Where live fire operations may affect routine aircraft operations directly, the appropriate aviation control center must be notified.

g. If professional medical personnel are not readily available, firearms instructors must be trained and currently qualified in cardiopulmonary resuscitation (CPR)/first aid. CPR/first aid training must be conducted by instructors certified by the American Red Cross or the American Heart Association. Specific training on the handling of gunshot wounds must be provided.

h. Medical equipment must be available at a live fire range as determined by the cognizant site physician or other authorized personnel.

i. An approved plan must be in place for handling, treating, and evacuating injured personnel through the use of an air ambulance or on-scene wheeled ambulance. Emergency response drills must be carried out annually (at least every 12 months) to test personnel preparedness in implementing the plan.

j. Airborne lead monitoring must be conducted at all firing ranges in compliance with Occupational Safety and Health Administration lead standard, 29 CFR Part 1910.1025. The medical surveillance provisions of the lead standard must be established and implemented when measurements indicate that employees are, or may be, exposed to airborne lead concentrations that exceed the action level.

k. Any employee involved in regular firearms training (e.g., instructors) must be entered into a hearing conservation program (see 29 CFR Part 1910.95).

l. A communications system with backup (e.g., telephone and/or two-way radio) must be available at each live fire range.

m. Live fire ranges must be equipped with sufficient lighting to ensure safe nighttime firing exercises.

n. Written and approved procedures for handling duds and misfires must be provided at all live fire ranges.

5. LIVE-FIRE SHOOT HOUSE (LFSH) OPERATIONS.

a. Responsibilities.

(1) Range Master. The range master is responsible for the safe operation and coordination of maintenance for the live fire shoot house (LFSH) operations and all activities at the live fire range.

(2) Range Safety Officer. The safety officer is specifically responsible for safety during LFSH operations.

(3) Lead Instructor/Range Master/OIC. The lead instructor/range master/OIC is responsible for the overall conduct of a specific course and must:

(a) meet the requirements to support training and to include targets, ammunition, medical support, support equipment, classrooms, and training aids;

(b) ensure all participants are qualified to engage in LFSH activities;

(c) ensure the required instructor-to-shooter ratio is met;

(d) ensure everyone in the LFSH and on the elevated observation control platform (EOCP) during a live fire exercise is wearing appropriate PPE;

(e) ensure all participants have received a safety briefing; and

(f) delegate and assign responsibilities to other instructors.

(4) Instructor. All activities conducted within the LFSH, whether live- or dry-fire, will be under the direct supervision of a qualified instructor who will:

(a) position targets and bullet traps to prevent an errant round from crossing the path of another shooter's movement within the target room;

(b) blow the "stop" whistle and/or announce "CEASE FIRE" in the event of any observed safety violation;

(c) observe the loading and unloading of weapons;

(d) clear the LFSH of personnel before the exercise begins;

(e) conduct demonstrations for students as appropriate;

(f) ensure there is no debris, pooled water, or ice on the floor; and

(g) supervise and control the issue, deployment, and disposal of all ammunition and diversionary devices used during training exercises.

(5) Shooters. A shooter is any training participant who enters the LFSH as a member of the entry team regardless of whether the individual's weapon is loaded or unloaded. They must follow the directions of the instructors at all times.

(6) Observers. Observers must follow the established safety rules.

b. Operations.

(1) LFSH Safety Briefing. Shooters must receive a safety briefing before participating in training. The briefing must include:

(a) the Four General Safety Rules;

(b) specific range safety rules;

(c) instructions to keep the weapon at the low ready unless engaging a target;

(d) instructions to de-cock or safe the firearm as soon as offensive actions have stopped, or anytime the shooter plans to move a significant distance;

(e) instructions to await further commands from the instructor when an operation has ended;

(f) the fact that every participant is a safety officer;

(g) instruction that when a whistle blast is heard and/or a verbal command of "CEASE FIRE" is given, the shooter is to freeze and keep the trigger finger straight along the frame of the weapon;

(h) direction that weapons handling and muzzle discipline must be enforced;

(i) information that a round that does not impact a bullet trap is a safety violation;

(j) direction that the 1-meter rule must be enforced (i.e., A ROUND MUST NOT BE DISCHARGED if the shooter is within 1 meter of the target or if the line of fire would pass within 1 meter of another shooter);

(k) instruction not to shoot unless the shooter is certain that a shot is safe;

(l) instruction that a shooter should not turn back after turning in the wrong direction (i.e., the shooter is committed to the new area of responsibility);

(m) direction that the shooter should not exceed the area of responsibility;

(n) instructions to exercise fire discipline using the fewest number of rounds to solve the problem; and

(o) instructions to take appropriate action in the event of a malfunction.

(2) Safety Violations. Shooters must adhere to established safety policies and procedures at all times.

(a) Shooters will be evaluated to determine causal factors for all safety violations.

(b) Shooters must be removed from training activities if safety policies or procedures are disregarded.

(c) Shooters identified as repeat violators of safety policies must be removed from training and placed in remedial training.

(3) Qualification Requirements.

(a) Before conducting training within the LFSH, instructors must have successfully completed DOE Office of Health, Safety and Security-approved LFSH instructor course requirements and completed 40 hours of assistant instructor duties within an LFSH.

(b) Additional requirements include annual (within a 12 month period) completion of 20 hours of live fire operations within the LFSH and semiannual completion (at least once every 6 months) of both the LFSH qualification test and the DOE Shooting-on-the-Move Qualification Course for pistol and submachine gun/rifle, with a minimum score of 90 percent on each.

(c) For non-DOE users, a lead instructor from the user agency must be designated before that agency uses a DOE LFSH. All instructor qualifications must be reviewed and approved by the ODFSA with oversight of LFSH operations.

(d) Prospective shooters in LFSH exercises must demonstrate proficient marksmanship skills of at least 90 percent accuracy on the respective DOE shooting-on-the-move qualification course of fire.

(4) Instructor-to-Shooter Ratio. The instructor-to-shooter ratio is one instructor to four shooters plus a lead instructor/safety officer.

(5) Instructor Locations. Instructors must be positioned to observe shooters' actions at all times.

(6) Weapons Allowed. Only weapons for which an LFSH has been certified may be used.

(7) Ammunition Allowed. Only ammunition approved for use by DOE may be used within the LFSH.

c. Targets and Bullet Traps. Various types of targets may be used in the LFSH. Target placement must meet the requirements of this section. If a target or target system fails these requirements, that particular target may not be used in the LFSH. Targets will be placed on bullet traps so the maximum effective area of the trap will be used to contain rounds; thus, no rounds will penetrate the construction joints on that trap.

(1) Three-Dimensional Targets. Three-dimensional targets may be used. Firing angles must be verified by the lead instructor to ensure rounds are contained within approved bullet traps or backstops.

(2) Bullet Traps. Bullet traps must be approved before use within the LFSH. Any bullet trap that appears to be in need of repair will not be used during live fire training. Bullet traps must be angled at least 7º from vertical to the potential shooting position and positioned so that a shooter cannot engage a target at less than a 60º horizontal angle. Blinders, obstructions, or other means may be used to obtain this angle limitation. Bullet traps and targets will not be positioned to allow a shooter to fire outside LFSH limitations.

d. Diversionary Devices.

(1) Shooters must wear fire-resistant gloves during diversionary device deployment.

(2) Full-charge diversionary devices must not be deployed into occupied rooms except under controlled training conditions with an approved safety analysis.

(3) Sub-charge, flash-sound diversionary devices may be deployed into occupied areas or rooms with the approval of the appropriate safety organization.

(4) Instructions on the approved procedures for the safe handling of dud diversionary devices will be provided to all participants and will be followed at all times.

e. Reduced Lighting Operations. For reduced lighting operations ensure that:

(1) the LFSH lighting system is operational;

(2) the shooters' lighting systems are operational;

(3) chemical light sticks or other effective means are available for identification of both shooters and instructors. Chemical lights for instructors must be a different color from those worn by shooters so that instructors may be easily identified; and

(4) the assault is practiced during lighted conditions before conducting the assault under no- or low-light conditions.

f. Elevated Observation Control Platform (EOCP). All DOE owned LFSHs must be equipped with an EOCP to maintain positive observation of live fire activities.

g. Personal Protective Equipment (PPE). All personnel using an LFSH must adhere to risk controls identified in LFSH training course risk analyses, to include PPE requirements.

h. Weapons Loading and Unloading. Weapons loading and unloading must be done under the supervision of a firearms instructor at a specially designated area in the vicinity of the LFSH.

6. GENERAL INSTRUCTIONS FOR FIREARMS QUALIFICATION. The following general instructions must be followed during firearms qualification courses.

a. Shooters must maintain silence on the line so they can hear and interpret range commands.

b. All range commands or questions to the line must be issued by the lead instructor.

c. Shooters must not move off the line or pick up any equipment or brass until the line is declared safe and the line is told to act by the lead instructor.

d. Shooters on the line must commence firing on command only. Shooters must cease fire immediately when commanded to do so.

e. A shooter on the line holding a firearm must always maintain the muzzle pointed downrange or in a depressed low ready position as directed by the lead instructor.

f. Shooters must fire all rounds at the center of mass of the target presented to them, unless otherwise directed.

g. Shooters must always wear approved sight and hearing protection.

h. Shooters may touch the trigger only when the sights of the firearm are aligned with the target. Until then, the shooters must keep their trigger fingers extended straight alongside the receiver or frame.

i. Shooters must not attempt to catch brass or to eject brass into collection containers.

j. Shooters must reload using issued equipment in a duty/mission configuration.

k. The lead instructor must ensure the firing line is clear of debris (e.g., magazines, brass, and ammunition boxes) and equipment to prevent injury to shooters moving from one position or distance to another.

l. If a shooter experiences a malfunction during a course, he or she must attempt to clear the malfunction using proper clearing methods. If the shooter properly clears the malfunction and the threat remains, the shooter will complete the course of fire. If the threat is no longer visible, an alibi is provided.

m. If a shooter experiences a malfunction during a course and does not attempt to clear that malfunction using proper clearing methods, an alibi will not be provided.

n. Shooters with an alibi must be allowed to complete a string.

o. Adjustable sights on all non-individually assigned firearms must be set in a standard manner so all shooters know the point of impact and can make aiming adjustments quickly and consistently to permit accurate initial fire.

p. The lead instructor may authorize firearms or magazines to be fully loaded, unless otherwise specified, for all stages/strings; however, the shooter must clear the chamber between stages when the next stage begins at a half load.

q. Shooters using a firearm equipped with a selector lever must ensure that it is returned to the safe position after every string unless otherwise directed by the lead instructor.

r. Shooters must place a shoulder-fired firearm to the shoulder and align the sights with the target for every string unless the stage specifies another position (e.g., the low ready).

s. When required, shooters must use only approved flashlights with a pressure switch that turns the flashlight on when pressed and off when released.

t. When firing for qualification, FPF, according to the applicable job analysis, must wear all equipment required by this Order and site/organization-specific requirements for duty and tactical responses.

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SECTION E. FIREARMS QUALIFICATIONS

1. SCOPE.

   a. Firearms qualification courses described in the DOE-approved firearms qualification courses are approved by the Chief Health, Safety and Security Officer for firearms qualification and requalification to ensure that FPF personnel are uniformly qualified with the firearms they are authorized to carry. The courses evaluate basic shooting skills with various authorized firearms. Site/organization-specific conditions and the deployment of firearms may justify requirements for developing and implementing supplementary special firearms training and qualification courses (e.g., aerial firing platforms, executive protection, and vehicle mounted firearms). All firearms courses must be conducted in accordance with DOE O 440.1B, *Worker Protection Program for DOE (Including the National Nuclear Security Administration) Federal Employees*, and this Section.

   b. FPF personnel will achieve high standards of marksmanship and proficiency in related shooting skills to successfully complete the firearms qualification courses. Periodic training must supplement all approved courses. Shooting skills are enhanced by training and testing knowledge, skills, and abilities, as appropriate (e.g., firearms manipulation; target discrimination; the engagement of moving, multiple, and reactive targets; and shooting under stress). The firearms qualification courses located on the Health, Safety and Security (HSS) website or those developed by the Federal Law Enforcement Training Center (FLETC) may be used for training and must be used to determine whether FPF personnel are qualified to be armed with a particular firearm. All firearms qualification courses must be conducted by firearms instructors certified by DOE or FLETC for instruction in the various firearms used during the specific courses.

2. REQUIREMENTS. Armed FPF personnel must qualify semi-annually (at least every 6 months) with assigned firearms on the applicable DOE firearms qualification courses located on the HSS website at www.hss.energy.gov.

   a. Federal Officers/Federal Agents/Special Agents (FO/FA/SAs).

      (1) FO/FA/SAs assigned a handgun must, at a minimum, fire the Day and Reduced Lighting Handgun Qualification courses.

      (2) FO/FA/SAs assigned a handgun and rifle must, at a minimum, fire the Day and Reduced Lighting Handgun and Rifle Qualification courses.

      (3) FO/FA/SAs assigned a handgun and rifle/submachine gun (SMG) must, at a minimum, fire the Day Combined Handgun and Day Combined SMG/Rifle Qualification courses, the Reduced Lighting, Handgun and SMG/Rifle Reduced Lighting Qualification courses. FO/FAs so armed

must fire a DOE-approved live fire shoot house (LFSH) Skills Test Qualification course.

(4) FO/FA/SAs assigned a handgun, rifle, and precision rifle who are members of a special response force must, at a minimum, fire the courses listed in paragraph 2a(3) above, and the Day and Reduced Lighting Precision Rifle Qualification courses.

b. Substitution of Practical Shooting Courses. Organizations may be authorized to substitute selected practical shooting courses from the approved courses of fire to be fired for qualification during one of the semi-annual (at least every 6 months) qualifications periods in lieu of the standard, applicable firearms qualification courses.

c. Other Qualification Courses. Organizations should use the various other DOE approved courses for firearms maintenance, refresher, and proficiency training.

3. REMEDIAL FIREARMS QUALIFICATION COURSE. The Remedial Firearms Qualification Course is designed to assist FPF personnel who fail to qualify in a particular firearms qualification course. The course is scheduled as needed, includes daylight and reduced lighting range conditions, and is administered by DOE or FLETC certified firearms instructors. Firearms instructors review available firearms qualification documentation and focus instruction on previously identified problem areas for individual shooters while reinforcing the principles of marksmanship, firearms manipulation, and safety in accordance with approved instruction plans for FPF personnel. The applicable firearms qualification course must be conducted in accordance with the DOE or FLETC firearms qualification courses. It must be preceded by the announcement, "This is a qualifying run for score."

4. REVIEW. The firearms qualification courses must be reviewed annually (at least every 12 months) by the DOE Firearms Policy Panel, which may recommend changes, as required. These recommendations will then be forwarded to the training managers working group and Training Advisory Committee for review and concurrence before entering the validation and approval stages. (See Chapter II of the Protective Force Firearms Qualification Courses document located on the HSS website.) DOE cognizant security offices are encouraged to forward written recommendations for changes or comments, with sufficient detail for consideration, to the Office of Security. Non DOE developed courses (e.g., FLETC) must be reviewed and validated by the ODFSA, or as delegated to line management, as still applicable to the Federal PF mission.

5. VALIDATION PROCESS. Sites will be offered the opportunity to participate under the oversight of the DOE in the validation of courses of fire (COF) that have been modified or newly developed. For purposes of validation, draft courses can be used in lieu of the current DOE-approved COF that are to be replaced. FPF personnel who complete the new courses successfully will be considered qualified as if they had completed the standard DOE COF. Officers who do not successfully complete the new COF will not be penalized and will be given the opportunity to qualify using the current approved DOE

standard COF. Resultant modifications will be made and a phase-in period for approved COF of one year (two semiannual requalification cycles) will be prescribed to permit sufficient opportunity for training to the new course.

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SECTION F. FIREARMS OPERATIONS

1. BASIC CONSIDERATIONS.

a. General.

(1) DOE weapons, ammunition, and pyrotechnics are the property of the United States Government and, as such, their use is restricted to the performance of official duties.

(2) Specific site/organizational policies and procedures covering the safe transportation, handling, use and storage of live ammunition, blank ammunition, chemical munitions and pyrotechnic devices used in firearms operations must be developed. In accordance with DOE O 414.1C, *Quality Assurance*, these procedures must address identification of Suspect/Counterfeit Items.

(3) Each ODFSA must require that analyses be performed to determine what ammunition and firearms can be used safely.

(4) All personnel covered by this Order must be required to comply with the personal protective equipment (PPE) and safety rules in effect at each workplace.

(5) Duty firearms must be in serviceable condition at all times. Semiautomatic pistols must be carried with a round in the chamber. Other duty and auxiliary firearms configurations (loaded or unloaded) must be as specified by the ODFSA.

b. Post and Patrol Activities.

(1) Routine loading or clearing of firearms must take place only in an approved area or when the barrel of the firearm is in or pointing toward a bullet containment device. Loading and clearing of firearms under field conditions or where a bullet containment device is not available shall be performed with the firearm pointed in a safe direction according to approved procedures which address the safety of the principal, fellow agents, and bystanders.

(2) Routine loading and clearing of all firearms must be witnessed by a supervisor or a designated DOE-certified firearms instructor.

(3) If the presence of alcohol or drugs is detected on a person, or there is reason to believe the person is under the influence of alcohol or drugs, he or she must be denied the issuance of a firearm and/or disarmed and removed from duty.

(4) All duty firearms must be carried in the manner approved by the ODFSA. Unless otherwise stated in local procedures, from check-in to check-out a handgun must be holstered, and a rifle, shotgun, or submachine gun must be carried on an appropriate sling with the muzzle pointed up or down, except where the firearm is designed to be carried in a different manner or operational conditions dictate otherwise. Firearms must not be carried with a finger on the trigger or inside the trigger guard.

(5) When firearms are transported in vehicles, watercraft, or aircraft and are not carried by an individual, they must be mounted in an appropriate rack or container with the firing chamber empty. During normal operations, long guns (e.g., rifles, shotguns, submachine guns) must not be carried with a round in the firing chamber. Long guns must never be placed in post or vehicle racks or carriers with a round in the firing chamber.

c. Firearms, Ammunition, Pyrotechnics, and Explosives. Firearms, ammunition, pyrotechnics, and explosives must be available in sufficient quantity to permit Federal protective forces (FPF) to act according to response plans. Firearms, ammunition, pyrotechnics, and explosives must be of a type suitable for the intended use, deployed in a manner commensurate with that use, and controlled in a manner consistent with DOE M 440.1-1A, *DOE Explosives Safety Manual*. The firearms, ammunition, pyrotechnics, and explosives used must pose the minimum danger to personnel and facilities commensurate with success of the FPF mission. Firearms, ammunition, pyrotechnics, and explosives must be carried and transported safely and securely. Any discharge of a firearm for other than training purposes must be reported (see DOE O 470.4B *Safeguards and Security Program).*

d. Sights. All unassigned firearms with adjustable sights must have the sights set in a manner to ensure that FPF personnel who may use these firearms know the point of impact and can make point-of-aim adjustments quickly and consistently to permit accurate initial fire. Sight adjustment and bullet impact must be verified semiannually (at least every 6 months) by live fire or through the use of a sighting device that simulates bullet impact.

e. Spare Firearms. FPF management must demonstrate that there are sufficient spare firearms of each type deployed to satisfy all contingency/response plans and training requirements.

f. FPF Firearms, Ammunition, and Explosives. Firearms, ammunition, and explosives used by FPF must be based on consideration of DOE O 470.3B, *Graded Security Protection (GSP) Policy*, assigned missions, the site security plan (SSP), and vulnerability assessment (VA) and must be approved by the ODFSA. Use of explosives is addressed in DOE M 440.1-1A, *DOE Explosives Safety Manual*.

g. Firearms Trigger Safety Locks. Any firearm transported or shipped offsite (e.g., by Federal Express, in baggage to be checked, etc.) must be locked with a trigger safety lock or placed in a locked container. Firearms shipped by bulk must be secured in a locked or banded container. Firearms that cannot fire live ammunition [e.g., engagement simulation systems (ESS) including dedicated blank-fire, multiple integrated laser engagement system (MILES), airsoft, and dye-marking cartridge (DMC) firearms] are not required to be locked individually with a trigger safety but must be secured in a locked or banded container.

h. Firearms Modifications. Modifications to firearms must be conducted by a DOE certified armorer.

(1) Written approval must be requested and received from the ODFSA before a DOE firearm (live fire or ESS firearm) may be modified. Modifications of the DOE Firearms Modification List (FML), as approved by the Office of Security, may be made after the ODFSA has granted approval. The current DOE-approved FML is maintained by the Office of Security and located on the Health, Safety and Security (HSS) website, www.hss.energy.gov.

(2) Requests for modifications not on the FML must be submitted in writing to the Office of Security with the following:

(a) a general description of the modification;

(b) the purpose/objective of the modification;

(c) a detailed, step-by-step description of the process used to make the modification, with mechanical and/or illustrative drawings;

(d) a description of the post-modification testing to be conducted; and

(e) the number of firearms to be modified.

(3) The request will be forwarded to the NTC for review by its armorer section. The NTC will provide written comments and/or a recommendation to the Office of Security and the ODFSA.

(4) Upon review and concurrence, based on the NTC's recommendation, the modification may be approved by the ODFSA. Once approved, the modification must be submitted to the Office of Security for inclusion on the FML.

(5) ESS Firearms Modifications.

(a) Dedicated ESS firearms must not be reactivated for live fire usage without the approval of the ODFSA.

(b) If a factory "drop-in" kit is used to modify a firearm to use DMC, a DOE-certified armorer specifically trained in the installation of such a kit must conduct the modification.

(c) Proposed modifications of ESS firearms to change their function in any way or to enhance their safety must be submitted to the Office of Security for approval through the ODFSA. The provisions of paragraph 1h(2) above, apply.

1 Weapons with modifications that have not been approved in writing by the Office of Security will not be issued for use.

2 The current list of approved ESS firearms and modifications is provided on the HSS website.

(d) ESS firearm modifications include any changes made to a firearm system, magazine, clip, feeding assembly, or blank-fire adaptor.

2. AUTHORIZED FIREARMS. Commonality of firearms enhances the efficiency of standard and centralized training and enables inter-site assistance in the event of a security incident or other situation requiring supplemental or replacement forces.

a. The following weapons constitute DOE-authorized firearm systems:

(1) handgun: semi-automatic, 9mm or greater,

(2) duty rifle: M-16 family of rifles and variants, 5.56mm or greater,

(3) shotgun: 12 gauge,

(4) precision rifle: 7.62mm or greater,

(5) 40mm grenade launcher: Military Models M79, M203 and variants; and multiple grenade launchers,

(6) belt-fed machine guns: 5.56mm or greater, and

(7) submachine gun: 5.7 x 28mm or greater.

b. Because multiple agencies and contracts are involved in a centralized procurement, where possible, the Office of Health, Safety and Security will coordinate the acquisition of weapons. Existing procurement contracts and Federal interagency support agreements will be used. Otherwise, the cognizant DOE authority for security is responsible for coordinating the procurement of site weapons.

(1) Replacement of current inventories with authorized weapons is intended to occur as firearms become due for replacement.

(2) The authorized list provides needed firearms capability for the majority of Departmental missions within site/organization-specific conditions; however, operational, safety, or other requirements may dictate the need for an alternative firearm.

(3) Deviations from, or additions to, this list must be approved by the Office of Health, Safety and Security, or the Associate Administrator for Defense Nuclear Security, as applicable. If unable to obtain any needed firearms through interagency agreements pursuant to the Economy Act, DOE will comply with the requirements of the Federal Acquisition Regulation, Subpart 6.3.

3. STORAGE OF FIREARMS, AMMUNITION, PYROTECHNICS, AND EXPLOSIVES. Firearms, ammunition, pyrotechnics, and explosives must be stored safely and under the direct control of a Law Enforcement Agency (LEA), contractor or FPF personnel, or controlled within established security areas. Alternatively, they may be stored in a vault-type room if an intrusion detection system is installed to detect penetration and the alarm response capability is such that unauthorized removal is unlikely.

a. Bulk Storage. Bulk quantities of ammunition, pyrotechnics, or explosives that are not used routinely and/or are stored for long periods of time must be stored in facilities that meet design criteria specified in DOE M 440.1-1A, *DOE Explosives Safety Manual*. These storage facilities must be located within a designated security area.

b. Storage Containers. Firearms, ammunition, pyrotechnics, and explosives must be stored in General Services Administration-approved storage containers, which include Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) Type II that are bolted or otherwise secured to the structure or under alarm coverage. Where the weight of the storage container would deter its removal, the requirement to bolt or secure it does not apply. Firearms not in such containers or under alarm coverage must be locked in racks, chained, or cabled to prevent unauthorized removal. Racks securing unattended firearms that are not under alarm coverage must be designed to inhibit removal via partial disassembly of the firearm.

c. Storage of Ammunition. Applicable requirements for the storage of commonly used FPF munitions can be found in DOE M 440.1-1A, *DOE Explosives Safety Manual*, and in Department of Defense (DoD) 6055.9-STD, *DoD Ammunition and Explosives Safety Standards*.

(1) Storage Structures. Refer to DOE M 440.1-1A, *DOE Explosives Safety Manual*, for guidance on design of structures for storing munitions.

(2) Hazard Class and Hazard Division. For the purpose of placarding, the United Nations Organization or the National Fire Protection Association hazard classification systems must be used.

(3) Storage of Small Arms Ammunition. Articles in Hazard Class/Division 1.4 and Storage Compatibility Group S are considered as inert for storage purposes and require only appropriate fire protection distance separation as long as they are stored only with inert items or other 1.4 S items. This applies only if the Hazard Class/Division 1.4 and Storage Compatibility Group S articles remain in their original packaging containers. When stored with items in a Storage Compatibility Group other than S, normal quantity distance requirements must be observed (see DOE M 440.1-1A, *DOE Explosives Safety Manual*). Live ammunition and ESS-related ammunition (e.g., blank fire, DMC, dummy rounds, etc.) must be stored separately in areas other than ammunition warehouses where bulk supplies of ammunition are stored in unopened original packaging. Separate storage could be placing live and ESS ammunition in separate, secured storage containers in the same location or storing them in separate locations.

d. Firearms Storage.

(1) Firearms not identified for duty or contingency use and having a valid justification for retention must be stored in a manner that will prevent deterioration due to environmental conditions.

(2) Weapons taken offsite in the performance of assigned duties are considered in-use. Interim protection strategies must be employed to prevent theft or loss of the firearms.

(3) Dedicated ESS firearms must be stored separately from live firearms. Separate storage may be attained by placing live firearms and ESS firearms in separate, secured storage in the same location or storing them in separate locations to prevent inadvertent issue of the wrong weapon type.

e. Approved Ammunition.

(1) FPF management is responsible for developing, updating, and maintaining a list of approved ammunition and diversionary pyrotechnics that conform to SSP requirements. This list must specify the caliber, bullet type and weight, and manufacturer of the ammunition.

(2) Ammunition used for duty, live fire training and qualification, ESS training, and other non-lethal training must be of high quality and factory new. Reloaded, reprocessed, or military surplus ammunition must not be used. Ammunition must not be unboxed and placed in bulk containers.

f. On-Post Firearms, Ammunition, Pyrotechnics, and Explosives. Auxiliary firearms, ammunition, pyrotechnics, and explosives that are maintained at posts for use during response to security incidents must be under the direct control of, and readily accessible to, on-duty FPF personnel. Firearms, ammunition, pyrotechnics, and explosives must be secured in such a manner that they are inaccessible to, and cannot be removed by, persons passing through, by, or in the post.

g. Pre-positioned Pyrotechnics and Explosives. In support of FPF response plans and strategies, limited quantities of pyrotechnics and explosives may be pre positioned at approved locations (e.g., FPF posts, response vehicles, etc.). Pre positioned pyrotechnics and explosives must be kept in their original containers unless operational and response requirements dictate otherwise. These pyrotechnics and explosives must be readily accessible to authorized FPF personnel and secured in such a manner that they are inaccessible to, and cannot be removed by, persons passing through, by, or in the post. FPF personnel charged with the responsibility of employing and overseeing the storage of pyrotechnics and explosives must be trained in their use and storage (see DOE M 440.1-1A, *DOE Explosives Safety Manual*).

4. SAFE TRANSPORTATION AND HANDLING OF MUNITIONS.

a. Transportation of Munitions.

(1) Except where exempt by Federal Regulation, transportation of munitions on public highways is governed by Department of Transportation (DOT) regulations (49 CFR Part 173, *Shippers–General Requirements for Shipments and Packaging*). For transportation purposes only, munitions must be given DOT hazard class designations.

(2) Transportation of munitions onsite must be performed commensurate with the requirements contained in Chapter II, Section 16, of DOE M 440.1-1A, *DOE Explosives Safety Manual*. Munitions not in their original DOT containers must be transported in containers specified in Chapter II, paragraph 17.5 of the above Manual.

(3) Transportation of Munitions in FPF Vehicles.

(a) FPF duty vehicles are authorized to transport the quantity of munitions needed to support approved contingency plans and to execute FPF duties.

(b) Whenever possible, support munitions required for defense against hostile forces should be pre-positioned in readily accessible magazines.

(c) FPF vehicles loaded with a combination of up to 25 pounds net explosive weight of Hazard Class/Division 1.1 and 1.2 munitions are exempt from explosives quantity-distance requirements when executing approved contingency plans or FPF duties.

1 Vehicles so loaded must not be used for administrative purposes.

2 Vehicles so loaded must be separated from inhabited facilities and property lines by a minimum of 125 feet when temporarily out of FPF service.

3 Vehicles so loaded must be downloaded into properly sited magazines or approved facilities when parked for periods in excess of one FPF shift.

(d) Except for the Office of Secure Transportation (OST), operation of explosives-loaded vehicles will be restricted to onsite locations unless involved in a pursuit role.

(e) The explosives must be secured within the vehicle to prevent movement and to preclude unauthorized removal.

(f) These vehicles must be downloaded into properly sited magazines or approved facilities before repair or maintenance.

(g) Munitions in the vehicle must not be exposed to temperatures that exceed the criteria stated on the material safety data sheet or manufacturer's recommendation. Appropriate safety precautions will be taken to ensure munitions are not exposed to extreme temperatures.

(4) FPF personnel may be allowed to carry on their person Hazard Class/Division 1.1 and 1.2 munitions issued to them for use in the execution of approved contingency plans without regard to explosives quantity distance requirements.

(5) FPF personnel and Federal training staff may be allowed to carry hazard Class/Division 1.1 a- 1.4 on their person or secured in a training vehicle (including government leased) in the conduct of training operations.

b. Handling of Munitions.

(1) Munitions must be protected from abnormal stimuli or environments such as impact, shock, high temperatures, or open flames.

(2) Smoking must be prohibited when handling, transporting, or storing munitions. Matches, lighters, other fire-, flame-, or spark-producing

devices must not be taken into a munitions storage area; appropriate signs or markings must be posted at such areas.

5. FIREARMS AND AMMUNITION MAINTENANCE/INSPECTION. Firearms available for duty or contingency operations must be inspected by a DOE-certified armorer before initial use and at least every 6 months thereafter to determine serviceability. For the purpose of this requirement, duty firearms are those weapons which are used for training, available for duty issuance, individually assigned, or are post assigned. Firearms must be cleaned and maintained in a manner that meets or exceeds the manufacturer's recommendations.

a. Authorization. An armorer certified by the NTC is the only individual authorized to perform the following firearms activities:

(1) semiannual (at least every 6 months) inspections,

(2) any firearms repair,

(3) any firearms modification or component alteration, and

(4) any disassembly beyond the manufacturer's recommended "field strip" for cleaning purposes.

b. Inspection Criteria.

(1) All firearms must be inspected semiannually (at least every 6 months) by a DOE-certified armorer. Inspections must consist of a detailed disassembly of the firearm's components. The armorer must inspect the components for excessive wear, cracks, or breaks. In addition, the armorer must ensure the firearm meets all manufacturing tolerances relevant to the maintenance of that firearm, guaranteeing safe and reliable firearm function. A bench function check will not constitute an inspection.

(2) The armorer must inspect and conduct test firings of a firearm following any unusual operation of, occurrence with, or functional repairs made to that firearm. Functional repairs are those that affect the safe operation or reliability of the firearm. Any firearm that has experienced an unusual operation must be tagged "out-of-service" and segregated from operational firearms until certified by the armorers as safe to operate. For the purposes of this requirement, operational firearms are functional weapons available for duty or contingency operations.

(3) The armorer must maintain accurate individual records for all firearms including manufacturer, model type or number, serial number, inspection dates, and the nature and date of any repair or modification. Records of any unusual occurrence and subsequent inspection/test firing must be maintained in accordance with prescribed authorized schedules.

(4) For safe operations, the minimum trigger pull for firearms must not be less than the requirement specified by the manufacturer.

(5) Stored firearms must be inspected before being returned to active inventory.

(6) Duty ammunition must be exchanged for fresh ammunition annually (at least every 12 months) except where impractical due to prohibitive costs for replacement ammunition (e.g., 40mm and armor piercing rounds). Duty ammunition is that which is loaded in a weapon or magazine.

c. Test Firing.

(1) The armorer must coordinate test firing of any firearm following unusual operations or occurrences.

(2) All firearms must be test-fired following the repair or replacement of components listed in the DOE Armorers' Technical Guide that involve the functioning of the weapon. The need for test firing of firearms following other repairs must be according to local site standard operating procedures or left to the discretion of the armorer.

d. ESS Weapons.

(1) Armorers working on ESS weapon systems must familiarize themselves with all DOE documentation that deals with deploying the weapons. They must also know their site's specific rules pertaining to ESS weapon use.

(2) Armorers who work on ESS firearm systems must learn the various modifications on these firearms through DOE NTC on-the-job training, training provided through the Armorers Policy Panel, or both.

(3) Only DOE-certified armorers may install DMC dye-marking conversion kits.

(a) Dye-marking conversion kits must be installed and maintained according to the manufacturer's instructions.

(b) Before use, the armorer must ensure that the conversion kit is properly installed, the bore is free from fouling, and the components are in good working order.

6. PYROTECHNICS AND EXPLOSIVES INSPECTION. Pyrotechnics, explosives, and any associated equipment available for use during routine or contingency operations must be inspected by qualified FPF personnel before each use and at least every 3 months to ensure they are properly stored, stable, and within current shelf-life and use requirements. Pyrotechnic and explosives inspections are further addressed in DOE M 440.1-1A, *DOE Explosives Safety Manual*.

7. INVENTORY OF FIREARMS, AMMUNITION, PYROTECHNICS, AND EXPLOSIVES. Firearms, ammunition, pyrotechnics, and explosives inventories must be maintained to allow efficient and effective arming and training of FPF personnel.

a. Live Firearms Inventory. Due to the remote location of some training facilities, some site inventories may require live fire weapons for training and qualification. Therefore, additional inventories of firearms may be maintained to support live firearms training activities. All individually assigned firearms must be inventoried by a number count at the beginning of each shift. Those firearms checked out for operational details may be inventoried by a record that identifies the responsible party. Firearms in storage must be inventoried by a number count weekly. An inventory of all firearms listing the type of firearm, the manufacturer, and its serial number must be conducted monthly. Firearms that are not identified for duty or contingency use may be inventoried by container in the event a complete container inventory has been conducted previously and the container is secured by a serial-numbered security seal.

b. Dedicated ESS Firearms Inventory. Departmental safety instructions require that firearms used for ESS activities be permanently modified and not routinely transferred between live and non-lethal uses. Additional inventories of dedicated firearms may be maintained to support ESS training activities. Dedicated ESS firearms must be inventoried by a number count before and after each use. An inventory of dedicated ESS firearms listing the type of firearm, the manufacturer, and its serial number must be conducted monthly. ESS firearms that are not in continual use may be inventoried by container in the event a complete container inventory has been conducted previously and the container is secured by a serial numbered security seal.

c. Inert Firearms Inventory. Inert firearms may be used for display, instruction, or testing. For the purpose of this requirement, inert firearms are those weapons which were manufactured as fully functional firearms and subsequently were permanently modified in a manner which precludes their capability to discharge rounds (e.g., for a pistol having a plug welded into the barrel and/or being completely incased in Lucite). An inventory of all inert firearms listing the type of firearm, the manufacturer, and its serial number must be conducted at least monthly.

d. Ammunition, Pyrotechnics, and Explosives Inventory. Ammunition must be inventoried annually (at least every 12 months). Pyrotechnics and explosives must be inventoried monthly. Pre-positioned pyrotechnics and explosives must be inventoried by a number count at the beginning of each shift. Pyrotechnics and explosives stored in bulk, which are not identified for duty or contingency use may be inventoried by container if a complete container inventory has been conducted previously and the container is secured by a serial-numbered security seal.

e. Inventory Shortages. After conducting a preliminary inquiry that indicates an unaccounted for, missing, or stolen firearm; any quantity of explosive; any live rifle ammunition, .408 CheyTac caliber or larger (including 40mm HE/HEDP/TP); 100 rounds or more of any handgun ammunition and 100 rounds or more of rifle ammunition smaller than .408 CheyTac caliber; or any pyrotechnic, ammunition, or training device not legal for civilian sale, purchase or use, FPF management must immediately report such a shortage to the ODFSA, who must report to the DOE Headquarters Operations Center within 24 hours. The ODFSA must then prepare and transmit an Incident of Security Concern report (see DOE O 470.4B, *Safeguards and Security Program*). If there is reason to believe that an item or items have been stolen, or other criminal activity is involved, law enforcement authorities must be notified in accordance with DOE O 221.1A.

SECTION G. OPERATIONAL ASSURANCE

1. APPRAISALS/SELF-ASSESSMENTS. These types of security oversight practices can be used to support the oversight responsibilities of DOE O 226.1A, *Implementation of Department of Energy Oversight Policy*.

   a. Formal appraisals or self-assessments of the safety and health aspects of the safeguards and security program must include firearms safety and must be performed by line management annually (at least every 12 months). [DOE O 440.1B, *Worker Protection Program for DOE (Including the National Nuclear Security Administration) Federal Employees*].

   b. DOE line management must conduct and document formal self-assessments, which include annual program reviews and appraisals of selected worksites.

   c. Firearms safety assessments must be conducted by safety personnel or by a joint safety and FPF evaluation team.

   d. Firearms safety assessments must cover procedures, responsibilities, and duty assignments within the firearms safety program to ensure that overall objectives and performance are being met.

2. PROTECTIVE FORCES SAFETY COMMITTEE.

   a. Composition. Co-chairpersons must be representatives of the Office of Security and the Office of Health and Safety. The following DOE organizations must be afforded the opportunity to provide one permanent DOE safety representative voting member or alternate to the Protective Forces Safety Committee (PFSC).

      (1) Office of Security.

      (2) Office of Health and Safety.

      (3) Office of Headquarters Security Operations.

      (4) National Nuclear Security Administration (NNSA), Office of the Associate Administrator for Defense Nuclear Security.

      (5) Office of Secure Transportation.

      (6) DOE National Training Center.

      (7) Office of Environmental Management.

      (8) Office of Science.

      (9) Office of Nuclear Energy.

(10) Office of Fossil Energy.

(11) DOE Site Offices.

b. Responsibilities.

(1) The Office of Security and the Office of Health and Safety administer and manage the PFSC.

(2) The PFSC reviews, evaluates, and recommends action on proposed changes to directives, other requirements, and procedures involving the purpose, program, duties, qualifications, training, equipment, and firearms of the DOE FPF Program.

(3) Managers of DOE offices providing FPF functions on, at, or for a DOE site must have a PFSC formally organized and chartered to assist management in providing safe FPF activities.

ANNEX 1 GUIDELINES FOR LEGAL AUTHORITY/FRESH PURSUIT AND RULES OF ENGAGEMENT

1. LEGAL AUTHORITY, FRESH PURSUIT AND RULES OF ENGAGEMENT.

a. Applicable Legal Terms.

(1) Felony. A felony is any offense enumerated in 10 CFR Part 1047 § 4(a)(1)(i), or as defined in 10 CFR Part 1049, as well as any offense constituting a felony under the laws of the jurisdiction in which operations are being conducted and with respect to which a Federal protective force (FPF) would have arrest authority under 10 CFR Part 1047 § 4(d) and (e).

(2) Fresh Pursuit. Fresh pursuit is (with or without a warrant) for the purpose of preventing the escape or effecting the arrest of any person who has committed a misdemeanor or felony or is suspected of having committed a misdemeanor or felony. Fresh pursuit implies pursuit without unreasonable delay but need not be immediate pursuit. [Although fresh pursuit implies pursuit without unreasonable delay, to prevent the escape or to arrest fleeing suspected criminals who are in unauthorized control or possession of nuclear weapons, weapons components, and/or special nuclear material (SNM), such pursuit must be effected immediately.]

(3) Hostile Intent. Hostile intent is the threat of imminent use of force against DOE interests, property and/or personnel. When hostile intent is present, the right exists to use proportional force, including armed force, by all necessary means available to deter or neutralize the potential attacker or threat. A determination documented in approved rules of engagement that establishes when hostile intent exists and requires the use of proportional force must be based on site/organization specific criteria.

(4) In the Presence. In the presence means the criminal act must have taken place in the physical presence of (under the observation of) the Federal Protective Force (FPF) officer. A FPF officer is authorized to make an arrest for covered misdemeanors and felonies if the offense is committed in the presence of the FPF officer.

(5) Jurisdictional Lines. For the purposes of these guidelines, jurisdictional lines shall include, but shall not be limited to, the property lines of a Department of Energy (DOE)/National Nuclear Security Administration facility/site.

(6) Misdemeanor. A misdemeanor is any offense enumerated in 10 CFR Part 1047 § 4(a)(1)(ii), or as defined in 10 CFR Part 1049, as well as any offense constituting a misdemeanor under the laws of the jurisdiction in which operations are being conducted and with respect to which a FPF

officer would have arrest authority under 10 CFR Part 1047 § 4(d) and (e) or 10 CFR Part 1049.

(7) Federal Protective Force Officer. As defined in 10 CFR Part 1047 § 3(g), an FPF officer is any Federal employee authorized by DOE authority to carry firearms under section 161 k of the *Atomic Energy Act of 1954*, and as defined in 10 CFR Part 1049 § 3(e), any Federal employee authorized by DOE authority to carry firearms under section 661 of the DOE Organization Act.

(8) Reasonable Grounds to Believe. Reasonable grounds to believe has the same meaning as set forth in 10 CFR Part 1047 § 4 (b)(2). An FPF officer is authorized to make an arrest for any felony covered under their limited arrest authority if the covered offense is committed in the presence of the FPF officer or if the FPF officer has reasonable grounds to believe (e.g., information from another FPF or law enforcement officer, communications from a FPF dispatcher or central alarm station operator) that a suspect had committed or was committing a felony.

b. Arrest Authority. The authority for FPF members to make arrests without warrant stems from section 161 k of the *Atomic Energy Act of 1954* [42 U.S.C. 2201 (k)], which provides for the authority to carry weapons and make arrests in the protection of DOE assets. 10 CFR Part1047 § 4 defines the specific offenses for which a FPF officer may make an arrest under the limited arrest authority. FPF personnel armed pursuant to this Act must understand the limits of the offenses covered under the limited arrest authority and be aware that their authority applies only when in the performance of official duties.

c. Executing an Arrest. When other Federal law enforcement agencies (LEAs) [e.g., Federal Bureau of Investigation (FBI), U.S. Marshal or DOE Office of Inspector General] are involved with FPF officers in the apprehension of a suspected criminal (regardless of whether on or off DOE property), FPF officers must relinquish arresting authority to the other Federal LEA. The circumstances pertaining to the arrest will be reported to the ODFSA as soon as it feasible.

(1) When a suspected felon is apprehended (regardless of whether on or off DOE property), or when a suspected misdemeanant is apprehended on DOE property, the FPF must immediately notify the appropriate U.S. Attorney's Office and escort the suspect to the nearest U.S. District Court or U.S. Magistrate for arraignment (unless otherwise directed by local Federal LEAs; e.g., the FBI or a U.S. Marshal). Under no circumstances should a suspected felon be removed to another jurisdiction without first being processed through the Federal criminal justice system where the suspected felon was apprehended.

(2) When State or other local LEAs are involved with FPF officers in the offsite apprehension of a suspected criminal, the issue of which law

enforcement official is in charge in order to affect an arrest is generally not a matter of policy but one of common sense dictated by the circumstances. Such an assessment includes an evaluation of the expertise of those present, which agency has first established control, and the disruptive effect, if any, of transfer of control. The determination of which jurisdiction should make the arrest is therefore left to the discretion of the officers involved. To the extent practicable, guidelines addressing this issue should be prepared on a site-by-site basis in coordination with State and other local LEAs. Such guidelines must be included in the site/organization-specific guidelines submitted to the Chief Health, Safety and Security Officer for approval. The approval authority for NNSA sites/organizations is the Associate Administrator for Defense Nuclear Security.

(3) FPF officers must ensure that any Government property retrieved at the time of an apprehension or during a pursuit is properly secured and a chain of custody is established.

2. FRESH PURSUIT. The purpose of these guidelines is to set forth the procedures to be followed by DOE FPF personnel when pursuing suspected criminals across jurisdictional lines, except when the suspected criminals are in possession of DOE security assets.

a. Policy. It is DOE policy to prevent the escape and to effect the arrest of fleeing suspected criminals in a safe and expeditious manner. The following procedures are intended to provide protective personnel with flexibility when in fresh pursuit of a fleeing suspected criminal. Each site/organization must prepare guidelines that take into account the geography, equipment, and functions of the facility/site and that address the procedures that will be used to provide emergency notification to jurisdictions that may be entered in a fresh pursuit situation. The ODFSA must submit the guidelines through the cognizant Departmental element to the Chief Health, Safety and Security Officer, for approval. The approval authority for NNSA sites/ organizations is the Associate Administrator for Defense Nuclear Security.

b. Definitions. The following definitions apply to this Appendix.

(1) Misdemeanors. An FPF officer may engage in the fresh pursuit of a suspected misdemeanant across jurisdictional lines only if the alleged misdemeanor was committed, or is being committed, in his or her presence. If the alleged misdemeanor was not committed in the presence of a FPF officer, FPF officers must not pursue the suspected misdemeanant across jurisdictional lines. Instead, the FPF officers must attempt to obtain a description of the suspected misdemeanant, as well as a description and license tag number of any vehicle being used by the suspected misdemeanant, and must convey this information (in accordance with the specific notification procedures issued by DOE line management)

to the State and other LEAs for the jurisdiction into which the suspected misdemeanant has fled.

(2) Felonies. FPF officers may engage in the fresh pursuit of a suspected felon across jurisdictional lines if:

(a) the alleged felony is being committed, or was committed, in the presence of a FPF officer or

(b) any FPF officer has reasonable grounds to believe that the person pursued is committing, or has committed, the alleged felony.

c. Fresh Pursuit Procedures.

(1) Responsibility. Responsibility for decisions respecting fresh pursuit must follow the FPF command structure. In making fresh pursuit decisions, FPF officers must consider applicable Federal and State laws; Departmental directives, guidelines, and regulations; and FPF plans, orders, guidelines, and training.

(2) Safety Considerations. Safety is a primary consideration when engaged in fresh pursuit of a suspected criminal. In determining whether to pursue, as well as the method and means of pursuit, an FPF officer will weigh the seriousness of the alleged offense and the necessity for immediate apprehension against the risk of injury to himself/herself, other FPF officers, and the public. If, at any time during the pursuit, the risk of injury to pursuing FPF officers or the public surpasses the necessity for immediate apprehension, the pursuit must be terminated.

(3) Use of Force. FPF officers will use the minimum force necessary under the circumstances to apprehend a suspected criminal.

(4) Jurisdictional Lines. Regulations at 10 CFR Parts 1047 § 6 and 7 and 1049 § 6 and 7 address the applicability of physical and/or deadly force in a fresh pursuit situation, regardless of whether jurisdictional lines have been crossed. Such use may include, as appropriate, firing at or from a moving vehicle, aircraft, or water craft; the ramming and disabling of pursued vehicles by precision immobilization techniques (PIT); and the use of tire-deflating devices.

(5) Hostages. If hostages are present in a pursuit situation in which recovery of SNM is involved, the safety and welfare of hostages must be considered; however, due to the ramifications of unauthorized use of SNM to the national security, the public, and the environment, the hostages' presence must not deter or impact immediate pursuit and recovery of the SNM.

(6) Vehicular Pursuit.

(a) Vehicles used in fresh pursuit must be operated in as safe a manner as is practicable.

(b) To the extent practicable, vehicles used must be marked and equipped with visual and audible emergency equipment.

(c) Vehicles occupied by non-FPF personnel must not be used in fresh pursuit situations unless the situation mandates an immediate pursuit and the extreme circumstances prohibit the occupant's disembarkation.

(d) The number of pursuing vehicles that cross a jurisdictional line must be limited to that necessary to provide sufficient personnel to deal with the situation. Under no circumstance will the number of pursuing FPF officers be such that the assets are left without sufficient security protection.

(e) There are inherent dangers associated with the use of roadblocks; thus, unless exigent circumstances mandate immediate apprehension of the suspected criminal (e.g., unauthorized control of SNM, possession of explosives), FPF officers generally must not attempt roadblocks without the authorization of the appropriate law enforcement officials of the jurisdiction entered and must not use roadblocks to apprehend suspected misdemeanants. A roadblock must not be used without the concurrence of the supervisor of the pursuing FPF officers.

(f) There are inherent dangers associated with the use of ramming/PIT and tire deflating devices; thus, unless exigent circumstances mandate immediate disabling of the suspect vehicle (e.g., unauthorized control of SNM, possession of explosives), FPF officers generally must not attempt ramming/PIT or use tire deflation devices without the authorization of an FPF supervisor. However, such authorization is not required when requesting such authorization may affect the timely termination of the pursuit. Ramming/PIT and tire deflation devices must not be used to apprehend suspected misdemeanants. Specific guidelines regarding the use of ramming/PIT and tire deflation devices in fresh pursuit situations must be included in the site/organization-specific guidelines submitted to the Chief Health, Safety and Security Officer, for approval. The approval authority for NNSA sites/organizations is the Associate Administrator for Defense Nuclear Security.

(7) Aerial Assistance. Where DOE has aerial capability (helicopters or fixed-wing aircraft), specific guidelines regarding the use of aircraft in fresh pursuit situations including pursuit, observation, reporting, and deployment of response forces must be coordinated with appropriate State and other local officials. This information must be included in site/organization-specific guidelines submitted to the Chief Health, Safety and Security Officer for approval. The approval authority for NNSA sites/organizations is the Associate Administrator for Defense Nuclear Security.

(8) Water Craft Assistance. Where DOE has waterborne capability, specific guidelines regarding the use of water craft in fresh pursuit situations including pursuit, observation, reporting, and deployment of response forces must be coordinated with appropriate State and other local officials. This information must be included in the site/organization-specific guidelines submitted to the Chief Health, Safety and Security Officer, for approval. The approval authority for NNSA sites/ organizations is the Associate Administrator for Defense Nuclear Security.

(9) Communications. At all times during a fresh pursuit situation, the FPF officers involved must make every attempt practicable to maintain open communications and to relay as much information as possible to the FPF dispatcher and/or FPF chain of command.

(a) Upon the engagement of a fresh pursuit situation, the FPF dispatcher must immediately notify supervisors in the FPF command structure and the officer in charge of onsite FPF operations.

(b) When it becomes apparent to the pursuing FPF officers that jurisdictional line(s) might be crossed, this information must be transmitted immediately to the LEAs of the jurisdiction to be entered in accordance with the mission-specific emergency notification procedures. To the extent possible, such notification must include a description of the fleeing suspect and/or vehicle, the alleged criminal violation for which the suspect is being pursued, and the location and direction of travel of the suspect.

(10) Coordination with Other LEAs. When other Federal, State or local LEAs with jurisdiction in the area into which the suspected criminal has fled join the pursuit, they must be primarily responsible for the continued pursuit except when the suspected criminal is in possession of DOE nuclear security assets.

(a) The FPF dispatcher, supervisors in the FPF command structure, and the officer in charge of FPF operations must coordinate the

pursuit efforts of FPF officers with other Federal, State, and/or other local LEAs.

(b) FPF officers participating in the pursuit must continue to participate in pursuit operations until otherwise instructed by the FPF dispatcher, respective supervisors in the FPF command structure, or the officer in charge of FPF operations.

(c) At least one FPF officer unit will remain available to assist the other pursuing Federal or State and other local LEAs until the pursuit is concluded or otherwise terminated. That FPF officer will thereafter provide such LEAs with all relevant information regarding the circumstances surrounding the incident.

3. GUIDELINES FOR RULES OF ENGAGEMENT (ROE).

a. Purpose. To provide guidance in developing the rules of engagement (ROE) for use of deadly force as established in 10 CFR Part 1047.

DOE's use of deadly force policy, as set forth in 10 CFR Part 1047, defines the circumstances when deadly force is authorized; i.e., self-defense; serious offenses against persons; theft, sabotage, or unauthorized control of nuclear weapons, nuclear explosive devices, or SNM; and apprehension. It also states, "Its use may be justified only under conditions of extreme necessity, when all lesser means have failed or cannot reasonably be employed" (emphasis added). DOE has determined that the concept in the policy of "or cannot reasonably be employed" needs further site/organization-specific amplification in the post-September 11, 2001 environment. To ensure acceptable protection of critical assets, site/mission-specific ROE are needed that define the circumstances, e.g., location, time, and distance at each site or under what circumstances, when lesser means of force cannot reasonably be employed. These ROE must address the concept of hostile intent as described in this Appendix.

b. ROE Guidelines. Each DOE organization with forces having the mission of protecting nuclear weapons, SNM, and/or other hazardous material that may be used as a weapon of mass destruction must develop specific ROE that incorporate the concept of hostile intent.

The determination of specific ROE must consider the type of materials or other assets being protected, situational/environmental conditions, FPF strength and capability, adversarial task times, characteristics, and capabilities as described in the current DOE O 470.3B, *Graded Security Protection (GSP) Policy*, and consequences of asset loss. The ROE must clearly state under what conditions the circumstances of hostile intent have been met. Depending on certain conditions, the circumstance of hostile intent may be met even if no shots have been fired.

c. Use of Directed Energy and Remotely Operated Weapons Systems (ROWS). The potential use of new weapon systems, e.g., directed energy and ROWS within DOE, is consistent with 10 CFR Part 1047 and should be considered when formulating ROE. It is DOE policy that a human being must make a conscious decision to employ all weapons systems capable of delivering deadly force before each operation of such equipment; i.e., fully automated use is not permitted.

d. Approval. The completed ROE must be submitted to the ODFSA for review and approval. Upon approval of such ROE, orders/procedures must be updated to include mission-specific examples of likely scenarios where the use of deadly force may and may not be authorized.

ANNEX 2 PERFORMANCE TESTING

1. PERFORMANCE TESTS (PTS). PTs must be used to realistically evaluate and verify the effectiveness of FPF programs, identify and provide needed training for personnel, identify areas requiring system improvements, validate implemented improvements, and motivate personnel. Such tests must adhere to the requirements found in this Appendix.

   a. Limited Scope Performance Test (LSPTs).

      (1) LSPTs may be either scheduled or unannounced. The tests must be used to determine the level of FPF skill or capability or to verify different elements of the FPF program. LSPTs must be conducted to realistically test any operation or procedure, verify the performance of a policy requirement, or verify possession of a requisite knowledge or skill to perform a specific task that falls within the scope of FPF responsibility.

      (2) Any element of FPF responsibility, as determined by mission procedures and job analysis, may be tested. LSPTs may involve the use of dedicated engagement simulation systems (ESS) [e.g., multiple integrated laser engagement system (MILES)], dye-marking cartridge (DMC), blank-fire, or inert systems, and such use must meet the operational and safety requirements involving the conduct of Force on Force (FoF) exercises in paragraph 8c, below, where applicable.

   b. Validation FoF (VFoF).

      (1) A validation FoF (VFoF) is a major, integrated test to facilitate assessment of all the elements employed in response to GSP and mission-specific threats. VFoF exercises must be held annually (at least every 12 months) for all missions meeting the requirements for an armed FPF.

      (2) Personnel must be designated and briefed in advance to act as adversaries.

      (3) All weapons used by exercise participants must be dedicated ESS weapons. For this reason, if an exercise involves an operating facility as opposed to a test area, a “shadow force” of FPF personnel must be deployed for protection of the safeguards and security (S&S) interests. Interface procedures, including rules of conduct for all participants, controller actions, exercise boundaries, and off-limit areas must be developed and documented. Procedures for communication between the simulated and shadow forces must be developed to ensure no compromise of S&S during the exercise. All exercise participants, controllers, and the shadow force must be briefed on the interface and communication procedures.

c. Command Post Exercise (CPX).

(1) A CPX is conducted to observe and evaluate a crisis management team's overall handling of simulated safeguards and/or security or a natural disaster incident.

(2) CPXs may be either announced or unannounced and may vary in scope and time as dictated by the purpose of the exercise.

d. Command Field Exercise (CFX). A CFX is an extension of a CPX and is conducted to test the interaction among various support organizations, site management, and the FPF to a simulated incident.

e. Joint Testing Exercise (JTX). When a VA or performance test indicates a need for outside agency support for the successful mitigation of a security incident, and such support is properly documented in the site security plan (SSP), the support expected from outside agencies must be covered by a formal memorandum of understanding (MOU).

2. COORDINATION. When a CPX or CFX involves a demonstration of mission-level emergency response capabilities, the development and conduct of the exercise must be coordinated with the appropriate mission-level emergency management organizations.

3. TESTING FREQUENCY. Performance testing must be conducted as stated in Table A-1.

Table A-1. Testing Frequency

Type of Performance Test	Minimum Performance Test Frequency
LSPT	As required by the Performance Assurance Program.
VFoF	1/year/facility/organization for all sites/organizations with armed FPF.
CPX	1/year/site or mission type.
CFX	1/year/mission type.
JTX	As required per SSP, 1/year/mission type as applicable.

NOTE: Annual requirements for VFoF, CPX, CFX, and JTX exercises may be combined when determined appropriate in SSPs.

4. PT AND TRAINING ACTIVITIES PLANNING.

a. PT and Training Activity Plans. The PT plan and training activity plan (or lesson plan, procedures, etc.) must define the scenario/activity and the exercise/training area in sufficient detail to allow a valid hazard assessment to be performed.

NOTE: Where applicable, approved safety and ESS procedures may be referenced in the PT plan and training plan and are not required to be restated in their entirety unless required by local implementing procedures.

b. S&S Planning. As applicable, planning must address the following topics:

(1) the specific element being tested to identify the specific element of the SSP training program, etc., being evaluated;

(2) the objective(s) of the test; e.g., to evaluate personnel, equipment, and systems against established requirements;

(3) the scenario designed to ensure that the objectives of the test are met (e.g., an adversary plan that the ODFSA and the trusted agents (TA)s has validated as credible in all aspects of conducting the attack);

(4) the applicable criteria to describe the standards for evaluation as derived from appropriate source documents;

(5) the specific safety considerations consisting of a safety plan that contains information derived from the risk assessment, the facility safety walk down, and specific safety requirements that may apply to the PT or training being conducted according to safety considerations may be addressed in the approved PT procedures on file;

(6) the specific S&S considerations to include information such as required compensatory measures that are in place during the PT;

(7) the test results documentation and after action reviews to include a summary of controller and evaluator information and conclusions derived from this information;

(8) a process in place to allow for after-action reviews by appropriate personnel as determined by the ODFSA; and

(9) a classification review of the PT plan, documentation of the PT results, and completion of an after-action report.

c. FoF Exercise Plans. The following areas must be considered and included, as applicable, in the development of a typical FoF plan or for an LSPT involving the use of ESS.

(1) Objective(s). The objective(s) must be stated succinctly.

(2) Scenario Description.

(a) Describe the Threat Scenario.

(b) Describe the Facility(ies) Involved.

(c) Define the Required Response.

(d) Establish the Schedule.

(3) Test Methodology.

(a) State how the exercise/validation will be conducted.

(b) Identify the number of PT, exercise and/or event iterations to be conducted.

(c) Identify required pre/post-exercise briefings

(d) Establish appropriate evaluation criteria (e.g., statistical model, test criteria, mathematical formulas, or methods, lesson plans, as applicable).

(4) Test Control. Identify exercise control measures.

(5) Resource Requirements. Identify resources necessary to control and conduct the exercise.

(a) Participants.

(b) Logistics.

(6) Training Requirements.

(7) Exercise Coordination Requirement. Describe all organization coordination requirements.

(a) Continuation of Operations.

(b) Safety and Health Oversight and Support.

(c) Essential local LEAs.

(d) OPFOR Coordination.

(8) Compensatory Measures. Describe any compensatory measures required during the PT.

(9) Safe Exercise Halt Procedures.

(10) End of Exercise Accountability.

(11) Radiation Monitoring.

(12) Shadow Force.

(13) Coordination and Approval. Review and/or sign off (concurrence), as applicable.

(14) Identify any applicable site/organization-specific procedures.

d. Performance Test Report. The PT report must address the following:

(1) detailed results of the exercise, including evaluation of applicable criteria;

(2) lessons learned; and

(3) required corrective actions and/or mitigation factors to address identified vulnerabilities.

5. SAFETY. PTs must be conducted with the highest regard for the safety and health of personnel, protection of the environment, and protection of Government property. Specific safety considerations and requirements for conducting PTs are found in this Appendix. Site/organization-specific procedures addressing the conduct of PTs, the use of ESS, and safety considerations must be prepared by FPF management, submitted to the ODFSA for review and approval, and incorporated into the site/organizational performance assurance program (see DOE O 470.4B, *Safeguards and Security Program*).

6. COMMAND AND CONTROL.

a. Command and Control System. A system of command and control must ensure that ESS safety and other requirements of this Order are met and maintain an environment free of the recognized risks associated with conducting certain PTs and training activities. The command and control system must ensure that rules of engagement (ROE) are followed; specific hazards and safety concerns, as identified in a risk assessment, are appropriately addressed; and exercise continuity is maintained.

b. Command and Control Responsibilities. The controller staff must be organized in a manner that facilitates the control of all affected locations and the control and coordination of all events to be initiated during the exercise. Individual controllers may have several duties assigned depending on where they are and what activities are occurring in their areas of responsibility. Their first and foremost responsibility is ensuring safety during exercise activities. Controllers are responsible for enforcing or implementing the following requirements during exercises:

(1) conducting safety checks and inspections of all personnel under their control for live rounds or other prohibited ammunition in DMC/Paint Ball (DMC/PB) or MILES PTs/exercises;

(2) ensuring that no live firearms or ammunition of any type is allowed within the ESS PT area, except those under the direct supervision of the shadow force controller;

(3) ensuring PT participants and observers wear and use appropriate safety equipment;

(4) ensuring that personnel under their control comply with the PT plan to include the ROE and the safety regulations;

(5) ensuring that ESS firearms handling and manipulation procedures comply, or are compatible, with procedures for live fire training/operations;

(6) terminating a specific activity or the entire PT if unsafe conditions or acts are observed; and

(7) ensuring the accountability of personnel and equipment at the termination of the PT and reporting the results to the senior controller and shadow force controller.

NOTE: No DMC/PB rounds are allowed in MILES exercises unless approved hybrid ESS weapons are used. Safety checks and inspections should also be conducted for other prohibited articles and for general safety. The results of these checks and inspections must be reported to the senior controller before the PT begins.

c. Command and Control Positions. Every FoF PT and related activity must be regulated by controllers under the supervision of an exercise (or Test) director, who is responsible for overall control of the PT. The exercise director must be supported by a senior controller, a safety controller, an ESS controller, a shadow force controller, and specific event controllers. These individuals must be trained to fulfill their responsibilities to ensure activities are accomplished safely.

(1) Exercise Director. The exercise director is a senior Federal official charged with overall responsibility for the exercise, to include pre planning activities, assuring command and control during the exercise, and follow-up for any lessons learned.

(2) Senior Controller. The senior controller reports directly to the exercise director and is responsible for coordinating, establishing, and supervising the exercise controller staff; identifying the number of personnel required to control the exercise; ensuring that appropriate controller training is conducted; and developing and implementing the concept of operation for the exercise director.

(3) Safety Controller. The safety controller is responsible for assessing the PT plan and ensuring that walk downs of the exercise area and safety

briefings are conducted. The safety controller also ensures that safety briefings specify the ROE, medical response, munitions and firearms safety, and vehicle and personnel safety. The safety controller provides support to the senior controller and must remain in contact with the senior controller at all times during the exercise.

(4) ESS Controller. In PTs that use ESS equipment, the ESS controller is responsible for controlling the issuing and accounting for all ESS firearms, weapons, and support equipment.

(5) Shadow Force Controller. A shadow force controller with the experience necessary to ensure that the shadow force responds as required to a real security incident, which may occur during a PT, is a critical participant. The shadow force controller is responsible for ensuring that:

(a) voice communications are established and maintained with the senior controller throughout the course of the PT;

(b) all live firearms are maintained under his/her supervision and shadow force personnel do not come in contact with PT participants with ESS equipment; and

(c) the shadow force knows the PT area and emergency response procedures.

NOTE: The shadow force must remain under direct supervision and control during the PT, and after coordination with the senior controller, will be released in the event of an actual alarm or other security incident in accordance with the approved PT plan.

(6) OPFOR Controller. The OPFOR controller must possess sufficient tactical expertise, knowledge, and physical ability to ensure that his/her presence does not interfere with, or hamper the actions of, the OPFOR in completing planned scenario actions.

(7) Event Controllers. Event controllers report to the senior controller and are responsible for executing control over specific categories of PT activity, including one or more events. Event controllers are responsible for ensuring nonparticipating facility personnel in the PT area are aware that an exercise is to be conducted and that they are not to interfere with the flow of the exercise.

NOTE: Sub-charge, flash-sound diversionary devices may be deployed into occupied areas or rooms with the approval of the appropriate safety organization.

(8) Evaluators. Evaluators are PT observers with responsibility to record the PT progress, the actions of participants, and the results of actions. Evaluator observations are used to determine exercise results. Controllers may also be tasked to conduct evaluation duties. Evaluators are responsible to stop PT activities for safety reasons.

(9) Trusted Agents (TAs). In preparing for and conducting a PT, it may be necessary to provide sensitive information to selected non-participants and participants regarding the occurrence and/or timing of events to coordinate realistic testing. Such individuals may be designated as TAs. The term is not normally applied to controllers, who may also possess the sensitive information (PT timing or planned events).

(a) Role. The TA serves as a liaison between a simulated OPFOR and the FPF being evaluated. PT planners must determine the number of TAs necessary.

(b) Responsibilities. The TA works with the OPFOR commander to develop the PT scenario(s). The TA identifies potential hazards in the PT area and works with the exercise director to establish recommended controls that minimize the likelihood of injuries/illnesses among PT participants. To successfully fulfill the role of TA, the individual must divulge as little information about the PT scenario as possible while ensuring that appropriate measures are taken to ensure the PT is conducted safely.

d. Controller and Evaluator Training. The command and control system depends on a contingent of personnel selected and specifically trained to control ESS PTs. In addition to being trained to oversee exercises, controllers must receive training commensurate with the scope, complexity, and special nature of the activity. Based on the nature and complexity of the PT, specific controllers may be required for the shadow force, ESS equipment issue and accountability, occupational safety and health, and special or high-risk activities (e.g., Light Anti-Tank Weapons (LAWs), explosive breaching, pyrotechnics, rappelling, etc.). Evaluators must receive controller training in order to perform controller duties.

(1) Formal Training. All personnel assigned controller or evaluator duties must receive formal documented training for the safe conduct of a PT. The controller and evaluator training program must be approved by the ODFSA and must include the following topics.

(a) Controllers and Evaluators.

(b) General Knowledge Requirements.

(2) PT Scenario-Specific Briefings. In addition to the formal training discussed above, controllers/evaluators must receive PT and scenario-specific briefings before each PT.

7. ENGAGEMENT SIMULATIONS SYSTEMS (ESSS).

a. Scope. PTs must be used to realistically evaluate and verify the effectiveness of FPF programs, identify and provide training for personnel, identify areas requiring improvements, validate implemented improvements, and motivate FPF personnel. FPF personnel must, through training, maintain competencies needed to perform assigned tasks required to fulfill the FPF mission.

(1) ESSs are primarily used to simulate conditions during FPF PTs and training activities involving FoF and deadly force-related situations.

(2) FPF PTs and training activities must be conducted with the highest regard for the safety and health of personnel, protection of the environment, and protection of Government property. Safety issues must be considered from the inception to completion of these activities.

b. Types of ESS. There are six major types of ESS used within DOE for the conduct of simulated engagements during FPF PTs and training activities.

(1) Multiple Integrated Laser Engagement Systems (MILES).

(2) Marking Systems.

(a) Dye-marking cartridge (DMC) systems consist of specially modified duty handguns, submachine guns and rifles (using a replacement barrel) and non-lethal DMCs (a lightweight, hollow plastic projectile that contains a colored, nontoxic marking compound) designed to allow for realistic decisional shooting situations during FPF PTs and training activities.

(b) PB systems consist of paint guns, also called “markers,” that come in a variety of shapes and styles.

(c) DMCs and PB rounds have very limited effective and maximum ranges. Thus, both systems are used typically during LSPTs and training activities to simulate close quarters battle (CQB) and decision shooting situations.

(3) Hybrid DMC/ESS Firearm. A firearm that has been modified or designated by a DOE-certified armorer as a DMC weapon that feeds, fires, and functions DMC ammunition. The modification reduces the ability for a live round to chamber in the weapon. Additionally, the weapon is mounted with a MILES transmitter.

(4) Blank-Fire Systems. Blank-fire equipment consists of specially modified duty firearms (that cannot fire live ammunition or projectiles) and blank fire cartridges (loaded with powder but contain no projectile) designed to provide realism during PTs and FPF training on the use of deadly force and the escalation of the force continuum.

(5) Inert Weapons Systems. Inert weapons systems consist of simulated firearms and weapons or actual firearms and weapons that have been rendered incapable of firing live or blank-fire ammunition.

(6) Airsoft Systems. Airsoft systems, sometimes referred to as soft air systems, consist of replica duty weapons that propel 6mm plastic or biodegradable BBs by means of either rechargeable batteries or green gas (HFC 143a).

(7) Other Types of ESS. Other types of ESS and associated equipment may be used during FPF PT and training activities to simulate adversary and FPF actions and real-world incidents. Pyrotechnics and smoke generators may be deployed to simulate fires and chemical agents. Hand-thrown smoke grenades may be used to cover adversary and FPF tactics or to provide diversions. Practice or inert grenade systems can be used to simulate thrown explosives and can be followed up by flash/sound diversionary devices, air horns, and other devices to simulate explosions.

8. ESS SAFETY.

a. General Safety.

(1) Safety is a major concern in any PT or training activity. Safety rules must be followed to minimize the potential for accidents/injuries during activities involving the use of ESS. Management, controllers, and participants must anticipate and react to unsafe situations.

(2) All PTs and training activities must be governed by plans and procedures that specifically address safety issues while remaining consistent with realistic evaluation and training. Risk assessments must include procedures for any materials, equipment and/or operations that are identified as potential hazards during the conduct of any scenario. Safety plans must cover facility safety concerns specific to scenarios being conducted. Preparations must also be made to respond with appropriate medical assistance to situations that could occur.

(3) ESS PT and training activities must be regulated by controllers and instructors who have authority regarding safety. Controllers and instructors are responsible for ensuring that all operations are conducted safely. Controllers, instructors, any participant, and/or any individual may

stop an evaluation and/or training activity for safety reasons. Safety is paramount in exercise planning and execution.

b. Participant Responsibilities. The following paragraphs specifically address safety related considerations that impact exercise personnel and/or equipment; however, they apply to all ESS activities. Personnel acting as adversary/OPFOR team and response force members must be briefed as to their individual responsibilities to include:

(1) avoiding hazardous areas;

(2) monitoring their own physical condition for signs of overexertion;

(3) watching for other participants who appear injured or otherwise are in need of assistance, and immediately ceasing ESS activities in order to render aid and notify a controller or instructor;

(4) reporting injuries, regardless of severity, to the nearest controller, instructor, or safety representative;

(5) handling and using all ESS firearms and weapons safely as though they were live fire weapons;

(6) inspecting issued MILES weapons and blank ammunition to ensure that no live ammunition and the proper blank ammunition is present and that the MILES weapons and magazines, where used, are properly color-coded;

(7) inspecting issued DMC firearms and DMC ammunition to ensure that no live or blank-fire ammunition is present and that the DMC firearms and magazines, where used, are properly color-coded;

(8) inspecting issued blank-fire firearms and blank ammunition to ensure that no live or DMC ammunition is present and that the blank-fire weapons, and magazines, where used, are properly color-coded;

(9) inspecting inert weapons to ensure that they are incapable of operation and to ensure that no ammunition is present and that they are properly color coded;

(10) while conducting ESS activities, knowing what the participant should do in the event the FPF shadow force is deployed and what actions the shadow force will take;

(11) limiting physical contact during an arrest scenario to that force necessary for searching and handcuffing while refraining from violent physical contact;

(12) refraining from attempts to disarm participants by grabbing their firearm or person;

(13) ascending or descending from elevated positions by ladder, stairway, or other safe method; jumping from elevated positions only if necessary and safe;

(14) avoiding hot propellant gases vented from weapons systems; and

(15) avoiding taking outdoor positions near the ESS vehicle hit indicator system, which contains an explosive charge.

NOTE: The ESS vehicle hit indicator system is designed to simulate and react to firearms fire. Blasts are vented upwards and usually do not present a hazard. Participants must be careful not to position themselves above or within 10 feet of the device while outside a vehicle.

c. ESS Safety.

(1) All firearms and weapons used in ESS exercises and training activities must be permanently modified and dedicated for ESS use only. The only permissible exceptions are the M-60, HK-21, M-249, and M-240 machine gun receivers. ESS modifications of these machine guns are limited to the barrel and feed tray, which gives them additional flexibility. ESS modifications must comply with the DOE firearms modification list.

(2) With the exception of single-shot grenade launchers, MILES firearms must be equipped with approved blank fire adapters or blast deflectors.

(3) Dedicated ESS firearms must not be reactivated for live fire usage without the approval of the ODFSA.

(4) All MILES firearms must be equipped with live-round inhibiting devices or ported chambers, plus one or more additional engineered controls of safety to prevent the accidental introduction of live rounds.

(5) Only DMC firearms equipped with DMC conversion kits and DMC ammunition approved by the Office of Security may be used. All DMC conversion kits must be designed to inhibit live rounds from being chambered. If a factory “drop-in” kit is used to modify a firearm to use DMC, a DOE-certified armorer specifically trained in the installation of such a kit must accomplish the modification. DMC systems may be fired only at participants who are at least 1 meter away.

(6) ESS firearms used in an exercise must be clearly marked as exercise firearms, closely controlled, and kept separate from any firearms not associated with the exercise. A check indicating the presence of all engineered controls of safety incorporated in an ESS weapon must be

documented before issuance for use, e.g., training, exercises, and LSPTs. Approved color coding markings are:

(a) Orange for MILES and blank-fire firearms and magazines, clips, and belts (first link);

(b) Blue for DMC firearms and DMC magazines, clips, and belts (first link), speed loaders, and PB systems;

(c) Blue and orange for MILES/DMC hybrid firearms;

(d) Red for inert firearms and weapons; and

(e) Green for airsoft systems.

(7) ESS firearms must not be loaded until authorized by a controller or instructor.

(8) Blank ammunition must not be used in tactical exercises except with ESS equipment.

(9) MILES firearms equipped with blank fire adapters or blast deflectors may be fired only at participants who are at least 10 feet away.

(10) Maintenance and adjustments to laser transmitters must be performed only by the supplier or by qualified site personnel approved by the supplier.

(11) ESS firearms must be cleaned after an exercise according to a site's standard operating procedure and repaired or removed from service if necessary.

(12) All ESS firearms must be inspected by a DOE-certified armorer and certified at least every 12 months.

d. <u>ESS Ammunition and Blank-Fire Adapters (BFAs).</u>

(1) Only blank ammunition magazines, clips, and belts (first link) that have been distinctively color-coded orange and modified for use with an ESS firearm may be used. The ESS magazine, clip, or belt when used in conjunction with a modified ESS firearm, must prevent the inadvertent feeding and chambering of a live round. Caution must be exercised because a live round can be placed in the lip of some firearm magazines.

(2) Only DMC ammunition magazines, clips, and belts that have been distinctively color-coded may be used. Caution must be exercised because a live round can be placed in a DMC magazine lip, or in some cases, a DMC magazine can be fully loaded with live ammunition.

(3) Blank, DMC, airsoft, and PB ammunition must be stored separately from live ammunition and from each other (in areas other than ammunition warehouses where bulk supplies of ammunition are stored in unopened original packaging), either in a different location or in a locked cabinet, and must be inspected before issuance by a controller or instructor.

(4) Before each ESS PT and/or training activity:

(a) participants must inspect their firearms and person to ensure that only the proper exercise ammunition (e.g., blank ammunition for MILES and DMC/PB/airsoft ammunition for DMC/PB/airsoft exercises) and properly equipped MILES and/or DMC firearms/PB/airsoft systems are in use; and

(b) each firearm and all ammunition must be inspected by the responsible ESS controller/instructor to ensure that only the proper ammunition and properly equipped ESS are in use.

(5) Manufacturers' recommendations for shelf life of DMC and PB ammunition must be followed.

(6) LAWs/Rocket Propelled Grenades (RPGs).

(a) LAWs/RPGs must not be cocked until the target is identified. If the simulator is not fired at a given target but is anticipated to be fired at another target during the exercise, it must be returned to the uncocked position until the target is sighted. If the simulator is not fired, it must be in an unloaded/tube empty position before being returned.

(b) LAWs/RPGs must be used only in designated areas.

(c) LAWs/RPGs must be used only for training purposes when exclusion distances and conditions are established as though an actual LAW was being fired. The exclusion distance for the LAW/RPG is 5 feet to either side and 30 feet to the rear.

e. Pyrotechnics, Flash-Sound Diversionary Devices, and Chemical Agents.

(1) Pyrotechnics and explosive simulators must be consistent with the pyrotechnics list included in the DOE-approved ammunitions list.

(2) Participants must never pick up thrown pyrotechnics, flash sound diversionary devices, or chemical agents, even one that appears to be a dud. Duds must be reported, as soon as possible after discovery, to the senior controller.

(3) Written and approved procedures for handling duds and expended devices must be included in PT procedures and applicable lesson plans. These plans and procedures must follow the manufacturer's disposal recommendations or site-approved procedures and must be implemented by properly trained personnel.

(4) Written and approved procedures for activities such as the wiring of pyrotechnics into vehicle electrical systems and the use of booby traps and trip wires must be included or referenced in PT plans/procedures. These activities must follow manufacturer's recommendations or site-approved procedures and must be conducted by properly trained personnel.

(5) Smoke and obscurant generating pyrotechnics.

(a) Smoke and obscurant generating pyrotechnics may not be used indoors or in confined spaces.

(b) Planning for smoke use must address the possible effects on facilities, production processes, workers and other parties (e.g., nearby roads and vehicle drivers, adjacent facilities and workers, air intake systems).

(c) Participants must avoid unnecessary exposures to smoke systems by staying upwind of the smoke, where possible, by avoiding entry to the smoke cloud, by limiting the time traversing the cloud, and by choosing routes involving the least densities of smoke consistent with the tactical objective. Full immersion in high density smoke for extended periods shall be avoided where possible. If immersion cannot be avoided, respiratory protection must be used as defined in the risk analysis for the training, performance test, or FoF activity.

(d) Thrown smoke generators must be deployed by persons trained in their safe deployment methods and knowledgeable of their potential hazards.

(e) When thrown smoke generators and other pyrotechnics are deployed in training or testing activities, adequate firefighting equipment and persons knowledgeable in its use must be readily available.

(f) Pre-activity safety briefings must address the safety concerns of the use of smokes and obscurants, the controls for the deployment of smoke, and the safety controls established to control and limit personnel exposures.

f. Vehicle Safety. The following requirements apply to the use of vehicles during an exercise.

(1) Vehicles must not be mounted or dismounted until after they come to a complete stop.

(2) All personnel in moving vehicles must wear seat belts at all times where available and/or comply with alternative safety controls established and approved in a written safety plan. Passengers may ride in the back of moving open vehicles provided that restraint devices are installed and used and they remain seated in the vehicle.

(3) Vehicle maneuvers (e.g., accelerations and decelerations, cruising, turns, etc.) must be made in accordance with local vehicle operating procedures.

(4) When a PT/training scenario requires a roadblock, it will be simulated by placing a blocking vehicle on the shoulder of the road and by ensuring that a controller is notified that a roadblock has been established. If the blocking vehicle could effectively obstruct the roadway, the controller should not allow the vehicle being blocked to pass.

g. Rules of Engagement (ROE). Specific ROE must be developed and documented for each FoF or man-on-man PT/training activity, as applicable.

9. MARKING SYSTEMS ACTIVITIES.

a. General Requirements.

(1) All DMC/PB PTs must be monitored by a controller who is a National Training Center (NTC)-certified firearms instructor or has received specialized training.

(2) All DMC/PB training activities must be conducted by a NTC-certified firearms instructor.

(3) Instructor/controller-to-shooter ratios will be dictated by the type of training/PT scenario. Participants must be familiar with the DMC firearm/PB system to be used in the PT or training activity.

b. Safety Considerations. In addition to the safety considerations described in previous sections, the following safety considerations specific to DMC and PB activities must be included in training or PT activities that use DMC/PB.

(1) DMC/PB ammunition velocity could exceed the American National Standards Institute (ANSI) Z87.1 standard so protective eyewear must meet ANSI or the manufacturer’s specification, whichever is more stringent.

(2) All DMC/PB equipment must be maintained and tested in accordance with manufacturer specifications.

(3) All DMC/PB personal protective equipment (PPE) must be visually inspected before each use.

(4) Helmets with spring-loaded face shields must not be used during DMC or PB activities.

(5) DMC/PB will not normally break vehicle glass that does not have defects or prior damage. However, if the glass is already cracked, a DMC/PB round may break it. Repeated or rapid fire on undamaged plastic or glass may cause breakage. DMC will dent most soft building materials including drywall, plywood, paneling, and hollow core doors; however, they will generally not penetrate them.

(6) Wearing clothes with a tight-weave fabric, such as that in military type/field uniforms or coveralls, is required to cover and protect any exposed skin.

(7) If exposed body armor is used, it must be dedicated for DMC/PB use only.

(8) Testing of face and eye protection equipment by subjecting it to firing of DMC and PB projectiles from the actual DMC firearms or PB gun to be used is recommended. Testing must also include concentrated full automatic fire when such firearms are to be used. For information purposes, the manufacturer of the Avon protective mask recommends that outserts be used on the lenses of its masks when used in DMC/PB exercises.

(9) DMC/PB systems must not be fired at personnel closer than 1 meter.

(10) DMC ammunition must not be fired in standard, non-DMC-modified firearms because plastic cartridge components could stick in the bore causing a safety hazard.

(11) Blank ammunition must not be fired in DMC firearms due to potential hazards from muzzle gasses and ejected material.

(12) Face protection must provide protection from DMC/PB projectiles entering under the face mask when the wearer tilts his/her head back or looks upward.

c. Ammunition and Firearms Conversion Kits.

(1) Only DMC firearms equipped with conversion kits, PB systems, and ammunition approved by the ODFSA may be used.

(2) All DMC/PB firearms must be distinctively color-coded blue.

(3) All DMC firearms conversion kits must be designed to inhibit live rounds from being chambered.

(4) DMC/PB ammunition must be used in accordance with the manufacturer's recommendations for storage conditions and shelf life. The marking compound in DMC/PB may solidify and harden in older ammunition. Poor marking performance may also be encountered with older DMC and PB ammunition. Personnel may have increased risk of potential injury from DMC/PB ammunition projectiles if the marking compound becomes hardened through age or is used in cold temperatures.

d. Personal Protection Equipment (PPE). A risk assessment must determine the type of PPE required for the specific PT/training activity being conducted.

(1) The following PPE must be used when conducting training/PTs involving the use of DMC/PB during FoF and one-on-one engagements.

(a) Eye protection.

(b) Full face and head protection, which includes covered protection for the ears (i.e., helmets specifically designed for use with DMC or duty equipment that provides equivalent protection).

(c) Hand protection (gloves).

(d) Groin protection.

(e) Throat protection.

(f) Hearing protection (optional–unless diversionary devices are being used or exercise is conducted in an environment that requires noise protection). Sound levels generated by DMC/PB use are below Occupational Safety and Health Administration requirements that require hearing protection.

(2) When conducting training/PTs involving the use of airsoft systems, the minimum PPE is the JT Spectra face shield or equivalent.

e. Target Training. Training may be conducted using DMC/PB/airsoft systems to fire at training targets such as the DOE TQ-15, decisional targets, or other targets. Such training does not involve FoF or one-on-one activities.

(1) Use of DMC systems for shooting training targets must follow the requirements of this Order and normal live fire safety procedures. Sites must evaluate the need for numbers and types of controllers and other

exercise personnel based on the specific location and training to be performed.

(2) Provisions of DMC/PB/airsoft training plans, controller staffing plans, procedures, and risk assessments must address protection of uninvolved persons. They include observers, plant workers, and others who might become exposed to hazards of DMC/PB/airsoft if training targets are to be used in areas where uninvolved persons could be exposed. Potential hazards must be addressed related to using DMC/PB/airsoft systems for FPF PTs and training involving activities such as team movement, CQB, breaching training, room entries, live fire shoot house, and officer survival activities.

10. EXERCISE RULES OF ENGAGEMENT (ROE).

a. Safety. Safety is a major concern in any ESS PT, and training activity and safety rules must be followed to minimize the potential for accidents and injuries during these activities. Management, participants, and controllers must caution and prepare participants to anticipate and react to unsafe situations. Realism must be achieved, and safety must be considered in the actions of all participating personnel. Preparations must also be made to react with appropriate levels of medical assistance to situations that could occur.

b. Halting an ESS Activity. An ESS PT or training activity may be halted at any time for safety, emergency, real-time security events, or administrative reasons.

(1) Exercise Freeze. An EXERCISE FREEZE is a command used to halt an exercise when it is necessary to correct safety related problems or respond to an emergency.

(a) Any person observing a safety problem must announce, “EXERCISE FREEZE.”

(b) Controllers/evaluators must relay the “EXERCISE FREEZE” announcement throughout the PT area.

(c) Every participant must immediately freeze in place (i.e., stop at their locations and cease fire, movement, communication, and any other action) until the command “RESUME EXERCISE” is given by the exercise director or senior controller at the direction of the exercise director.

(d) In the case of a real-time security event, the exercise cannot resume until all shadow force members return to their staging areas and the shadow force controller confirms with the exercise director that all shadow force members are properly staged.

(2) Administrative Hold. The command ADMINISTRATIVE HOLD is used to halt an ESS PT when it is necessary to correct exercise problems of an administrative or procedural nature. The use of the command may be planned when it is necessary to put a temporary hold on activities to set the stage for continuation of the PT (e.g., change scenarios, operations shift change activities, etc.).

(a) The effect of an ADMINISTRATIVE HOLD can be limited to a specific location(s) or activity in a PT or the entire exercise.

(b) The command "ADMINISTRATIVE HOLD" must not be called to correct safety problems or respond to emergencies.

(c) Only a controller can administratively halt exercise activities. The controller will announce the hold in the affected area, and all participant activity in that area will immediately halt until the controller gives the command "RESUME EXERCISE."

c. Participants.

(1) Pre-Exercise Activities.

(a) All pre exercise actions must be conducted in accordance with normal operating procedures. Participants must be closely monitored to ensure they do not use artificially generated factors to affect the outcome of the PT.

(b) Participants must be familiar with the operation of issued ESS equipment.

(c) Participants who will be using or handling pyrotechnics, diversionary devices, hazardous materials, or electrical or mechanical equipment must receive training in their proper use in accordance with current applicable requirements.

(d) Before being assigned to act as hostage(s)/role players, individuals must be asked if they are willing and capable of dealing with the isolation and demands of a hostage/barricade situation.

(e) Participating non-DOE law enforcement and other emergency personnel must be instructed how to react in accordance with PT plans and safety and health requirements.

(f) All players and participants must be physically capable of participating without undue risk of injury to themselves or others.

(2) Safety.

(a) No attempt will be made to disarm a participant by forcibly taking an ESS weapon.

(b) All ascents to, or descents from, elevated positions must be by ladder, stairs, or other approved methods.

(c) No person acting in the role of a hostage may be abused.

(d) Event controllers must ensure all occupants of the facility are moved into a safe area during assault phases and provided with appropriate PPE and safety equipment.

(3) Injuries.

(a) All injuries must be reported immediately to the nearest controller. Anyone observing an injured or ill participant must immediately advise the nearest controller.

(b) The command "EXERCISE FREEZE" must be used in communications in the event a hostage role player or other participant becomes injured or ill. If a problem arises during hostage scenario events, it must be brought to the attention of a controller immediately.

(4) Damages. Any damage to vehicles and equipment must be reported to a controller no later than at the termination of the PT.

(5) Elimination.

(a) Once eliminated under the ROE and/or per scenario-specific requirements, a participant must immediately cease fire, movement, communication, and all other actions. Location permitting, eliminated participants must be prone or seated and weapons must be grounded to ensure they do not impact scenario/exercise actions. The responsible controller may remove an eliminated participant from the area for safety and operational reasons. Eliminated participants must remain in place until they are released by a controller.

(b) Participants occupying vehicles must be instructed on the provisions for vehicle and vehicle occupant casualties including the number of allowed survivors based on the type of weapon hit(s) received.

(c) No physical contact is allowed with eliminated participants except to search and secure (apply restraints) if applicable to the scenario. An eliminated OPFOR or FPF participant may be approached to obtain radios or other equipment. ESS firearms and ammunition

may be seized and used by other participants only when a controller is present to ensure the seized ESS firearms and ammunition are used safely. The controller must ensure the seized ESS weapon is returned to the participant to whom it is assigned for accountability purposes.

(d) Persons deliberately attempting to circumvent the ROE or gain an unfair advantage by using any unrealistic tactic or action (e.g., covering MILES sensors, hiding behind false cover, removing headbands, etc.) will be immediately eliminated by a controller.

d. Vehicles.

(1) Safety.

(a) Vehicles that will be used in the PT must be identified clearly as exercise vehicles. All participants are restricted from using vehicles other than those outfitted with ESS equipment and/or designated for PT use.

(b) All vehicles must be operated safely. Drivers must observe all site requirements and applicable laws relating to vehicle operation. The wearing of safety belts is mandatory for all vehicle occupants. No vehicle will be operated off roadways unless necessary for scenario action and there has been prior approval by the responsible controller.

(c) During scenario play depicting normal site operations, vehicles must be operated at posted site speed limits. During scenario play requiring emergency response, vehicles will be operated at speed limits delineated in approved PT plans and procedures. Vehicles responding to real-world site emergencies and security incidents during EXERCISE FREEZE conditions will be operated at speed limits per approved response plans.

(d) Except for normal passing, no vehicle may be driven closer to another vehicle than the distance permitted by the two-second rule. Following a normal pass, the passing vehicle must immediately reduce speed to the posted speed limit.

(e) There will be absolutely no attempt to use a vehicle to crash, block, or endanger another vehicle in any way unless the PT scenario or training activity specifically involves the use of precision immobilization techniques (PIT), vehicles in use are properly equipped to conduct PIT, and participants are utilizing proper PPE.

(f) Impassable roadblocks will be indicated by placing yellow engineer tape, orange cones, flags, etc. on or across the roadway per approved PT plans/procedures.

(g) Emergency vehicles are not part of the exercise unless equipped with ESS equipment.

(2) Elimination. PT plans/procedures must include requirements to determine the elimination of exercise vehicles. Requirements should include the use of MILES vehicle hit indicator harnesses and controller calls.

e. Explosives and Pyrotechnics.

(1) Organizations using explosives and pyrotechnics must provide safe operating procedures to the safety controller. These procedures must identify the hazards and required training, assess the risks, and establish the necessary safety requirements for the particular operation.

(2) Explosives and pyrotechnics must be employed commensurate with the applicable requirements of DOE O 440.1B, *Worker Protection Program for DOE (Including the National Nuclear Security Administration) Federal Employees*, and DOE M 440.1-1A, *DOE Explosives Safety Manual*.

(3) Pyrotechnics and explosives must be used by the OPFOR, Special Response Forces, or other personnel only as authorized by the ODFSA. Personnel must be trained in the use of deployed explosives and pyrotechnics and in the respective safety requirements. Quantities of, and locations for, explosives and pyrotechnics to be used during the PT must conform to approved response plans and be reviewed and approved by the senior controller and the safety controller before use.

(4) ESS Pyrotechnics.

(a) Electrical explosives in an ESS explosive simulator device are directed upward and slightly to the rear of this device. The safety zone around these devices is 10 feet.

(b) Participants firing an ESS LAW/RPG must ensure that the area 30 feet behind and 5 feet to each side of the weapon is clear. Personnel in the exercise area must also be briefed to not approach closer than 30 feet directly behind any participant firing a LAW/RPG. LAWs can be made safe by depressing the safety rod located on the top rear of the weapon.

(c) Vehicle system electrical explosive charges are mounted on the opposite side from the color indicator light. Since these devices

are usually mounted on the vehicle roof with the blast directed upward, they normally do not present a hazard. However, there may be selected special applications where the device is mounted on a vehicle bumper or hood. In these situations, participants must be careful not to position themselves above or within 10 feet of the explosive holder.

ANNEX 3 FEDERAL OFFICER PROGRAM

1. OBJECTIVE. This Annex augments the Federal Protective Force (FPF) Manual by establishing specific requirements for the management and operation of the Department of Energy (DOE) Federal Officers (FOs).

2. POSITION DEFINITIONS AND DUTIES. DOE Federal employees designated by the Chief Health, Safety and Security Officer or the ODFSA as FOs may or may not possess firearms/arrest authority pursuant to section 161 k of the Atomic Energy Act or section 661 of the DOE Organization Act, and must, when directed:

   a. conduct investigations,

   b. conduct liaison activities with law enforcement officials,

   c. perform inquiries into local and national security issues,

   d. conduct interviews, and

   e. conduct surveys and inspections.

3. QUALIFICATION REQUIREMENTS.

   a. Security Clearance. FOs must possess security clearances commensurate with the highest level of classified information or matter to which they have, or potentially have, access. Security clearances must be obtained in accordance with DOE M 470.4-5, *Personnel Security*.

   b. Medical, Physical Fitness, Firearms, and Training Standards. Armed FOs must complete a formal training and qualification program before being assigned to duties. The training program must be based on assigned functions. Firearms, physical fitness, and medical qualifications must meet DOE requirements for the position assignment as described in Appendix A of this Order.

4. TRAINING REQUIREMENTS.

   a. Training and Qualification.

      (1) The program must be based on a valid and complete set of job tasks with identified levels of skills and knowledge needed. Knowledge, skills, and abilities (KSAs) necessary to competently perform the tasks associated with assigned FO duties must be identified based on the job analysis (JA) applicable for each job assignment. FOs must demonstrate familiarity with, and knowledge of, the responsibilities identified in the JA for their assignment and must demonstrate proficiency in the skills and abilities necessary to perform required assigned job tasks.

(a) All FOs must demonstrate the following:

1 knowledge of and ability to perform routine and emergency duty requirements;

2 operation of assigned equipment and vehicles;

3 knowledge of and the ability to apply DOE directives, organization policies, plans, standard operating procedures, specific operational instructions, orders and procedures governing assigned routine and emergency duties;

4 knowledge of Federal- and State-granted authority applicable to assigned activities and responsibilities between the FPF and other law enforcement agencies;

5 knowledge of security practices and procedures; and

6 knowledge of and ability to prepare written reports and provide live testimony.

(b) All armed FOs must also demonstrate the following:

1 knowledge of and proficiency in the use, safety, and care of all weapons required by duty assignment, to include weapons effects, capabilities, and the proper use of various types of ammunition;

2 knowledge of and ability to apply DOE requirements for the use of deadly force and limited arrest authority;

3 knowledge of and ability to apply general, as well as site/organization-specific, rules of engagement for the application of deadly force;

4 knowledge of and ability to apply procedures and requirements for investigations, search of persons, seizure, of property and preservation of evidence pursuant to paragraph 2 of this Annex;

5 knowledge of and ability to obtain and serve warrants; and

6 knowledge of and proficiency in the methods of self defense, intermediate force options, detention, and arrest.

(2) The program must aim at achieving a well defined level of competency; specifically, mission accomplishment and survivability.

(3) The program must employ standardized lesson plans with clear performance objectives as a basis for instruction. Lesson plans used regularly must be reviewed for currency any time training requirements are changed and must be reviewed and/or revised for currency before training is conducted.

(4) The program must be documented so individual and overall training status is easily accessible (individual training records must be retained until 1 year after termination of the employee as a FPF member unless a longer retention period is specified by other requirements).

(5) The program must consider the learning characteristics and entry-level competencies of trainees.

b. Armed FO Instruction. The training program for armed FOs must include, but is not limited to, the following types of instruction:

(1) firearms training including safety, marksmanship, and manipulation skills with all weapons reasonably expected to be employed;

(2) physical fitness training;

(3) safety; and

(4) legal requirements and responsibilities include use of deadly force, site/organization-specific rules of engagement (see Appendix A, Annex 1 of this Order), limited arrest authority [see 10 CFR Part 1047, *Limited Arrest Authority and Use of Force by Protective Force Officers*, and 10 CFR Part 1049, *Limited Arrest Authority and Use of Force by Protective Force Officers of the SPR*], and fresh pursuit (see Appendix A, Annex 1 of this Order).

(a) Procedures and requirements for investigations include the search of persons and property for evidence and recognition, seizure, and preservation of evidence.

(b) Post incident response includes actions such as crime scene preservation and prisoner control.

(c) Procedures include the application of the provisions of the Fourth and Fifth Amendments to the Constitution of the United States.

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ATTACHMENT 1 CONTRACTOR REQUIREMENTS DOCUMENT

Regardless of the performer of the work, the contractor is responsible for complying with the requirements of this Contractor Requirements Document (CRD) and flowing down CRD requirements to subcontractors at any tier to the extent necessary to ensure contractor compliance. Whenever a DOE Order, Notice or Manual is referenced within the CRD, the intent is to include reference to the CRD of that directive applicable to the contract.

This CRD is issued to identify requirements applicable to contractors. U.S. Department of Energy (DOE) contractors must adhere to Protective Force (PF) program standards for protecting safeguards and security (S&S) interests including, but not limited to nuclear weapons, explosives, and components; special nuclear material; vital equipment; classified matter; assets; facilities; and other areas of interest to the S&S Program such as DOE elements and their personnel. When a union is the bargaining representative of PF personnel, the contractor should be aware that it may be obligated to bargain about certain effects of implementation of this CRD, as required by the National Labor Relations Act.

A violation of the provisions of this directive relating to the safeguarding or security of Restricted Data or other classified information may result in a civil penalty pursuant to subsection a. of section 234B of the *Atomic Energy Act of 1954* (42 U.S.C. 2282b). The assessment of civil penalties assessed under 42 U.S.C. 2282b are set forth in 10 CFR Part 824, *Procedural Rules for the Assessment of Civil Penalties for Classified Information Security Violations*.

Contractors are responsible for complying with Attachments 2 and 3 to DOE 473.3 referenced in and made part of this CRD and providing program requirements and information applicable to contracts in which this CRD is inserted.

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ATTACHMENT 2 CONTRACTOR PROTECTIVE FORCE

This Attachment provides information and/or requirements applicable to contracts in which the CRD (Attachment 1 to DOE O 473.3) is inserted.

1. SUMMARY.

   a. Sections A-L provide direction for administering the DOE contractor PF and PF firearms programs for the purposes of protecting S&S interests.

   b. Annex 1 provides the guidelines for legal authority, fresh pursuit, and rules of engagement.

   c. Annex 2 discusses performance testing used in the program.

   d. Annex 3 contains the provisions for implementing a canine program.

   e. Annex 4 provides instruction on security helicopter flight operations.

2. COMMONLY USED TERMS. Terms commonly used in the program are defined in the S&S Glossary located in the retired directive, DOE M 470.4-7, *Safeguards and Security Program References* located at: http://pir.pnl.gov/. In addition to those in the Glossary, the following definition is provided for use in this Order and CRD.

   Target Folders. Target folders provide sufficient target specific information to assist the PF and outside agencies in planning and conducting interagency compatible tactical operations.

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SECTION A. PROTECTIVE FORCE MANAGEMENT

1. MISSION AND RESOURCE PLANNING. In accordance DOE S&S Protection Program Management requirements, PF programs, functions, or activities must incorporate basic planning principles to ensure they accomplish their intended purpose.

   a. Mission. PF programs/elements, regardless of size, must clearly identify the mission to be fulfilled by the organization. Broad mission statements may be supported by establishing more specific goals and objectives for the PF element to achieve.

   b. Resource Requirements. PF programs/elements must document the resource requirements necessary to accomplish mission objectives successfully. Sources of these requirements may include Federal laws and regulations; DOE directives; site security plans (SSPs); protection strategies; operational needs; production, inspection, or transportation schedules; and investigative work load projections.

   c. Authorizations. Authorizations may be identified by full time equivalents (FTEs), the total number of personnel needed, total number of direct labor hours, and/or quantities of equipment items to perform work.

   d. Actuals. PF programs/elements must maintain a process that monitors and periodically reports actual personnel and sensitive equipment items currently on hand.

   e. Funding. PF programs/elements must develop funding requirements that provide direct relationships between costs and identified personnel and equipment authorizations.

2. OPERATIONAL GUIDANCE AND WRITTEN DIRECTIVES SYSTEM. To ensure that PF missions/functions are accomplished as intended, sufficient operational guidance must be provided through the establishment and maintenance of a formalized written directives system.

   a. Development. Written plans, post orders (POs), general orders (GOs), and procedures covering PF routine, emergency, and administrative duties; tactical deployment, and other operational requirements must be developed and must ensure PF assignments are oriented to allow maximum concentration of resources in a tactical posture. Plans, POs, GOs, and procedures must be clear, concise, and current.

   b. Plans. Required protection strategies; tactical response options, actions, and times; and other applicable response requirements must be addressed in response plans. Sites implementing the DOE Tactical Doctrine must concentrate tactical resources on or around target locations. Security incident response plans (SIRPs) covering response requirements to security incidents; adversary intrusion of a

facility/site; and defense against adversary use of weapons, explosives, and chemical/biological weapons (CBW) as described in the current DOE GSP.

c. Target Folders. Target folders must be developed and maintained by Tactical Doctrine sites and/or those with radiological sabotage concerns.

d. Procedures. Administrative, training, and other non response related operational requirements must be addressed in procedures.

e. Non DOE Law Enforcement Agency Support. If local, State, or Federal LEAs are used to protect security interests and/or to respond to security incidents, sites must establish cooperative agreements, e.g., Memoranda of Understanding outlining the specific support to be provided. These agreements must be documented in the appropriate security plan and reviewed annually.

f. Configuration Control. The written directives system must incorporate a controlled and documented process that ensures that changes to operational guidance are adequately reviewed and approved by authorized safety and PF management representatives.

g. Availability. Written directives must be available to PF personnel for reference and guidance in the performance of routine and emergency duties.

h. Review. Written operational and emergency response guidance, procedures, and cooperative agreements must be reviewed to ensure they are current when response requirements, duties, or administrative requirements are changed, or documented at least annually (at least every 12 months).

3. DOE CONTRACTOR PERSONNEL MANAGEMENT.

a. PF Positions. PF positions include contractor positions used in either armed or unarmed status for the purpose of protecting and/or investigating offenses against DOE assets including facilities, personnel, sensitive materials, and other property. Notwithstanding the investigative authority of some PF personnel under State law, this Order (473.3) does not extend criminal law enforcement authority and jurisdiction beyond what is permissible under the Atomic Energy Act (42 USC 2201 (k)), and 42 USC 7270a (Guards for Strategic Petroleum Reserves). Investigations conducted by PF personnel should be limited to preliminary steps to determine if a crime has been or is being committed. Detailed requirements for the PF positions identified below are contained within this Attachment:

(1) Security Officers (SOs) are unarmed contractor employees who conduct security duties at DOE facilities. SOs are not authorized to carry firearms and are not empowered with any arrest authority.

(2) 10 CFR Part 1047, *Limited Arrest Authority and Use of Force by Protective Force Officers*, delineates SPOs' responsibility at DOE

facilities [other than the Strategic Petroleum Reserve (SPR)] to enforce specified laws regarding Government property and criminal provisions of the Atomic Energy Act. Such Security Police Officers (SPOs) may, in accordance with 10 CFR Part 1047, be given additional local law enforcement responsibility on a site specific basis. 10 CFR Part 1049, *Limited Arrest Authority and Use of Force by Protective Force Officers of the Strategic Petroleum Reserve*, delineates SPO responsibility at the SPR to enforce Federal criminal laws to protect SPR Government property and personnel. There are three separate and distinct SPO positions/job classifications, which are fully described in this Attachment.

(3) Armed SPOs must be assigned to protect security areas that:

(a) receive, use, process, or store Category I or II quantities of special nuclear material (SNM) (see DOE M 470.4-6, *Nuclear Material Control and Accountability*);

(b) manufacture, store, or test nuclear weapons, nuclear test devices, or complete nuclear assemblies;

(c) represent a target for sabotage (e.g., radiological or toxicological); and

(d) contain a unique capability in DOE that must be protected for purposes of program continuity or to preclude an unacceptable impact on national security, the health and safety of DOE and contractor employees, the public, or the environment when the need has been so designated by DOE line management.

b. Human Reliability Program (HRP). HRP positions must be identified in accordance with 10 CFR Part 712 (see 10 CFR Part 712, *Human Reliability Program*) and approved by DOE line management. In addition to those categories of positions listed in 10 CFR Part 712.10(a)(1) through (3), at sites where the PF is in HRP, armorers with unescorted access to PF firearms also must be enrolled in the HRP.

c. Training. See 10 CFR Part 1046, *Physical Protection of Security Interests*; DOE O 470.4B, *Safeguards and Security Program*; and this Attachment.

d. Records. See 10 CFR Part 1046, *Physical Protection of Security Interests*, Schedule 18 of the General Records Schedule (GRS), or the DOE Records Schedules.

e. Reporting Requirements. Supervisors in the PF command structure and the manager in charge of onsite PF operations must ensure that any suspected criminal violations are reported in accordance with DOE O 470.4B, *Safeguards and Security Program*, and, where appropriate, DOE O 231.1A, *Environment*,

Safety and Health Reporting. All contract protective force employees, must comply with DOE O 221.1A, *Reporting Fraud, Waste and Abuse*, and DOE O 221.2A, *Cooperation with the Office Of Inspector General*.

4. QUALIFICATION REQUIREMENTS. PF personnel must comply with the Departmental medical, physical fitness, and firearms qualifications and training requirements as appropriate in 10 CFR Part 1046, *Physical Protection of Security Interests*.

a. Security Clearance.

(1) PF personnel must possess a security clearance commensurate with the highest level of classified information or matter to which they have, or potentially have, access. Security clearances must be obtained in accordance with DOE M 470.4-5, *Personnel Security*.

(2) SPOs must possess L or Q security clearances.

(3) SPOs with access to nuclear weapons, nuclear test devices, or complete assesmblies; Category I and II quantities of SNM: fully automatic weapons; or who are assigned to offensive posts must possess Q clearances.

b. Medical, Physical Fitness, Firearms, and Training Standards.

(1) Security Officers (SOs). SOs must meet the training, qualification, and medical requirements in 10 CFR Part 1046, Subpart B, *Protective Force Personnel*.

(2) Security Police Officers (SPOs). SPOs must meet the medical, physical fitness, firearms, and training and qualifications requirements in 10 CFR Part 1046, Subpart B, *Protective Force Personnel*. Randomly selected SPOs will be required to demonstrate they meet physical fitness qualification standards during an inspection, survey, review, audit, or other situation as directed by DOE line management. Failure to meet the physical fitness standard will be treated as if the individual failed the first attempt during annual qualification.

(3) Maintaining Physical Fitness Standards. Contractor PF personnel must maintain the physical fitness standards in 10 CFR Part 1046.

(4) Confidentiality of Medical Information. The DOE Designated Physician will notify protective force (PF) management of medical work restrictions. PF management must approve and implement site specific plans to ensure confidentiality of PF medical information meeting 10 CFR Part 1046 requirements.

c. Special Skills Qualifications.

(1) Site specific conditions may justify requirements for PF personnel to possess qualifications for special skills.

(2) Responsible managers must ensure that personnel assigned to these duties are trained, formally evaluated, and certified, if required, by an appropriate accrediting authority before performing those duties.

(3) Certifications required by specific job functions (e.g., a Federal Aviation Administration license for pilots) must be kept current. The employing organization for each individual must maintain a record of qualification and/or certification.

d. Firearms.

(1) No person will be authorized to carry a firearm as a PF officer until the individual is qualified in accordance with the approved firearms standards meeting 10 CFR Part 1046 requirements. Failure to qualify, as set forth in 10 CFR Part 1046, will result in suspension of the authority to carry firearms and make arrests. The remedial firearms training program will comply with 10 CFR Part 1046 as will any subsequent loss of SPO status due to failure to meet these standards.

e. Authority to Carry Firearms.

(1) The employing organization must maintain written documentation indicating each individual who is authorized to carry firearms and make arrests without warrant while performing official duties.

(2) Firearms instructors who are not currently assigned SPO duties may carry firearms when performing their instructional duties if authorized by DOE line management. These instructors must pass the firearms qualification courses for assigned firearms and for firearms that are the subject of instruction.

5. CREDENTIAL AND SHIELDS. Please see Attachment 3, Section A, Chapter XI.

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6. ALLOCATION OF PERSONNEL RESOURCES.

a. Location, Manning, and Scheduling.

(1) The location and manning of fixed and mobile posts must be determined using the GSP, local threat statements and vulnerability assessments (Vas), SSPs, applicable emergency planning hazardous material quantitative assessments, and appropriate DOE directives.

(2) PF work schedules must be consistent with existing collective bargaining agreements and contracts and should be based on the following guidelines, where appropriate:

(a) No more than 12 total hours per work day, excluding shift change and equipment issuing activities, should be scheduled.

(b) No more than 60 total hours per work week, excluding shift change and equipment issuing activities, should be scheduled.

b. Supervision. Supervision of PF personnel must be provided to the extent required to ensure optimal performance of duties.

c. Unit Organization. At sites implementing the DOE Tactical Doctrine, the PF organizational structure must be configured into tactically cohesive units.

SECTION B. TRAINING

1. TRAINING AND QUALIFICATION.

   a. Training must be conducted in accordance with, by, and through a DOE National Training Center (NTC) approved program to be conducted in accordance with the Training Approval Program (TAP). Training must be provided to ensure performance of assigned functions and tasks under both normal and emergency conditions.

   b. Training requirements for each position are contained in their respective chapters within this Attachment.

2. PROGRAM REQUIREMENTS.

   a. General. The formal training and qualification program must be based on a valid and complete set of job tasks, with identified levels of skills and knowledge needed. Knowledge, skills, and abilities (KSAs) necessary to competently perform the tasks associated with assigned PF duties must be identified based upon the Job Analysis (JA) and/or mission essential task list (METL) applicable for each job assignment. PF personnel must demonstrate familiarity with, and knowledge of, the responsibilities identified in the JA for their assignment and must demonstrate proficiency in the skills and abilities necessary to perform required and assigned job tasks.

   b. Contingency Force Personnel. Due to the national security sensitivity of its various facilities, the Department is responsible for imposing measures that prevent disruptions in PF staffing that could subject sensitive facilities to periods of significant vulnerability to terrorist attack.

      (1) Any individual who has been qualified as a SPO I, II, or III may return to active status as part of a contingency force after completing prescribed refresher training for the assigned SPO level duties as described in this Attachment. Formerly qualified SPO IIIs may perform only SPO I/II contingency duties, and SPO IIs may perform SPO I duties.

      (2) Before being assigned to contingency force duties, the SPO must successfully complete all required medical, HRP, physical fitness, and firearms (for assigned firearms) qualification requirements.

   c. Returning Military Personnel.

      (1) Any individual previously qualified as an SPO I/II/III who has been deployed to military active duty for up to 36 months may return to active status after completing prescribed refresher training for the assigned position as described in this Attachment.

(2) Before being reassigned to active status, the SPO must successfully complete all required medical, HRP, physical fitness, and firearms (for assigned firearms) qualification requirements, as applicable.

3. OPPOSITION FORCE TRAINING. Personnel participating in performance tests as GSP comparable adversary combatants will be trained in adversary capabilities tactics and techniques to challenge the ability of the PF to defeat an armed adversary. Use of the DOE NTC Opposition Force Training course is encouraged.

4. WEAPONS QUALIFICATIONS.

a. SPOs must qualify or demonstrate proficiency as appropriate semi annually (at least every 6 months) with all assigned weapons and special skills weapons as designated by job assignment using the DOE approved firearms qualification courses.

b. Where DOE firearms qualification courses do not exist for a weapons system (e.g., belt fed machine gun, grenade launcher, aerial firing platform, etc.) that is required to address site specific concerns, both daylight and reduced lighting site specific supplemental qualification courses must be developed. These courses must include minimum scoring requirements constrained by time limits. With approval by the local ODFSA, they will be submitted to the Chief Health, Safety and Security Officer, for review and approval. National Nuclear Security Administration (NNSA) sites will request approval of their site specific courses of fire from the Associate Administrator for Defense Nuclear Security who will coordinate with the Chief Health Safety and Security Officer, prior to approval.

5. SPECIAL SKILLS.

a. Personnel assigned specialized responsibilities outside the scope of normal SO, SPO, and special response team (SRT) duties must successfully complete the appropriate basic, refresher, and periodic training. This training must be designed to enable the individual to achieve and maintain the level of skill and knowledge needed to competently perform the tasks associated with the specialized job responsibilities and to maintain mandated certification, if applicable. Such personnel include, but are not limited to, flight crews, instructors, armorers, Central Alarm Station (CAS) operators, crisis negotiators, investigators, canine handlers, exercise controllers/evaluators, and law enforcement specialists.

b. Each crisis negotiator must have successfully completed a ODFSA approved crisis negotiation training course. At least once a year, crisis negotiation team members must be integrated into exercises at sites implementing the DOE Tactical Doctrine. Members of crisis negotiation teams must be familiar with PF operations, including SRT tactics and operations, but do not need to be SPO trained and certified.

6. PF SUPERVISORS. PF personnel who are assigned supervisory responsibilities must successfully complete the appropriate basic and annual training necessary to competently perform their supervisory responsibilities. The required tasks and expected levels of competency must be based on a site specific JA and the specialized task areas listed in this Attachment. In addition, supervisors located at sites implementing the DOE Tactical Doctrine who function as small unit tactical commanders must successfully complete a ODFSA approved tactical leadership training course. Each supervisor must successfully complete formal annual refresher training to ensure that duties and tasks associated with tactical unit command can be performed at optimal level.

7. INSTRUCTORS.

   a. General Requirements. Each instructor must possess the skills and knowledge necessary to instruct PF personnel in the requirements for protecting S&S interests. Instructors must meet DOE NTC requirements. All PF personnel who are assigned instructor duties must have current certification to the level of training delivered. At a minimum, each instructor assigned to deliver training must successfully complete the DOE NTC Basic Instructor Training (BIT) Course, as approved by the Office of Health, Safety and Security, or an equivalent recognized basic instructor course.

   b. Recertification. PF management must ensure that each instructor is evaluated for competency at least once every 36 months.

8. FIREARMS INSTRUCTORS. Before initial assignment to duty as a firearms instructor, personnel must successfully complete the DOE Basic Firearms Instructor Course (FIC). Instructors for SPO IIs and IIIs must complete the Advanced FIC (AFIC).

   a. Refresher Training. Each firearms instructor must successfully complete formal annual refresher training to maintain the level of competency required for the successful performance of tasks associated with firearms instructor responsibilities. The type and intensity of training must be based on a site specific JA and be approved by the ODFSA.

   b. Recertification. DOE firearms instructor recertification requirements must be met according to requirements of the DOE NTC.

9. INTERMEDIATE FORCE AND GROUND CONTROL INSTRUCTORS. Before initial assignment to duty as intermediate force instructors and ground control instructors, personnel must successfully complete the DOE Basic Intermediate Force Instructor Course (IFIC) and/or Ground Control Instructors Course (GCIC).

   a. Refresher Training. Each intermediate force and ground control instructor must successfully complete formal annual refresher training to maintain the minimum level of competency required for the successful performance of tasks associated with intermediate force and ground control instructor responsibilities. The type

and intensity of training must be based on a site specific JA and be approved by the ODFSA.

b. Recertification. The DOE intermediate force instructor recertification requirements must be met according to DOE NTC requirements.

10. ARMORERS. All sites, including the DOE NTC, must have (onsite, under contract offsite, or in association with another DOE site) an armorer with the knowledge, capability, and responsibility for inspecting, maintaining, and repairing all firearms available for use. The armorer and all other personnel are prohibited from modifying the basic design of a firearm or any of the firearm's operating or safety components without specific written approval from the DOE Chief Health, Safety and Security Officer, or from the Associate Administrator for Defense Nuclear Security, in coordination with the Chief Health, Safety and Security Officer as applicable. At a minimum, armorers must have a favorably adjudicated NACLC and participate in the HRP before receiving unescorted access to weapons used by protective forces which are in HRP.

a. Certification. Armorer certification must be in accordance with DOE NTC requirements.

(1) The DOE armorer must successfully complete the DOE Armorer Certification Course, as approved by the Office of Health, Safety and Security.

(2) The DOE armorer shall successfully complete a manufacturer's armorer course for the specific weapons employed for site use, where available.

(3) The DOE armorer must successfully complete a manufacturer's or military armorer course for the specific weapons employed for site use when such courses are not delivered by the DOE NTC.

b. Recertification. Armorer re-certification must in accordance with DOE NTC requirements to include the following:

(1) The DOE NTC must evaluate each armorer for competency and recertification at least once every 3 years.

NOTE: Verification of compliance with this requirement must consist of observation of armorer performance during actual duties and/or by performance testing activities, and inspection of required armory firearms records and other applicable documentation.

(2) The evaluation must consist of verification of armorer knowledge of all firearms in inventory and available for use on the site, in the following areas:

(a) conducting firearms inspections;

(b) performing required firearms repairs;

(c) using written procedures and technical specifications;

(d) updating firearms maintenance records;

(e) maintaining firearms in a serviceably clean and good condition, free from unapproved modifications;

(f) using proper tools necessary to perform required maintenance, repairs, and inspection duties;

(g) using a proper tag out system for firearms in need of repair and properly segregating tagged out firearms;

(h) adhering to separate storage requirements for live firearms and engagement simulation systems firearms; and

(i) having armorer currency in factory requirements for the specific weapons systems available for use onsite.

c. Refresher Training. Each armorer must successfully complete formal refresher training, where applicable, to maintain the minimum level of competency required for the successful performance of tasks associated with site specific armorer responsibilities. The type and intensity of training must be based on emerging and changing maintenance and repair technologies associated with site specific employed firearms and developed, when applicable, by the DOE NTC in conjunction with firearms factory guidelines. Refresher training may be conducted during the DOE NTC armorer recertification and/or factory armorer recertification process.

11. TRAINING EXERCISES. Exercises and performance tests of various types must be included in the training process to meet the requirements of 10 CFR Part 1046, Appendix B, B(8). The types and frequency of training exercises must be based on the contractor training needs analysis submitted to and approved by the ODFSA. The following elements must be included in the training exercise program.

a. Tactical exercises involving each PF shift and each SRT shift on fixed sites must be conducted at least twice monthly for sites implementing the DOE Tactical Doctrine and monthly for other facilities. At least quarterly, PF shifts and SRT shifts at Tactical Doctrine sites will conduct tactical exercises against GSP comparable adversary combatants ensuring that every shift participates at least once annually. These quarterly exercises may be of limited scope and may be conducted in surrogate facilities; however, they should consist of force-on-force (FoF) activity.

b. The ODFSA must request the Federal Bureau of Investigation (FBI) and other Federal, State, and local LEAs that would assist the PF during a site security

incident to participate in training exercises at least every 12 months in accordance with 10 CFR Part 1046, Appendix B, B(8)(c).

c. Reports of each training exercise, including all FoF exercises and summarizing results and problems areas, must be prepared for management review and to aid in planning PF activities, developing corrective actions, and analyzing training needs. Participation in FoF exercises must be noted in individual training records. Reports must be available for review by oversight organizations.

d. At sites implementing the DOE Tactical Doctrine and sites with radiological, chemical, or biological targets must plan and conduct an FoF training exercise involving a weapons of mass destruction (WMD) scenario at least every 24 months. Table top exercises may be alternated with FoF activities. Where possible, this exercise should involve joint interagency national level participation (e.g., the FBI, Federal Emergency Management Agency, or State emergency management agencies, as applicable). The Office of Health, Safety and Security will serve as the liaison with national level agencies to promote their participation.

12. NON DOE TRAINING COURSES. Contractors must obtain ODFSA approval for attendance by PF personnel at non DOE Government or private PF related training courses.

SECTION C. PROTECTIVE FORCE ADMINISTRATION

1. GENERAL PROTECTIVE FORCE POSITIONS. PF positions include both armed and unarmed positions for the purpose of protecting DOE assets including facilities, personnel, sensitive materials, and other property against threats identified in DOE O 470.3B, *Graded Security Protection (GSP) Policy*.

   a. Security officers (SOs) are unarmed contractor employees who conduct security duties at DOE facilities. SOs are not authorized to carry firearms and are not empowered with any arrest authority.

   b. Security police officers (SPOs) are armed contractor employees who require firearms/arrest authority pursuant to section 161k. of the Atomic Energy Act [42 U.S.C. 2201(k)] or section 661 of the DOE Organization Act (42 U.S.C. 7270a) as an official function or duty.

2. CAREER LONGEVITY PLAN. The career longevity plan is focused on supporting PF employees who must maintain medical and physical fitness standards. The plan is intended as a tool to aid in selecting personnel from existing resources for less strenuous positions in support of implementing the DOE Tactical Doctrine prescribed in DOE O 470.4B, *Safeguards and Security Program*. Local collective bargaining unit provisions and union seniority will govern the specific application of this tool.

   a. Security Police Officer II.

      (1) To promote career longevity, SPO II will be the entry level protective force position for new hires at sites implementing the DOE Tactical Doctrine. New hires will begin employment meeting the highest level of medical and physical fitness standards within the site's PF.

      (2) An SPO II may staff an SPO I post; however, an SPO I may not staff an SPO II post. SPO IIs may apply for available SPO I or SO vacancies.

   b. Security Police Officer III.

      (1) A person who has successfully completed TRF 1 training may then be eligible for selection to fill SPO III vacancies.

      (2) SPO IIIs may apply for SPO II, I, and SO vacancies.

   c. Security Police Officer I. At sites implementing the DOE Tactical Doctrine where SPO I positions have been validated, they are recommended as career progression opportunities for SPOs who can no longer maintain SPO II and SPO III medical and physical fitness standards.

d. Security Officer. At sites implementing the DOE Tactical Doctrine where SO positions have been validated, they are recommended as career progression opportunities for SPOs who can no longer maintain SPO medical and physical fitness standards.

3. EQUIPMENT.

a. In accordance with the requirements identified in the approved JA, PFs must be equipped and provided with the necessary resources to effectively, efficiently, and safely perform both routine and emergency duties in daylight or under reduced visibility conditions.

b. Equipment, specifically weapons and communications systems, must be tailored to effectively combat and defeat adversaries identified in the GSP and site specific threat guidance or as specified in the SSP under all environmental and tactical conditions. Equipment must be available in sufficient quantities and properly maintained to support the PF mission.

4. FACILITIES.

a. Permanent Posts. Permanent (routine and emergency duty) PF posts that control access to sites implementing the DOE Tactical Doctrine must meet the following requirements.

(1) Fighting Positions. Fighting positions must be constructed consistent with the vulnerability analysis as documented in the SSP.

(2) Human Factors Requirements. The posts must provide adequate human engineering.

b. Training Facilities.

(1) Suitable facilities to support applicable PF activities must be provided and maintained based on mission specific needs.

(2) Local, State, and Federal LEAs and Department of Defense/National Guard training facilities are acceptable alternatives to DOE owned facilities as long as required DOE certifications and safety guidelines are maintained. In coordination with the PF contractor, a memorandum of understanding delineating such use must be completed by the ODFSA and approved by DOE line management.

5. SUPERVISORS. PF line supervisors must show proficiency in the skills and abilities necessary to perform required assigned job tasks.

6. RESPONSE CATEGORIZATION. Medical and physical fitness requirements for each PF position are based on the expected level of physical exertion associated with security response duties. Duty assignments for each PF position, including supervision, must be

clearly identified to ensure that assigned personnel are qualified to perform required duties. Response deployment must be consistent with 10 CFR Part 1046 requirements as documented in facility specific VAs as documented in the site's approved SSP.

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SECTION D. SECURITY OFFICERS

1. DUTIES/RESPONSE CATEGORY: RESPONSE SUPPORT.

   a. Assignments. Where practicable, unarmed SOs should be used to perform administrative, access control, facility patrol, escort, alarm assessment, alarm monitoring, and dispatch duties and to report alarms. SOs will enforce S&S protection requirements to allow, as appropriate, armed PF personnel to maintain focus on their primary mission of combating the armed terrorist threat.

   b. Knowledge, Skills, and Abilities. The requirements must be in accordance with 10 CFR Part 1046 requirements.

2. TRAINING.

   a. Training Requirements. Before initial assignment to duty, each person must successfully complete the required basic training as approved by the Chief Health, Safety and Security Officer. Additional site specific training requirements may be included. Site specific requirements must be based on a site specific JA and include SO task areas found in Annex 2 of this Attachment, as applicable. Contractors must obtain approval for site specific JA and training requirements from the ODFSA. The SO training program must include, but is not limited to, those items referenced in 10 CFR Part 1046, Appendix B, in addition to those contained in Annex 2 of this Attachment.

   b. Refresher Training. Each SO must successfully complete formal annual refresher training to maintain the level of competency required for the successful performance of tasks associated with job responsibilities.

   c. Remedial Training. Failure to achieve the required level of competency will result in the SO being placed in a remedial training program. The remedial training program must be tailored to provide the necessary training to afford a reasonable opportunity to meet the level of competency required by the JA. Failure to demonstrate competency at the completion of the remedial program must result in loss of SO status.

   d. Exemption. Formal annual refresher training may be exempted when an SO satisfactorily demonstrates specific KSAs for which refresher training has been scheduled. Such exemptions must be documented.

3. EQUIPMENT.

   a. Uniforms. Contractor PF personnel must be distinctively uniformed while on duty and be identified with their function by appropriate emblems or badges.

b. Duty Equipment. The equipment issued to PF personnel must be determined by assigned duties on a site specific basis.

(1) Chemical Protective Equipment. To ensure appropriate analysis and implementation, deployment and use of chemical protective equipment must be documented in the Site Security Plan.

(2) Equipment Storage. Individual, special purpose, and duty equipment must be stored and/or carried so it is readily available in sufficient numbers for use as intended according to approved PF response plans, post orders, general orders, and procedures. Adequate and secure storage space must be available for all individually carried equipment.

(3) Equipment Maintenance. Equipment must be maintained in a serviceable condition in keeping with generally accepted practices and/or the manufacturer's recommendations for the particular type of equipment.

(4) Vehicles.

(a) Type. Vehicles must exhibit a degree of reliability commensurate with their intended function. Vehicles must be of a type and size suitable and equipped for the intended use and, in the case of armored vehicles, offer assurance of continued operation and a safe level of protection to occupants under small arms fire, up to and including a North Atlantic Treaty Organization 7.62 millimeter full metal jacket.

(b) Maintenance. Vehicles must be maintained in serviceable condition, with preventive maintenance performed at intervals that meet or exceed the manufacturer recommendations.

(c) Inspection. Vehicles must be inspected at the beginning of each shift to ensure they are in safe, operating condition.

(5) Communications Equipment. Communications equipment must be designed to provide command and control in routine and emergency operations.

(6) Optical Devices/Corrective Lenses.

(a) Eyeglasses worn by PF personnel must be made of safety glass and meet American National Standards Institute (ANSI) Z87.1 Standard.

(b) SOs whose uncorrected distant vision in the better eye is less than 20/40 must carry an extra pair of eyeglasses or corrective lenses.

SECTION E. SECURITY POLICE OFFICERS I

1. DUTIES/RESPONSE CATEGORY: STATIC DEFENSE. Before initial assignment to independent duties, SPO candidates must be formally evaluated and certified in accordance with procedures based on site specific requirements approved by DOE line management.

   a. Assignments. Assignments will be made consistent with 10 CFR Part 1046 requirements.

   b. Qualifications. DOE standardized SPO I training and site specific training as identified by the site specific JA in accordance with 10 CFR Part 1046.

   c. Knowledge, Skills, and Abilities. The requirements for each SPO I to demonstrate familiarity with, and knowledge of, the responsibilities identified in the applicable JA and proficiency in individual KSAs necessary to perform the job tasks include, but are not limited to, those identified for SOs; those identified in 10 CFR Part 1046, Appendix B, B(4)(b).

2. TRAINING.

   a. Training Requirements. Before initial assignment to duty, each trainee must successfully complete the DOE Basic SPO Training Program (BSPOT), as approved by the Office of Health, Safety and Security. Additional site specific training requirements must be included. Site specific requirements must be based on site specific JAs and must include SPO task areas found in 10 CFR Part 1046, as applicable. Contractors must obtain approval for site specific JA and training programs from the ODFSA. The SPO I training program must include, but is not limited to, those items noted in 10 CFR Part 1046, Appendix B.

   b. Refresher Training.

      (1) Formal Program. Except as stated in paragraph 2b(3) below, each SPO must successfully complete formal annual refresher training to maintain the level of competency required for the successful performance of tasks associated with job responsibilities.

      (2) Remedial Training. Failure to achieve the required level of competency will result in the SPO being placed in a remedial training program. Failure to demonstrate competency at the completion of the remedial program must result in loss of SPO status.

      (3) Training Exemption. Except for firearms and physical fitness requirements and training in the areas of protection strategies, use of force, pursuit driving, individual and team tactics, and chemical biological weapons, portions of formal annual refresher training may be exempted

when an SPO satisfactorily demonstrates a KSA for which refresher training has been scheduled. Such exemption(s) must be documented in the individual's training record.

c. Returning SPOs.

(1) Any former SPO I who has been out of active SPO status for less than 6 months may return to active status after completing limited refresher training for the assigned SPO level duties. The scope of limited refresher training will be determined by evaluation of the SPOs skills by a PF instructor and approved by the cognizant PF Training Manager.

(2) Any former SPO I who has been out of active SPO status for more than 6 months but less than 12 months may return to active status after completing prescribed refresher training for the assigned SPO level duties. The prescribed refresher training will be designed by a PF instructor and approved by the cognizant PF training manager. Documentation of testing activities will be maintained and available for review during DOE/National Nuclear Security Administration inspection activities.

(3) Any former SPO I who has been out of active SPO status for more than 12 months (unless on active military duty) may return to active status only after completing the entire DOE BSPOT course and site specific requirements again as noted in this Attachment. SPOs on restricted duty but still performing PF duties and remaining current with required refresher training do not need to re-attend BSPOT. However, all appropriate qualifications must be current prior to returning to full duty.

3. EQUIPMENT.

a. Uniforms. Contractor PF personnel must be distinctively uniformed while on duty and be identified with their function by appropriate emblems or badges.

b. Duty Equipment. The equipment issued to PF personnel must be determined by assigned duties on a site specific basis. At a minimum, the following duty equipment must be provided.

(1) Security Police Officer I. Each SPO I must be assigned, and be required to carry while on duty, a firearm and ammunition, an ammunition carrying device of sufficient capacity, a portable radio with carrier, handcuffs (with case) or other restraining devices, an intermediate force weapon (with case, if applicable), and a flashlight with carrier.

(2) Alternative to Deadly Force. Armed PF personnel must be assigned equipment that provides an alternative (i.e., intermediate force), in the appropriate circumstances, to the use of deadly force.

(3) Non Lethal Area Weapons. Non lethal area weapons such as chemical agents must be of the type commensurate with the intended use and must not pose danger to personnel or facilities beyond that required for the success of the PF mission.

(4) Personal Protective Armor. Personal protective armor must be readily available for SPO I, II, and III personnel. Protective armor must be worn by SPOs or be stationed or positioned so it can be quickly donned when needed without impacting response times. Protective armor for SPO I personnel must provide at least Type III A level protection, as established by National Institute of Justice (NIJ) Standard 0101.06 (7/08). Protective armor for SPO II and III personnel must provide at least Type III level protection, as established by NIJ Standard 0101.06 (7/08).

(5) Protective Masks. Protective masks must be available for armed SPO I, II, and III personnel (i.e., they must be carried by personnel or be stationed or positioned so they can be donned within 14 seconds). Protective masks must be of a type that does not hinder performance of emergency duties, including accurate firing of all assigned firearms. In accordance with 29 CFR Part 1910.134, they must be rated for radiological/biological/chemical protection and individually fit tested.

(6) Optical Devices/Corrective Lenses.

(a) Eyeglasses worn by PF personnel must be made of safety glass and meet the American National Standards Institute (ANSI) Z87.1 standard.

(b) SPOs whose uncorrected distant vision in the better eye is less than 20/40 must carry an extra pair of eyeglasses or corrective lenses.

(7) Protective Mask Optical Inserts. Personnel assigned protective masks whose uncorrected distant vision in the better eye is less than 20/40 must be provided with corrective lens inserts that can be accommodated by the issued mask.

(8) Observation Devices. Binoculars must be available for PF use to permit observation and detection of unauthorized activity and to aid in the conduct of response operations both day and night.

(9) Communications Equipment.

(a) Basic Requirements. Communications equipment must be designed to provide command and control in routine and emergency operations. Duress alarms must be provided at all PF posts.

(b) Special Requirements.

1 Facilities implementing the DOE Tactical Doctrine or Facilities Containing Category II Quantities of SNM. Fixed PF posts must have both normal telephone service and two way radio communication with the central alarm station/secondary alarm station, and points from which backup forces may be dispatched. All PF response vehicles used for pursuit/response/recovery must be capable of communicating with supporting law enforcement agencies. PF communications at facilities implementing the DOE Tactical Doctrine must be capable of operating in a secure communication mode that has been approved by the ODFSA.

2 Tests. Daily tests of communication systems must be conducted. If equipped with duress capabilities, the duress system must be tested weekly. Fixed duress systems must also be tested weekly.

SECTION F. SECURITY POLICE OFFICERS II

1. DUTIES/RESPONSE CATEGORY: ACTIVE DEFENSE.

   a. Assignments. Assignments will be made consistent with 10 CFR Part 1046 requirements.

   b. Qualifications. DOE standardized SPO I and II training and site specific training as identified by the site specific JA in accordance with 10 CFR Part 1046.

   c. Knowledge, Skills, and Abilities. Each SPO II must demonstrate familiarity with, and knowledge of, the responsibilities identified in the site specific JA and those identified for SPO Is. Additionally, each SPO–II must demonstrate familiarity and knowledge of the following:

      (1) Knowledge of and ability to perform individual and small unit/team tactics, techniques and procedures (TTPs) to respond to and assess alarm annunciations (or other indications of intrusion), and implement containment, denial, recapture, recovery, and pursuit strategies; and

      (2) Knowledge of and proficiency in operating/employing assigned special weapons and deploying from assigned specialized vehicles.

2. TRAINING.

   a. Training Requirements. Before initial assignment to duty, each trainee must successfully complete the DOE Basic SPO Training Program contained within the Tactical Response Force I (TRF I) training curricula, as approved by the Office of Health, Safety and Security. Additional site specific training requirements must be included. The SPO II training program must include, but is not limited to, those items noted in 10 CFR Part 1046, Appendix B, the instruction identified for SOs and SPO Is in this CRD and the following types of instruction:

      (1) Tactical operations training, including individual and small unit tactics under both daylight and low light conditions that incorporates FoF exercises, engagement simulation systems, and use of all assigned tactical equipment.

      (2) Fundamentals and principles of Military Operations in Urban Terrain.

      (3) Routine and emergency operation (to include applicable pursuit TTPs) of specialized or seasonal vehicles such as light armored vehicles, fast attack vehicles, snowmobiles, all-terrain vehicles, boats, etc., as applicable.

(4) Use and deployment of diversionary devices, lethal explosive devices (e.g., fragmentation grenades), and non lethal pyrotechnics such as parachute flares, as applicable.

(5) Operation of night vision devices and other specialized equipment that has been incorporated into the site's protection strategy (e.g., tactical lasers, thermal imaging equipment, etc.).

b. Refresher Training.

(1) Formal Program. The formal Refresher Training Program for SPO IIs shall conform to the requirements for SPO Is with the addition of SPO II specific topics.

(2) Remedial Training. Remedial Training Programs for SPO IIs shall conform to the requirements for SPO Is. Failure to demonstrate competency at the completion of the remedial program must result in loss of SPO II status and may result in loss of SPO status.

(3) Training Exemption. Training Exemption for SPO IIs shall conform to the requirements for SPO Is.

(4) Returning Security Police Officers I/II. Requirements for returning SPO IIs shall conform to the requirements for SPO Is.

3. EQUIPMENT. In addition to the equipment provided to SPO Is, SPO IIs must receive equipment as determined by assigned duties on a site specific basis. When worn, equipment must be secured to the SPO so that it is easily accessible and does not hamper tactical movement.

SECTION G. SECURITY POLICE OFFICERS III

1. DUTIES/RESPONSE CATEGORY: ACTIVE DEFENSE.

   a. Assignments. Assignments will be made consistent with 10 CFR Part 1046 requirements.

   b. Security Police Officers III Selection Criteria. Qualified SPO IIs may volunteer and/or be selected for SPO III duties; however, each individual must also meet specific selection criteria in 10 CFR Part 1046 in order to be assigned as an SPO III member. The number of times that a previously unsuccessful candidate may reapply for SPO III selection, and the selection criteria, must be in writing and approved by the ODFSA. Before being assigned to an SRT, candidates must meet the SPO III standards.

   c. Qualifications. DOE standardized SPO I, SPO II, and SPO III training and site specific training as identified by the site specific JA. Physical fitness and firearms qualifications in accordance with 10 CFR Parts 1046 and 1047. The requirements for each SPO III to demonstrate familiarity and knowledge of the responsibilities identified in the JA and proficiency in the individual and team KSAs necessary to perform the job tasks include, but are not limited to, those identified for SPO IIs as listed above and in 10 CFR Part 1046.

2. TRAINING.

   a. Training Requirements. Contractors must obtain approval of site specific JA and training programs from the ODFSA. Additional site specific training requirements must be included and be based on a site specific JA. The SPO III training program must include the requirements identified in 10 CFR Part 1046, Appendix B for SPOs.

   b. Specialized Training. Team members may volunteer and/or be selected for specialized SPO III duties for which the following requirements must be met.

      (1) Precision Rifleman Forward Observer Team Training. Before initial assignment to duty as a Precision Rifleman Forward Observer Team (PRFOT) member, each assigned SPO III must successfully complete the DOE PRFOT training course approved by the Office of Health, Safety and Security. Thereafter, on a quarterly basis, each PRFOT member must participate in live and dry fire proficiency training.

      (2) Tactical Entry Specialist Training. Before initial assignment to Tactical Entry (TE) specialist duties, each SPO III assigned must successfully complete the DOE Basic TE Course approved by the Office of Health, Safety and Security. Thereafter, each specialist must participate quarterly in proficiency training that includes mechanical entry techniques.

c. Refresher Training.

(1) Formal Program.

(a) Except as stated in paragraph 2c(4) below, each SPO III must successfully complete a formal annual refresher program to maintain the level of competency required for the successful performance of tasks associated with job responsibilities.

(b) After assignment to duties as a member of an SRT, an SPO III must, at a minimum, train semiannually (at least every 6 months) in all of the following: decisional shooting, close quarter battle (CQB), live fire shoot house (LFSH) operations, tactical obstacle course, night operations, team tactical movement, and force options (i.e., open air, mobile, emergency, and stronghold assaults).

(2) Remedial Training. Remedial training programs for SPO IIIs shall conform to the requirements for SPO Is. Failure to demonstrate competency at the completion of the remedial program must result in loss of SPO III status and may result in loss of SPO status.

(3) Training Exemption. Portions of formal annual (at least every 12 months) refresher training may be exempted when a SPO III satisfactorily demonstrates a KSA. Such exemption(s) must be documented in the individual's training record. The following requirements may not be exempted: firearms and physical fitness qualifications, protection strategies, force options, pursuit driving, individual and team tactics, special skills, CQB, and chemical biological weapon (CBW) training.

d. Site SPO III Training Certification. For a site to be authorized to conduct the DOE TRF II course onsite, the DOE NTC must determine and certify the site's capability to conduct the course and meet all applicable SPO III training requirements.

e. SPO III Returning to Active Status.

(1) Any former SPO III who has been out of active SPO III status for less than 6 months may return to active status after completing limited refresher training for assigned SPO III duties.

(a) The scope of limited refresher training will be determined by evaluation of the SPO III's skills by a SPO III instructor and will be approved by the cognizant SRT commander in coordination with training management. The scope of limited refresher training must include the use of deadly force, rules of engagement, review

of basic firearms training for assigned firearms, and site specific assigned duties.

(b) Cognitive and performance tests will be designed and administered to ensure the SPO III has met the required standards associated with all tasks necessary to effectively resume duties as a member of a unit. Documentation of testing activities will be maintained and available for review during DOE/National Nuclear Security Administration (NNSA) inspection activities.

(2) Any former SPO III who has been out of active SPO III status for more than 6 months but less than 12 months may return to active status after completing prescribed refresher training for assigned SPO III duties. The prescribed refresher training will be designed by an SRT instructor and will be approved by the cognizant SRT Commander in coordination with training management.

(3) Any former SPO III who has been out of active SPO III status for more than 12 months except for military service may return to active status only after completing the entire DOE TRF-II BQC and site specific requirements again as noted in this section.

(a) Before re assignment to SPO III duties, all requirements of 10 CFR Parts 1046 and 1047 must be met.

(b) The supervisor of any newly assigned SPO III will evaluate the tactical performance of the SPO III through individual and unit performance tests. The supervisor will provide guidance and instruction as necessary to ensure the SPO III is effectively integrated into the unit and is capable of performing mission requirements.

3. EQUIPMENT. In addition to equipment provided to SPO IIs, the equipment issued to SPO III personnel must be determined by assigned duties on a site specific basis. At a minimum, each SPO III must be assigned a firearm and ammunition, an ammunition carrying device of sufficient capacity, fire resistant hood and gloves, a flashlight with carrier, goggles/eye protection, tactical boots, CBW mask with carrier, handcuffs with case and/or other restraining devices, and equipment designed to accommodate the duty functions (e.g., tactical vests).

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SECTION H. SPECIAL RESPONSE TEAM

1. PROGRAM REQUIREMENTS. The mission of the SRT is to resolve incidents that require force options that exceed the capability of SPO-I and II personnel and/or existing physical security systems. The SRT must be capable of effective and ready response. The SRT must be trained and equipped to conduct interdiction, interruption, and neutralization operations and containment, denial, recapture, recovery, and pursuit strategies directed against an adversary.

   a. An SRT is required at sites implementing the DOE Tactical Doctrine and for intra site transport of denial targets.

   b. A contractor request for authorization to deploy an SRT capability at a site or facility that does not meet requirements in paragraph 1a above must be approved by DOE line management with notification to the cognizant Departmental element.

   c. The SRT must be staffed with qualified and certified SPO III personnel deployed as one or more dedicated teams.

2. CONCEPT OF OPERATIONS. An SRT must be capable of resolving adversary actions using force options (including, but not limited to, open air, mobile, stronghold, and emergency assault using dynamic and covert techniques) and team tactics for interdiction, interruption, neutralization, containment, denial, recapture, recovery, and pursuit operations.

   a. Team Availability. An SRT must be available at all times and must be dedicated to re entry, recapture, recovery, and pursuit operations. The dedicated recapture/recovery element of the SRT must be established with resources beyond those required by the protective force (PF) for the protection of sensitive assets to ensure that recapture/recovery capabilities continue to exist in the event that a denial strategy fails.

   b. Plans. SRT operations and tactical response must be documented in the SSP.

3. TRAINING. Before initial assignment to duties as a SRT member, an SPO must successfully complete the DOE Tactical Response Force II (TRF II) training curricula, as approved by the Office of Health, Safety and Security.

4. PROGRAM CERTIFICATION/RECERTIFICATION. SRT programs must be certified initially and recertified annually (at least every 12 months) by the ODFSA.

5. EQUIPMENT. The equipment issued to PF personnel must be determined by assigned duties on a site-specific basis. At a minimum, the following duty equipment must be provided.

a. Equipment. SRT equipment must be selected to facilitate the ability of the SRT to safely perform both normal and emergency response duties.

b. Tactical Vests. Tactical vests must be readily available for use by SRTs and other designated personnel. They must be designed to accommodate the duty functions of the wearer and enhance effectiveness.

c. Communications. SRT communications must be separable from the rest of the system.

SECTION I. FIREARMS TRAINING

1. REQUIREMENTS.

a. Firearms training programs must be based on criteria established by the DOE NTC.

b. During firearms training, all personnel must have access to an instruction manual for each type of firearm with which they may be armed while on duty and must demonstrate both technical and practical knowledge of the contents of the manual governing the safe use of that firearm.

c. Training records for personnel authorized to carry firearms must be available for review by appropriate safety and security personnel.

d. All firearms training, qualification, practice, and test firing activities must be conducted by personnel who are certified by the NTC in the principles of operation for the specific weapon system on which training is provided.

e. Lesson plans for all firearms training must be available for review by appropriate safety and security personnel. Such lesson plans must incorporate safety in addition to other training objectives and task performance standards. The NTC must provide training on how to develop the categorical information to be contained in typical lesson plans.

(1) Lesson plans must include a safety briefing for all participants and authorized observers. The briefing must be conducted by personnel experienced in performing exercises and knowledgeable about the firearms to be used.

(2) Lesson plans must be written and include safety requirements for any course of fire.

f. Standard Operating Procedures.

(1) All firearms training must be conducted in accordance with this Attachment and local standard operating procedures (SOPs) developed in response to specific site needs and tactics as designated by the ODFSA. SOPs must include detailed procedures emphasizing the safety of participants, observers, and bystanders and the use of personal protective equipment (PPE).

(2) All SOPs must be reviewed and approved by appropriate contractor safety and PF personnel at least annually (every 12 months) or more frequently if significant revisions are made in the training program. ODFSA and safety

personnel review and approve SOPs initially and whenever other than editorial changes are made.

(3) The four general firearms safety rules.

(a) All firearms are always loaded.

(b) Never point a firearm at anything you are not willing to destroy.

(c) Keep your finger off the trigger until your sights are on the target.

(d) Be sure of your target.

(4) Specific range safety rules.

(a) It is mandatory to use approved eye and ear protection and other PPE as required by the range safety officer.

(b) Unsafe conditions must be reported immediately to an instructor.

(c) A firearm may only be exchanged with another shooter under the direct supervision of an instructor.

(d) Firearms must not be left unattended or unsecured.

(e) Firearm loading and firing may commence only on command.

(f) Shooters are not permitted to talk during a firing activity except in reply to an instructor as a part of the activity or to shout “cease fire” in an unsafe situation.

(g) Until the firing line has been declared safe by the firearms instructor, shooters must not move past or bend over on the line.

(h) All shooters must be trained on what constitutes an unsafe condition and to shout “cease fire” when such a condition is observed.

(i) Smoking, eating, or drinking must be prohibited while shooting.

(j) Alcoholic beverages and drugs are prohibited on firing ranges. Shooters taking medication must report this fact to the firearms instructor before reporting to the firing line. The firearms instructor is responsible for determining whether a shooter is fit based on the medication taken and whether it is safe for the shooter to use the range. A physician may be consulted if necessary.

(k) Shooters must take precautions to prevent hot spent cartridge and gunshot residues from getting inside their clothing.

(l) When a training session is completed, each firearm must be physically examined by the shooter and by a designated range safety officer or qualified firearms instructor to ensure that it is unloaded and in safe condition before leaving the range. If the shooter is using a duty firearm on the range, he or she may reload that weapon at the range if returning directly to duty.

(m) Shooters must collect unexpended ammunition and return it to a firearms instructor.

(n) While a firearm is being cleaned, live ammunition must not be allowed in the cleaning area.

(5) All firearms training and qualification requires instructor to shooter ratios with no more shooters than:

(a) One instructor to one shooter.

1 Any initial automatic firing (e.g., submachine gun or rifle).

2 Any initial live fire training of the machine gun (e.g., M60, M249, M240).

3 Any explosive projectile (e.g., M79, M203, M72).

4 Any advanced course of fire with any firearm involving movement of the shooter other than straight down range or with a fan of fire greater than 10 degrees.

5 Any automatic fire training (e.g., submachine gun, rifle, or machine gun).

(b) One instructor to no more than four shooters for tactical response force (TRF) courses approved by the Office of Health, Safety and Security and conducted by the NTC or by sites certified to conduct NTC TRF courses.

(c) One instructor to four shooters for re qualification with a submachine gun, rifle, or machine gun in automatic mode using controlled bursts of fire and for practice or training for personnel who have qualified on at least one Office of Health, Safety and Security approved automatic course of fire.

(d) Eight shooter to one instructor when firing in the semiautomatic mode (e.g., automatic rifle in semiautomatic mode, shotgun,

semiautomatic rifle, and pistols), except during night firing and initial training, where the shooter to instructor ratio must not be more than four shooters to one instructor. When using an indoor range, whether daylight or simulated night fire, the shooter to instructor ratio may increase to five shooters to one instructor.

(6) A range safety officer or an instructor with specific delineated responsibilities for range safety (e.g., to monitor the safety performance of the shooters and overall safety of the firing range) must be present during all firearms training and qualification activities.

(a) When the instructor to shooter ratio requires only one instructor on the firing line, he or she must be the lead instructor and may be assigned range safety responsibilities if approved by the range master.

(b) When the instructor to shooter ratio requires two or more instructors on the firing line, a lead instructor must preside over the firing activities (i.e., "calling the line"), who will not be assigned additional instructional duties or be included in the instructor to shooter ratio but may be assigned range safety responsibilities. To perform these activities, the lead instructor may be positioned either behind the firing line, in a booth, or in a tower, whichever location provides the greatest safety and control.

g. All contractor organizations with employees using firearms in non security related activities must develop a program of firearms safety specific to those activities and submit it for review and approval to the ODFSA. Specific written procedures must be developed and approved for any activity not addressed elsewhere in this Attachment that involves the planned discharge of firearms, e.g., testing activities, competitive shooting matches, public hunting, or pest control.

2. BASIC TRAINING.

a. Basic firearms safety training, demonstrated technical knowledge, and practical proficiency is required before firearms are permitted to be carried on duty. Safety training must be conducted semiannually (at least every 6 months), at which time safety proficiency must be demonstrated in order to retain weapon carrying status.

b. Basic firearms training must be conducted at a site approved by the ODFSA.

c. Firearms safety training must include the following:

(1) General firearms safety orientation;

(2) Instructions on the capabilities of firearms and ammunition and their implications; and, where applicable, instructions on the hazards associated

with the impact of bullets and other projectiles on nuclear explosives, nuclear weapons, explosives, and other possible items known to be on site that could result in a significant release of energy or toxic substances;

(3) Firearms safety information for each type of firearm required by duty assignment;

(4) Practice with the unloaded firearm in the teaching environment;

(5) Range safety procedures and demonstration of safe firing techniques on the range;

(6) Dry firing techniques and hazards associated with dry firing;

(7) Handling of misfires;

(8) Detailed procedures on clearing, handling of malfunctions, inspecting, cleaning, loading, unloading, and other specific tasks related to each firearm for which the student receives training. This may include instruction and practice in assembly/disassembly but must not include repair, modification, or replacement of parts;

(9) Details of firearms accidents and how they could have been prevented; and

(10) The four general firearms safety rules.

3. ADVANCED TRAINING. The firearms safety portions of advanced firearms and of TRF firearms training must follow the same rules as paragraph 2c, above.

4. RANGE OPERATIONS AND PROCEDURES.

a. Specific site range safety rules and regulations must be developed and implemented by the organization designated to be responsible for operating a live fire range. Such rules and regulations must be formal, provide a disciplined approach to range operations, and include rules and regulations on pre and post firing range activities.

b. A risk analysis or a safety analysis report must be prepared on the facilities and the operations of each live fire range. The report must be reviewed and approved at least annually by contractor safety personnel and the ODFSA.

c. Range safety rules must be conspicuously posted at the entrance to each DOE controlled live fire range or range complex.

d. Before firing commences, a safety briefing must be conducted for all participants that will include the basic range safety rules, the capabilities of the firearms to be used, and the safe operating procedures for the course of fire to be undertaken.

e. Dry fire practice must be conducted only in an approved area under the direct supervision of a firearms instructor.

f. A scarlet streamer must be prominently displayed at live fire ranges at all times during daylight firing. The streamer must be replaced with a blinking or pulsating red light for night firing. These day and night range warning indicators must be visible to aircraft. Where live fire operations may affect routine aircraft operations directly, the appropriate aviation control center must be notified.

g. If professional medical personnel are not readily available, firearms instructors must be trained and currently qualified in cardiopulmonary resuscitation (CPR)/first aid. CPR/first aid training must be conducted by instructors certified by the American Red Cross or the American Heart Association. Specific training on the handling of gunshot wounds must be provided.

h. Medical equipment must be available at a live fire range as determined by the cognizant site physician or other authorized personnel.

i. A DOE approved plan must be in place for handling, treating, and evacuating injured personnel through the use of an air ambulance or on scene wheeled ambulance. Emergency response drills must be carried out annually (at least every 12 months) to test personnel preparedness in implementing the plan.

j. Airborne lead monitoring must be conducted at all firing ranges in compliance with Occupational Safety and Health Administration lead standard, 29 CFR Part 1910.1025. The medical surveillance provisions of the lead standard must be established and implemented when measurements indicate that employees are, or may be exposed to, airborne lead concentrations that exceed the action level.

k. Any employee involved in regular firearms training [e.g., instructors or SPOs] must be entered into a hearing conservation program (see 29 CFR 1910.95).

l. A communications system with backup (i.e., telephone and/or two way radio) must be available at each live fire range.

m. Live fire ranges must be equipped with sufficient lighting to ensure safe nighttime firing exercises.

n. Written and approved procedures for handling duds and misfires must be provided at all live fire ranges.

5. LIVE FIRE SHOOT HOUSE OPERATIONS.

a. Responsibilities.

(1) Range Master. The range master is responsible for the safe operation and coordination of maintenance for the LFSH operations and all activities at the live fire range.

(2) Safety Officer. The safety officer is specifically responsible for safety during LFSH operations.

(3) Lead Instructor. The lead instructor is responsible for the overall conduct of a specific course and must:

(a) Meet the requirements to support training to include targets, ammunition, medical support, support equipment, classrooms, and training aids;

(b) Ensure all participants are qualified to engage in LFSH activities;

(c) Ensure the required instructor to shooter ratio is met;

(d) Ensure everyone in the LFSH and on the elevated observation control platform (EOCP) during a live fire exercise is wearing appropriate PPE;

(e) Ensure all participants have received a safety briefing; and

(f) Delegate and assign responsibilities to other instructors.

(4) Instructor. All activities conducted within the LFSH, whether live or dry fire, will be under the direct supervision of a qualified instructor who will:

(a) position targets and bullet traps to prevent an errant round from crossing the path of another shooter's movement within the target room;

(b) blow the "stop" whistle and/or announce "cease fire" in the event of any observed safety violation;

(c) observe the loading and unloading of weapons;

(d) clear the LFSH of personnel before the exercise begins;

(e) conduct demonstrations for students as appropriate;

(f) ensure there is no debris, pooled water, or ice on the floor; and

(g) supervise and control the issue, deployment, and disposal of all ammunition and diversionary devices used during training exercises.

(5) Shooters. A shooter is any training participant that enters the LFSH as a member of the entry team, regardless of whether the individual's weapon is loaded or unloaded. They must follow the directions of the instructors at all times.

(6) Observers. Observers must follow the established safety rules.

b. Operations.

(1) LFSH Safety Briefing. Shooters must receive a safety briefing before participating in training. The briefing must include:

(a) the four general firearms safety rules;

(b) specific range safety rules;

(c) instructions to keep the weapon at the low ready unless engaging a target;

(d) instructions to de cock or safe the firearm as soon as offensive actions have stopped, or anytime the shooter plans to move a significant distance;

(e) instructions to await further commands from the instructor when an operation has ended;

(f) the fact that every participant is a safety officer;

(g) instruction that when a whistle blast is heard and/or a verbal command of "cease fire" is given, the shooter is to freeze and keep the trigger finger straight along the frame of the weapon;

(h) direction that weapons handling and muzzle discipline must be enforced;

(i) information that a round that does not impact a bullet trap is a safety violation;

(j) direction that the 1 meter rule must be enforced (i.e., A ROUND MUST NOT BE DISCHARGED if the shooter is within 1 meter of the target or if the line of fire would pass within 1 meter of another shooter);

(k) instruction not to shoot unless the shooter is certain that a shot is safe;

(l) instruction that a shooter should not turn back after turning in the wrong direction (i.e., the shooter is committed to the new area of responsibility);

(m) direction that the shooter should not exceed the area of responsibility;

(n) instructions to exercise fire discipline using the fewest number of rounds to solve the problem; and

(o) instructions to take appropriate action in the event of a malfunction.

(2) Safety Violations. Shooters must adhere to established safety policies and procedures at all times.

(a) Shooters will be evaluated to determine causal factors for all safety violations.

(b) At a minimum, shooters must be removed from training activities if safety policies or procedures are disregarded.

(c) At a minimum, shooters must be removed from training and placed in remedial training if identified as repeat violators of safety policies.

(3) Qualification Requirements.

(a) Before conducting training within the LFSH, instructors must have successfully completed TRF II training, TRF II Instructor Certification training, an LFSH written examination, limited scope performance tests, and 40 hours of assistant instructor duties within an LFSH.

(b) Additional requirements include annual (within a 12 month period) completion of 20 hours of live fire operations within the LFSH and semiannual completion (at least once every 6 months) of both the LFSH Qualification Test (TRF II Course) and the respective DOE Combined Handgun/Rifle Qualification Course with a minimum score of 90 percent.

(c) For non DOE users, a lead instructor from the user agency must be designated before that agency uses a DOE LFSH. Contractors must obtain approval of all instructor qualifications from the ODSA, Federal or contractor, with oversight of LFSH operations.

(d) Prospective shooters in LFSH exercises must demonstrate proficient marksmanship skills of at least 90 percent accuracy on the respective DOE Combined Handgun/Rifle Qualification Course.

(4) Instructor to Shooter Ratio. The instructor to shooter ratio is one instructor to four shooters plus a lead instructor/safety officer.

(5) Instructor Locations. At least one instructor must be positioned on the EOCP and one instructor on the floor during the conduct of live fire operations. Instructors must be positioned to observe shooters' actions at all times.

(6) Weapons Allowed. Only weapons for which an LFSH has been certified may be used.

(7) Ammunition Allowed. Only ammunition approved for use by the range master may be used within the LFSH.

c. Targets and Bullet Traps. Various types of targets may be used within the LFSH. Target placement must meet the requirements of this Section. A target or target system that fails these requirements may not be used within the LFSH. Targets should be placed on bullet traps so the maximum effective area of the trap is used to contain rounds to prevent rounds from penetrating the trap's construction joints.

(1) Three Dimensional Targets. Three dimensional targets may be used with the approval of the range master. Firing angles must be verified by the lead instructor to ensure rounds are contained within approved bullet traps or backstops.

(2) Bullet Traps. Bullet traps must be approved by the range master before use within the LFSH. Any bullet trap that appears to be in need of repair should not be used during live fire training. Bullet traps must be angled at least 7 degrees from vertical to the potential shooting position and positioned so that a shooter cannot engage a target at less than a 60 degree horizontal angle. Blinders, obstructions, or other means may be used to obtain this angle limitation. Bullet traps and targets will not be positioned to allow a shooter to fire outside LFSH limitations.

d. Diversionary Devices.

(1) Shooters must wear fire resistant gloves during diversionary device deployment.

(2) Full charge diversionary devices must not be deployed into occupied rooms or hallways.

(3) Functional reduced charge diversionary devices may be deployed into occupied areas during training activities.

(4) Instructions on the approved procedures for the safe handling of dud diversionary devices will be provided to all participants and will be followed at all times.

e. Reduced Lighting Operations. For reduced lighting operations, ensure that:

(1) The LFSH lighting system is operational;

(2) The shooters' lighting systems are operational;

(3) Chemical light sticks or other effective means are available for identification of both shooters and instructors. Chemical lights for instructors must be a different color from those worn by shooters so instructors may be easily identified; and

(4) The assault is practiced during lighted conditions before conducting the assault under no or low light conditions.

f. Elevated Observation Control Platform. All LFSHs must be equipped with an EOCP to maintain positive observation of live fire activities.

g. Personal Protective Equipment (PPE). All personnel using an LFSH must adhere to risk controls identified in LFSH training course risk analyses, to include PPE requirements.

h. Weapons Loading and Unloading. Weapons loading and unloading must be done under the supervision of an instructor at a specially designated area in the vicinity of the LFSH.

6. GENERAL INSTRUCTIONS FOR FIREARMS QUALIFICATION. The following general instructions must be followed during firearms qualification courses.

a. Shooters must maintain silence on the line so they can hear and interpret range commands.

b. All range commands or questions to the line must be issued by the lead instructor.

c. Shooters must not move off the line or pick up any equipment or brass until the line is declared safe and the line is told to act by the lead instructor.

d. Shooters on the line must commence firing on command only. Shooters must cease fire immediately when commanded to do so.

e. A shooter on the line holding a firearm must always maintain the muzzle pointed downrange or in a depressed low ready position as directed by the lead instructor.

f. Shooters must fire all rounds at the center of mass of the target presented to them, unless otherwise directed.

g. Shooters must always wear approved sight and hearing protection.

h. Shooters may touch the trigger only when the sights of the firearm are aligned with the target. Until then, the shooters must keep their trigger fingers extended straight alongside the receiver or frame.

i. Shooters must not attempt to catch brass or to eject brass into collection containers.

j. Shooters must reload using ammunition pouches, speed loaders, magazines, or magazine pouches that are provided and/or worn on duty. Pouches or carriers that require snaps or other closures must be in the snapped or closed position before initiation of a stage.

k. The lead instructor must ensure the firing line is clear of debris (e.g., magazines, brass, and ammunition boxes) and equipment to prevent injury to shooters moving from one position or distance to another.

l. If a shooter experiences a malfunction during a course, he or she must attempt to clear the malfunction using proper clearing methods. If the shooter properly clears the malfunction and the threat remains, the shooter will complete the course of fire. If the threat is no longer visible, an alibi is provided.

m. If a shooter experiences a malfunction during a course and does not attempt to clear that malfunction using proper clearing methods, an alibi will not be provided.

n. Shooters with an alibi must be allowed to complete a string.

o. Adjustable sights on all non individually assigned firearms must be set in a standard manner so all shooters know the point of impact and can make aiming adjustments quickly and consistently to permit accurate initial fire.

p. The lead instructor may authorize firearms or magazines to be fully loaded, unless otherwise specified, for all stages/strings; however, the shooter must clear the chamber between stages when the next stage begins at a half load.

q. Firearms shall be placed in a safe condition, e.g., selector lever placed on safe, mechanical safety engaged or de cocked as appropriate, after every string unless otherwise directed by the lead instructor.

r. Shooters must place a shoulder fired firearm to the shoulder and align the sights with the target for every string unless the stage specifies another position (i.e., the low ready).

s. When required, shooters must use only approved flashlights with a pressure switch that turns the flashlight on when pressed and off when released.

t. When firing for qualification, SPOs according to SPO level, must wear all equipment required by this Attachment and site specific requirements for duty and tactical responses.

SECTION J. FIREARMS OPERATIONS

1. BASIC CONSIDERATIONS.

a. General.

(1) Specific site policies and procedures covering the safe transportation, handling, use and storage of live ammunition, blank ammunition, chemical munitions, and pyrotechnic devices used in firearms operations must be developed. In accordance with DOE O 414.1C, *Quality Assurance* requirements, these procedures must address identification of Suspect/Counterfeit Items.

(2) Each ODFSA must require that analyses be performed to determine what ammunition and firearms can be used safely.

(3) All personnel covered by this Attachment must be required to comply with the personal protective equipment and safety rules in effect at each workplace.

(4) Duty firearms must be in serviceable condition at all times. Semiautomatic pistols must be carried with a round in the chamber. Other duty and auxiliary firearms configurations (loaded or unloaded) must be as specified by the ODFSA.

b. Post and Patrol Activities.

(1) Routine loading or clearing of firearms must take place only in an approved area or when the barrel of the firearm is in or pointing toward a bullet containment device. An approved procedure must be developed for loading and clearing firearms under field conditions when no bullet containment device is available.

(2) Routine loading and clearing of all firearms must be witnessed by a supervisor or a designated DOE NTC certified firearms instructor.

(3) If the presence of alcohol or drugs is detected on an individual, they must be denied the issuance of a firearm and/or disarmed and removed from duty.

(4) All duty firearms must be carried in the manner approved by the ODFSA. Unless otherwise stated, from check in to check out a handgun must be holstered, and a rifle, shotgun, or submachine gun must be carried on an appropriate sling with the muzzle pointed up or down, except when the firearm is designed to be carried in a different manner or operational

conditions dictate otherwise. Firearms must not be carried with a finger on the trigger or inside the trigger guard.

(5) When firearms are transported in vehicles, watercraft, or aircraft and are not carried by an individual, they must be mounted in an appropriate rack or container with the firing chamber empty. During normal operations, long guns (e.g., rifles, shotguns, submachine guns) must not be carried with a round in the firing chamber. Long guns must never be placed in post or vehicle racks or carriers with a round in the firing chamber.

c. Firearms, Ammunition, Pyrotechnics, and Explosives. Firearms, ammunition, pyrotechnics, and explosives must be available in sufficient quantity to permit protective force (PF) personnel to act according to response plans. Firearms, ammunition, pyrotechnics, and explosives must be of a type suitable for the intended use, deployed in a manner commensurate with that use, and controlled in a manner consistent with DOE M 440.1 1A, *DOE Explosives Safety Manual*, and paragraph 3c(3) below. The firearms, ammunition, pyrotechnics, and explosives used must pose the minimum danger to personnel and facilities commensurate with the success of the PF mission. Firearms, ammunition, pyrotechnics, and explosives must be carried and transported safely and securely. Any discharge of a firearm for other than training purposes must be reported (see DOE O 470.4B, *Safeguards and Security Program*).

d. Sights. All unassigned firearms with adjustable sights must have the sights set in a manner to ensure that PF personnel who may use these firearms know the point of impact and can make point of aim adjustments quickly and consistently to permit accurate initial fire. For duty weapons sight adjustment and bullet impact must be verified semiannually (at least every 6 months) by live fire or using a sighting device that simulates bullet impact. Such sighting devices must be approved by the ODFSA.

e. Spare Firearms. Each site must demonstrate that there are sufficient spare firearms of each type deployed onsite to satisfy all contingency/response plans and training requirements.

f. PF Firearms, Ammunition, and Explosives. Firearms, ammunition, and explosives used by PF must be based on consideration of DOE O 470.3B, *Graded Security Protection (GSP) Policy*, assigned missions, the SSP and vulnerability assessment (VA), and approved by the ODFSA. Use of explosives is addressed in DOE M 440.1 1A, *DOE Explosives Safety Manual*.

g. Firearms Trigger Safety Locks.

(1) Trigger safety locks must be issued to any contractor employees issued firearms who are permitted, for any reason, to take the firearms offsite; and may not maintain continuous possession of the firearms.

(2) A trigger safety lock must be installed and locked any time a firearm is taken offsite and out of the immediate physical possession or immediate control of the individual to whom the firearm was issued.

(3) Any firearm shipped or transported offsite (e.g., via Federal Express, in checked baggage, etc.) must be locked with a trigger safety lock or placed in a locked container. Firearms shipped in bulk must be secured in a locked or banded container. Firearms that cannot fire live ammunition [i.e., engagement simulation systems (ESSs) including dedicated blank fire, multiple integrated laser engagement system and dye marking cartridge (DMC) firearms] are not required to be individually locked with a trigger safety lock but must be secured in a locked or banded container.

h. Firearms Modifications. Modifications to firearms must be conducted by a DOE certified armorer.

(1) Approved Modifications. Contractors must request and receive written approval from the ODFSA before a DOE firearm (live fire or ESSs firearm) may be modified. Modifications of the DOE Firearms Modification List (FML), as approved by the Office of Security, may be made after the ODFSA has granted approval. The current DOE approved FML is maintained by the Office of Security and located on the Health, Safety and Security (HSS)/NTC websites www.hss.energy.gov and www.ntc.doe.gov.

(2) Non Approved Modifications.

(a) Contractor requests for modifications not on the FML must be submitted in writing to the Office of Security with the following:

1 a general description of the modification;

2 the purpose/objective of the modification;

3 a detailed, step by step description of the process used to make the modification, with mechanical and/or illustrative drawings;

4 a description of the post modification testing to be conducted; and

5 the number of firearms to be modified.

(b) The request will be forwarded to the NTC for review by its armorer section. The NTC will provide written comments and/or a recommendation to the Office of Security and the ODFSA.

(c) Upon review and concurrence, based on the NTC's recommendation, the modification may be approved by the ODFSA. Once approved, the modification must be submitted to the Office of Security for inclusion in the FML.

(3) ESS Firearms Modifications.

(a) Contractors must not reactivate dedicated ESS firearms for live fire usage without the approval of the ODFSA.

(b) If a factory "drop in" kit is used to modify a firearm to use DMC, a DOE certified armorer specifically trained in the installation of such a kit must conduct the modification.

(c) Contractor must submit proposed modifications of ESS firearms to change their function in any way or to enhance their safety to the Office of Security for approval through the ODSA. The provisions of paragraph 1h(2), above, apply.

1 Weapons with modifications that have not been approved in writing by the Office of Security must not be issued for use.

2 The current list of DOE approved ESS firearms and modifications, "Firearms Modification List," is provided on the HSS/NTC websites at www.hss.energy.gov and www.ntc.doe.gov.

(d) ESS firearm modifications include any changes made to a firearm system, magazine, clip, feeding assembly, or blank fire adaptor.

2. AUTHORIZED FIREARMS. Commonality of firearms enhances the efficiency of standard and centralized training and enables inter site assistance in the event of a security incident or other situation requiring supplemental or replacement forces.

a. The following weapons constitute DOE authorized firearm systems:

(1) handgun: semi automatic, 9mm or greater.

(2) duty rifle: M 16 family of rifles and variants, 5.56mm or greater.

(3) shotgun: 12 gauge.

(4) precision rifle: 7.62mm or greater.

(5) 40mm grenade launcher: Military Model 203 and variants; multiple grenade launchers; Military Model 79 and variants.

(6) belt fed machine guns: 5.56mm or greater.

b. Because multiple agencies and contracts are involved in a centralized procurement, where possible, the Office of Health, Safety and Security will coordinate the acquisition of weapons. Existing procurement contracts and Federal interagency support agreements will be used. Otherwise, the ODFSA is responsible for coordinating the procurement of site weapons.

(1) Replacement of current inventories with authorized weapons is intended to occur as firearms become due for replacement.

(2) The firearms authorized in paragraph 2a, above, provide the needed capability for the majority of Departmental missions within site specific conditions; however, operational, safety, or other requirements may dictate the need for an alternative firearm.

(3) Contractor deviations from or additions to this list must be submitted for approval by the Office of Health, Safety and Security, or the Associate Administrator for Defense Nuclear Security, as applicable. If unable to obtain any needed firearms through interagency agreements pursuant to the Economy Act, contractors will comply with the requirements of the Federal Acquisition Regulation, Subpart 6.3.

3. STORAGE OF FIREARMS, AMMUNITION, PYROTECHNICS, AND EXPLOSIVES. Firearms, ammunition, pyrotechnics, and explosives must be stored safely according to a security plan approved by the ODFSA. They may be stored under the direct control of PF personnel. Alternatively, they may be stored in a vault type room if an intrusion detection system is installed to detect penetration and the alarm response capability is such that unauthorized removal is unlikely.

a. Bulk Storage. Bulk quantities of ammunition, pyrotechnics, or explosives that are not used routinely, and/or are stored for long periods of time, must be stored in facilities that meet design criteria specified in DOE M 440.1 1A, *DOE Explosives Safety Manual*. These storage facilities must be located within a designated security area.

b. Storage Containers. Firearms, ammunition, pyrotechnics, and explosives must be stored in General Services Administration approved firearms storage containers that are bolted or otherwise secured to the structure or under alarm coverage. Where the weight of the storage container would deter its removal, the requirement to bolt or secure it does not apply. Firearms that are not in such containers or under alarm coverage must be locked in racks, chained, or cabled to prevent unauthorized removal. Racks securing unattended firearms that are not under alarm coverage must be designed to prevent removal via partial disassembly of the firearm.

c. Storage of Ammunition. Applicable requirements for the storage of commonly used PF munitions can be found in DOE M 440.1-1A, *DOE Explosives Safety Manual*, and in U.S. Department of Defense (DoD) 6055.9 STD, *DoD Ammunition and Explosives Safety Standards*.

(1) Storage Structures. Refer to DOE M 440.1-1A, *DOE Explosives Safety Manual*, for guidance on design of structures for storing munitions.

(2) Hazard Class and Hazard Division. For the purpose of placarding, the United Nations Organization or the National Fire Protection Association hazard classification systems must be used.

(3) Storage of Small Arms Ammunition. Articles in Hazard Class/Division 1.4 and Storage Compatibility Group S are considered as inert for storage purposes and require only appropriate fire protection requirements for distance separation as long as they are stored only with inert items or other 1.4 S items. This applies only if the Hazard Class/Division 1.4 and Storage Compatibility Group S articles remain in their original packaging containers. When stored with items in a Storage Compatibility Group other than S, normal quantity distance requirements must be observed (see Chapter II, Section 17 of DOE M 440.1-1A, *DOE Explosives Safety Manual*). Live ammunition and ESS related ammunition (i.e., blank fire, DMC, dummy rounds, etc.) must be stored separately in areas other than ammunition warehouses where bulk supplies of ammunition are stored in unopened original packaging. Separate storage could be placing live and ESS ammunition in separate, secured storage containers in the same location or storing them in separate locations.

d. Firearms Storage.

(1) Firearms not identified for duty or contingency use and having a valid justification for retention must be stored in a manner that will prevent deterioration due to environmental conditions.

(2) Offsite storage of firearms must be specified and authorized by a ODFSA.

(3) Dedicated ESS firearms must be stored separately from live firearms. Separate storage may be attained by placing live firearms and ESS firearms in separate, secured storage containers in the same location or by storing in separate locations.

e. Approved Ammunition.

(1) Ammunition and explosives used by PF personnel must be based on consideration of DOE O 470.3B, *Graded Security Protection (GSP) Policy*, assigned missions, the SSP and VA, and approved by the ODFSA.

(2) Ammunition used for duty, live fire training and qualification, ESS training and other non lethal training must be of high quality and factory new. Reloaded, reprocessed, or military surplus ammunition must not be used. Ammunition must not be unboxed and placed in bulk containers.

f. On Post Firearms, Ammunition, Pyrotechnics, and Explosives. Auxiliary firearms, ammunition, pyrotechnics, and explosives that are maintained at posts for use during response to security incidents must be under the direct control of, and readily accessible to, on duty PF personnel. Firearms, ammunition, pyrotechnics, and explosives must be secured in such a manner that they are inaccessible to, and cannot be removed by, persons passing through or by the post.

g. Pre positioned Pyrotechnics and Explosives. In support of PF response plans and strategies, limited quantities of pyrotechnics and explosives may be pre positioned at approved locations (e.g., PF posts, response vehicles, etc.). Pre positioned pyrotechnics and explosives must be kept in their original containers unless operational and response requirements dictate otherwise. These pyrotechnics and explosives must be readily accessible to authorized PF personnel and secured in such a manner that they are inaccessible to, and cannot be removed by, persons passing through, by, or in the post. PF personnel charged with the responsibility of employing and overseeing the storage of pyrotechnics and explosives must be trained in their use and storage (See DOE M 440.1-1A, *DOE Explosives Safety Manual*).

4. SAFE TRANSPORTATION AND HANDLING OF MUNITIONS.

a. Transportation of Munitions.

(1) Transportation of munitions on public highways must be governed by DOT regulations [49 CFR Part 173, *Shippers–General Requirements for Shipments and Packaging*]. For transportation purposes only, munitions must be given DOT hazard class designations.

(2) Transportation of munitions onsite must be performed commensurate with the requirements contained in Chapter II, Section 16, of DOE M 440.1-1A, *DOE Explosives Safety Manual*. Munitions not in original DOT containers must be transported in containers specified in the above Order.

(3) PF duty vehicles are authorized to transport the quantity of munitions needed to support approved contingency plans and to execute PF duties.

(4) Whenever possible, support munitions required for defense against hostile forces should be pre positioned in readily accessible magazines.

(5) PF vehicles loaded with a combination of up to 25 pounds net explosive weight of Hazard Class/Division 1.1 and 1.2 munitions are exempt from

explosives quantity distance requirements when executing approved contingency plans or PF duties.

(a) Vehicles so loaded must not be used for administrative purposes.

(b) Vehicles so loaded must be separated from inhabited facilities and property lines by a minimum of 125 feet when temporarily out of PF service.

(c) Vehicles so loaded must be downloaded into properly sited magazines or approved facilities when parked for periods in excess of one PF shift.

(6) Operation of explosives loaded vehicles must be restricted to onsite locations unless involved in a pursuit role.

(7) The explosives must be secured within the vehicle to prevent movement and to preclude unauthorized removal.

(8) These vehicles must be downloaded into properly sited magazines or approved facilities before repair or maintenance.

(9) Munitions in the vehicle must not be exposed to temperatures that exceed the criteria stated on the material safety data sheet or manufacturer's recommendation. Appropriate safety precautions will be taken to ensure munitions are not exposed to extreme temperatures.

(10) PF personnel may be allowed to carry on their person Hazard Class/Division 1.1 and 1.2 munitions issued to them for use in the execution of approved contingency plans without regard to explosives quantity distance requirements.

b. Handling of Munitions.

(1) Munitions must be protected from abnormal stimuli or environments such as impact, shock, high temperatures, or open flames.

(2) Smoking must be prohibited when handling, transporting, or storing munitions. Matches, lighters, other fire, flame, or spark producing devices must not be taken into a munitions storage area; appropriate signs or markings must be posted at such areas.

5. FIREARMS AND AMMUNITION MAINTENANCE/INSPECTION. Firearms available for duty or contingency operations must be inspected by a DOE certified armorer before initial use and at least every 6 months thereafter to determine their serviceability. For the purpose of this requirement, duty firearms are those weapons which are used for training, available for duty issuance, individually assigned, or are post

assigned. Firearms must be cleaned and maintained in a manner that meets or exceeds the manufacturer's recommendations.

a. Authorization. An armorer certified by the NTC is the only individual authorized to perform the following firearms activities.

(1) Semiannual (at least every 6 months) inspections.

(2) Any firearms repair.

(3) Any firearms modification or component alteration.

(4) Any disassembly beyond the manufacturer's recommended "field strip" for cleaning purposes.

b. Inspection Criteria.

(1) All duty firearms and those used by training and/or qualifications must be inspected semiannually (at least every 6 months) by a DOE certified armorer. Inspections must consist of a detailed disassembly of the firearm's components. The armorer must inspect the components for excessive wear, cracks, or breaks. In addition, the armorer must ensure the firearm meets all manufacturing tolerances relevant to the maintenance of that firearm guaranteeing safe and reliable firearm function. A bench function check will not constitute an inspection.

(2) The armorer must inspect and conduct test firings of a firearm following any unusual operation of, occurrence with, or functional repairs made to that firearm. Functional repairs are those that affect the safe operation or reliability of the firearm. Any firearm that has experienced an unusual operation must be tagged "out of service" and segregated from operational firearms until certified by the armorers as being safe to operate. For the purposes of this requirement, operational firearms are functional weapons available for duty or contingency operations.

(3) The armorer must maintain accurate individual records for all firearms including manufacturer, model type or number, serial number, inspection dates, and the nature and date of any repair or modification. Records of any unusual occurrence and subsequent inspection/test firing must be maintained in accordance with prescribed authorized schedules.

(4) For safe operations, the minimum trigger pull for firearms must not be less than the requirement specified by the manufacturer.

(5) Stored firearms must be inspected before return to active inventory.

(6) Duty ammunition must be exchanged for fresh ammunition annually (at least every 12 months) except where impractical due to the prohibitive

costs for replacement ammunition (e.g., 40mm and armor piercing rounds). Duty ammunition is that which is loaded in a weapon or magazine.

c. Test Firing.

(1) The armorer must coordinate test firing of any firearm following unusual operations or occurrences.

(2) All firearms must be test fired following the repair or replacement of components listed in the DOE Armorers' Technical Guide that involve the functioning of the weapon. The need for test firing of firearms following other repairs must be according to local site standard operating procedures or left to the discretion of the armorer.

d. ESS Weapons.

(1) Armorers working on ESS weapon systems must familiarize themselves with all DOE documentation that deals with deploying the weapons. They must also know their site's specific rules pertaining to ESS weapon use.

(2) Armorers who work on ESS firearm systems must learn the various modifications on these firearms through NTC on the job training, training provided through the Armorers Quality Panel, or both.

(3) Only DOE certified armorers may install DMC conversion kits.

(a) DMC conversion kits must be installed and maintained according to the manufacturer's instructions.

(b) Before use, the armorer must ensure that the conversion kit is properly installed, the bore is free from fouling, and the components are in good working order.

6. PYROTECHNICS AND EXPLOSIVES INSPECTION. Pyrotechnics, explosives, and any associated equipment available for use during routine or contingency operations must be inspected by qualified PF personnel before each use and at least every 3 months to ensure they are properly stored, stable, and within current shelf life and use requirements. Pyrotechnic and explosives inspections are further addressed in DOE M 440.1-1A, *DOE Explosives Safety Manual*.

7. INVENTORY OF FIREARMS, AMMUNITION, PYROTECHNICS, AND EXPLOSIVES. Firearms, ammunition, pyrotechnics, and explosives inventories must be maintained to allow efficient and effective arming and training of PF personnel.

8. LIVE FIREARMS INVENTORY. Due to the remote location of some training facilities, some site inventories may require live-fire weapons for training and qualification. Therefore, additional inventories of firearms may be maintained to support live firearms

training activities. All issued firearms must be inventoried by a number count at the beginning of each shift. All firearms in storage must be inventoried by a number count weekly. An inventory of all firearms, listing the type of firearm, the manufacturer, and its serial number must be conducted monthly. Firearms that are not identified for duty or contingency use may be inventoried by container in the event a complete container inventory has been conducted previously and the container is secured by a serial numbered security seal.

a. Dedicated ESS Firearms Inventory. Departmental safety instructions require that firearms used for ESS activities be permanently modified and not routinely transferred between live and non lethal uses. Additional inventories of dedicated ESS firearms may be maintained to support ESS training activities. Dedicated ESS firearms must be inventoried by a number count before and after each use. An inventory of dedicated ESS firearms listing the type of firearm, the manufacturer, and its serial number must be conducted monthly. ESS firearms that are not in continual use may be inventoried by container in the event a complete container inventory has been conducted previously and the container is secured by a serial numbered security seal.

b. Inert Firearms Inventory. Inert firearms may be used for display, instruction, or testing. For the purpose of this requirement, inert firearms are those weapons which were manufactured as fully functional firearms and subsequently were permanently modified in a manner which precludes their capability to discharge rounds (e.g., for a pistol having a plug welded into the barrel and/or being completely incased in Lucite). An inventory of all inert firearms listing the type of firearm, the manufacturer, and its serial number must be conducted at least monthly.

c. Ammunition, Pyrotechnics, and Explosives Inventory. Ammunition must be inventoried annually (at least every 12 months). Pyrotechnics and explosives must be inventoried monthly. Pre positioned pyrotechnics and explosives must be inventoried by a number count at the beginning of each shift. Pyrotechnics and explosives stored in bulk, which are not identified for duty or contingency use, may be inventoried by container if a complete container inventory has been conducted previously and the container is secured by a serial numbered security seal.

Inventory Shortages. After conducting a preliminary inquiry involving an indication of an unaccounted for, missing, or stolen firearm; any quantity of explosive; any live ammunition, .408 CheyTac caliber or larger (including 40mm HE/HEDP/TP); 100 rounds or more of ammunition smaller than .408 CheyTac caliber; or any pyrotechnic, ammunition, or training device not legal for civilian sale, purchase or use, PF management must immediately report such a shortage to the ODFSA, who must report to the DOE Headquarters Operations Center within 24 hours. The ODFSA must then prepare and transmit an Incident of Security Concern report (see DOE O 470.4B, *Safeguards and Security Program*). If there is reason to believe that an item or items have been stolen, or other

criminal activity is involved, law enforcement authorities must be notified in accordance with DOE O 221.1A.

SECTION K. FIREARMS QUALIFICATIONS

1. SCOPE.

   a. Firearms qualification courses located on the Health, Safety and Security (HSS)/National Training Center (NTC) www.hss.energy.gov/security and www.ntc.doe.gov are approved by the Chief Health, Safety and Security Officer for firearms qualification and requalification to ensure that PF personnel are uniformly qualified with the firearms and munitions they are authorized to carry. The courses evaluate basic shooting skills with various authorized firearms. Additional requirements for firearms training and qualifications are set forth in 10 CFR Part 1046, *Physical Protection of Security Interests*, and this Attachment.

   b. The courses provide the specific implementation of 10 CFR Part 1046, *Physical Protection of Security Interests*, which requires PF personnel to have the level of skills and knowledge needed to perform all essential functions associated with PF job responsibilities. Site specific conditions and the deployment of firearms may justify requirements for developing and implementing supplementary special firearms training and qualification and/or proficiency courses (e.g., aerial firing platforms, executive protection, vehicle mounted firearms, fragmentation grenades).

   c. PF personnel will achieve high standards of marksmanship and proficiency in related shooting skills to successfully complete the firearms qualification courses. Periodic training must supplement all approved courses. Shooting skills are enhanced by training and testing knowledge, skills, and abilities (KSAs), as appropriate (e.g., firearms manipulation; target discrimination; the engagement of moving, multiple, and reactive targets; and shooting under stress). The firearms qualification courses located on the HSS/NTC websites may be used for training and must be used to determine whether PF personnel are qualified to be armed with a particular firearm.

   d. All firearms qualification courses must be conducted by firearms instructors certified by the NTC for instruction in the various firearms used during the specific courses (e.g., a submachine gun qualification course must be conducted by an instructor certified at the Advanced Firearms Systems Instructor Certification level).

2. REQUIREMENTS. Armed PF personnel must qualify semiannually (at least every 6 months) with assigned firearms on the applicable standard DOE firearms qualification/ proficiency courses as required by 10 CFR Part 1046. The standard courses of fire are located on the HSS/NTC websites. Program Office approval is required for sites to shoot for qualification courses of fire identified as "Not Recommended." Consistent with local collective bargaining agreements and other site considerations, sites are authorized to substitute selected practical shooting courses from the DOE Approved Firearms Qualification Courses posted on the HSS/NTC websites, to be fired for qualification

during one of the semi-annual qualification periods, in lieu of the standard, applicable firearms qualification courses. Sites should use the various other courses on the HSS/NTC websites for SPO firearms maintenance, refresher, and proficiency training.

3. REMEDIAL FIREARMS QUALIFICATION COURSE. The Remedial Firearms Qualification Course is designed to assist PF personnel who fail to qualify in a particular firearms qualification course. The course is scheduled as needed, includes daylight and reduced lighting range conditions, and is administered by DOE certified firearms instructors. Firearms instructors review available firearms qualification documentation and focus instruction on previously identified problem areas for individual shooters while reinforcing the principles of marksmanship, firearms manipulation, and safety in accordance with approved instruction plans for PF personnel and requirements in 10 CFR Part 1046. The applicable firearms qualification course must be conducted in accordance with this Attachment and the DOE approved firearms qualification courses. It must be preceded by the announcement, "This is a qualifying run for score."

4. REVIEW. The firearms qualification courses must be reviewed annually (at least every 12 months) by the DOE Firearms Policy Panel, which may recommend changes, as required. These recommendations will then be forwarded to the training managers working group and Training Advisory Committee for review and concurrence before entering the validation and approval stages. Contractors are encouraged to forward written recommendations for changes or comments, with sufficient detail for consideration, through their DOE cognizant security offices to the Office of Security.

5. VALIDATION PROCESS. Sites will be offered the opportunity to participate under the oversight of the DOE NTC in the validation of courses of fire (COFs) that have been modified or newly developed. For purposes of validation, draft courses can be used in lieu of the current DOE approved COFs that are to be replaced. PF personnel who complete the new courses successfully will be considered qualified as if they had completed the standard DOE COFs. Officers who do not successfully complete the new COFs will not be penalized and will be given the opportunity to qualify using the current approved DOE standard COFs. Resultant modifications will be made, and a phase in period of one year for approved COFs (two semiannual requalification cycles) will be prescribed to permit sufficient opportunity for training to the new course.

SECTION L. OPERATIONAL ASSURANCE

1. APPRAISALS/SELF ASSESSMENTS. These types of security oversight practices can be used to support the oversight responsibilities outlined in DOE O 226.1A, *Implementation of Department of Energy Oversight Policy*.

   a. Formal appraisals or self assessments of the safety and health aspects of the safeguards and security program must include firearms safety and must be performed by line management annually (at least every 12 months). [DOE O 440.1B, *Worker Protection Program for DOE* (Including the National Nuclear Security Administration) Federal Employees].

   b. Contractors must conduct and document formal appraisals and self assessments (i.e., annual program reviews and worksite appraisals and periodic surveillance).

   c. Firearms safety assessments must be conducted by safety personnel or by a joint safety and PF evaluation team.

   d. Firearms safety assessments must cover procedures, responsibilities, and duty assignments within the firearms safety program to ensure that overall objectives and performance are being met.

2. PROTECTIVE FORCES SAFETY COMMITTEE. Managers of DOE offices and contractors providing PF functions on, at, or for a DOE site must have a Protective Forces Safety Committee formally organized and chartered to assist management in providing safe PF activities.

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ANNEX 1 GUIDELINES FOR LEGAL AUTHORITY, FRESH PURSUIT, AND RULES OF ENGAGEMENT

1. LEGAL AUTHORITY, FRESH PURSUIT AND RULES OF ENGAGEMENT.

a. Applicable Legal Terms.

(1) Felony. Any offense enumerated in 10 CFR Part 1047 § 4(a)(1)(i), or as defined in 10 CFR Part 1049, and any offense constituting a felony under the laws of the jurisdiction in which the facility is located and with respect to which a PF officer would have arrest authority under 10 CFR Part 1047 § 4(d) and (e).

(2) Fresh Pursuit. Pursuit (with or without a warrant) for the purpose of preventing the escape or effecting the arrest of any person who commits a misdemeanor or felony or is suspected of having committed a misdemeanor or felony. Fresh pursuit implies pursuit without unreasonable delay but need not be immediate pursuit. (Although fresh pursuit implies pursuit without unreasonable delay, to prevent the escape or to arrest fleeing suspected criminals who are in unauthorized control or possession of nuclear weapons, weapons components, and/or special nuclear material (SNM), such pursuit must be effected immediately).

(3) In the Presence. The criminal act must have taken place in the physical presence of (under the observation of) the PF officer. A PF officer is authorized to make an arrest for covered misdemeanors and felonies if the offense is committed in the presence of the PF officer.

(4) Jurisdictional Lines. For the purposes of these guidelines, these must include, but are not be limited to, the property lines of a DOE facility/site.

(5) Misdemeanor. Any offense enumerated in 10 CFR Part 1047 § 4(a)(1)(ii), or as defined in 10 CFR Part 1049, and any offense constituting a misdemeanor under the laws of the jurisdiction in which the facility is located and with respect to which a PF officer would have arrest authority under 10 CFR Part 1047 § 4(d) and (e) or 10 Part CFR 1049.

(6) PF Officer. As defined in 10 CFR Part 1047 § 3(g), any person authorized by DOE authority to carry firearms under section 161k. of the Atomic Energy Act of 1954, and as defined in 10 CFR Part 1049 § 3(e), any person authorized by DOE authority to carry firearms under section 661 of the DOE Organization Act.

NOTE: Although Security Officers are members of the PF, they are not PF Officers and do not have arrest authority pursuant to CFR requirements.

(7) Reasonable Grounds to Believe. A PF officer is authorized to make an arrest for any felony covered under their limited arrest authority if the covered offense is committed in the presence of the PF officer or if the PF officer has reasonable grounds to believe (e.g., information from another PF or law enforcement officer, communications from a PF dispatcher or central alarm station operator) that a suspect had committed or was committing a felony.

b. Arrest Authority. The authority for PF members to make arrests without warrant stems from two sources:

(1) Section 161k. of the *Atomic Energy Act of 1954* [42 U.S.C. 2201(k)] provides for the authority to carry weapons and make arrests in the protection of DOE assets. 10 CFR Part 1047 § 4 defines the specific offenses for which a PF officer may make an arrest under the limited arrest authority. PF personnel armed pursuant to this Act must understand the limits of the offenses covered under the limited arrest authority.

(2) Section 661 of the DOE Organization Act (42 U.S.C. 7270a) applies only to the Strategic Petroleum Reserve (SPR) and provides PF Officers authority to carry weapons and make arrests in the protection of DOE assets on the SPR. 10 CFR Part 1049 authorizes a PF Officer of the SPR to make apprehensions under the limited arrest authority. PF personnel armed pursuant to this Act must understand the limits of the offenses covered under the limited arrest authority.

c. Executing an Arrest. When other Federal law enforcement agencies (LEAs) [e.g., Federal Bureau of Investigation (FBI), U.S. Marshal, or the Department of Energy's Office of Inspector General (OIG)] are involved with PF officers in the apprehension of a suspected criminal (regardless of whether on or off DOE property), PF officers must relinquish arresting authority to the other Federal LEAs.

(1) When a suspected felon is apprehended (regardless of whether on or off DOE property), or when a suspected misdemeanant is apprehended on DOE property, the PF must immediately notify the appropriate U.S. Attorney's Office and escort the suspect to the nearest U.S. District Court or U.S. Magistrate for arraignment (unless otherwise directed by local Federal LEAs; e.g., the FBI, a U.S. Marshal, or the OIG). Under no circumstances should a suspected felon be removed to another jurisdiction without first being processed through the Federal criminal justice system where the suspected felon was apprehended.

(2) When State or other local LEAs are involved with PF officers in the offsite apprehension of a suspected criminal, the issue of which law enforcement official is in charge in order to effect an arrest is generally not a matter of policy but one of common sense dictated by the

circumstances. Such an assessment includes an evaluation of the expertise of those present, which agency has first established control, and the disruptive effect, if any, of transfer of control. The determination of which jurisdiction should make the arrest is, therefore, left to the discretion of the officers involved. To the extent practicable, guidelines addressing this issue should be prepared on a site by site basis in coordination with State and other local LEAs. Such guidelines must be included in the site specific guidelines submitted to the Chief Health, Safety and Security Officer for approval.

(3) PF officers must ensure that any Government property retrieved at the time of an apprehension or during a pursuit is properly secured and a chain of custody is established.

2. FRESH PURSUIT. The purpose of these guidelines, which have been approved by the U.S. Attorney General, is to set forth the procedures to be followed by DOE, Federal, and contractor PF personnel when pursuing suspected criminals across jurisdictional lines.

a. Policy. It is DOE policy to prevent the escape and to effect the arrest of fleeing suspected criminals in a safe and expeditious manner. The following procedures are intended to provide PF personnel with flexibility when in fresh pursuit of a fleeing suspected criminal. Each site must prepare site specific guidelines that take into account the geography, equipment, and functions of the facility/site and that address the procedures that will be used to provide emergency notification to jurisdictions that may be entered in a fresh pursuit situation. The contractor must develop and submit these site specific guidelines to the ODFSA. The ODSA must submit the guidelines through the cognizant Departmental element to the Chief Health, Safety and Security Officer, for approval.

b. Conditions. The following conditions apply to this appendix.

(1) Misdemeanors. A PF officer may engage in the fresh pursuit of a suspected misdemeanant across jurisdictional lines only if the alleged misdemeanor was committed, or is being committed, in his or her presence. If the alleged misdemeanor was not committed in the presence of a PF officer, PF officers must not pursue the suspected misdemeanant across jurisdictional lines. Instead, the PF officers must attempt to obtain a description of the suspected misdemeanant and a description and license tag number of any vehicle being used by the suspected misdemeanant, and must convey this information (in accordance with the specific notification procedures issued by DOE line management) to the State and other LEAs for the jurisdiction into which the suspected misdemeanant has fled.

(2) Felonies. PF officers may engage in the fresh pursuit of a suspected felon across jurisdictional lines if:

(a) The alleged felony is being committed, or was committed, in the presence of a PF officer; and

(b) Any PF officer has reasonable grounds to believe that the person pursued is committing, or has committed, the alleged felony.

c. Fresh Pursuit Procedures.

(1) Responsibility. Responsibility for decisions with respect to fresh pursuit must follow the PF command structure. In making fresh pursuit decisions, PF officers must consider applicable Federal and State laws; Departmental directives, guidelines, and regulations; and PF plans, post orders (POs), general orders (GOs), guidelines, and training.

(2) Safety Considerations. Safety is a primary consideration when engaged in fresh pursuit of a suspected criminal. In determining whether to pursue and the method and means of pursuit, a PF officer will weigh the seriousness of the alleged offense and the necessity for immediate apprehension against the risk of injury to himself/herself, other PF officers, and the public. If at any time during the pursuit the risk of injury to pursuing PF officers or the public surpasses the necessity for immediate apprehension, the pursuit must be terminated.

(3) Use of Force. PF officers will use the minimum force necessary under the circumstances to apprehend a suspected criminal.

(4) Jurisdictional Lines. Regulations in 10 CFR Parts 1047 § 6 and 7 and 1049 § 6 and 1049 § 7 address the applicability of physical and/or deadly force in a fresh pursuit situation, regardless of whether jurisdictional lines have been crossed. Such use may include, as appropriate, firing at or from a moving vehicle, aircraft, or water craft; ramming and disabling pursued vehicles by precision immobilization techniques (PIT); and using tire deflating devices.

(5) Hostages. If hostages are present in a pursuit situation in which recovery of SNM is involved, the safety and welfare of the hostages must be considered; however, due to the ramifications of unauthorized use of SNM to national security, the public, and the environment, the hostages' presence must not deter or impact immediate pursuit and recovery of the SNM.

(6) Vehicular Pursuit.

(a) Vehicles used in fresh pursuit must be operated in as safe a manner as is practicable.

(b) To the extent practicable, vehicles used must be marked and equipped with visual and audible emergency equipment.

(c) Vehicles occupied by non PF personnel must not be used in fresh pursuit situations unless the situation mandates an immediate pursuit and the extreme circumstances prohibit the occupant's disembarkation.

(d) The number of pursuing vehicles that cross a jurisdictional line must be limited to that necessary to provide sufficient personnel to deal with the situation. Under no circumstance will the number of pursuing PF officers be such that the facility is left without sufficient security protection.

(e) There are inherent dangers associated with the use of roadblocks; thus, unless exigent circumstances mandate immediate apprehension of the suspected criminal (e.g., unauthorized control of SNM, possession of explosives), PF officers generally must not attempt roadblocks without the authorization of the appropriate law enforcement officials of the jurisdiction entered and must not use roadblocks to apprehend suspected misdemeanants. A roadblock must not be used without the concurrence of the supervisor of the pursuing PF officers.

(f) There are inherent dangers associated with the use of ramming/PIT and tire deflating devices; thus, unless exigent circumstances mandate immediate disabling of the suspect vehicle (e.g., unauthorized control of SNM, possession of explosives), PF officers generally must not attempt ramming/PIT or use tire deflation devices without the authorization of a PF supervisor. However, such authorization is not required when requesting such authorization may affect the timely termination of the pursuit. Ramming/PIT and tire deflation devices must not be used to apprehend suspected misdemeanants. Specific guidelines regarding the use of ramming/PIT and tire deflation devices in fresh pursuit situations must be included in the site specific guidelines submitted to the Chief Health, Safety and Security Officer, for approval.

(7) Aerial Assistance. Where DOE has aerial capability (e.g., helicopters, fixed wing aircraft), specific guidelines regarding the use of aircraft in fresh pursuit situations, including pursuit, observation, reporting, and deployment of response forces, must be coordinated with appropriate State and other local officials. This information must be included in the site specific guidelines submitted to the Chief Health, Safety and Security Officer for approval.

(8) Water Craft Assistance. Where DOE has waterborne capability, specific guidelines regarding the use of water craft in fresh pursuit situations, including pursuit, observation, reporting, and deployment of response forces, must be coordinated with appropriate State and other local officials. This information must be included in the site specific guidelines submitted to the Chief Health, Safety and Security Officer for approval.

(9) Communications. At all times during a fresh pursuit situation, the PF officers involved must make every attempt practicable to maintain open communications and to relay as much information as possible to the PF dispatcher and/or PF chain of command.

(a) Upon the engagement of a fresh pursuit situation, the PF dispatcher must immediately notify supervisors in the PF command structure and the officer in charge of onsite PF operations.

(b) When it becomes apparent to the pursuing PF officers that jurisdictional lines might be crossed, this information must be transmitted immediately to the law enforcement authorities of the jurisdiction to be entered in accordance with the mission specific emergency notification procedures. To the extent possible, such notification must include a description of the fleeing suspect and/or vehicle, the alleged criminal violation for which the suspect is being pursued, and the location and direction of travel of the suspect.

(10) Coordination with Other Law Enforcement Agencies (LEAs). When other Federal, State or local LEAs with jurisdiction in the area into which the suspected criminal has fled join the pursuit, they must be primarily responsible for the continued pursuit.

(a) The PF dispatcher, supervisors in the PF command structure, and the officer in charge of onsite PF operations must coordinate the pursuit efforts of PF officers with other Federal, State, and/or other local LEAs who assume primary responsibility.

(b) PF officers participating in the pursuit must continue to participate in pursuit operations until otherwise instructed by the PF dispatcher, respective supervisors in the PF command structure, or the officer in charge of onsite PF operations.

(c) At least one PF officer unit must remain available to assist the other pursuing Federal or State and other local LEAs until the pursuit is concluded or otherwise terminated. That PF officer will thereafter provide such LEAs with all relevant information regarding the circumstances surrounding the incident.

3. GUIDELINES FOR RULES OF ENGAGEMENT.

a. Purpose. The purpose of this section is to provide the DOE/National Nuclear Security Administration (NNSA) Headquarters and field elements guidance in developing the rules of engagement (ROEs) for use of deadly force as established in 10 CFR Part 1047. DOE's Use of Deadly Force Policy, as set forth in 10 CFR Part 1047, defines the circumstances when deadly force is authorized; i.e., self defense; serious offenses against persons; theft, sabotage, or unauthorized control of nuclear weapons, nuclear explosive devices, or special nuclear material; and apprehension. It also states, "Its use may be justified only under conditions of extreme necessity, when all lesser means have failed or cannot reasonably be employed" (emphasis added). DOE has determined that the CFR's concept of, "or cannot reasonably be employed," needs further site specific amplification in the post September 11, 2001 environment. To ensure acceptable protection of critical assets, site specific ROEs are needed that define the circumstances, e.g., location, time, and distance at each site when lesser means of force cannot reasonably be employed. ROEs must address the concept of hostile intent as described in this appendix.

b. Rules of Engagement Guidelines. Each DOE site with forces having the mission of protecting nuclear weapons, SNM, and/or other hazardous material that may be used as a weapon of mass destruction must develop site specific ROEs that incorporate the concept of hostile intent. The determination of site specific ROEs must consider the type of materials being protected, site geography, building construction, PF strength and capability, adversarial task times, adversarial characteristics as described in the current DOE O 470.3B, *Graded Security Protection (GSP) Policy*, and consequences of asset loss. ROEs must clearly state under what conditions the circumstances of hostile intent have been met. Depending on site specific conditions, the circumstance of hostile intent may be met even if no shots have been fired. Hostile intent may be indicated by the following factors, among others: a single intruder inside the perimeter intrusion detection assessment system to or in a protected area, exclusion area, and/or material access area; the presence of any number of armed intruders onsite; vehicles crashing or failing to stop at a gate; and/or a perceived aerial insertion of any number of intruders by helicopter or other methods. The posting of perimeter signage that states, "Halt: Deadly Force is Authorized Beyond This Point" is authorized. If employed, signs must be posted at entrances and at such intervals along the perimeter of the property to ensure notification of persons about to enter. Signs must measure at least 11 by 14 inches (28 x 36 cm).

c. Use of Directed Energy and Remotely Operated Weapons Systems. The potential use of new weapon systems, e.g., directed energy and remotely operated weapons systems, within DOE is consistent with 10 CFR Part 1047 and should be considered when formulating ROEs. It is DOE policy that a human being must make a conscious decision to employ all weapons systems capable of delivering

deadly force before each operation of such equipment; i.e., fully automated use is not permitted.

d. Approval. The completed ROEs must be submitted to the ODFSA for review and approval. Upon approval of such ROEs, GOs and POs shall be updated to include site and post specific examples of likely scenarios where the use of deadly force may and may not be authorized.

ANNEX 2 PERFORMANCE TESTING

1. PERFORMANCE TESTS. All major PF functions must be tested. Performance tests (PTs) must be used to realistically evaluate and verify the effectiveness of PF programs, identify needed training and provide training for personnel, identify areas requiring system improvements, validate implemented improvements, and motivate personnel. Such tests must adhere to the requirements found in DOE O 470.4B, *Safeguards and Security Program*, and in this appendix. Information associated with performance testing may be classified, Unclassified Controlled Nuclear Information, or Official Use Only. The following are the major types of PF performance tests.

   a. Limited Scope Performance Tests.

      (1) Limited scope performance tests (LSPTs) will be either scheduled or unannounced. The tests must be used to determine the level of PF skill or capability or to verify different elements of the PF program. LSPTs must be conducted to realistically test any operation or procedure, verify the performance of a policy requirement, or verify possession of a requisite knowledge or skill to perform a specific task that falls within the scope of PF responsibility.

      (2) Any element of PF responsibility, as determined by site procedures and job analysis, may be tested. LSPTs may involve the use of dedicated engagement simulation systems (ESS) [e.g., multiple integrated laser engagement system (MILES)], dye marking cartridge (DMC), blank fire, or inert systems, and such use must meet the operational and safety requirements involving the conduct of force on force (FoF) exercises in paragraph 1c, below, where applicable.

   b. Alarm Response and Assessment Performance Test.

      (1) An alarm response and assessment performance test (ARAPT) is conducted with no prior notice to evaluate PF response to a specific location under alarm protection [e.g., a building, vault/vault-type room, or other area that has a site specific security interest identified in the SSP].

      (2) ARAPT scenarios must be based on simulated adversary actions consistent with DOE O 470.3B, *Graded Security Protection (GSP) Policy*, and site specific VA results. The purpose of these tests is to evaluate PF readiness and response to alarm conditions. These tests must consider all aspects of response including communications, personal protective measures, equipment availability and serviceability, and any PF and facility coordination activities that may be necessary to mitigate a security incident.

(3) ARAPTs must be coordinated with facility representatives and trusted agents (TAs) to ensure that safety requirements are fulfilled, security is not compromised, and operational disruption is minimized. When an ARAPT is initiated, responding PF personnel must be advised of the test. Handguns must be holstered, and any auxiliary weapon must not have a round in the chamber.

c. Validation Force on Force.

(1) A validation FoF (VFoF) is a major, integrated test to facilitate assessment of all the elements employed in response to GSP and site-specific threats. VFoF exercises must be held at all facilities having an armed PF annually (at least every 12 months). See Table 2-1.

(2) Personnel must be designated and briefed in advance to act as adversaries. At sites implementing the DOE Tactical Doctrine, SPOs and other personnel participating in performance tests as GSP comparable adversary combatants will be trained in tactics to challenge the ability of the PF to defeat an armed adversary.

(3) All weapons used by exercise participants must be dedicated ESS weapons. For this reason, if an exercise involves an operating facility as opposed to a test area, a "shadow force" of PF personnel must be deployed for protection of the S&S interests. Interface procedures, including rules of conduct for all participants, controller actions, exercise boundaries, and off limit areas must be developed and documented. Procedures for communication between the simulated and shadow forces must be developed to ensure no compromise of S&S during the exercise. All exercise participants, controllers, and the Shadow Force must be briefed on the interface and communication procedures.

d. Command Post Exercise.

(1) A command post exercise (CPX) is conducted to observe and evaluate a crisis management team's overall handling of a simulated safeguards and/or security event or a natural disaster incident.

(2) CPXs may be either announced or unannounced and may vary in scope and time as dictated by the purpose of the exercise.

e. Command Field Exercise. A command field exercise (CFX) is an extension of a CPX and is conducted to test the interaction among various support organizations, site management, and the PF to a simulated incident.

f. Joint Training Exercise. When a VA or PT indicates a need for outside agency support for the successful mitigation of a security incident and such support is properly documented in the SSP, the support expected from outside agencies must

be covered by a formal cooperative agreement, e.g., memorandum of understanding (MOU).

2. COORDINATION. When a CPX, CFX or JTX involves a demonstration of site level emergency response capabilities, the development and conduct of the exercise must be coordinated with the appropriate site level emergency management organizations.

3. TESTING FREQUENCY. Performance testing must be conducted as stated in Table 2-1.

Table 2-1. Testing Frequency

Type of Performance Test	Minimum Performance Test Frequency
LSPT	At facilities implementing the DOE Tactical Doctrine, LSPTs are conducted weekly. At all other facilities conducted as required.
ARAPT	Facilities implementing the DOE Tactical Doctrine: two/quarter/alarmed SNM locations and one/quarter at all other locations. All other facilities: one/quarter at all alarmed locations.
VFoF	One/year for all sites with armed PFs (additional requirements for Category I facilities are contained in DOE O 470.4B, *Safeguards and Security Program).*
CPX	Facilities implementing the DOE Tactical Doctrine: one/year/site. All other facilities: one/year/site.
CFX	Facilities implementing the DOE Tactical Doctrine: one/year/site. All other facilities: one/year/site.
JTX	As required per SSP, one/year/site, as applicable.

NOTE: Annual requirements for VFoF, CPX, CFX, and JTX exercises may be combined when determined appropriate in SSPs. Requirements for ARAPTs may be satisfied through combined testing of multiple alarms in the same or proximate locations and required monthly PF shift and SPO III shift training exercises.

4. PERFORMANCE TEST AND TRAINING ACTIVITIES PLANNING.

a. PT and Training Activity Plans. The PT plan and training activity plan (or lesson plan, procedures, etc.) must define the scenario/activity and the exercise/training area in sufficient detail to allow a valid hazard assessment to be performed.

NOTE: Where applicable, approved safety and ESS procedures may be referenced in the PT plan and training plan and are not required to be restated in their entirety unless required by local implementing procedures.

b. Safeguards and Security Planning. As applicable, planning must address the following topics:

(1) The specific element being tested to identify the specific element of the SSP training program, etc., being evaluated,

(2) The objectives of the test, e.g., to evaluate personnel, equipment, and systems against established requirements,

(3) The scenario designed to ensure that the objectives of the test are met. The adversary plan must be validated as credible by the ODFSA and the TAs. This validation includes all aspects of conducting the attack,

(4) The applicable criteria to describe the standards for evaluation as derived from appropriate source documents,

(5) The specific safety considerations consisting of a safety plan that contains information derived from the risk assessment, the facility safety walk down, and specific safety requirements that may apply to the PT or training being conducted. General safety considerations may be addressed by referring to approved PT procedures on file,

(6) The specific S&S considerations to include information such as required compensatory measures that are in place during the PT,

(7) The test results documentation and after action reviews to include a summary of controller and evaluator information and conclusions derived from this information. A process must be in place to allow for after action reviews by appropriate personnel as determined by the ODSA, and

(8) A classification review of the PT plan, documentation of the PT results, and completion of an after action report.

c. Force on Force Exercise Plans. The following areas must be considered and included, as applicable, in the development of a typical FoF plan or for an LSPT involving the use of ESS.

(1) Objectives. The objectives must be stated succinctly.

(2) Scenario Description.

(a) Describe the Threat Scenario.

(b) Describe the Facility(ies) Involved.

(c) Define the Required Response.

(d) Establish the Schedule.

(3) Test Methodology.

(a) State how the exercise/validation will be conducted.

(b) Identify the number of PT, exercise and/or event iterations to be conducted.

(c) Identify required pre/post exercise briefings

(d) Establish appropriate evaluation criteria (e.g., statistical model, test criteria, mathematical formulas, or methods, lesson plans, as applicable).

(4) Test Control. Identify exercise control measures.

(5) Resource Requirements. Identify resources necessary to control and conduct the exercise.

(a) Participants.

(b) Logistics.

(6) Training Requirements.

(7) Exercise Coordination Requirement. Describe all organization coordination requirements.

(a) Continuation of operations.

(b) Safety and health oversight and support.

(c) Essential LLEAs.

(d) OPFOR coordination.

(8) Compensatory Measures. Describe any compensatory measures required during the PT.

(9) Safe Exercise Halt Procedures.

(10) End of Exercise Accountability.

(11) Radiation Monitoring.

(12) Shadow Force.

(13) Coordination and Approval. Review and sign off (concurrence), as applicable.

(14) References. Identify any applicable site specific procedures.

d. Performance Test Report. The PT report must address the following:

(1) detailed results of the exercise, including evaluation of applicable criteria;

(2) lessons learned; and

(3) required corrective actions and/or mitigation factors to address identified vulnerabilities.

5. SAFETY. PTs must be conducted with the highest regard for the safety and health of personnel, protection of the environment, and protection of Government property. Specific safety considerations and requirements for conducting PTs are found in this appendix. Site specific procedures addressing the conduct of PTs, the use of ESS, and safety considerations must be prepared by PF management, submitted to the ODFSA for review and approval, and incorporated into the site performance assurance program (see DOE O 470.4B, *Safeguards and Security Program*).

6. COMMAND AND CONTROL.

a. Command and Control System. A system of command and control must ensure that ESS safety and other requirements of the Attachment are met and must maintain an environment free of the recognized risks associated with conducting certain PTs and training activities. The command and control system must ensure that ROE are followed; specific hazards and safety concerns, as identified in a risk assessment, are appropriately addressed; and exercise continuity is maintained.

b. Command and Control Responsibilities. The controller staff must be organized in a manner that facilitates the control of all affected locations and the control and coordination of all events to be initiated during the exercise. Individual controllers may have several duties assigned depending on where they are and what activities are occurring in their areas of responsibility. Their first and foremost responsibility is ensuring safety during exercise activities. Controllers are responsible for enforcing or implementing the following requirements during exercises.

(1) Conducting safety checks and inspections of all personnel under their control for live rounds or other prohibited ammunition in DMC/paint ball (DMC/PB) or MILES PTs/exercises.

(2) Ensuring no live firearms or ammunition of any type are allowed within the ESS PT area, except those under the direct supervision of the shadow force controller.

(3) Ensuring PT participants and observers wear and use appropriate safety equipment.

(4) Ensuring that personnel under their control comply with the PT plan to include the ROE and the safety regulations.

(5) Ensuring that ESS firearms handling and manipulation procedures comply, or are compatible, with procedures for live fire training/operations.

(6) Terminating a specific activity or the entire PT if unsafe conditions or acts are observed.

(7) Ensuring the accountability of personnel and equipment at the termination of the PT and reporting the results to the senior controller and shadow force controller.

NOTE: No DMC/PB rounds are allowed in MILES exercises unless approved hybrid ESS weapons are used. Safety checks and inspections should also be conducted for other prohibited articles and for general safety. The results of these checks and inspections must be reported to the senior controller before the PT begins.

c. Command and Control Positions. Every FoF PT and related activity must be regulated by controllers under the supervision of an exercise (or test) director, who is responsible for overall control of the PT. The exercise director must be supported by a senior controller, a safety controller, an ESS controller, a shadow force controller, and specific event controllers. These individuals must be trained to fulfill their responsibilities to ensure activities are undertaken safely.

(1) Exercise Director. The exercise director is a senior Federal or contractor official charged with overall responsibility for the exercise, to include pre planning activities, ensuring command and control during the exercise, and follow up for any lessons learned.

(2) Senior Controller. The senior controller reports directly to the exercise director and is responsible for coordinating, establishing, and supervising the exercise controller staff; identifying the number of personnel required to control the exercise; ensuring that appropriate controller training is conducted; and developing and implementing the concept of operation for the exercise director.

(3) Safety Controller. The safety controller is responsible for assessing the PT plan and ensuring that walkdowns of the exercise area and safety briefings are conducted. The safety controller also ensures that safety briefings specify the ROE, medical response, munitions and firearms safety, and vehicle and personnel safety. The safety controller provides support to the

senior controller and must remain in contact with the senior controller at all times during the exercise.

(4) ESS Controller. In PTs involving the use of ESS equipment, the ESS controller is responsible for controlling the issuing and accounting for all ESS firearms, weapons, and support equipment.

(5) Shadow Force Controller. A shadow force controller, with the experience necessary to ensure that the shadow force responds as required to a real security incident that may occur during a PT, is a critical participant. The shadow force controller is responsible for ensuring:

(a) voice communications are established and maintained with the senior controller throughout the course of the PT;

(b) all live firearms are maintained under his/her supervision and shadow force personnel do not come in contact with PT participants with ESS equipment; and

(c) that the shadow force knows the PT area and emergency response procedures. The shadow force must remain under direct supervision and control during the PT, and after coordination with the senior controller, will be released in the event of an actual alarm or other security incident in accordance with the approved PT plan.

(6) OPFOR Controller. The OPFOR controller must possess sufficient tactical expertise, knowledge, and physical ability to ensure that his/her presence does not interfere with or hamper the actions of the OPFOR in completing planned scenario actions.

(7) Event Controllers. Event controllers report to the senior controller and are responsible for executing control over specific categories of PT activity, including one or more events. Event controllers are responsible for ensuring nonparticipating facility personnel in the PT area are aware that an exercise is to be conducted and that they are not to interfere with the flow of the exercise.

NOTE: Sub charge flash sound diversionary devices may be deployed into occupied areas or rooms with the approval of the appropriate safety organization.

(8) Evaluators. Evaluators are PT observers who are responsible for recording the PT progress, actions of participants, and results of actions. Evaluator observations are used to determine exercise results. Controllers may also be tasked to conduct evaluation duties. Evaluators are responsible for stopping PT activities for safety reasons.

(9) Trusted Agents. In preparing for and conducting a PT, it may be necessary to provide sensitive information to selected non participants and participants regarding the occurrence and/or timing of events to coordinate realistic testing. Such individuals may be designated as a TAs. The term is not normally applied to controllers, who may also possess the sensitive information (e.g., PT timing, planned events).

(a) Role. The TA serves as a liaison between a simulated OPFOR and the PF being evaluated. PT planners must determine the number of TAs necessary.

(b) Responsibilities. The TA works with the OPFOR commander to develop the PT scenarios. The TA identifies potential hazards in the PT area and works with the exercise director to establish recommended controls that minimize the likelihood of injuries/illnesses among PT participants. To successfully fulfill the role of TA, the individual must divulge as little information about the PT scenario as possible while ensuring that appropriate measures are taken to ensure the PT is conducted safely.

d. Controller and Evaluator Training. The command and control system depends on a contingent of personnel selected and specifically trained to control ESS PTs. In addition to being trained to oversee exercises, controllers must receive training commensurate with the scope, complexity, and special nature of the activity. Based on the nature and complexity of the PT, specific controllers may be required for the shadow force, ESS equipment issue and accountability, occupational safety and health, and special or high risk activities (e.g., LAWs, explosive breaching, pyrotechnics, rappelling, etc.). Evaluators must receive controller training in order to perform evaluation duties.

(1) Formal Training. All personnel assigned controller or evaluator duties must receive formal documented training for the safe conduct of a PT. The controller and evaluator training program must be approved by the ODFSA and must include the following topics.

(a) Controllers and evaluators.

(b) General knowledge requirements.

(2) PT Scenario Specific Briefings. In addition to the formal training discussed above, controllers/evaluators must receive PT and scenario specific briefings before each PT.

7. ENGAGEMENT SIMULATION SYSTEM.

a. Scope. PTs must be used to realistically evaluate and verify the effectiveness of PF programs, identify and provide training for personnel, identify areas requiring improvements, validate implemented improvements, and motivate PF personnel. PFs must, through training, maintain competencies needed to perform assigned tasks required to fulfill the PF mission.

(1) ESS are primarily used to simulate conditions during PF PTs and training activities involving FoF and deadly force related situations.

(2) PF PTs and training activities must be conducted with the highest regard for the safety and health of personnel, protection of the environment, and protection of Government property. Safety issues must be considered from the inception to completion of these activities.

b. Types of ESS. There are six major types of ESS used within DOE for the conduct of simulated engagements during PF PTs and training activities.

(1) Multiple Integrated Laser Engagement System.

(2) Marking Systems.

(a) Dye marking cartridge (DMC) systems consist of specially modified duty handguns, submachine guns and rifles (using a replacement barrel) and non lethal DMCs (a lightweight hollow plastic projectile that contains a colored, nontoxic marking compound) designed to allow for realistic decisional shooting situations during PF PT and training activities.

(b) Paint Ball (PB) systems consist of paint guns, also called "markers," that come in a variety of shapes and styles.

(c) DMCs and PB rounds have very limited effective and maximum ranges. Thus, both systems are used typically during LSPTs and training activities to simulate close quarters battle (CQB) and decision shooting situations.

(3) Hybrid Dye Marking Cartridge/ESS Firearm. A hybrid DMC/ESS firearm is a firearm that has been modified or designated by a DOE certified armorer as a DMC weapon that feeds, fires, and functions DMC ammunition. The modification reduces the ability for a live round to chamber in the weapon. Additionally, the weapon is mounted with a MILES transmitter.

(4) Blank Fire Systems. Blank fire equipment consists of specially modified duty firearms (that cannot fire live ammunition or projectiles) and blank fire cartridges (loaded with powder but containing no projectile) designed

to provide realism during PTs and PF training on the use of deadly force and the escalation of the force continuum.

(5) Inert Weapons Systems. Inert weapons systems consist of simulated firearms and weapons or actual firearms and weapons that have been rendered incapable of firing live or blank fire ammunition

(6) Airsoft Systems. Airsoft systems, sometimes referred to as soft air systems, consist of replica duty weapons that propel 6mm plastic or biodegradable BBs by means of either rechargeable batteries or Green Gas (HFC 143a). This system can also be modified to be used with the ESS equipment without the use of BBs.

(7) Other Types of ESS. Other types of ESS and associated equipment may be used during PF PT and training activities to simulate adversary and PF actions and real world incidents. Pyrotechnics and smoke generators may be deployed to simulate fires and chemical agents. Hand thrown smoke grenades may be used to cover adversary and PF tactics or to provide diversions. Practice or inert grenade systems can be used to simulate thrown explosives and can be followed up by flash/sound diversionary devices, air horns, and other devices to simulate explosions.

8. ENGAGEMENT SIMULATION SYSTEM SAFETY.

a. General Safety.

(1) Safety is a major concern in any PT or training activity. Safety rules must be followed to minimize the potential for accidents/injuries during activities involving the use of ESS. Management, controllers, and participants must anticipate and react to unsafe situations.

(2) All PTs and training activities must be governed by plans and procedures that specifically address safety issues while remaining consistent with realistic evaluation and training. Risk assessments must include procedures for any materials, equipment, and/or operations that are identified as potential hazards during the conduct of any scenario. Safety plans must cover facility safety concerns specific to scenarios being conducted. Preparations must also be made to respond with appropriate medical assistance to situations that could occur.

(3) ESS PT and training activities must be regulated by controllers and instructors who have authority regarding safety. Controllers and instructors are responsible for ensuring that all operations are conducted safely. Controllers, instructors, any participant, and/or any individual may stop an evaluation and/or training activity for safety reasons. Safety is paramount in exercise planning and execution.

b. Participant Responsibilities. The following paragraphs specifically address safety related considerations that impact exercise personnel and/or equipment; however, they apply to all ESS activities. Personnel acting as adversary/OPFOR team and response force members must be briefed as to their individual responsibilities to include:

(1) avoiding hazardous areas;

(2) monitoring their own physical condition for signs of overexertion;

(3) watching for other participants who appear injured or otherwise are in need of assistance, and immediately ceasing ESS activities in order to render aid and notify a controller or instructor;

(4) reporting injuries, regardless of severity, to the nearest controller, instructor, or safety representative;

(5) handling and using all ESS firearms and weapons safely as though they were live fire weapons;

(6) inspecting issued MILES weapons and blank ammunition to ensure that no live ammunition and the proper blank ammunition is present and that the MILES weapons and magazines, where used, are properly color coded;

(7) inspecting issued DMC firearms and DMC ammunition to ensure that no live or blank fire ammunition is present, and that the DMC firearms and magazines, where used, are properly color coded;

(8) inspecting issued blank fire firearms and blank ammunition to ensure that no live or DMC ammunition is present and that the blank fire weapons, and magazines, where used, are properly color coded;

(9) inspecting inert weapons to ensure that they are incapable of operation and to ensure that no ammunition is present and that they are properly color coded;

(10) while conducting ESS activities, knowing what the participant should do in the event the PF Shadow Force is deployed and actions the Shadow Force will take;

(11) limiting physical contact, during an arrest scenario, to that force necessary for searching and handcuffing while refraining from violent physical contact;

(12) refraining from attempts to disarm a participant by grabbing their firearm or person;

(13) ascending or descending from elevated positions by ladder, stairway, or other safe method; jumping from elevated positions only if necessary and safe;

(14) avoiding hot propellant gases vented from weapons systems; and

(15) avoiding taking outdoor positions near the ESS Vehicle Hit Indicator System that contains an explosive charge.

NOTE: The ESS Vehicle Hit Indicator System is designed to simulate and react to firearms fire. Blasts are vented upwards and usually do not present a hazard. Participants must be careful not to position themselves above or within 10 feet of the device while outside a vehicle.

c. ESS Safety.

(1) All firearms and weapons used in ESS exercises and training activities must be permanently modified and dedicated for ESS use only. The only permissible exceptions are the M 60, HK 21, FN M 249, and FN M 240 machine gun receivers. ESS modifications of these machine guns are limited to the barrel and feed tray, which gives them additional flexibility. ESS modifications must comply with this Attachment.

(2) With the exception of single shot grenade launchers, MILES firearms must be equipped with approved blank fire adapters or blast deflectors.

(3) Dedicated ESS firearms must not be reactivated for live fire usage without the approval of the ODFSA.

(4) All MILES firearms must be equipped with live round inhibiting devices or ported chambers, plus one or more additional engineered controls of safety, to prevent the accidental introduction of live rounds.

(5) Only DMC firearms equipped with DMC conversion kits and DMC ammunition approved by the Office of Health, Safety and Security may be used. All DMC conversion kits must be designed to inhibit live rounds from being chambered. If a factory “drop in” kit is used to modify a firearm to use DMC, a DOE certified armorer specifically trained in the installation of such a kit must make the modification. DMC systems may be fired only at participants who are at least 1 meter away.

(6) ESS firearms used in an exercise must be clearly marked as exercise firearms, closely controlled, and kept separate from any firearms not associated with the exercise. A check indicating the presence of all engineered controls of safety incorporated in an ESS weapon must be documented before issuance for use, e.g., training, exercises, and LSPTs. Approved color coding markings are:

(a) Orange for MILES and blank fire firearms and magazines, clips, and belts (first link);

(b) Blue for DMC firearms and DMC magazines, clips, and belts (first link), speed loaders, and PB systems;

(c) Blue and orange for MILES/DMC hybrid firearms;

(d) Red for inert firearms and weapons; and

(e) Green for airsoft systems.

(7) ESS firearms must not be loaded until authorized by a controller or instructor.

(8) Blank ammunition must not be used in tactical exercises except with ESS equipment.

(9) MILES firearms equipped with blank fire adapters or blast deflectors may be fired only at participants who are at least 10 feet away.

(10) Maintenance and adjustments to laser transmitters must be performed only by the supplier or by qualified site personnel approved by the supplier.

(11) ESS firearms must be cleaned after an exercise according to a site's Standard Operating Procedures and repaired or removed from service, if necessary.

(12) All ESS firearms must be inspected by a DOE certified armorer and certified at least every 12 months. These inspections must be documented.

d. <u>ESS Ammunition and Blank Fire Adapters.</u>

(1) Only blank ammunition magazines, clips, and belts (first link) that have been distinctively color coded orange and modified for use with an ESS firearm may be used. The ESS magazine, clip, or belt, when used in conjunction with a modified ESS firearm, must prevent the inadvertent feeding and chambering of a live round. Caution must be exercised because a live round can be placed in the lip of some firearm magazines.

(2) Only DMC ammunition magazines, clips, and belts that have been distinctively color coded may be used. Caution must be exercised because a live round can be placed in a DMC magazine lip or in some cases a DMC magazine can be fully loaded with live ammunition.

(3) Blank, DMC, airsoft, and PB ammunition must be stored separately from live ammunition and from each other (in areas other than ammunition warehouses where bulk supplies of ammunition are stored in unopened

original packaging), either in a different location or in a locked cabinet, and must be inspected before issuance by a controller or instructor.

(4) Before each ESS PT and/or training activity and whenever new participants and or equipment are included:

(a) Each firearm and all ammunition must be inspected by the responsible ESS controller/instructor to ensure that only the proper ammunition and properly equipped ESS are in use; and

(b) At the beginning of each scenario, participants must inspect their firearms and person to ensure that only the proper exercise ammunition (e.g., blank ammunition for MILES and DMC/PB/airsoft ammunition for DMC/PB/airsoft exercises) and properly equipped MILES and/or DMC firearms/PB/airsoft systems are in use.

(5) Manufacturers' recommendations for the shelf life of DMC and PB ammunition must be followed.

(6) LAWs/rocket propelled grenades.

(a) LAWs/rocket propelled grenades (RPGs) must not be cocked until the target is identified. If the simulator is not fired at a given target but is anticipated to be fired at another target during the exercise, it must be returned to the uncocked position until the target is sighted. If the simulator is not fired, it must be returned to an unloaded/tube empty position before being turned in.

(b) LAWs/RPGs must be used only in designated areas.

(c) LAWs/RPGs must be used only for training purposes when exclusion distances and conditions are established as though an actual LAW was being fired. The exclusion distance for the LAW/RPG is 5 feet to either side and 30 feet to the rear.

e. Pyrotechnics, Flash Sound Diversionary Devices, and Obscurants.

(1) Pyrotechnics and explosive simulators must be consistent with the pyrotechnics list included in the DOE approved ammunitions list.

(2) Participants must never pick up thrown pyrotechnics, flash sound diversionary devices, or chemical agents, even one that appears to be a dud. Duds must be reported, as soon as possible after discovery, to the Senior Controller.

(3) Written and approved procedures for handling duds and expended devices must be included in PT procedures and applicable lesson plans. These

plans and procedures must follow the manufacturer's disposal recommendations or site approved procedures and must be implemented by properly trained personnel.

(4) Written and approved procedures for activities such as the wiring of pyrotechnics into vehicle electrical systems and the use of booby traps and trip wires must be included or referenced in PT plans/procedures. These activities must follow manufacturer's recommendations or site approved procedures and must be conducted by properly trained personnel.

(5) Smoke and obscurant generating pyrotechnics.

(a) Smoke and obscurant generating pyrotechnics may not be used indoors or in confined spaces.

(b) Planning for smoke use must address the possible effects on facilities, production processes, workers, and other parties (e.g., nearby roads and vehicle drivers, adjacent facilities and workers, air intake systems).

(c) Participants must avoid unnecessary exposures to smoke systems by staying upwind of the smoke, where possible; by avoiding entry to the smoke cloud; by limiting the time traversing the cloud; and by choosing routes involving the least densities of smoke consistent with the tactical objective. Full immersion in high density smoke for extended periods shall be avoided where possible. If immersion cannot be avoided, respiratory protection must be used as defined in the risk analysis for the training, performance test, or FoF activity.

(d) Thrown smoke generators must be deployed by persons trained in their safe deployment methods and knowledgeable of their potential hazards.

(e) When thrown smoke generators and other pyrotechnics are deployed in training or testing activities, adequate firefighting equipment and persons knowledgeable in their use must be readily available.

(f) Pre activity safety briefings must address the safety concerns related to the use of smokes and obscurants, the controls for the deployment of smoke, and the safety controls established to control and limit personnel exposures.

f. Vehicle Safety. The following requirements apply to the use of vehicles during an exercise.

(1) Vehicles must not be mounted or dismounted until after they come to a complete stop.

(2) All personnel in moving vehicles must wear seat belts at all times. Passengers may ride in the back of moving open vehicles provided that restraint devices are installed and used and they remain seated within the vehicle.

(3) Vehicle maneuvers (e.g., accelerations and decelerations, cruising, turns, etc.) must be made in accordance with local vehicle operating procedures.

(4) When a PT/training scenario requires a roadblock, it will be simulated by placing a blocking vehicle on the shoulder of the road and by ensuring that a controller is notified that a roadblock has been established. If the blocking vehicle's presence could effectively obstruct the roadway, the controller should not allow the vehicle being blocked to pass.

g. Rules of Engagement. Specific ROE must be developed and documented for each FoF or man on man PT/training activity, as applicable.

9. MARKING SYSTEMS ACTIVITIES.

a. General Requirements.

(1) All DMC/PB PTs must be monitored by a controller who is a National Training Center (NTC) certified firearms instructor or has received specialized training.

(2) All DMC/PB training activities must be conducted by a NTC certified firearms instructor.

(3) Instructor/controller to shooter ratios will be dictated by the type of training/PT scenario. Participants must be familiar with the DMC firearm/PB system to be used in the PT or training activity.

b. Safety Considerations. In addition to the safety considerations described in previous sections, the following safety considerations specific to DMC and PB activities must be included in training or PT activities that use DMC/PB.

(1) DMC/PB ammunition velocity could exceed the American National Standards Institute (ANSI) Z87.1 standard, so protective eye wear must be ANSI or weapon/ammunition manufacturers' specification whichever is more stringent.

(2) All DMC/PB equipment must be maintained and tested in accordance with manufacturer specifications.

(3) All DMC/PB personal protective equipment (PPE) must be visually inspected before each use.

(4) Helmets with spring loaded face shields must not be used during DMC or PB activities.

(5) DMC/PB will not normally break vehicle glass that does not have defects or prior damage. However, if the glass is already cracked, a DMC/PB round may break it. Repeated or rapid fire on undamaged plastic or glass may cause breakage. DMC will dent most soft building materials including drywall, plywood, paneling, and hollow core doors; however, they will generally not penetrate them.

(6) Wearing clothes with a tight weave fabric, such as that in military type/field uniforms or coveralls, is required to cover and protect any exposed skin.

(7) If body armor is used, it must be dedicated for DMC/PB use only.

(8) Testing of face and eye protection equipment by subjecting it to firing of DMC and PB projectiles from the actual DMC firearms or PB gun to be used is recommended. Testing must also include concentrated full automatic fire when such firearms are to be used. For information purposes, the manufacturer of the Avon protective mask recommends that outserts be used on the lenses of its masks when used in DMC/PB exercises.

(9) DMC/PB systems must not be fired at personnel closer than 1 meter.

(10) DMC ammunition must not be fired in standard, non DMC modified firearms because plastic cartridge components could stick in the bore, causing a safety hazard.

(11) Blank ammunition must not be fired in DMC firearms due to potential hazards from muzzle gases and ejected material.

(12) Face protection must provide protection from DMC/PB projectiles entering under the face mask when the wearer tilts his/her head back or looks upward.

c. Ammunition and Firearms Conversion Kits.

(1) Only DMC firearms equipped with conversion kits, PB systems, and ammunition approved by the ODFSA may be used.

(2) All DMC/PB firearms must be distinctively color coded blue.

(3) All DMC firearms conversion kits must be designed to inhibit live rounds from being chambered.

(4) DMC/PB ammunition must be used in accordance with the manufacturer's recommendations for storage conditions and shelf life. The marking compound in DMC/PB may solidify and harden in older ammunition. Poor marking performance may also be encountered with older DMC and PB ammunition. Personnel may have increased risk of potential injury from DMC/PB ammunition projectiles if the marking compound becomes hardened through age or is used in cold temperatures.

d. Personal Protective Equipment. A risk assessment must determine the type of PPE required for the specific PT/training activity being conducted.

(1) The following PPE must be used when conducting training/PTs involving the use of DMC/PB during FoF and one on one engagements.

(a) Eye protection.

(b) Full face and head protection, which includes covered protection for the ears (i.e., helmets specifically designed for use with DMC or duty equipment that provides equivalent protection).

(c) Hand protection (gloves).

(d) Groin protection.

(e) Throat protection.

(f) Hearing protection (optional–unless diversionary devices are being used or exercise is conducted in an environment that requires noise protection). Sound levels generated by DMC/PB use are below Occupational Safety and Health Administration requirements that require hearing protection.

(2) When conducting training/PTs involving the use of airsoft systems with BBs, the minimum PPE is the JT Spectra face shield or equivalent.

e. Target Training. Training may be conducted using DMC/PB/airsoft systems to fire at training targets such as the DOE TQ 15, decisional targets, or other targets. Such training does not involve FoF or one on one activities.

(1) Use of DMC systems for shooting training targets must follow the requirements of this Attachment and normal live fire safety procedures. Sites must evaluate the need for numbers and types of controllers and other exercise personnel based on the specific location and training to be performed.

(2) Provisions of DMC/PB/airsoft training plans, controller staffing plans, procedures, and risk assessments must address protection of uninvolved persons. They include observers, plant workers, and others who might become exposed to hazards of DMC/PB/airsoft if training targets are to be used in areas where uninvolved persons could be exposed. Potential hazards must be addressed related to using DMC/PB/airsoft systems for PF PTs and training involving activities such as team movement, CQB, breaching training, room entries, live fire shoot house, and officer survival activities.

10. EXERCISE RULES OF ENGAGEMENT.

a. Safety. Safety is a major concern in any ESS PT, and training activity and safety rules must be followed to minimize the potential for accidents and injuries during these activities. Management, participants, and controllers must caution and prepare participants to anticipate and react to unsafe situations. Realism must be achieved and safety must be considered in the actions of all participating personnel. Preparations must also be made to react with appropriate levels of medical assistance to situations that could occur.

(1) Halting an ESS Activity. An ESS PT or training activity may be halted at any time for safety, emergency, real time security events, or administrative reasons.

(2) Exercise Freeze. An Exercise Freeze is a command that is used to halt an exercise when it is necessary to correct safety related problems or respond to an emergency.

(a) Any person observing a safety problem must announce, “Exercise Freeze.”

(b) Controllers/Evaluators must relay the exercise freeze announcement throughout the PT area.

(c) Every participant must immediately freeze in place (i.e., stop at their locations and cease fire, movement, communication, and any other action) until the command “Resume Exercise” is given by the exercise director or senior controller at the direction of the exercise director.

(d) In the case of a real time security event, the exercise cannot resume until all shadow force members return to their staging areas and the shadow force controller confirms with the exercise director that all shadow force members are properly staged.

(3) Administrative Hold. The command “Administrative Hold” is used to halt an ESS PT when it is necessary to correct exercise problems of an

administrative or procedural nature. The use of the command may be planned when it is necessary to put a temporary hold on activities to set the stage for continuation of the PT (e.g., change scenarios, operations shift change activities, etc.).

(a) The effect of an administrative hold can be limited to a specific location or activity in a PT or apply to the entire exercise.

(b) The command "Administrative Hold" must not be called to correct safety problems or respond to emergencies.

(c) Only a controller can administratively halt exercise activities. The controller will announce the hold in the affected area, and all participant activity in that area will immediately halt until the controller gives the command "Resume Exercise."

b. Participants.

(1) Pre Exercise Activities.

(a) All pre-exercise actions must be conducted in accordance with normal operating procedures. Participants must be closely monitored to ensure they do not use artificially generated factors to affect the outcome of the PT.

(b) Participants must be familiar with the operation of issued ESS equipment.

(c) Participants who will be using or handling pyrotechnics, diversionary devices, hazardous materials, or electrical or mechanical equipment must receive training in their proper use in accordance with current applicable requirements.

(d) Before being assigned to act as hostages/role players, individuals must be asked if they are willing and capable of dealing with the isolation and demands of a hostage/barricade situation.

(e) Participating non DOE law enforcement and other emergency personnel must be instructed how to react in accordance with PT plans and safety and health requirements.

(f) All players and participants must be physically capable of participating without undue risk of injury to themselves or others.

(2) Safety.

(a) No attempt will be made to disarm a participant by forcibly taking an ESS weapon.

(b) All ascents to, or descents from, elevated positions must be by ladder, stairs, or other approved methods.

(c) No person acting in the role of a hostage may be abused.

(d) Event Controllers must ensure all occupants of the facility are moved into a safe area during assault phases and are provided with appropriate PPE and safety equipment.

(3) Injuries.

(a) All injuries must be reported immediately to the nearest controller. Anyone observing an injured or ill participant must immediately advise the nearest controller.

(b) The command "Exercise Freeze" must be used in communications if a hostage role player or other participant becomes injured or ill. If a problem arises during hostage scenario events it must be brought to the attention of a controller immediately.

(4) Damages. Any damage to vehicles and equipment must be reported to a controller no later than the termination of the PT.

(5) Elimination.

(a) Once eliminated under the ROE and/or per scenario specific requirements, a participant must immediately cease fire, movement, communication, and all other actions. Location permitting, eliminated participants must be prone or seated, and weapons grounded to ensure they do not impact scenario/exercise actions. The responsible controller may remove an eliminated participant from the area for safety and operational reasons. Eliminated participants must remain in place until they are released by a controller.

(b) Participants occupying vehicles must be instructed on the provisions for vehicle and vehicle occupant casualties including the number of allowed survivors based on the type of weapon hit(s) received.

(c) No physical contact is allowed with eliminated participants except to search and secure (apply restraints) if applicable to the scenario. An eliminated OPFOR or PF participant may be approached to obtain radios or other equipment. ESS firearms and ammunition may be seized and used by other participants only when a controller is present to ensure that the seized ESS firearms and ammunition are used safely. The controller must ensure that the

seized ESS weapon is returned to the participant to whom it is assigned for accountability purposes.

(d) Persons deliberately attempting to circumvent the ROE or gain an unfair advantage by using any unrealistic tactic or action (e.g., covering MILES sensors, hiding behind false cover, removing headbands, etc.) will be immediately eliminated by a controller.

c. Vehicles.

(1) Safety.

(a) Vehicles that will be used in the PT must be identified clearly as exercise vehicles. All participants are restricted from using vehicles other than those outfitted with ESS equipment and/or designated for PT use.

(b) All vehicles must be operated safely. Drivers must observe all site requirements and applicable laws relating to vehicle operation. The wearing of safety belts is mandatory for all vehicle occupants. No vehicle will be operated off roadways unless necessary for scenario action and there has been prior approval by the responsible controller.

(c) During scenario play depicting normal site operations, vehicles must be operated at posted site speed limits. During scenario play requiring emergency response, vehicles will be operated at speed limits delineated in approved PT plans and procedures. Vehicles responding to real world site emergencies and security incidents during Exercise Freeze conditions will be operated at speed limits per approved response plans.

(d) Except for normal passing, no vehicle may be driven closer to another vehicle than the distance permitted by the two second rule. Following a normal pass, the passing vehicle must immediately reduce speed to the approved speed limit.

(e) There will be absolutely no attempt to use a vehicle to crash, block, or endanger another vehicle in any way unless the PT scenario or training activity specifically involves the use of Precision Immobilization Technique (PIT), vehicles in use are properly equipped to conduct PIT, and participants are utilizing proper PPE.

(f) Impassable roadblocks will be indicated by placing yellow engineer tape, orange cones, flags, etc. on or across the roadway per approved PT plans/procedures.

(g) Emergency vehicles are not part of the exercise unless equipped with ESS equipment.

d. Elimination. PT plans/procedures must include requirements to determine the elimination of exercise vehicles. Requirements should include the use of MILES vehicle hit indicator harnesses and controller calls.

e. Explosives and Pyrotechnics.

(1) Organizations using explosives and pyrotechnics must provide safe operating procedures to the safety controller. These procedures must identify the hazards and required training, assess the risks, and establish the necessary safety requirements for the particular operation.

(2) Explosives and pyrotechnics must be employed commensurate with the applicable requirements of DOE M 440.1-1A, *DOE Explosives Safety Manual*.

(3) Pyrotechnics and explosives must be used by the OPFOR, SRTs, or other personnel only as authorized by the ODFSA. Personnel must be trained in the use of deployed explosives and pyrotechnics and in the respective safety requirements. Quantities of, and locations for, explosives and pyrotechnics to be used during the PT must conform to approved response plans and be reviewed and approved by the senior controller and the safety controller before use.

(4) ESS Pyrotechnics.

(a) Electrical explosives in an ESS explosive simulator device are directed upward and slightly to the rear of this device. The safety zone around these devices is 10 feet.

(b) Participants firing an ESS LAW/RPG must ensure that the area 30 feet behind and 5 feet to each side of the weapon is clear. Personnel in the exercise area must also be briefed to not approach closer than 30 feet directly behind any participant firing a LAW/RPG. LAWs can be made safe by depressing the safety rod located on the top rear of the weapon.

(c) Vehicle system electrical explosive charges are mounted on the opposite side from the color indicator light. Since these devices are usually mounted on the vehicle roof with the blast directed upward, they normally do not present a hazard. However, there may be selected special applications where the device is mounted on a vehicle bumper or hood. In these situations, participants must be careful not to position themselves above or within 10 feet of the explosive holder.

ANNEX 3 CANINE PROGRAM

1. PURPOSE. Canine teams are assigned to DOE facilities to deter potential threats and may be involved in activities such as explosive detections, suspect apprehension, and contraband searches. A set of program standards must be developed, approved, implemented, enforced, and maintained to ensure canine programs are effective.

2. REQUIREMENTS.

   a. Canine programs must be documented and approved by the DOE cognizant security office and must includes plans for operations, training and maintenance, canine kenneling and healthcare, and canine/handler team certification.

   b. Canine/handler team certification plans must equal or exceed certification standards of a certified state or Federal Government law enforcement agency (LEA) canine program.

   c. The handler's organization must maintain and update training, proficiency assessment, seizure, and/or deployment/utilization records for the canine team.

   d. Canine programs under contracts/subcontracts with outside companies/ organizations must meet the above requirements and must be approved by the local ODFSA.

   e. When sites use canine programs that rely upon other LEA to provide canine support, memorandums of agreement must be developed with those agencies, reviewed and updated at least annually, and approved by the local ODFSA.

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ANNEX 4 SECURITY HELICOPTER FLIGHT OPERATIONS

1. PURPOSE. The primary purpose for security helicopter flight operations is to provide timely and effective aerial response to a security incident. DOE security helicopters may be used for response force [i.e., PF, Special Response Team, and Federal, State, and local law enforcement agency personnel] transport, command, control, communications, surveillance, and as a firing platform when required.

2. OPERATIONAL REQUIREMENTS.

   a. General. Helicopters employed in support of security operations provide an airborne dimension to response force capabilities against a threat posed by adversaries who may attempt theft or sabotage of nuclear weapons or special nuclear material (SNM) and/or sabotage of vital facilities and equipment. The decision to use security helicopters is based on site specific considerations with concurrence of the cognizant DOE organization or Administrator, National Nuclear Security Administration (NNSA). Requirements for helicopter operations are covered in DOE O 440.2B, *Aviation Management and Safety*. Site specific security helicopter operational mission requirements must be documented in a site specific Aviation Implementation Plan (AIP). The AIP must be approved by the ODFSA.

   b. Mission Readiness. To meet mission requirements, a security helicopter must be fully operational and ready to respond to a security emergency with a 90 percent availability rate, excluding weather conditions.

   c. Emergency Security Helicopter Operations. During a security incident, helicopters may be employed to transport, insert, and relocate response forces to and from the scene of a security incident or staging area as directed by the senior on scene commander and/or by standard operating procedure. Additional emergency response functions must be fully documented in an AIP and may include, but are not limited to: directed fire; command, control, communications; surveillance; resupply; and support of facility/site protection strategies including recapture, recovery, and fresh pursuit operations.

   d. Routine Security Helicopter Operations. Routine helicopter operations may include the following:

      (1) Pilot proficiency, training, and testing program;

      (2) Training for emergency response, tactical insertion of PF personnel, and observation and pursuit of airborne and ground intruders;

      (3) Site surveillance, search, and observation;

      (4) Transport of PF personnel;

(5) Escort of convoys transporting SNM; and

(6) Command, control, and communications of ground security activities in routine operations.

e. Special Use of Security Helicopters. Such use must be based on site specific mission requirements, which are approved by the ODFSA and documented in an AIP.

3. RULES OF ENGAGEMENT IN USE OF HELICOPTERS AS FIRING PLATFORMS. Firing from a helicopter can be a viable and effective means of supporting security operations, and the AIP may incorporate aerial firing under the following conditions:

a. Authority to include aerial firing in response plans must be granted only following development of site specific rules of engagement that are consistent with DOE policy on the use of force.

b. Firing must be done only by specifically trained and qualified SRT personnel with weapons attached to gun mounts that provide field of fire limitations which protect the aircraft from self inflicted damage.

c. A Safety Analysis Review (SAR) of aerial firing must be completed. The SAR must be reviewed for currency any time aerial firing requirements are changed, but at least every 12 months.

d. The technical and operational procedures and SAR for aerial firing must be submitted in writing to the cognizant DOE safety officer for approval.

e. DOE line management is the final approval authority at each site. Copies of the approved technical and operational procedures for aerial firing must be provided to the Senior DOE Aviation Management Official; the cognizant Departmental element or the Administrator, NNSA; and the Office of Health, Safety and Security.

f. Contractor site specific aerial firing qualification and/or familiarization courses must be developed and submitted, through the ODFSA to the Chief Health, Safety and Security Officer for review and approval.

ATTACHMENT 3 PHYSICAL PROTECTION

This Attachment provides information and/or requirements associated with DOE O 473.3 as well as information and /or requirements applicable to contracts in which the associated CRD (Attachment 1 to DOE O 473.3) is inserted.

This Attachment contains three sections composed of multiple chapters that provide direction for planning, implementing, and monitoring the application of Physical Protection measures. These Sections and their subsequent Chapters describe the mandatory procedures and management process applicable to Departmental operating environments. The layout of this Attachment is as follows:

- Section A includes Chapters I through XI which provide the baseline requirements applicable to all Departmental facilities and sites.

- Section B includes Chapters I through V which provide the requirements applicable to Departmental facilities and sites protecting Category III and IV SNM and protection of classified matter.

- Section C includes Chapters I through X which provide the requirements applicable to Departmental facilities and sites protecting nuclear weapons, components and Category I and II SNM, and protection of classified matter.

- Annex 1 cites the Safeguards and Security Alarm Management and Control Systems (SAMACS) requirements used in the protection of Category I and II quantities at SNM facilities installed and operational after January 1, 2008.

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SECTION A. GENERAL REQUIREMENTS

This Section contains general physical protection requirements for Departmental assets.

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CHAPTER I. PROTECTION PLANNING

1. GENERAL REQUIREMENTS. Section A of this Attachment establishes requirements for the physical protection of all Departmental interests including Departmental property and national safeguards and security (S&S) interests under Department of Energy (DOE) purview. Interests requiring protection range from Government facilities, buildings, property and employees, to national security interests such as classified information, SNM and nuclear weapons. Radiological, chemical, or biological sabotage targets must be provided protection as determined by vulnerability analysis. Select biological agents and toxins are also considered DOE interests. Protection of these select biological agents and toxins are governed by 7 CFR Part 331, *Possession, Use, and Transfer of Select Agents and Toxins*; 9 CFR Part 121, *Possession, Use, and Transfer of Select Agents and Toxins*; 9 CFR Part 122, *Organisms and Vectors*; and 42 CFR Part 73, *Select Agents and Toxins*. Protection of chemical facilities/activities which are considered to present a high risk should consider guidance by 6 CFR Part 27, *Chemical Facility Anti Terrorism Standards*.

   a. Depending on the interest, protection may be required based on best business practices, economic rationale, national security objectives or other rationale.

   b. DOE line management must consider the various Departmental interests and their attractiveness to theft, diversion or sabotage and develop protection requirements using graded protection fundamentals.

   c. Physical protection strategies must be developed, documented, and implemented consistent with the Graded Security Protection (GSP), formerly the Design Basis Threat Policy, and National policy to protect against radiological, chemical, or biological sabotage (see DOE O 470.3B, *Graded Security Protection (GSP) Policy*).

2. PLANNING. The implementation of graded physical protection programs required by this Order must be systematically planned, executed, evaluated, and documented as described by a site security plan (SSP) (see DOE O 470.4B). Physical protection programs must be based on the most recent GSP information and used in conjunction with local threat guidance. The GSP applies to all DOE facilities including those that do not possess classified matter or SNM (see DOE O 470.3B).

   a. Departmental interests must be protected from malevolent acts such as theft, diversion, and sabotage and events such as natural disasters and civil disorder by considering site and regional threats, protection planning strategies, and protection measures.

   b. SNM must be protected at the higher level when roll up to a higher category can occur within a single security area unless the facility has conducted an analysis that determined roll up was not credible.

c. Sites upgrading security measures must consider the benefits provided using security technology by conducting life cycle cost benefit analyses comparing the effectiveness of security technology to traditional manpower based methodologies. However, at Category I and Category II facilities various manpower alternatives to include security technologies must be used to allow protective force personnel to concentrate on the primary mission of protecting nuclear weapons, SNM, and designated high value targets.

3. PERFORMANCE ASSURANCE. Physical protection systems, including components, must be performance tested to ensure overall system effectiveness. The effectiveness of physical protection systems and programs must be determined through performance testing at a frequency determined by the ODSA and in accordance with the Performance Assurance Program. A program of scheduled testing and maintenance must be implemented to ensure an effective, fully functional security system.

4. PHYSICAL PROTECTION SURVEILLANCE EQUIPMENT. If physical protection surveillance equipment is to be used to support the facility's physical protection strategy, it must be identified and its physical protection application must be described in the SSP. Procedures must be developed to prohibit misuse of physical protection surveillance equipment (e.g., video assessment and audio communication/recording equipment).

CHAPTER II. SECURITY AREAS

1. GENERAL REQUIREMENTS. Security areas are established to provide protection to a wide array of S&S interests under the Department's purview, to include nuclear weapons, SNM, classified information, buildings, facilities, Government property, employees and other interests. The security areas described in this Chapter address a graded approach for the protection of S&S interests as well as direction provided through national level standards.

2. GENERAL ACCESS AREAS (GAAs). GAAs may be established to allow access to certain areas with minimum security requirements documented in security plans approved by the ODFSA.

   a. General Requirements. These designated areas are accessible to all personnel including the public. DOE line management should establish security requirements for those areas designated as a GAA.

   b. Posting of General Access Areas. The designated GAA security requirements must be posted to inform all personnel, including the public, that entry into these areas subjects them to the security requirements. The posting should list the security conditions (see 41 CFR Part 102-74 Subpart C).

3. PROPERTY PROTECTION AREAS (PPAs). PPAs are security areas that are established to protect employees and Government buildings, facilities and property. These security areas will be established with security requirementsdocumented in security plans approved by the cognizant security office.

   a. General Requirements. The requirements for PPAs must be configured to protect Government owned property and equipment against damage, destruction, or theft and must provide a means to control public access. Protection may include physical barriers, access control systems, biometric systems, protective personnel or persons assigned administrative or other authorized security duties, intrusion detection systems, locks and keys, etc. The ODSA must designate, describe, and document PPA protection measures within their (SSP).

   b. Signs Prohibiting Trespassing. Warning signs and/or notices must be posted around the perimeter and at entrances to a PPA (see Chapter III). For General Services Administration (GSA) leased buildings and offices, GSA guidance implementing 41 CFR Part 102-74.365 describes the posting requirements.

      (1) Signs listing prohibited articles must be posted at PPA entrances.

      (2) Warning signs and/or notices must be posted at entrances to areas under electronic surveillance advising that physical protection surveillance equipment is in operation.

c. Visitor Processing. Site specific requirements and procedures for receiving visitors must be developed and approved by the ODSA and documented in the SSP.

4. LIMITED AREAS (LAs). LAs are security areas designated for the protection of classified matter and Category III and higher quantities of SNM and to serve as a concentric layer of protection. Specific protection requirements applicable to Category III quantities of SNM are provided in Section B.

a. General Requirements. LA boundaries shall be defined by physical barriers encompassing the designated space and access controls to ensure that only authorized personnel are allowed to enter the LA.

b. Access Control. Access controls must be in place to ensure that only appropriately cleared and authorized personnel are permitted unescorted access to the LA. Access must be based on an individual's need to know to perform official duties, validation of the individual's security clearance, and the presentation of a DOE security badge. Access must be controlled when going from one security area into another security area with increased protection requirements. Where practical, automated access control systems must be used in place of protective force or other authorized personnel to validate the identity and clearance level of each person seeking entry to an LA.

(1) If automated access control equipment is used, a DOE security badge must be used to access the LA.

(2) Entry control points for vehicle and pedestrian access to LA must provide the same level of protection as that provided at all other points along the security perimeter. Additionally, these entry control points must be constructed in such a manner as to preclude bypass.

(3) Exits from LAs must satisfy life safety requirements of National Fire Protection Association (NFPA) 101, *Safety to Life from Fire in Buildings and Structures*. Some exits may be provided for emergency use only.

(a) Security area entrances and exits must be equipped with doors, gates, rails, or other movable barriers that direct and control the movement of personnel or vehicles through designated control points.

(b) Automated gates must be designed to allow manual operation during power outages or mechanism failures.

(c) Site-specific requirements and procedures for receiving visitors must be developed and approved by the ODSA.

(d) Information from visitor logs must be retained in accordance with local records management procedures.

c. Personnel Access. Individuals without a security clearance must be escorted by an authorized person who is to ensure measures are taken to prevent a compromise of classified matter.

(1) Escort Ratios. The ODSA must establish escort to visitor ratios in a graded manner for each LA or above security area. This decision must be documented in the SSP.

(2) Escort Responsibilities. Any person permitted to enter a LA or above who does not possess a security clearance at the appropriate level must be escorted at all times by an appropriately cleared and knowledgeable individual trained in local escort procedures.

(a) Escorts must ensure measures are taken to prevent compromise of S&S interests.

(b) The escort must ensure the visitor has a need to know for the security area or the S&S interests.

(3) Automated Access Control Systems. Automated access control systems may be used if the following requirements are met.

(a) Automated access controls used for access to a security area must verify that the security clearance and the DOE security badge are valid (i.e., that the badge data read by the system match the data assigned to the badge holder). Badges may be validated by means of a personal identification number (PIN) or other approved means as stipulated in the SSP.

(b) When remote, unattended, automated access control system entry control points are used for access to LA and above security areas, the barrier must be resistant to bypass. The unattended entry control point should have closed-circuit television system coverage.

(c) Automated control system alarms (e.g., annunciation of a door alarm, duress alarm, tamper alarm, or anti-passback indication feature) must be treated as an intrusion alarm for the area being protected.

(d) Personnel or other protective measures are required to protect card PINs, card reader access transactions, displays (e.g., badge-encoded data), and keypad devices. The process of inputting,

storing, displaying, or recording verification data must ensure the data are protected in accordance with the SSP.

(e) The system must record all attempts at access to include unsuccessful, unauthorized, and authorized.

(f) Door locks opened by badge readers must be designed to relock immediately after the door has closed.

(g) Transmission lines that carry security clearance and personal identification or verification data between devices/equipment must be protected in accordance with the SSP.

(h) Records reflecting active assignments of DOE security badges, PINs, security clearance, and similar system-related records must be maintained. Records of personnel removed from the system must be retained for 1 year, unless a longer period is specified by other requirements. Personal data must be protected (see 5 U.S.C. 552a).

(i) Badge reader boxes, control lines, and junction boxes must have line supervision or tamper indication or be equipped with tamper resistant devices. Data Gathering Panels/Field processors or multiplexers and other similar equipment must be tamper alarmed or secured by a means that precludes surreptitious tampering with the equipment.

(j) Uninterruptable power supply or compensatory measures must be provided at installations where continuous operation is required.

d. Vehicle Access.

(1) Government owned or leased vehicles may be admitted only when on official business and only when operated by properly cleared and authorized drivers.

(2) The approval process for non Government vehicles, which includes privately owned, to access LAs must be documented in the SSP.

(3) The SSP must identify procedures for inspection of, and access by, service and delivery vehicles. Factors to be considered are vehicle identification, identification of owner/operator and provision for various technologies to include vehicle navigation systems, cell phones and back-up cameras.

(4) All personnel within a vehicle are required to produce DOE security badges when accessing an LA and comply with individual LA procedures.

(5) When a remote automated access control system is used for vehicle access control, it must verify that the operator or the escort has a valid DOE security badge (e.g., the badge data read by the system must match the data assigned to the badge holder). The unattended entry control point should have closed-circuit television system coverage.

e. Signs. Signs must be posted to convey information on the prohibited and controlled articles; the inspection of vehicles, packages, hand carried items, and persons entering or exiting the security area; the use of video surveillance equipment; and trespassing (see 42 U.S.C. Section 2278a). The decision on the signage and posting rests with the ODFSA and the requirements cited in federal statutes and regulations (see Chapter III).

5. SPECIAL DESIGNATED SECURITY AREAS. Other areas with access restrictions include Central Alarm Stations (CASs), secondary alarm stations (SASs), Sensitive Compartmented Information Facilities (SCIFs), Special Access Program Facilities (SAPFs), classified conferencing rooms, secure communications centers, and automated information system centers.

a. Special Access Programs (SAPs). The technical requirements for SAPs are identified in DOE O 471.6, *Special Access Program*.

b. Alarm Stations. Security system requirements are described in Section B, Chapter II.

c. Sensitive Compartmented Information Facilities. DOE follows the requirements in Intelligence Community Standard (ICS) 705-1, Physical and Technical Security Standards for Sensitive Compartmented Information Facilities, dated 9-17-2010.

d. Other Designated Security Alarm Stations. If response to an alarm activity by local law enforcement agency/security personnel is permitted, then the alarm company/service must meet the specifications contained in Underwriters Laboratories (UL) Standard 827, *Standard for Central Station Alarm Services*.

e. Classified Conferencing Areas, Secure Communications Centers and Automated Information System Centers. (For the purpose of this requirement, areas, centers, and facilities are the locations where a specific activity takes place).

(1) Classified information is to be protected in conformance with DOE Information Security policy (see DOE O 471.6) which gives guidance for Information Security.

(2) Separate access controls and barriers must be established to restrict access to only persons employed in secure communication and automated information centers handling classified information or otherwise requiring access to perform their official duties.

(3) Security clearances consistent with the highest level and category of classified information handled are required for all persons assigned to or having unescorted access to the above centers. A list of persons who have authorized access must be maintained within the center, and a record must be maintained of all visitors entering the facility.

(4) The design of automated information system centers and remote interrogation points that process classified information must consider the following:

(a) Establishment of a control zone consisting of the area above, below, and around equipment and distribution systems that have been inspected and are to be kept under physical and technical control to prevent unauthorized access, is required.

(b) Separate access controls and barriers. When contained within a larger designated security area, automated information system centers and remote interrogation points used to process classified information must have separate access controls and barriers.

(5) The selection of conferencing facilities for the conduct of classified meetings, and teleconferencing must conform to Information Security policy (see DOE O 471.6).

6. PROHIBITED AND CONTROLLED ARTICLES. Authorization for prohibited articles to be used for official Government business must be documented in a SSP. The articles listed below will not be permitted onto DOE property without appropriate authorization.

a. Prohibited Articles. Prohibited articles include items such as:

(1) explosives,

(2) dangerous weapons,

(3) instruments or material likely to produce substantial injury to persons or damage to persons or property,

(4) controlled substances (e.g., illegal drugs and associated paraphernalia but not prescription medicine), and

(5) other items prohibited by law. Specific information covering prohibited items may be found under the provisions of 10 CFR Part 860 and 41 CFR Part 102-74 Subpart C.

b. Controlled Articles.

(1) Controlled articles such as portable electronic devices, both Government and personally owned, capable of recording information or transmitting

data (e.g., audio, video, radio frequency, infrared, and/or data link electronic equipment) are not permitted in limited areas (LAs), protected areas (PAs), and material access areas (MAAs), without prior approval. The approval process must be documented in the SSP.

NOTE: Government owned computer systems which are part of the day to day operations are exempt from the requirement. The ODFSA must specify the equipment to be exempted from the approval process.

(2) Sites are to develop procedures to account for, control, and limit all controlled articles entering specified security areas. These procedures must be approved by the ODFSA.

(a) For application to SCIFs the ICS 705-1 Physical and Technical Security Standards for Sensitive Compartmented Information Facilities, dated 9-17-2010, program guidance must be implemented.

(b) For SAPFs, the programmatic policy addressing Controlled Articles, would be issued by the Special Access Program Administrator (see DOE M 471.6, *Special Access Program*).

(c) Office of Secure Transportation Federal Agents, DOE protective personnel, and other Federal agents and Local Law Enforcement Officials with jurisdiction, whose duties routinely require the carrying and operation of controlled articles, are exempt from this requirement unless a safety reason exists to prohibit certain communication devices, e.g., cellular telephones, transceiver radios and other electronic radiating/emitting devices. If such a prohibition exists, it is to be documented in specific agreements between the site and Federal agency.

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CHAPTER III. POSTING NOTICES

1. GENERAL REQUIREMENTS. Signs must be posted at facilities, installations, and real property based on the need to implement Federal statutes protecting against degradation of S&S interests.

2. TRESPASSING. DOE property must be posted according to statutes, regulations, and the administrative requirements for posting specified in this Attachment.

   a. Statutory and Regulatory Provisions.

      (1) Section 229 of the *Atomic Energy Act of 1954 as amended* (42 U.S.C. 2278a) as implemented by 10 CFR Part 860, prohibits unauthorized entry and unauthorized carrying, transporting, or otherwise introducing or causing to be introduced any dangerous explosives, or other dangerous instrument or matter likely to produce substantial injury to persons or damage to property into or upon any facility, installation, or real property subject to the jurisdiction, administration, or in the custody of DOE. The statute provides for posting the regulations and penalties for violations.

      (2) Section 662 of the *DOE Organization Act* (42 U.S.C. 7270b), as implemented by 10 CFR Part 1048, prohibits unauthorized entry upon and unauthorized carrying, transporting, or otherwise introducing or causing to be introduced, any dangerous instrument or material likely to produce substantial injury to persons or damage to property into or onto the Strategic Petroleum Reserve, its storage or related facilities, or real property subject to the jurisdiction, administration, or custody of DOE. The statute provides for posting the regulations and penalties for violations.

      (3) Public Law 566, 80th Congress of June 1, 1948 (40, U.S.C. 318); and the *Federal Property and Administrative Services Act of 1949* (title 63, United States Statutes at Large, 377 as amended) provide the rules and regulations governing public buildings and grounds under the charge and control of the GSA. 41 CFR 102-74.365 Subpart C governs entry to public buildings and grounds under the charge and control of the GSA.

      (4) Signs prohibiting trespassing must be posted around the perimeter and at each entrance to a security area except when one security area is within a larger, posted security area. The distance between signage is to be determined by the ODSA.

   b. Posting Proposals. Requirements for the administration of posting proposals are as follows:

(1) Conditions. Proposals for the posting of facilities, installations, or real property, or amendment to or revocation of a previous proposal must be submitted when one of the following occurs.

(a) The property is owned by or contracted to the United States for DOE use.

(b) The property requires protection under the *Atomic Energy Act of 1954* and/or of the *DOE Organization Act*.

(c) A previous notice needs to be amended or revoked.

(2) Contents.

(a) Each posting proposal must include the name and specific location of the installation, facility, or real property to be covered and the boundary coordinates. If boundary coordinates are not available, the proposal must include a description that will furnish reasonable notice of the area to be covered, which may be an entire area or any portion thereof that can be physically delineated by the posting indicated in paragraph 2c below.

(b) Each proposal for amendment or revocation must identify the property involved, state clearly the action to be taken (i.e., change in property description, correction, or revocation), and contain a new or revised property description, if required.

c. Posting Requirements.

(1) Upon approval by the Office of Health, Safety and Security, with concurrence by the Office of General Counsel, a notice designating the facility, installation, or real property subject to the jurisdiction, administration, or in the custody of DOE must be published in the Federal Register. The notice is effective upon publication, providing the notices stating the pertinent prohibitions and penalties are posted (see 10 CFR Part 860.7).

(2) Property approved by the Office of Health, Safety and Security must be posted at entrances and at such intervals along the perimeter of the property to ensure notification of persons about to enter. Signs must measure at least 11 by 14 inches (28 x 36 centimeters).

(3) The signs should be configured with a white or yellow background and black lettering. Signs that notify of the use of deadly force should use a white background with red lettering for the words “WARNING USE OF DEADLY FORCE AUTHORIZED.” The remaining words should be in black.

(4) Placement of signs on fences must not interfere with the function of fence mounted intrusion detection systems (IDS). If the signage interferes with the IDS or closed-circuit television coverage, it could be mounted on posts outside the fenced area.

NOTE: The signage should be mounted so that it is easily discernable, midway between fence posts, at approximately 40 to 50 foot (12.1 to 15.1 meter) intervals.

d. Notification to the Federal Bureau of Investigation. Notification, by the program office exercising jurisdiction over the site/facility, of the date of posting, relocation, removal of posting, or other change, and the identity of the property involved must be furnished to the applicable office of the Federal Bureau of Investigation exercising investigative responsibility over the property.

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CHAPTER IV. LOCKS AND KEYS

1. GENERAL REQUIREMENTS. A program to protect and manage locks and keys must be established by the ODSA. The lock and key program must be applied in a graded manner based on the S&S interests being protected, identified threat, existing barriers, and other protection measures afforded these interests. Security locks and keys are devices used to secure movable barriers and can include electrical or mechanical locks and keys, key cards, access codes, and other non-standard locking type devices. Security locks and keys do not include administrative or privacy lock keys to factory installed file cabinet locks, desk locks, toolboxes, etc.

   a. The organization responsible for security locks and keys must report to the ODSA.

   b. The use and protection strategy for grand master, master, sub-master, and control keys must be evaluated and documented in the SSP.

2. CATEGORIES. Security keys and locks are divided into four levels, Levels I through IV. These levels are based on the S&S interest being protected and upon a site analysis. Non security locks and keys are considered Administrative. The ODSA must determine the appropriate level for application to the site. Facilities that do not possess nuclear weapons, weapons components, SNM, classified matter, and high value government property should follow the requirements established for Level III and Level IV locks and keys.

   a. Level I. Security locations such as vaults, vault type rooms, material access areas which store nuclear weapons and Category I and Category II that roll up to a Category I quantity of SNM, sensitive compartmented information facilities, and where Top Secret and/or Secret documents are stored require Level I security locks and keys.

   b. Level II. Building doors, entry control points, gates in PAs, fences, doors or other barriers or containers protecting Category II and Category III SNM and Confidential classified matter require Level II security locks and keys.

   c. Level III. Buildings, gates in fences, cargo containers, and storage areas protecting Category IV SNM, and government property whose loss would adversely impact security and/or site/facility operations require Level III security locks and keys.

   d. Level IV. Buildings where no classified matter or SNM is in use or stored require Level IV security locks and keys.

   e. Administrative Keys. Desk, office supply cabinets and vehicle keys are not considered security keys and have no control or accountability requirements based on the cognizant security offices guidance. Keys to certain vehicles identified in

the sites vulnerability analysis as a particular security concern will require added protection.

3. LOCK AND KEY STANDARDS. Key locksets must meet American National Standards Institute (ANSI) Standard A156.2 1996, Grade 1, *Bored and Preassembled Locks and Latches*, or ANSI A156.13 1996, Grade 1, *Mortise Locksets*.

b. Locks used in the protection of classified matter and Categories I and II SNM (e.g., security containers, safes, vaults) must meet Federal Specification FF-L-2740A Amendment 1, *Locks, Combination*.

c. All security locks securing containers, vaults, and vault type rooms placed into service after July 14, 1994 must have a lock that meets Federal Specification FF-L-2740A Amendment 1, *Locks, Combination*.

d. Combination padlocks must meet Federal Specification FF-P-110J, *Padlock, Changeable Combination*, and standards cited in 41 CFR Part 101, *Federal Property Management Regulations*. These padlocks may be used with the lock bars securing metal filing cabinets.

NOTE: These padlocks conform to the standards set forth in National Security Council Directive governing the classification, downgrading, declassification and safeguarding of national security information.

e. Security key padlocks must meet the following specifications:

(1) High security, shrouded shackle, key operated padlocks must meet standards in Military Specification MIL DTL 43607H, *Padlock, Key Operated, High Security, Shrouded Shackle*. High security padlocks are approved to secure Category I and II SNM and Top Secret and/or Secret matter and are identified as a Level I.

(2) Low security, regular (open shackle, key operated padlocks) must meet the classes and standards in Commercial Item Description A-A-59486B and A-A- 59487B. The ODSA must determine low security padlock usage based upon the site analysis conducted on the security interest being protected.

(3) Lock bars used to secure file cabinets containing classified information must be 1¼ inches (31.75 millimeters) by 3/16 inch (4.76 millimeters) or equivalent in cross section and constructed of rigid metal material.

NOTE: Securing file cabinets with locking bars will not be acceptable after October 1, 2012.

(4) Hasps and yokes on containers storing classified matter must be constructed of steel material, be at least ¼ inch (6.35 millimeters) in

diameter or equivalent cross section, and be secured to the container by welding, or riveting, to preclude removal.

(5) General field service padlock is a heavy duty, exposed shackle lock that meets Federal Specification FF-P-2827A Notice 1. The key operated padlock is designed for non high security application where there is exposure to grit and corrosive or freezing environments. The ODSA must determine general field service padlock usage based on a site analysis conducted on the security interest being protected.

f. Panic hardware or emergency exit mechanisms used on emergency doors located in security areas must be operable only from inside the perimeter and must meet all applicable Life Safety Codes.

4. INVENTORY. An inventory system must be implemented to ensure the accountability of Levels I, II, and III security locks, keys, key rings, key ways, and pinned cores.

a. The inventory system must be approved by the ODSA and documented in the SSP. The inventory system must track the fabrication, issuance, return, replacement, and/or destruction of all Level I, II, and III security locks and keys.

(1) Duplicate and replacement keys must not have the same key number assigned as the key being replaced or duplicated.

(2) Inventory records must also include sufficient detail as to identify locks and keys in possession of individual custodians, issuance stock, and keys assigned to key rings/key cabinets. The inventory record must include the list of the locations of locks that each key will open.

b. There must be a 100 percent inventory of all Level I security locks and keys on a semi-annually basis by the responsible organization.

c. There must be a 100 percent inventory of all Levels II and III locks and keys on an annual basis by the responsible organization.

d. Key rings for Level I and II must have a unique identifying number placed on the ring.

e. When a Level I security key is unaccounted for, immediate notification must be made to the ODSA, compensatory measures must be immediately initiated, and an incident of security concern inquiry must be completed. If the key cannot be located within 24 hours, the affected lock must be changed.

f. Level IV locks and keys have no inventory requirement.

g. Sites must have documented procedures for key turn in when personnel or programs are terminating or when an individual no longer has a need for the key.

5. LEVEL I SECURITY KEYS AND LOCKS.

a. Level I key blanks must be restricted/proprietary; specifically, the blank must be unique to the site (e.g., it does not use a commercially available master key blank).

b. Once they are put in service inside a security area, Level I security locks and keys must not leave the security area without authorization as described in the SSP. Any key that leaves the security area without authorization shall be considered unaccounted for and reported as lost.

c. Storage of Level I security locks and keys must be approved by the ODSA and documented in the SSP. When not in use, Level I security locks and keys must be stored in a GSA approved repository or vault type room.

d. Sites must conduct and document an assessment of duties for possible enrollment of locksmith personnel into the DOE Human Reliability Program (10 CFR Part 712).

e. Any installation, replacement, or maintenance activities associated with Level I security locks must be documented to include the name of a person who performed the activity.

f. The number of Level I keys must be kept to an operational minimum.

g. Level I keys must be on a separate key ring from all other levels of keys.

h. All parts of broken Level I security keys should be recovered. If the functional part of the key (the blade) is lost or not retrievable, it must be reported as a lost/missing key.

i. Obsolete, damaged, or inoperative Level I keys must be destroyed in a manner authorized by the ODSA and the destruction recorded.

j. In order for corrective actions to be taken quickly after an incident involving the loss, theft, or destruction of a Level I lock or key, a risk assessment and compensatory measures must be pre established and documented.

6. LEVEL II SECURITY KEYS AND LOCKS.

a. Access to the Level II security locks and keys must be controlled and limited to authorized personnel.

b. Storage of Level II security locks and keys must be approved by the ODSA and documented in the SSP. When not in use, Level II security locks and keys must be stored in a GSA approved repository or vault type room.

c. The number of Level II keys must be kept to an operational minimum.

d. Level II locks and keys once put into service must not leave the site without ODSA approval.

e. All parts of broken Level II security keys should be recovered; if the functional part of the key (the blade) is lost or not retrievable, it must be reported as a lost/missing key.

f. Obsolete, damaged, or inoperative Level II keys must be destroyed in a manner authorized by the ODSA and such destruction recorded.

g. Incidents involving Level II keys and locks must be reported.

7. LEVEL III SECURITY KEYS AND LOCKS.

a. All parts of broken Level III security keys should be recovered; if the functional part of the key (the blade) is lost or not retrievable, it must be reported to the ODSA.

b. Obsolete, damaged, or inoperative Level III keys must be destroyed in a manner authorized by the ODSA and such destruction recorded.

c. Site specific procedures must be developed for the control of Level III security locks and keys and be approved by the ODSA.

d. Incidents involving Level III keys and locks must be reported.

8. LEVEL IV SECURITY KEYS AND LOCKS. Site specific procedures must be developed for the control of Level IV security locks and keys and be approved by the ODSA.

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CHAPTER V. MAINTENANCE

1. GENERAL REQUIREMENTS. Security related subsystems and components must be maintained in operable condition. A regularly scheduled testing and maintenance program must be established and documented.

2. CORRECTIVE MAINTENANCE. Corrective maintenance must be performed on site determined essential and non essential system elements.

   a. Compensatory Measures. Compensatory measures must be implemented immediately when any part of an essential system element protecting vital equipment, Top Secret matter, SNM, SCI or SAP interests is out of service. Compensatory measures must be continued until maintenance is complete and the system element is back in service.

   b. Corrective Maintenance within 24 Hours. Corrective maintenance must be initiated within 24 hours of receiving a report that there has been a malfunction of a site determined essential system element protecting vital equipment, Top Secret matter, SCI or SAP interests.

   c. Corrective Maintenance within 72 Hours. Corrective maintenance must be initiated within 72 hours of detection of a malfunction for all other system elements protecting, vital equipment, Top Secret matter SCI or SAP interest.

   d. Other Corrective Maintenance. Corrective maintenance procedures for systems protecting Secret or Confidential matter must be approved by the ODFSA and prescribed in site operation procedures.

   e. Non Essential System Maintenance. For non critical system elements, the ODFSA must approve compensatory measure implementation procedures.

   f. Security Related Equipment. Security related equipment must be performance tested prior to be put back into service.

3. PREVENTIVE MAINTENANCE. Preventive maintenance must be performed on S&S related subsystems and components in accordance with manufacturers' specifications and/or local procedures. Remote maintenance of active systems shall not be performed by uncleared personnel.

4. MAINTENANCE PERSONNEL SECURITY CLEARANCES. Personnel who test, maintain, or service essential system elements must have security clearances consistent with the S&S interest being protected.

   a. Security clearances are not required when testing and maintenance are performed as bench services away from the security area.

b. Systems or essential system elements bench tested or maintained away from the security area by personnel without the appropriate security clearances must be inspected and operationally tested by qualified and cleared personnel before being returned to service.

c. Personnel who test, maintain, or service non essential system elements must have security clearances consistent with the S&S interest being protected as determined by the ODSA.

5. TESTING AND MAINTENANCE OF SCREENING EQUIPMENT. Screening equipment can include explosive detectors, metal detectors, and x-ray systems and must be capable of detecting prohibited and controlled articles before being permitted into DOE facilities.

a. The following should be used as standard test weapons for metal detectors or the site must implement the performance testing procedures and test objects cited in Sections 5.1, 5.2 and the portion of 5.3 of NIJ Standard 0601.02, *Law Enforcement and Corrections Standards and Testing Program*, relating to nonferromagnetic stainless steel knives:

(1) steel and aluminum alloy .25 caliber automatic pistol manufactured in Italy by Armi Tanfoglio Giuseppe, sold in the United States by Excam as Model GT27B and by F.I.E. as the Titan (weight: about 343 grams); or

(2) aluminum, model 7, .380 caliber Derringer manufactured by American Derringer Corporation (weight: about 200 grams); and

(3) stainless steel 0.22 caliber long rifle mini revolver, manufactured by North American Arms (weight: about 129 grams).

b. X-ray machines may be used to supplement metal detectors and protective personnel hand searches for prohibited and controlled articles.

(1) X-ray machines must provide a discernable image of prohibited and controlled articles.

(2) X- ray machines must image an unobstructed (discernable) set of wires and other objects as described in American Society for Testing and Materials (ASTM) standard for test objects (see ASTM Standard F792-08, *Standard Practice for Evaluating the Imaging Performance of Security X-ray Systems*).

c. Equipment that has been powered off or left unattended must be tested to ensure proper performance.

6. RECORD KEEPING.

a. Record of the failure and repair of all communication equipment must be maintained so that type of failure, unit serial number, and equipment type can be compiled.

b. Testing and maintenance records must be retained in accordance with the requirements of approved records management procedures.

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CHAPTER VI. BARRIERS

1. GENERAL REQUIREMENTS. Physical barriers serve as the physical demarcation of the security area. Barriers such as fences, walls, and doors or activated barriers must be used to deter and delay unauthorized access. At a minimum, an analysis is required of high consequence security areas to determine the protection measures against Vehicle Borne Improvised Explosive Devices (VBIEDs). Barriers may be used to support the prevention of standoff attacks.

    a. Barriers must be used to direct the flow of personnel and vehicular traffic through designated entry control points to permit efficient operation of access controls and entry point inspections and to provide the ability to identify and engage adversaries along all feasible pathways.

    b. Entry control points must be designed to provide a barrier resistant to bypass.

    c. Permanent barriers must be used to enclose security areas, except during construction or temporary activities, when temporary barriers may be erected.

    d. Barriers such as fences, walls, and doors may be used to identify the boundary of the property protection area and to provide protection. Barriers must be capable of controlling, impeding, or denying access to a security area.

    e. Fences used should be installed no closer than 20 feet (6 meters) from the building or S&S interest being protected.

2. PENETRATION OF SECURITY AREA BARRIERS. Penetration of security area barrier requirements includes the following.

    a. Elevators that penetrate a security area barrier must be provided with an access control system that is equivalent to the access control requirements for the security area being penetrated.

    b. Utility corridors that penetrate security area barriers must provide the same degree of penetration resistance as the barriers they penetrate.

    c. Objects that intruders could use to scale or bridge barriers and enter security areas must be removed or secured to prevent their unauthorized use.

    d. If a security area configuration is altered, barriers must be erected (e.g., during construction or temporary activities), and at a minimum, a risk assessment must be conducted to validate equivalent protection measures.

    e. The barrier design must consider proximity to buildings or overhanging structures.

3. HARDWARE. Screws, nuts, bolts, hasps, clamps, bars, wire mesh, hinges, and hinge pins must be fastened securely to preclude removal and to ensure visual evidence of tampering. Hardware accessible from outside the security area must be peened, brazed, or spot welded to preclude removal or the area must be otherwise secured by use of tamper resistant hardware (e.g., non removable hinge pins) or by other means as described in the SSP.

NOTE: These requirements do not apply to fencing.

4. FENCING. When used to protect security areas designated as LAs or higher, fencing must meet the following requirements.

a. Fencing Materials and Specifications.

(1) Chain link fabric consisting of a minimum of No. 11 American Wire Gauge (AWG) or heavier galvanized steel wire with mesh openings not larger than 2 inches (5.08 centimeters) on a side must be used at security areas. This fencing must be topped by three or more strands of barbed wire single or double outriggers. Double outriggers may be topped with coiled barbed wire (or with a barbed tape coil). The direction of the outrigger is at the discretion of the ODSA.

(2) Overall fence height, excluding barbed wire or barbed tape coil topping, must be a minimum of 7 feet (2.13 meters).

(3) Fence lines must be kept clear of vegetation, trash, equipment, and other objects that could impede observation or facilitate bridging.

(4) Gate hardware that if removed would facilitate unauthorized entry must be installed in a manner to mitigate tampering and/or removal (e.g., by brazing, peening, or welding).

(5) Posts, bracing, and other structural members must be located on the inside of security fences.

(6) Wire ties used to fasten fence fabric to poles must be of equal tensile strength to that of the fence fabric.

b. Permanent Security Fencing. When permanent fencing is used to enclose LAs or higher, fencing must meet the following construction requirements.

(1) Areas under security fencing subject to water flow, such as bridges, culverts, ditches, and swales, must be blocked with wire or steel bars that provide for the passage of floodwater but also provide a penetration delay equal to that of the security fence.

(2) Depressions where water flow is not a problem must be covered by additional fencing suspended from the lower rail of the main fencing.

(3) Fencing must extend to within 2 inches (5.08 centimeters) of firm ground or below the surface if the soil is unstable or subject to erosion.

(a) Surfaces must be stabilized in areas where loose sand, shifting soils, or surface waters may cause erosion and thereby assist an intruder in penetrating the area.

(b) Where surface stabilization is impossible or impractical, concrete curbs, sills, or a similar type of anchoring device extending below ground level must be provided.

(4) Alternate barriers may be used instead of fencing if the penetration resistance of the barrier is equal to or greater than security fencing specified in this chapter.

c. Temporary Security Fencing. Temporary barriers may be of any height and material that effectively impedes access to the area. During construction or temporary activities, security fencing must be installed to:

(1) exclude unauthorized vehicular and pedestrian traffic from the security area site,

(2) restrict authorized vehicular traffic to designated access roads, and

(3) comply with site specific protection goals and operational requirements.

5. PERIMETER BARRIER GATES. Controls for motorized gates used for entry control points must be located within protective force posts or other locations as described in the SSP. Motorized gates must be designed to facilitate manual operation during power outages.

6. EXTERIOR WALLS. Walls that constitute exterior barriers of security areas must extend from the floor to the structural ceiling unless equivalent means are used to provide evidence of penetration of the security area or access to the security interest being protected.

7. CEILING AND FLOORS. Ceilings and floors must be constructed of building materials that offer penetration resistance to, and evidence of, unauthorized entry into the area.

8. DOORS. Doors, door frames, and door jambs associated with walls serving as barriers must provide the necessary barrier delay required by the SSP. Requirements include the following.

a. Penetration Resistance Doors. Doors with transparent glazing material must offer penetration resistance to, and evidence of, unauthorized entry into the area. Doors that serve exclusively as emergency and evacuation exits from security areas must:

(1) not be accessible from outside the security area; and

(2) comply with NFPA 101.

b. Astragals or Mullions. An astragal or mullion must be used where doors used in pairs meet. Door louvers, baffles, or astragals/mullions must be reinforced and immovable from outside the area being protected.

c. Visual Access. A sight baffle must be used if visual access is a factor.

9. WINDOWS. The following design requirements must be applied to security windows when used as physical barriers.

a. Windows must offer penetration resistance to, and evidence of, unauthorized entry into the area.

b. Frames must be securely anchored in the walls and windows locked from the inside or installed in fixed (non operable) frames so the panes are not removable from outside the area under protection.

c. Visual barriers must be used if visual access is a factor.

10. MISCELLANEOUS OPENINGS. The following requirements apply to security areas other than GAAs and PPAs. The application to GAAs and PPAs is at the discretion of the ODSA based on a risk assessment.

a. Utility and Other Barrier Penetrations and Openings. Physical protection features must be implemented at all locations where miscellaneous openings occur, such as where storm sewers, drainage swales, and site utilities intersect the security boundary or area. Miscellaneous openings/penetrations must be sealed/filled or constricted barriers applied to deter and/or prevent a determined threat. In those instances where a potential audio/video surveillance threat could occur within conference rooms and other similar facilities approved for classified discussions the provisions of DOE O 471.6 should be implemented.

b. Criteria. Barriers or alarms are required for all miscellaneous openings for which:

(1) the opening is larger than 96 square inches (619.20 square centimeters) in area and larger than 6 inches (15.24 centimeters) in the smallest dimension and/or the opening is located within 18 feet (5.48 meters) of the ground, roof, or ledge of a lower security area;

(2) the opening is located within 14 feet (4.26 meters) diagonally or directly opposite a window, fire escape, roof, or other opening in an uncontrolled adjacent building;

(3) the opening is not visible from another controlled opening in the same barrier; or

(4) the opening is below a perimeter barrier, which is part of a utility tunnel, pipe chase, exhaust ducts or air handling filter banks penetrating the building, facility, or site.

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CHAPTER VII. COMMUNICATIONS, ELECTRICAL POWER AND LIGHTING

1. COMMUNICATIONS. Communications equipment must be provided to facilitate reliable information exchanges between protective force personnel. Security system transmission lines and data must be protected in a graded manner from tampering and substitution.

   a. Loss of Primary Power. Systems must remain operable during the loss and recovery of primary electrical power.

   b. Communication Systems. Protection system communications must support two vital functions: alarm communication/display and protective force (PF) communications. PF communications include the procedures and hardware that enable officers to communicate with each other.

   c. Recording of Communication. A continuous electronic recording system must be provided for all security radio traffic and telecommunications that provide support to the Protective Force. The recorder must be equipped with a time track and must cover all security channels. Sites must ensure that systems comply with all local and national level requirements for consensual listening. The heads of Departmental Elements or their Federal designees, in consultation with Counsel, may determine whether consensual listening is appropriate for certain security operations if it is found to be necessary, may approve local procedures for such activities. Approved procedures must be in conformance with all applicable Federal, State, and Local statutes and must contain carefully articulated procedures, including periodic review, meeting Federal statutory guidance [e.g., United States Code, Title 18, Part I, Chapter 119, section 2511(2)(d)], applicable State and Local laws, and current DOE directives. Additionally, copies of approval documentation must be sent to the Office of Policy.

2. ELECTRICAL POWER. Power supply elements located or operating within the confines of the site should be protected from malicious physical attacks based on a documented local site determination of impact. The site must determine the need for auxiliary power based on other safeguards and security interests being protected and document it in the SSP.

3. LIGHTING. Lighting systems must allow for detection and assessment of unauthorized persons. Protective system lighting must:

   a. enable assessment of unauthorized activities and/or persons at pedestrian and vehicular entrances and allow examination of DOE security badges and inspections of personnel, hand carried items, packages, and vehicles;

   b. be positioned so that PF personnel are not spotlighted, blinded, or silhouetted by the lights, and the lighting placement and design should enhance, not minimize, PF night vision capabilities;

c. ensure that compensatory measures identified in the SSP are implemented when the lighting system fails;

d. be maintained and tested in accordance with locally approved procedures;

e. not illuminate patrol paths or PF personnel manning fixed posts other than at entry control points;

f. illuminate the area outside the fence line or barrier so that it will expose anyone approaching the coverage area and limit the vision of anyone outside of the fence or barrier;

g. complement the electro optical/closed circuit television (CCTV) assessment systems;

h. illuminate the area within the fence/barrier boundary or the exterior of a building;

i. be configured so that an intruder cannot defeat the system by easily gaining access to the lighting controls and turning off the system; and

j. allow for the rapid and reliable assessment of alarms from either the CCTV system or PF personnel.

CHAPTER VIII. SECURE STORAGE

1. GENERAL REQUIREMENTS.

a. Secure Storage. The storage requirements for classified matter can be found in Information Security policy (see DOE O 471.6).

b. Access Controls. Access to vaults and vault-type rooms (VTRs) must be strictly controlled and based on an appropriate security clearance and need to know. Persons without need to know and the appropriate security clearance must be escorted at all times.

(1) Protective measures to mask classified matter must be used before visitors or cleared persons without need to know receive access.

(2) Means of controlling access must be documented in an SSP.

(3) Access controls at vaults and VTRs must provide logging or recording of all personnel entries and exits including visitors. Logged or recorded entries must include the identification/name and date/time of entry and exit of the individual and the escort as required.

(a) In vaults and VTRs where entering personnel are restricted from access (e.g., a foyer) to SNM or classified matter, logging entry and exit is not required.

(b) The ODFSA may waive the requirement for repeated logging for personnel whose offices are located within the boundary of the vaults and VTRs. Initial daily entry and final daily exit logging are required.

c. Miscellaneous Openings. Any miscellaneous openings of a size and shape to permit unauthorized entry [larger than 96 square inches (619.2 square centimeters) in area and more than 6 inches (15.24 centimeters) in its smallest dimension] must be equipped with barriers such as wire mesh, 9 gauge expanded metal, or rigid steel bars at least 0.5 inches (1.3 centimeters) in diameter secured in a way to prevent unauthorized removal e.g., welded vertically and horizontally 6 inches (15.24 centimeters) on center. The rigid steel bars must be securely fastened at both ends to preclude removal. Where used, wire mesh, expanded metal, or rigid steel bars must be mounted so that classified matter or SNM cannot be removed. When pipe or conduit pass through a wall, the annular space between the sleeve and the pipe or conduit must be filled to show evidence of surreptitious removal.

2. VAULTS AND VAULT TYPE ROOMS. The standards required for construction of vaults and vault type rooms, other than GSA approved modular vaults, apply to all new construction, reconstruction, alterations, modifications and repairs.

Vault construction standards must comply with Federal Standard 832, *Construction Methods and Materials for Vaults*.

Vault type room construction standards must comply with the requirements of this Order. The ODSA must approve all construction types and the methods used before the storage of classified matter or S&S interests is authorized.

a. Vaults. A vault must be a penetration resistant, windowless enclosure that has doors, walls, floor, and roof/ceiling designed and constructed to significantly delay penetration from forced entry and equipped with intrusion detection system devices on openings allowing access. The material thickness must be determined by the requirement for forcible entry delay times for the safeguards and security interest stored within but must not be less than the delay time provided by a minimum 8 inch (20.32 centimeters) thick reinforced concrete poured in place, with a minimum 28 day compressive strength of 2,500 pounds per square inch (17,237 kilopascal). Technologies such as activated barriers or passive/active denial systems may be used in lieu of thicker concrete when analysis indicates that delay times exceeding that of 8 inch (20.32 centimeters) thick reinforced concrete are required. The site's analysis of protection measures used must be documented in its site security plan. For new vault construction, Federal Standard 832, *Federal Standard Construction Methods and Materials for Vaults*, must be used.

(1) Vault Door. A vault door and frame must meet the GSA's highest level of penetration resistance. The lock on the door must be a minimum of a GSA approved lock.

(2) Wall Penetrations. Any miscellaneous openings of a size and shape to permit unauthorized entry [larger than 96 square inches (619.2 square centimeters} in area and more than 6 inches (15.24 centimeters) in its smallest dimension] must be equipped with barriers such as wire mesh, 9 gauge expanded metal or rigid steel bars at least 0.5 inches (1.3 centimeters) in diameter secured in a way to prevent unauthorized removal; e.g., welded vertically and horizontally 6 inches (15.24 centimeters) on center. The rigid steel bars must be securely fastened at both ends to preclude removal. Where used, wire mesh, expanded metal, or rigid steel bars must be mounted so that special nuclear material (SNM) cannot be removed. The annular space between the sleeve and the pipe or conduit must be filled to show evidence of surreptitious removal.

(3) Modular Vaults. A modular vault approved by the GSA may be used in lieu of a vault for the storage of classified matter. The modular vault must

be equipped with a GSA approved vault door with locks and intrusion detection alarms as specified in paragraph 4b of this chapter.

b. Vault Type Room. The perimeter walls, floors, and ceiling must be permanently constructed and attached to one another. All construction must be done in a manner that provides visual evidence of unauthorized penetration. The walls, floor, ceiling and door and door frame must be constructed of materials which provide comparable penetration resistance. The following standards are required for all new construction, reconstruction, alterations, modifications, and repairs of existing areas.

(1) Hardware. Hardware must be fastened in such a way to reveal or preclude surreptitious removal and to ensure visual evidence of tampering. Hardware accessible from outside the area must be peened, pinned, brazed, or spot welded to preclude removal.

(2) Floors and Walls. Construction materials must offer resistance to and evidence of unauthorized entry into the VTR. If insert type panels are used, a method must be devised to prevent their removal without leaving visual evidence of tampering.

(a) Should any of the outer walls/floors or ceilings be adjacent to space not controlled by DOE, the walls must be constructed of or reinforced with more substantial building materials such as brick, concrete, corrugated metal, wire mesh, etc.

(b) If visual access is a factor, barrier walls must be opaque or translucent.

(3) Windows. Windows that can be routinely opened and are installed at a height of less than 18 feet (5.48 meters) from any point adjacent to the window that would permit unrestricted access must be provided with protective measures to delay or deter entry or to notify the response force of an attempted entry.

(a) If visual access is a security concern, the windows must be closed and locked and must be translucent or opaque.

(b) During non working hours, the windows must be closed and securely fastened to preclude surreptitious entry.

(4) Doors. Doors must be of wood or metal. Windows, door louvers, baffle plates or service panels, or similar openings must be secured on the inside with 18 gauge expanded metal or wire mesh to preclude unauthorized entry. Wooden doors must be of solid core construction, 1.75 inches (4.445 centimeters) thick, or faced on the exterior side with at least 16 gauge sheet metal.

(a) If visual access is a security concern, the opening or window must be baffled or must be covered with translucent or opaque coverings.

(b) When doors are used in pairs, an astragal or mullion must be installed where the doors meet.

(c) When door louvers or baffle plates are used, they must be reinforced with 18 gauge expanded metal or wire mesh fastened inside the VTR.

(5) Ceilings.

(a) When barrier walls do not extend to the true ceiling and a false ceiling is created, the false ceiling must be reinforced with 18 gauge expanded metal or wire mesh to serve as a true ceiling or ceiling tile clips must be secured. When barrier walls do extend to the true ceiling, reinforcements are not required.

1 Any wire mesh or expanded metal used must overlap the adjoining walls and be secured to show evidence of any tampering.

2 When ceiling tile clips are used, a minimum of four clips per tile must be installed. If the ceiling tile cannot accommodate four clips, the maximum number of clips that can be accommodated on the tile must be used. The clips must be installed from the interior of the area, and each clip must be mounted to preclude surreptitious entry.

(b) In some instances, it may not be practical to erect a solid suspended ceiling as part of the VTR. For example, in VTRs where overhead cranes are used to move bulky equipment, the air conditioning system may be impeded by the construction of a solid suspended ceiling, or the height of the security interest may make a suspended ceiling impractical. In such cases, special provisions such as motion detection systems must be used to ensure that the area cannot be entered surreptitiously by going over the top of the walls.

3. VAULT-TYPE ROOM COMPLEX. Vault-type room S&S criteria may be extended to multiple rooms including an entire building. VTR complexes must meet the standards and construction requirements identified in paragraph 2b above.

a. Interior walls may extend to a false ceiling and/or raised floor. Interior doors, windows, and openings may exist between different work areas. The requirement to detect unauthorized access may be accomplished through direct visual

observation by an individual authorized in the area or through intrusion detection sensors.

b. Protective measures must ensure that the security interest is surrounded by an IDS or that the entire surrounding perimeter (walls, ceiling and floor) is able to detect penetration. For a building within a PA, a perimeter intrusion detection and assessment system that surrounds the entire building perimeter meets the IDS requirement. This does not mitigate the requirement for an IDS within each VTR.

4. INTRUSION DETECTION SYSTEMS. IDSs are required for vaults and VTRs and in some instances where certain types of containers are used to store S&S interests. At vaults and VTRs containing Top Secret, SNM, or open storage of classified information, the IDS must be placed in secure mode when the vault or VTR is unoccupied. In all cases, the IDS must be placed in secure mode at the end of daily operations.

a. Vaults. Doors or openings allowing access into vaults must be equipped with IDS devices. A balanced magnetic switch (BMS) or other equally effective device must be used on each door or movable opening to allow detection of attempted or actual unauthorized access.

b. Vault-Type Rooms. In addition to the requirements listed below, a BMS or equivalent device must be used on each door or movable opening to allow detection of attempted or actual unauthorized access. At a VTR designated for the open storage of classified matter, protective measures must ensure that that the security interest is surrounded by an IDS or that the entire surrounding perimeter (walls, ceiling and floor) is able to detect penetration.

(1) IDS sensors are to be used to detect movement within the VTR envelope, sensor coverage must ensure that the security interest is surrounded by an IDS such that physical access is detected via any credible pathway. Where visual access is a concern, detection must occur prior to the point where visual access becomes possible.

(a) The ODSA may require the installation of sensors in the false floor area (or ceiling) if the distance exceeds 6 inches (15.24 centimeters). If the requirements of this paragraph are not implemented, paragraph (b) must also be considered.

(b) The interests under protection must be considered when not requiring the installation of sensors between the true floor (or ceiling) and the false floor (or ceiling).

(2) Where IDS sensors are used to detect movement within a vault type room, sensors must provide coverage of credible pathways from the exterior barrier to the matter being protected.

5. SECURITY CONTAINERS. The GSA establishes the national standards and specifications for commercially manufactured security containers or cabinets. Containers purchased after July 14, 1994, must conform to the latest GSA standards and specifications. Steel filing cabinets with rigid metal lock bar and approved three position, dial type, changeable combination locks, purchased and approved for storage of SECRET material may continue to be used until October 1, 2012. If steel filing cabinets are used to store classified matter, the supplemental controls specified in DOE O 471.6 must be implemented.

6. NON CONFORMING STORAGE. Non Conforming Storage is a means of providing equivalent storage protection for classified matter that cannot be protected by established standards and requirements due to size, nature, operational necessity, or other factors. Authority and protection requirements for non conforming storage are provided in DOE O 471.6.

CHAPTER IX. INTRUSION DETECTION AND ASSESSMENT SYSTEMS

1. GENERAL REQUIREMENTS. The intrusion detection and assessment systems must be configured to support interior and exterior applications. Intrusion detection and assessment systems and/or visual observation by protective force personnel must be used to protect classified matter, Government property, and SNM to ensure breaches of security barriers or boundaries are detected and responded to appropriately. The systems must be configured so that only authorized personnel may make adjustments.

   a. Intrusion detection and assessment systems must function effectively in all environmental conditions and under all types of lighting conditions or compensatory measures must be implemented.

   b. An effective method must be established for assessing all IDS alarms (e.g., line supervision, intrusion, false, nuisance, system failure, tamper, and radio frequency alarms when radio frequency is used) to determine the cause.

   c. IDS alarms used for the protection of S&S interests must be assessed immediately by either the PF, central alarm station (CAS)/ secondary alarm station (SAS) personnel via closed circuit television (CCTV), or by other authorized personnel as identified in the SSP.

   d. Response capability to IDS alarms must be provided to protect S&S interests.

   e. Systems, system components, and critical system elements must be performance tested at a documented frequency. The testing program for systems and system components must be developed and implemented in locally developed security planning documents.

   f. Performance testing must be conducted to validate system effectiveness.

   g. Performance testing should be conducted to determine the proper settings for high detection rates with the lowest possible nuisance alarm rates. Tests should be performed along credible pathways with a low profile target (crawling) and a higher velocity and profile targets (walking, running, fast crawl, rolling) or as appropriate given space considerations for interior applications. If assessment is by CCTV, the tests should be conducted under the lowest lighting conditions that are routinely available. The testing should be conducted against the worst case "light to dark ratio" to determine if shadows or dark spots in the field of view degrade assessment viability.

   h. Testing must ensure that the alarm communication line or data link is capable of transmitting an alarm signal and that it has not been compromised.

   i. The IDS must be designed, installed, operated, and maintained to ensure that the number of false and nuisance alarms do not reduce system effectiveness.

(1) The false and nuisance threshold rates are determined after analysis and evaluation. The ODFSA develops written False Alarm Rates (FAR)/Nuisance Alarm Rates (NAR) parameters based on the analysis and site specific conditions, seeking to achieve "As Low As Reasonably Achievable" (ALARA) levels. However, at a minimum:

(a) Each interior intrusion detection sensor should not have a false or nuisance alarm rate of more than one alarm per 2400 hours of operation while maintaining proper detection sensitivity.

(b) Each exterior intrusion detection sensor should not have a false or nuisance alarm rate of more than one alarm per 24 hours of operation while maintaining proper detection sensitivity.

(c) Interior IDS used to protect munitions/explosives storage igloos/bunkers should not have false or nuisance alarm rates exceeding one alarm per 400 hours of operation while maintaining proper detection sensitivity.

(2) If the alarms can be assessed at all times, either visually or by CCTV, a higher nuisance alarm rate may be tolerated if such alarms do not degrade system effectiveness. Although higher rates may be tolerated, each alarm occurrence, regardless of the cause, must be documented for analysis and trending purposes.

2. INTERIOR IDS REQUIREMENTS. The following requirements apply to interior IDS:

a. Interior Systems.

(1) Interior systems must be designed, installed, and maintained to deter adversaries from circumventing the detection system. Interior systems must be installed to eliminate gaps in detection coverage.

(2) The IDS must be tested when installed and annually (at least every 12 months) thereafter.

(3) If testing indicates degradation of the IDS, it must be repaired and retested.

(4) Interior IDSs may be used as compensatory measures for unattended entry/exit points, utility ducts, or other openings meeting the unattended openings requirements contained in this Order.

b. Balanced Magnetic Switches. BMSs must initiate an alarm upon attempted substitution of an external magnetic field when the switch is in the normal secured position and whenever the leading edge of the door is moved 1 inch (2.5 centimeters) from the door jamb.

c. Volumetric Devices. Tests for volumetric interior IDSs must consider a range of tests; i.e., walk tests, voltage variation, temperature and humidity, electromagnetic susceptibility, vibration, standby power, handling shock tests.

d. Functional Testing. A functional test, in conformance with the manufacturer's specification, should be performed prior to acceptance of the installed system and thereafter as determined necessary by the facility.

e. Performance Testing. Interior IDS must be performance tested in accordance with locally established procedures, (i.e., walking, running, jumping, crawling, or rolling along the path to the item being protected) at a documented frequency.

3. EXTERIOR IDS REQUIREMENTS.

a. Exterior IDS. Exterior IDSs must be designed, where economically feasible, with independent redundant data communication paths for protecting DOE S&S interests. The paths must be documented in an SSP or protection procedures, consistent with Table 2-2.

b. Detection Capability. The IDS must be capable of detecting an individual crossing the detection zone by walking, crawling, jumping, running, or rolling, or climbing the fence at any point in the detection zone, with a detection probability of 90 percent and confidence level of 95 percent.

(1) The IDS must be tested when installed and annually (at least every 12 months) thereafter to validate that it meets detection probability and confidence level requirements.

(2) Any time the IDS falls below the required probability of detection, the IDS must be repaired and retested.

(3) When calculating detection probability for multiple sensor technology systems, detection is assumed if any of the sensors/zones report an intrusion. Multiple sensor technology systems may include taut wire, microwave, infra red, ported coax, e-field, and laser components.

c. Miscellaneous Openings. For all openings in exterior barriers, unattended gates and/or entry/exit points, culverts and sewers, that meet the unattended opening criteria of Section A, Chapter VI, intrusion detection capabilities must be as effective as the rest of the perimeter IDS.

d. Perimeter Alarm/Detection and Assessment System. Perimeter Alarm/Detection and Assessment systems must be:

(1) designed to cover the entire perimeter without a gap in detection, including the sides and tops of structures situated within;

(2) located such that the length of each detection zone is consistent with the characteristics of the sensors used in that zone and the topography;

(3) designed, installed, and maintained to deter adversaries from circumventing the detection system;

(4) provided with an isolation zone at least 20 feet (6 meters) wide and clear of fabricated or natural objects that would interfere with operation of detection systems or the effectiveness of the assessment;

(5) free of wires, piping, poles, and similar objects that could be used to assist an intruder traversing the isolation zone or that could assist in the undetected ingress or egress of an adversary or matter; and

(6) constructed in a manner that detects and deters the use of wire, piping, poles, etc., that cannot be eliminated from the isolation zone.

e. Alarm Zone Degradation. Each alarm zone must be kept free of snow, ice, grass, weeds, debris, wildlife, and any other item that may degrade the effectiveness of the system. When this cannot be accomplished and detection capabilities become degraded, compensatory measures are required.

4. RADIO FREQUENCY ALARM COMMUNICATIONS. Radio frequency alarm communications are appropriate when used for the protection of government property and classified matter. RF communications may also be used in the protection of S&S interests in emergency and temporary situations. In addition RF may be used as part of a site's early warning system. The use of RF communications in the protection of SNM in other than a temporary or emergency situation are described in the appendices of this manual. An IDS may use radio frequency communications to transmit alarm and other data for alarms, video, and other data utilized by the IDS provided:

a. The data being transmitted are not classified.

b. The data being transmitted are protected consistent with the program office cyber security plan and DOE requirements (see Chapter 9, DOE M 200.1-1, *Telecommunications Security Manual*, dated 2-15-00).

5. PROTECTION OF IDSs.

a. General Requirements.

(1) IDS equipment should be protected in a graded manner consistent with the security interest being protected.

(2) System components protecting Top Secret, vital equipment, SCIF and SAPF activities must be protected with tamper indication in both the access and the secure modes. Tamper indication is required for intrusion detection/alarm devices. Tamper switch wiring must be as listed below.

(a) Communication links, DGP/field processors and associated equipment must be provided with tamper detection switches on enclosure covers wired to a 24 hour circuit. The wiring must be protected from unauthorized access per UL Standard 681.

(b) All tamper switches (e.g., sensors, processors, cable terminal boxes, control units, etc.) must be wired into a 24 hour circuit. More than one switch may be wired to a single circuit if the switches are located in the same general area.

(c) The switches may be wired as part of the line supervision circuit per UL Standard 681. However, tamper switches may be wired independent of line supervision circuits for hazardous areas, radiological controlled areas, SNM storage vaults, and other areas where testing and maintenance cost would be offset by using a separate circuit.

(3) Commercial Central Alarm Station Service firms must issue a current Underwriter's Laboratory (UL) certification commensurate with the contracted service and must maintain this UL certification as long as the service is provided to the facility. For the protection of classified matter UL 2050, *National Industrial Security Service standard*, should be implemented and a certificate issued for compliance with the UL standard. For other non classified matter applications, *Proprietary Burglar Alarm Units and Systems*, UL 1076, should be implemented and a certificate issued for compliance with the UL standard.

b. Enclosures and Junction Boxes. Permanent junction boxes, field distribution boxes, cable terminal boxes, and cabinets (equipment that terminates, splices, and groups interior or exterior IDS input or that could allow tampering, spoofing, bypassing, or other system sabotage) must be afforded tamper protection. When a box is secured by a Level IV locking device, the keys may be master keyed. Tamper switches must provide a tamper indication to the annunciators. Manholes and other enclosures, if serving as a junction box for data communication cables, must be protected from unauthorized access.

c. Line Supervision. Line supervision is required for IDSs protecting S&S interests. For property protection areas, line supervision may be provided consistent with a documented cost/benefit analysis as determined by the ODSA. Where data encryption is used, key changes must be made annually (at least every 12 months) and whenever compromise is suspected. The requirements for line supervision are listed in Table 2-2. In the event line security is not available the equipment that is utilized to transmit and receive signals between the protected area and the monitoring location should comply with either UL 1076 or UL 1610.

(1) Line Supervision Options. Different combinations of line supervision are allowed depending on link routing:

(a) An alarm communication link remaining within the security area and alarm communication link going through a lower security area.

(b) Line supervision is required for the two primary segments of alarm data transmission: from sensor to data gathering panel (DGP)/field processor and from DGP/field processor to DGP/field processor or the central processing unit.

(2) Classes of Line Supervision. Performance based definitions are listed below in descending order of protection. In general, alarm data encryption, pseudo random polling or unencrypted data transmission are the preferred UL Classes (Class A through C), apply to alarm communication links between DGPs/field processors, between DGPs/field processors and central alarm computers or alarm annunciator panels, and between computers.

(a) For Class A, the data transmission must comply with DOE requirements (see Chapter 9, DOE M 200.1 1, *Telecommunications Security Manual*, dated 2-15-00).

(b) For Class B, data must be transmitted by one of the following:

1 encryption using a proprietary encryption scheme that results in non repetitive communications,

2 pseudo random polling scheme, non encryption over fiber optic cable enclosed in conduit, or

3 non encryption over fiber optic cable monitored by an optical supervision system.

(c) For Class C, unencrypted data transmissions include:

1 RS 232, RS 485, etc., data transmission standard,

2 standard repetitive polling schemes, and

3 exception reporting with repetitive polling for health checks.

(d) Classes D through F apply to data transmission through changes in the analog signal. In general, Classes D through F apply to alarm communication links between a sensor and a field processor.

1 Class D supervision must combine various frequencies of alternating current (AC), be pulsed direct current (DC) or be a combination of AC and DC.

2 Class E supervision must be an AC signal.

3 Class F supervision must be a DC signal.

(3) Protecting Alarm Wiring. Physical protection of alarm wiring must be as listed below.

(a) Protection for communication links must meet the supervised circuit requirements for the National Electric Code for protection from damage (see UL Standard 681).

(b) Protection for wiring between the sensor and the field processor using Class F line supervision must be protected from access. For alarm wiring protecting Top Secret, and vital equipment, protection for wiring between the sensor and the DGP/field processor using Class F line supervision must be protected from access when the DGP/field processor is outside the area being protected. Acceptable methods for protecting alarm system wiring are as follows:

1 junction boxes, pull boxes and other openings sealed by welding, epoxy sealed threads, locked cover plates, tamper resistant screws, or tamper alarm switches;

2 alarm coverage of all wiring, or;

3 armored cable/wire or threaded conduit.

d. Alarm Annunciation and Response.

(1) Line supervision alarms Classes A through C must annunciate in both the CAS and the SAS indicating the type of alarm (data error, loss of communication, tamper, etc.) and the affected equipment.

(2) Sensor to DGP/field processor (Classes C through F) line supervision alarms must annunciate in both the CAS and SAS, indicating the sensor or sensors affected.

(3) PF personnel must be put on alert, and system maintenance personnel must be notified, when line supervision alarms indicate a loss of a communications path of a redundant system.

(4) Line supervision alarm, tamper alarm, or radio frequency alarm events (e.g., “statement of health” alarm, sensor alarm, tamper alarm, and radio frequency jamming indications) must be treated the same as an intrusion alarm for the area being protected.

(5) Maintenance personnel must be notified of a tamper or line supervision alarm, and the alarm condition must be assessed by PF response personnel.

(a) Compensatory measures must be implemented to protect the alarmed location until required testing and repairs are completed.

(b) Tamper and line supervision alarms must be tested to verify effectiveness. Alarm system components being protected by the tamper alarm, e.g., BMS, microwave, passive infrared, must be tested through physical actuation (Table 2-2).

Table 2-2. Line Supervision Protection

Communication Lines between a Field Processor and Field Processor or a Central Processor				
	Vital Equipment or Top Secret Classified Matter Class of Supervision	Classified Matter Secret and below Class of Supervision	Maximum Internal System communications supervision interval (ALL)	Required Manual Testing (ALL)
Routed within the alarm area	C	C	15 minutes	Annually*
Routed through a lower security area	B	C	10 minutes	Annually*
Routed through an unsecured area	A	B	5 minutes	Annually*
Wiring from the Sensor to the Data Gathering Panel (DGP)				
All field wiring	F	F	Continuously	Annually *

*At least every 12 months

6. ELECTRICAL POWER. Electrical power to supply the intrusion detection and assessment systems should be provided to assure continuous system availability and operation. The scope of the primary and auxiliary power sources are as follows.

a. Primary Power. All IDS must have primary power from normal onsite power. The power source must contain a switching capability for component and total system testing. This testing can be used to determine the capacity and source of the required auxiliary power. The following system elements should be considered in configuring the power requirements.

(1) Alarm data networks and communication systems should receive primary power directly from the onsite power distribution system. When the facility does not receive its power from an internal distribution system, power would come directly from the public utility.

(2) Alarm control panels, alarm management systems and automated information systems or associated critical components must be connected to an uninterruptible power supply or auxiliary power.

b. Auxiliary Uninterruptible Power. Auxiliary or uninterruptible power sources should be provided for alarm systems requiring continuous power and for systems that, if interrupted, would degrade or compromise the protection afforded the asset.

7. ASSESSMENT OF IDS ALARMS. An effective method must be established for assessing IDS alarms (e.g., line supervision, intrusion, false, nuisance, system failures, tamper, and radio frequency when radio frequency is used).

a. Alarms must be assessed immediately by either the PF or by a central alarm monitoring station personnel using CCTV.

b. CCTV assessment cameras used as primary assessment for alarms should be fixed (i.e., not pan or tilt) with fixed focal length lenses or may have a zoom capability.

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CHAPTER X. ENTRY/EXIT SCREENING

1. GENERAL. With the exception of Protected and Material Access Areas where inspection is mandatory, random inspections may be conducted at other designated security area boundaries. The ODSA must determine the locations and scope of the screening program at other than PA and MAA boundaries. An inspection program must be configured to detect prohibited and controlled articles before being brought into DOE facilities. These programs are also intended to protect Department assets and interests from unauthorized removal without management authorization. Any entry/exit inspection program must be documented in an SSP or procedure.

   a. Passage of individuals, vehicles, and/or packages or mail through entry control point inspection equipment must be observed and controlled by trained designated personnel.

   b. Inspection equipment can include handheld and/or portable detectors, metal detectors, special nuclear material detectors, explosive detectors, and x-ray systems and must assist security personnel in ensuring that prohibited and controlled articles will be detected before being brought into or removed from DOE facilities.

   c. Entrance inspections of personnel, vehicles, packages, and hand carried items must be performed to deter and detect prohibited and controlled articles. Formally established inspection rates are to be issued by the ODSA.

      (1) Bypass routes around inspection equipment must be closed or monitored to deter unauthorized passage of personnel and hand carried articles.

      (2) Uninterrupted power must be provided to all inspection equipment. In those instances where uninterrupted power is not practical, there must be locally developed procedures to provide alternative measures for conducting entry/exit screening when loss of electrical power occurs.

      (3) Measures are to be instituted to correctly maintain control settings on all entry/exit control point inspection equipment.

      (4) Equipment, to include portal monitors, must have audible and visual alarms monitored by on post trained personnel.

      (5) Ingress/egress points must be designed to preclude commingling of searched and unsearched personnel.

2. ENTRY/EXIT INSPECTIONS.

   a. Explosives Detection.

(1) Sites must analyze their facilities to determine the potential for an adversary to use explosives to affect consequences such as sabotage or theft of DOE assets or fatalities and show that sufficient protective measures have been implemented to result in a low risk of a successful attack. Protective measures may include the integration of various technologies, screening of people, packages, and vehicles as well as the hardening of facilities and other assets to be able to withstand an attack from explosives. This analysis must be included in the overall protection planning process.

(2) If the analysis determines that explosive detection is required, explosive detection equipment must ensure that explosives are not introduced without appropriate authorization. The SSP or procedure must document the analysis that establishes a facility's capability to detect explosives and provide protection against the malicious use of explosives.

(3) Documentation must include the rationale for explosive detection equipment/systems selection, deployment, and use.

(4) Security procedures for explosive detection equipment must be approved by the ODSA.

b. Metal Detection. Metal detection must be used in the entry process at designated security area boundaries. The ODSA must designate the security area location for the conduct of the screening. Metal detectors must ensure weapons are not introduced without authorization.

(1) Metal detectors used for protected area entry inspection must detect test weapons listed in Chapter V.

(2) The site must implement the performance testing procedures and test objects or the standards cited in Chapter V.

c. X-ray Machines. X-ray Machines may be used to supplement metal detectors and protective personnel hand searches for prohibited and controlled articles. X-ray machines must provide a discernable image of the prohibited and controlled article (see Chapter V).

d. SNM Detectors. SNM Detectors used in the inspection process must ensure SNM is not removed without authorization. SNM detectors used in the inspection process must be tested using trace elements that depict the type of material located within the security area. The thresholds must be consistent with the SNM type, form, quantity, attractiveness level, size, configuration, portability, and credible diversion amounts of the articles or property contained within the area.

e. Personnel, Vehicles, and Hand-carried Items. Personnel, vehicles, and hand carried items including packages, briefcases, purses, and lunch containers are to

be inspected to deter and detect unauthorized removal of classified matter or other safeguards and security interests from designated security areas.

(1) Explosive vapor detectors and metal detectors should be used in a combination that precludes the opportunity to defeat the detectors individually at designated area boundaries and when used to inspect personnel for explosives or other prohibited/controlled articles.

(2) Metal detectors used in the exit inspection process must ensure shielded material is not removed without authorization.

(3) Specific inspection procedures and response to alarms with limitations and thresholds for the various detectors must be established and documented in the SSP or procedure.

(4) Exit inspection procedures must be written to ensure:

(a) The identification of detection thresholds for the various specified threats and shielding. The thresholds must be consistent with the type, form, quantity, attractiveness level, size, configuration, portability, and credible diversion amounts of material contained within the area.

(b) The conduct of random exit inspections at a facility boundary, when a site perimeter boundary encompasses a sensitive area. The frequency must be determined by DOE line management.

f. Entry Control Point Systems. Entry control point systems must allow the authorized entry and exit of personnel while detecting prohibited and controlled articles. Entry control point configuration must have separate material package inspection areas/stations for inspecting personnel, packages, and hand carried items. The following design criteria apply:

(1) Entry/exit point inspection monitors must be collocated with designated security posts to facilitate the initiation of a response to an alarm.

(2) Security posts must be designed with an unobstructed view to facilitate observation of any attempt to bypass systems.

(3) Security structures should consider the requirements in Appendix A, Annex 2.

(4) Entrances/exits must be alarmed with intrusion detection sensors or controlled at all times to notify of unauthorized use.

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CHAPTER XI. DOE SECURITY BADGE, CREDENTIAL, AND SHIELD PROGRAM

1. GENERAL REQUIREMENTS. DOE security badges issued to Federal and contractor employees have been determined to be the Department's Federal Agency identity credential. Within the DOE, a Homeland Security Presidential Directive 12 (HSPD 12) credential, hereafter referred to as the DOE security badge, must be issued to and worn by all DOE and contractor personnel (cleared and specified uncleared personnel, as further detailed below) who require access to DOE facilities. The DOE security badge is to replace the existing DOE standard security badge. Existing DOE standard security badges may be used until the new DOE security badge has been completely implemented within DOE. The DOE implementation of the new DOE security badge requirements are based on the Personal Identity Verification (PIV) guidance issued by DOE Notice or its successor (see DOE N 206.4, *Personal Identity Verification*). A local site specific only (LSSO) badge is permitted for local site use. The Office of Science (SC) badge may only be used at specified SC facilities by uncleared contractors. The LSSO and SC badges do not replace the DOE security badge.

   a. DOE Badges. The following requirements apply.

      (1) DOE security badges must be issued to all Federal employees and cleared contractor employees and all DOE Headquarters (HQ) contractor employees who require long term (greater than 6 months) access to DOE facilities or who have, or must have, a security clearance. LSSO badges may be developed and issued to address a variety of issues and unique local badging requirements including local site specific access badge, temporary visitor badge, SC badge, foreign national badge, etc. These badges are not HSPD 12 compliant and are not recognized as meeting the requirements of the new DOE security badge.

      (2) Specifications for the new DOE security badge are described in National Institute of Standards and Technology (NIST) 800 104, *A Scheme for PIV Visual Card Topography*. The identity verification and issue process is described in a DOE Notice or its successor (see DOE N 206.4).

      (3) Individuals who are awaiting a security clearance may be badged using a LSSO badge. Once the security clearance is granted, the individual must be issued a new DOE security badge.

      (4) Individuals at SC facilities with security clearances must be issued new DOE security badges. The SC badge will not be recognized at non SC facilities.

      (5) Employee identification cards must not be substituted for the new DOE security badge or any of the site issued or foreign national badges.

b. Office of Science Badge. SC must prepare and distribute specifications for the SC badge. DOE line management must approve locally developed procedures for the issuance, use, recovery, accountability, protection, and destruction of the SC badge that are documented in the site security procedures. Designated SC sites that will not use the new DOE security badge are to be identified, and a listing of these sites is to be provided to the Office of Health, Safety and Security and the Office of Chief Information Officer. The SC badge can only be issued to uncleared SC field contractors.

(1) The SC badge is not authorized for access to Departmental facilities that require the new DOE security badge.

(2) Individuals at SC facilities granted security clearances must be issued DOE security badges.

2. TYPE OF DOE BADGE.

a. DOE Federal and Contractor Employee Badges.

(1) New DOE security badges must be issued to DOE and contractor employees (including subcontractors) who have been granted a security clearance and who require access to DOE security areas or who have been subjected to an HSPD 12 identity verification and suitability determination. These badges must be used and accepted at all DOE sites and facilities.

(2) Badges must be approved and authorized by the sponsoring site: Federal or M&O contractor organization/badging authority maintaining the badge holder applicant's identity documentation. DOE Agreements with other Federal departments and agencies for the processing, replacement, and turn in of the HSPD compliant DOE security badge have been established in order to fulfill the HSPD directive. These arrangements must be documented in a procedure to include the provisions for the protection of the personal information.

(3) DOE Federal and contractor employees (including subcontractors) granted a DOE security clearance must be issued the DOE security badge that displays the person's photograph and the security clearance level (L or Q). For DOE Federal and Contractor employees, the complete name (first name, middle initial, and last name) must be printed on the badge.

(4) Military and other Federal department and agency personnel who possess HSPD 12 credentials/badges issued by their respective organizations and who are assigned/detailed to DOE will be issued a LSSO badge.

b. Local Site Specific Only Badges.

(1) LSSO badges may be developed and issued to address a variety of local issues and unique local badging needs. This would include subcontractors, who do not require a security clearance or access to a DOE site or facility for more than 6 continuous months, without limitation on the contract performance period.

(2) LSSO badges include visitor badges, vendor badges, provisional badges, foreign national badges, and other site specific badges designed and implemented to meet local requirements.

(3) DOE line management must prescribe or approve procedures for the design, issuance, use, accountability, and return of LSSO badges. LSSO badges must not resemble the design or color of the new DOE security badge or the DOE standard security badge.

c. Visitor Badges.

(1) Military and other Federal department and agency personnel who possess HSPD 12 credentials/badges issued by their respective organizations may, at the discretion of the DOE cognizant office, be permitted entry to a property protection area (PPA) without further badging. If there is a requirement for entry beyond a PPA or access to special nuclear material (SNM), nuclear weapons, or classified matter, the provisions of paragraph 2.c(4) below must be followed. Even though the person possesses an HSPD 12 credential/badge, issued by another Federal department or agency, the DOE visitation process must be followed.

(2) Cleared visitors may be issued an LSSO badge if they possess a Q or L DOE security clearance or a Top Secret or Secret clearance granted by another Federal department or agency. Individuals with valid HSPD 12 credentials do not require re badging with DOE HSPD 12 badges. Temporary/LSSO badges may be issued, if necessary. Prior to badge issue, the status of clearance must be validated with the granting department or agency.

(3) Military or other Federal department and agency personnel who are visitors not provided with new DOE security badges or their department's or agency's HSPD 12 credentials must follow the visitation procedures of the site to be visited. This may include a verification of identity, security clearance, employment status, purpose, and duration of visit.

(4) Visitors possessing a security clearance but only have an LSSO badge from their home site who require access to a limited area (LA), protected area (PA), material access area (MAA), SNM, nuclear weapons or classified matter must submit a DOE F 5631.20, "Request for Visit or Access Approval" prior to arriving at the site.

d. Temporary Badges. Temporary badges may be issued to DOE and DOE contractor employees under locally approved procedures. Temporary badges must not resemble the DOE security badge and the DOE standard security badge. Depending on the badge equipment and technology employed, some temporary badge equipment may be capable of printing an individual's name and photograph. Temporary badges must clearly indicate that the badge is temporary.

e. Foreign National Badges. Badges issued to foreign nationals will have a blue horizontal name bar with the individual's name printed on the blue name bar background. The badge should be processed as follows:

(1) Cleared Foreign Nationals. Badges issued to foreign nationals must be designed so that it is easily identified as a foreign national badge (e.g. Blue horizontal name bar or distinct overall color). The badge should be processed as follows.

(a) The foreign national security badge must be approved and authorized by the organization/badging authority holding the foreign national's personnel clearance file.

(b) Cleared foreign nationals must adhere to the requirements in DOE O 142.1, *Classified Visits Involving Foreign Nationals*, dated 1-13-04.

(c) A foreign national may be badged at a DOE security clearance equivalent to their country's approved access level. The equivalent security clearance level should be based on the Government to Government Agreement and official validation by the foreign government of the person's clearance (see DOE O 142.1).

NOTE: If there is no equivalent DOE security clearance level, the foreign national is badged as uncleared.

(d) When a cleared foreign national with a DOE security badge, which is marked with a security clearance identifier, needs to access another DOE facility, the foreign national visit must adhere to the requirements of DOE O 142.1 and the provisions of DOE O 470.4B.

(2) Uncleared Foreign Nationals. Uncleared foreign nationals whose official duties require routine or regular access to DOE facilities must be issued LSSO badges.

(a) A foreign national badge may be issued for unclassified site access after an identity verification process has been completed by the foreign visits and assignments staff of the organization sponsoring the visit.

(b) Uncleared foreign nationals must adhere to the requirements in Change 1, DOE O 142.3, *Unclassified Foreign Visits and Assignments*, dated 2-21-08 (see DOE O 470.4B).

f. Emergency Responders. Emergency responders, designated by their organizations, will be issued DOE security badges. The badge will have the words "Emergency Response Official" printed on a red horizontal background. Emergency responders who are DOE cleared but do not have a need to know, or who do not possess a security clearance but gain access to classified material during the performance of emergency response duties, must have their identity recorded and receive a security briefing, by the Site Security Manager or designee, immediately following the emergency situation.

g. Non DOE Emergency Responders. Non DOE emergency responders who do not have an HSPD 12 credential and gain access to classified material must have their identity recorded and receive the Site Security Manager or designee briefing immediately following the emergency situation.

3. ISSUANCE, USE, RECOVERY, AND DESTRUCTION OF DOE SECURITY & LSSO BADGES.

a. Security Badge Issue. DOE line management must prescribe local procedures for issuance, use, accountability, and return of DOE security and LSSO badges. These procedures must address the transition from the current DOE security badge to the new DOE security badge.

b. Issuer Requirements.

(1) Issuance with Special Nuclear Material or Classified Access. Measures must be taken to ensure that a single individual cannot process and/or issue a DOE security or LSSO badge allowing unauthorized access into an area containing SNM or classified matter.

(2) Issuer Clearance Level. Personnel with read/write access to systems containing records and information concerning badges, security clearance, and access control authentication data must be cleared at the same level (L or Q) as the highest security clearance in the system data set. Sites must implement procedures to control access to security systems that maintain badging and clearance information.

c. Site Usage. A valid DOE security badge with a printed "L" or "Q" must be used and accepted as evidence of security clearance and must be accepted for admittance to security areas without additional security badging.

(1) The organization being visited is responsible for verifying an individual's DOE security clearance level and determining need to know before granting access to SNM or classified information.

(2) The information on the electromagnetic stripe, optical, or other data storage media must not be used for any purpose other than physical security and logical access control. The information on the electromagnetic stripe, optical, or other data storage media or in combination with biometric access control devices must not be collected or stored outside of DOE access control applications, without prior authorization along with established procedures for the control and protection of the information.

d. Thirty Person Operations.

(1) DOE security badges must be worn at DOE facilities and operations involving access of 30 or more Federal and contractor employees and who require a security clearance or who support DOE HQ.

(2) Facilities and operations involving less than 30 persons whose contractor personnel do not require a security clearance or support DOE HQ are not required to have a DOE security badge. However, when uncleared personnel need access to a DOE site, building, or other than the HQs facilities, for no more than 6 months an LSSO badge may be issued.

e. Recovery of DOE Badges. DOE security badges are the property of the U.S. Government. Local procedures must be established for returning badges to the issuing office whenever an individual has terminated employment or their security clearance status changes or otherwise no longer requires the badge.

(1) Individuals who no longer have a valid requirement for access to DOE facilities must surrender their badges according to local procedures as approved by the ODFSA.

(2) Badges issued to employees, contractors, and other individuals must be recovered at the final security checkpoint or earlier, and the individuals must be escorted from the site if circumstances or conditions indicate the need. Recovered DOE security badges must be destroyed and the records so annotated.

(3) If a terminated employee's DOE security badge is not recovered on the last day of employment steps must be taken to recover the badge. If the badge is not recovered, the badge must be treated as stolen Government property.

f. Individual Changes of Appearance. A DOE security badge must be confiscated and reissued, with a new photograph, if the individual's appearance has changed significantly; i.e., no longer resembles the person in the photograph.

g. Badge Destruction. DOE security badges that are deactivated or no longer needed must be destroyed so that the badge cannot be reconstructed. If destruction is not

immediate, badges must be stored in a secure manner until they can be destroyed. DOE security badges must be destroyed in a manner approved by Federal Information Processing Standard (FIPS) FIPS 201 1, *Personal Identity Verification of Federal Employees and Contractors*.

h. Temporary and Visitor Badge Reuse. Temporary and visitor's badges that do not include individuals' photos must be recovered and may be reissued.

i. DOE Federal and Contractor Employee Name Change. A DOE security badge should be replaced when the employee's name is legally changed.

4. ACCOUNTABILITY OF DOE SECURITY BADGES. Records must be maintained by issuing offices showing the disposition of DOE security and LSSO badges. Such records must include the description and badge number; date of issuance; and name, organization, and date of the destruction along with a destruction certificate.

a. Records. Records must be maintained in accordance with the requirements of the local records management program. Personal data must be protected from loss or compromise (see 5 U.S.C. 522a).

b. Lost Badges. A record of missing DOE security badges must be maintained. Personnel and/or systems controlling access to DOE security areas must be provided current information regarding missing badges to prevent badge misuse. The theft or loss and recovery of DOE issued security badges must be reported immediately to the issuing office.

5. PROTECTION OF DOE BADGE MATERIALS AND EQUIPMENT. Stocks of badging materials, unissued DOE security and LSSO badges, and processing equipment must, at a minimum, be stored in a locked room, and locked filing cabinet/safe cabinet to protect against loss, theft, or unauthorized use. Security must be in place when the badge office is not located in a permanent facility. The ODSA must establish protective measures for satellite facilities which are located outside a permanent facility. The ODSA must provide guidance on the protection of LSSO badge stock and processing equipment when located within a permanent and/or satellite facility. Thefts should be reported commensurate with the Incidents of Security Concern Program (see DOE O 470.4B).

6. DOE SECURITY BADGE VALIDATION. DOE line management approves local procedures for validation of the DOE security badge at access control points (e.g., by automation or protective force (PF) physical examination of the badge). Procedures must require PF or assigned security personnel to validate the DOE security badge at all DOE facilities, including those worn by pedestrians or vehicle occupants, and to ensure that the badge photo matches the presenter's face and that the badge has not been altered.

a. Badge validation by PF or security personnel is not required at access control points that rely on automated access control systems for DOE facility entry/exit.

b. Other methods of validation may be instituted employing biometrics, or a combination of personnel verification measures.

7. DOE SECURITY BADGE RECIPIENT REQUIREMENTS. DOE line management approves implementing procedures to ensure individuals receiving the DOE security or LSSO badge are responsible for the following.

a. Protecting the DOE security badge against loss, theft, or misuse and reporting a lost, stolen, or misused badge to the ODSA within 24 hours of discovery.

b. Maintaining the DOE security badge in good condition and protecting its integrity by ensuring that the badge is not altered, photocopied, counterfeited, reproduced, or photographed (other than what would be deemed official government business).

c. Returning the DOE security badge, according to local procedures and as approved by DOE line management, when it is no longer valid or required.

d. Surrendering or returning the DOE security badge when requested according to local procedures approved by DOE line management.

e. Wearing the DOE security badge conspicuously, photo side out, in a location above the waist and on the front of the body while having access to DOE facilities. (A deviation to this requirement may be permitted for health or safety reasons.)

f. When not on DOE owned or leased property the badge should be removed or obscured from visual access.

8. DOE SECURITY BADGE HSPD 12 REQUIREMENTS. The requirements for the Federal government implementation of the HSPD 12 credential are described in FIPS 201 1.

9. CREDENTIALS AND SHIELDS. Credentials and shields are issued to qualified DOE Federal employees, FOs/FAs/SAs, and qualified DOE contractor personnel to identify the bearer as having the authority to perform assigned official duties. The design of all S&S credentials and shields must be approved by the DOE Chief Health, Safety and Security Officer and, where applicable, DOE line management.

a. Types of Federal Credentials and Shields.

(1) Federal Credential with Shield (Unarmed). This credential is issued to DOE Federal employees who have been designated as unarmed FOs for identification when conducting interviews, inquiries, inspections, surveys, investigations, and liaison activities with law enforcement officials. These FOs do not require firearms/arrest authority. The shield is a metal, police-type badge that is issued for ready identification when conducting a Federal security function (e.g., conducting an investigation). Each shield

must bear a serial number imprinted on its face. The credential must bear the shield number.

(2) Federal Credential with Shield (Armed). This credential is issued to DOE Federal employees who require firearms/arrest authority {i.e., pursuant to section 161 k of the Atomic Energy Act [42 U.S.C. 2201 (k)] or section 661 of the DOE Organization Act (42 U.S.C. 7270a)} as an official function or duty. The shield is a metal, police-type badge that is issued for ready identification when conducting a Federal law enforcement function (e.g., making an arrest or conducting an investigation). Each shield must bear a serial number imprinted on its face. The credential must bear the shield number.

(3) Special Agent Credential with Shield (Armed). This credential is issued to DOE Federal employees who require firearms/arrest authority {i.e., pursuant to section 161 k of the Atomic Energy Act [42 U.S.C. 2201 (k)]} as an official function or duty. The shield is a metal, police-type badge that is issued for ready identification when conducting a Federal law enforcement function (e.g., participating in special operations such as executive protection, making an arrest, or conducting an investigation). Each shield must be imprinted with a shield number. The credential must bear the shield number.

(4) Federal Agent Credential with Shield (Armed). This credential is issued to Office of Secure Transportation (OST) nuclear material courier FAs who require firearms/arrest authority {i.e., pursuant to section 161 k of the Atomic Energy Act [42 U.S.C. 2201 (k)]} as an official function or duty. The shield is a metal, police-type badge that is issued for ready identification when operating in an official capacity (i.e., OST FA function). Each shield must bear a serial number imprinted on its face. The credential must bear the shield number. The OST shield design must be approved by the Assistant Deputy Administrator for Secure Transportation, and the Chief Health, Safety and Security Officer.

(5) Basic Security Credential. This credential is issued to those DOE employees whose official duties include conducting security interviews, investigations, inquiries, inspections, and/or surveys and is used as an official form of identification. Based upon the employee's access authorization the credential may also include authorization to transport Restricted Data and/or other classified information.

b. Types of Contractor Credentials and Shields.

(1) Contractor Security Credential. This credential is issued to DOE contractor employees conducting security interviews, investigations, inquiries, inspections, and/or surveys as official duties or functions.

(2) Contractor Badges and Shields. This encompasses all contractor badges/shields that have been approved by the Chief Health, Safety and Security Officer. Each shield must bear a serial number imprinted on its face. The credential must bear the shield number.

(3) SPO with Shield (Armed). This credential is issued to DOE contractor employees who require firearms/arrest authority as a function or duty. PFs wearing field type uniforms may use cloth/embroidered type shields on these uniforms. Issuance of a metal shield is left to the discretion of the cognizant security office. These credentials are issued to the following:

(a) SPR SPO Credential with Shield (Armed). This credential is issued to SPR SPOs who require Federal firearms/arrest authority [i.e., pursuant to section 661 of the DOE Organization Act (42 U.S.C. 7270a)] for protection of the SPR as a primary function or duty.

(b) SPO (Armed). This credential is issued to DOE contractor SPOs who require Federal firearms/arrest authority pursuant to section 161k of the Atomic Energy Act [42 U.S.C. 2201(k)] as a primary function or duty.

(4) Security Officers. SOs may be issued cloth/embroidered type shields or metal police type shields at the discretion of the DOE cognizant security office.

c. Issuance of Credentials and Shields. Fulfillment of training and qualification requirements for the position or duties must be verified before issuing a credential or credential with shield to an individual. Credentials must contain an expiration date not to exceed three years from the date of issue. Expired credentials must be returned to the cognizant security office for disposition. Credentials and shields for individuals who fail to maintain relevant training and qualification requirements must be revoked and retrieved.

(1) Federal Credential and Shield Issuing Authority.

(a) The issuing authorities for the FO Credential with Shield (Unarmed), the FO Credential with Shield (Armed), and the SA are the Director, Office of Headquarters Security Operations or the DOE cognizant security office for their respective organizations. The issuing authority for NNSA FO credentials and shields is the Associate Administrator for Defense Nuclear Security.

(b) The issuing authority for the OST Credential with Shield (Armed) is the Assistant Deputy Administrator for Secure Transportation.

(2) Contractor Credential and Shield Issuing Authority.

The issuing authorities for the contractor security credential and the SPO with shield (armed) are the Director, Office of Headquarters Security Operations and the DOE cognizant security office for their respective organizations.

d. Reissuing Credentials. If an employee experiences a significant change in facial appearance that could hinder positive identification or undergoes a name change, a credential with a new photograph must be requested by the individual, the individual's supervisor, a security official, or protective force management personnel.

e. Blank Credential Stocks and Unissued Shields.

(1) The Director, Office of Headquarters Security Operations, must procure and maintain blank FO credentials, SA credentials, and unissued FO/SA shields. Requests for these blank credential stocks and unissued FO/SA shields must be submitted, in writing, to the Director, Office of Security Operations.

(2) The Assistant Deputy Administrator for Secure Transportation must procure and maintain an inventory of OST blank FA credentials and unissued FA shields.

(3) SPR project office authorities must maintain an inventory of SPR blank credentials and shields.

(4) PF contractors must procure and maintain a sufficient supply of site specific unissued SPO shields.

f. Termination of Use. Credentials and shields are the property of the Government and must be returned to the issuing office when an employee transfers, terminates, or otherwise no longer requires the credential or shield.

g. Recovery of Security Credentials and Shields. Recovered credentials must be destroyed unless being held as evidence in an ongoing security investigation. Recovered shields may be retained and reissued.

h. Accountability of Credentials and Shields.

(1) Records. Issuing offices must maintain records showing the disposition of credentials and shields. (Schedule 18 of the GRS applies.)

(2) Lost Credentials and Shields. A record of missing credentials and shields must be maintained. The loss or recovery of credentials or shields must be reported immediately to the issuing office, Federal and local law enforcement agency authorities, and the Chief Health, Safety and Security Officer.

i. Storage of Blank Security Credentials and Unissued Shields. Blank credentials and unissued shields must be stored in a manner that ensures their protection against loss, theft, or unauthorized use.

SECTION B. PROTECTION OF CATEGORY III AND IV SPECIAL NUCLEAR MATERIAL

This Section contains the physical protection requirements for Category III and IV quantities of special nuclear material (SNM). These requirements are in addition to those physical protection requirements outlined in Section A.

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CHAPTER I. PROTECTION OF CATEGORY III AND IV SPECIAL NUCLEAR MATERIAL

1. GENERAL REQUIREMENTS. This Chapter contains the requirements for protecting Category III and IV quantities of SNM. The priority of protection measures must be designed to prevent malevolent acts such as theft, diversion, and radiological sabotage and to respond to adverse conditions such as emergencies caused by acts of nature.

   a. A facility must not possess, receive, process, transport, or store SNM until that facility has been cleared (see DOE O 470.4B).

   b. Physical protection for each category of SNM must consider the following factors: quantities, chemical forms, and isotopic composition purities; ease of separation, accessibility, concealment, portability; radioactivity; and self protecting features (see 10 CFR Part 73, *Physical Protection of Plants and Materials*, relative to self protecting).

   c. The protection of nuclear material production, reactors, and fuel must be commensurate with the category of SNM.

   d. SNM, parts, or explosives that are classified must receive the physical protection required by the higher level of classification or category of SNM, whichever is the more stringent.

2. CATEGORY III QUANTITIES OF SNM. The following requirements apply.

   a. In Use or Processing. Category III quantities of SNM must be used or processed in an access controlled security area within at least a limited area (LA) (see Section A) and in accordance with local security procedures approved by the ODFSA.

   b. Storage. Category III quantities of SNM must be stored within a locked security container or room, either of which must be located within at least an LA. The container or room must be under the protection of an intrusion detection system or protective force patrol physical check at least every 8 hours.

3. CATEGORY IV QUANTITIES OF SNM. The following requirements apply.

   a. In Use or Processing. Category IV quantities of SNM must be used or processed within at least a property protection area (PPA) (see Section A) and in accordance with local security procedures approved by the ODFSA.

   b. Storage. Category IV quantities of SNM must be stored in a locked area within at least a PPA, and procedures must be documented in an approved site security plan (SSP).

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CHAPTER II. ALARM MANAGEMENT AND CONTROL SYSTEM

1. GENERAL REQUIREMENTS. This chapter establishes requirements for integrated physical protection systems protecting Category III SNM and if used for Category IV SNM. When intrusion detection system (IDS) sensors are used to protect safeguards and security (S&S) interests the sensors must annunciate directly to alarm stations when an alarm is activated.

2. ALARM STATIONS. Alarm stations must provide a capability for monitoring and assessing alarms and initiating responses to S&S events.

   a. Alarm station personnel must be knowledgeable of the area being protected and the emergency notification procedures.

   b. Tamper and supervisory alarms must be assessed by authorized personnel and technical/maintenance support personnel in accordance with local procedures.

   c. Alarm stations must indicate the status of the systems and annunciate a status change. The system must indicate the type and location of the alarm.

   d. Records must be kept of each alarm received in the alarm station and of any maintenance activities conducted on the alarm system or any of the related components.

   e. Personnel manning the alarm station must possess an appropriate security clearance commensurate with the most sensitive interest under the protection of the alarm station.

   f. Access control systems must initiate an alarm for attempts to gain access through fraudulent or unauthorized means within the systems control.

   g. Alarms must annunciate both audibly and visibly to an alarm station.

   h. Multiple alarms must be prioritized based on the importance of the S&S interests.

3. COMMERCIAL CENTRAL ALARM STATIONS. Commercial alarms service firms must issue a current Underwriter's Laboratory (UL) certification commensurate with the contracted service and must maintain this UL certification as long as the service is provided to the facility. For the protection of classified matter UL 2050, *National Industrial Security Service standard*, should be implemented and a certificate issued for compliance with the UL standard.

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CHAPTER III. INTRUSION DETECTION AND ASSESSMENT SYSTEMS

1. PROTECTING SPECIAL NUCLEAR MATERIAL. Intrusion detection and assessment systems and/or visual observations by protective force (PF) personnel must be used to protect SNM and classified matter to ensure breaches of security barriers or boundaries are detected and alarms annunciate. The following requirements apply for alarms protecting Category III, and when used for protecting Category IV quantities of SNM. Intrusion detection and assessment must be conducted in accordance with the SSP. Annex 1, "Safeguards and Security Alarm Management and Control Systems," describes technical approaches for the employment of intrusion detection and alarm systems.

2. INTERIOR INTRUSION DETECTION SYSTEM. When used to protect either Category of SNM, IDSs must be configured to:

   a. detect unauthorized access to Category III and IV quantities of SNM;

   b. be compatible with other interior and exterior alarm devices and systems;

   c. automatically activate an alarm to notify of a changed security condition;

   d. function effectively in all environmental conditions;

   e. provide alarm communication line supervision;

   f. provide tamper protection on all alarm devices and alarm data gathering panels,

   g. have a false and nuisance alarm rate as described in Section A, Chapter IX of this Attachment, while maintaining proper detection sensitivity; and

   h. report alarm conditions to a dedicated location that facilitates continuous monitoring by designated, trained PF or security personnel.

3. EXTERIOR IDS. When used for either Category of SNM, exterior IDSs must be configured to:

   a. detect unauthorized access to Category III and IV quantities of SNM;

   b. compliment the interior IDS;

   c. automatically activate an alarm to notify of a changed security condition;

   d. function effectively in all environmental conditions;

   e. provide alarm communication line supervision;

   f. provide tamper protection on all alarm devices and alarm data gathering panels;

g. have a false and nuisance alarm rate as described in Section A, Chapter IX of this Attachment, while maintaining proper detection sensitivity;

h. report alarm conditions to a dedicated location which facilitates continuous monitoring and assessment by designated trained PF or security administrative personnel; and

i. The ODFSA develops the false alarm rate/nuisance alarm rate (FAR/NAR) standards based on site specific systems to achieve a Low As Responsible Achievable (ALARA) levels.

4. ASSESSMENT SYSTEMS. An alarm assessment system allows security personnel to determine rapidly whether an intrusion has taken place at a remote location. When used, assessment systems must be configured as an element of the total IDS along with the required complimentary lighting.

a. A basic assessment system is composed of closed circuit television (CCTV) cameras positioned at strategic points covering the intrusion detection devices/zones, video display monitors located at a central location, and various transmission and switching systems connecting CCTV cameras to monitors and video recording devices.

b. The lighting must allow for the fast and reliable assessment of alarms from either the CCTV system or PF personnel as defined in the SSP.

5. PERFORMANCE TESTING. Systems and system elements are to be performance tested at a documented frequency determined by the ODSA. The testing program must be implemented in locally prepared planning or procedural documents.

6. MAINTENANCE. Corrective maintenance procedures for supporting security related systems and subsystems protecting Category III and IV quantities of SNM, must be approved by line management and prescribed in the site's operation procedures.

a. A scope to preparing corrective maintenance procedures can be found in Section A, Chapter V.

b. Preventative maintenance must be performed on critical systems, subsystems and components in conformance with manufacturer's specifications and/or local procedures.

c. Maintenance personnel must be notified of a tamper or line supervisions alarm, and the alarm condition must be assessed by PF response personnel. Tamper and line supervision alarms must be tested to verify effectiveness. Balanced magnetic switches, microwave, passive infrared, buried line sensors and DGP/alarm processing panels, must be tested through physical activation of the switch (Table 2-3).

Table 2-3. Line Supervision Protection

Communication Lines Between a Field Processor and Field Processor or a Central Processor				
	Cat I or II SNM, Class of Supervision	Cat III or IV SNM, Classified Matter Secret and below Class of Supervision	Maximum Internal System communications supervision interval (ALL)	Required Manual Testing (ALL)
Routed within the alarm area	C	C	15 Minutes	Annually*
Routed through a lower security area	B	C	10 minutes	Annually*
Routed through an unsecured area	A	B	5 minutes	Annually*
Wiring from the Sensor to the Data Gathering Panel (DGP)				
All field wiring	F	F	Continuously	Annually*

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CHAPTER IV. COMMUNICATIONS

1. RADIO FREQUENCY ALARM COMMUNICATIONS FOR INTRUSION DETECTION SYSTEMS. IDS may use radio frequency communications to transmit alarm and other data for alarms, video, early warning devices, and other data utilized by the IDS provided:

   a. The data being transmitted are not classified.

   b. The data being transmitted are protected consistent with the program office cyber security plan and DOE requirements (see DOE M 205.1-3, *Telecommunications Security Manual*, dated 4-17-06).

2. OTHER REQUIREMENTS. Radio frequency communications for IDS must also meet the following requirements.

   a. Provide self checking alarm communication paths that annunciate system failure in the alarm stations.

   b. Ensure that the statement of health interval allows for an assessment and response.

   c. Provide unique status change messages for alarm, tamper, and power conditions.

   d. Provide an operator initiated polling feature to allow a check of communication link integrity.

   e. Have tamper resistant or tamper switch alarm transmitters.

   f. Have auxiliary power for critical components until power can be restored or compensatory measures can be implemented.

   g. Not produce spurious signals that interfere with other security system components.

   h. Provide a unique electronic address code for each transmitter/receiver pair.

   i. Provide a means of interfacing with the alarm annunciation system (e.g., the alarm station or central alarm station).

   j. Provide reliable communications in all weather conditions.

   k. Ensure system integrity is maintained (i.e., not diminished) during multiple alarms.

   l. Operate on authorized frequency bands.

m. Not change status on a network; e.g., from secure mode to access mode (if the status of the network is changed, the alarm system operator must be advised of the mode change).

n. Be performance tested in accordance with established performance assurance procedures at a documented frequency.

3. RISK ASSESSMENT. If conducted, a risk assessment must be documented. The conclusion must be that no risk exists or the risk is acceptable and in the best interests of the Government to accept it (based on a decision by the ODFSA).

CHAPTER V. PROTECTION DURING TRANSPORTATION

1. GENERAL REQUIREMENTS. This Chapter defines requirements for the transportation of Category III and IV SNM. Category III quantities of SNM may be transported by the following methods unless otherwise prohibited by statute (see DOE O 460.2A, *Departmental Materials Transportation and Packaging Management*, dated 12-22-04). Other items of special national security interests may, on occasion, be designated for transportation safeguards system transport (see DOE O 461.1B, *Packaging and Transportation for Offsite Shipment of Materials of National Security Interest*, dated 12-20-10). Classified nuclear explosive parts, components, special assemblies, sub critical test devices, trainers or shapes containing no fissile nuclear material or less than Category II quantities of fissile nuclear material must be shipped consistent with both DOE policy governing protection of classified information and Department of Transportation regulations governing interstate transportation.

2. CATEGORY III QUANTITIES OF SNM. Offsite shipments of Category III quantities of SNM may be transported by the following authorized methods unless otherwise prohibited by statute (see DOE O 460.2A).

   a. Domestic offsite shipments of classified configurations of Category III quantities of SNM must be made by Office of Secure Transportation (OST) or by an OST approved commercial carrier that meets the requirements listed in paragraph 2b(1) below.

   b. Offsite shipments of unclassified configurations of Category III quantities of SNM are not required to be made by OST. If OST is not used, the shipments may be made by the following means:

      (1) Truck or Train Shipment. The following requirements must be met.

         (a) Government owned or exclusive use truck, commercial carrier, or rail may be used.

         (b) Transport vehicles must be inspected by security personnel before loading and shipment. Cargo compartments must be locked and sealed after the inspection and remain sealed while en route.

         (c) Shipment escorts must periodically communicate with a control station operator. The control station operator must be capable of requesting appropriate local law enforcement agency response if needed.

      (2) Air Shipment. Shipments must be under the direct observation of the authorized escorts during all land movements and loading and unloading operations.

c. Movement between security areas at the same site must comply with the locally developed and approved shipment security plan.

3. CATEGORY IV QUANTITIES OF SNM. Category IV quantities of SNM may be transported by the following methods unless otherwise prohibited by statute.

a. Domestic offsite shipments of classified configurations of Category IV quantities of SNM may be made by the OST or by other means when approved by DOE line management.

b. Shipments of unclassified Category IV quantities of SNM may be made by truck, rail, air, or water craft in commercial for hire or leased vehicles. Shippers are required to give the consignee an estimated time of arrival before dispatch and to follow up with a written confirmation not later than 48 hours after dispatch.

c. Consignees must promptly notify the shipper by telephone and written confirmation upon determination that a shipment has not arrived by the scheduled time.

d. Shipments must be made by a mode of transportation that can be traced, and within 24 hours from request, can report on the last known location of the shipment should it fail to arrive on schedule.

SECTION C. PROTECTION OF NUCLEAR WEAPONS, COMPONENTS, AND CATEGORY I AND II SPECIAL NUCLEAR MATERIAL

This Section contains the physical protection requirements for Category I and II quantities of special nuclear material (SNM). These requirements are in addition to those physical protection requirements outlined in Sections A and B.

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CHAPTER I. PROTECTION OF NUCLEAR WEAPONS, COMPONENTS, AND CATEGORY I AND II SPECIAL NUCLEAR MATERIAL

1. GENERAL REQUIREMENTS. This Chapter defines requirements for protecting nuclear weapons, components, and Category I and II quantities of SNM. The priority of protection measures must be designed to prevent malevolent acts such as theft, diversion, and radiological sabotage and to respond to adverse conditions such as emergencies caused by acts of nature. SNM must be protected at the higher level when roll up to Category I quantities can occur within a single security area unless the facility has conducted an analysis that determined roll up was not credible. The policy cited in this chapter applies to fixed facilities and sites within a designated Protected Area (PA) or Material Access Area (MAA) and not the conduct of onsite movement of SNM or operations managed by the Office of Secure Transportation (OST). The OST is responsible for the promulgation of specific internal guidance governing the protection afforded all Department of Energy (DOE) matter entrusted to OST for transport by surface and air. Transportation of SNM, whether onsite or by OST, must be provided protection equivalent to that provided by fixed sites for the same material.

   a. A facility must not possess, receive, process, transport, or store nuclear weapons or SNM until that facility has been cleared (see DOE O 470.4B).

   b. An integrated system of positive measures must be developed and implemented to protect Category I and II quantities of SNM and nuclear weapons. Protection measures must address physical protection strategies of denial and containment as well as recapture, recovery, and/or pursuit.

   c. Physical protection for each category of SNM must consider the following factors: quantities, chemical forms, and isotopic composition purities; ease of separation, accessibility, concealment, portability; radioactivity; and self protecting features (see 10 CFR Part 73, *Physical Protection of Plants and Materials*, relative to self protecting).

   d. The protection of nuclear material production, reactors, and fuel must be commensurate with the category of SNM.

   e. SNM, parts, explosives or munitions that are classified must receive the physical protection required by the highest level of classification or category of SNM, whichever is the more stringent.

2. CATEGORY I QUANTITIES OF SNM.

   a. In Use or Processing. Category I quantities of SNM must be located within a material access area (MAA) inside a protected area (PA). Any MAA containing unattended Category I quantities of SNM must be equipped with an intrusion detection system or detection must be provided by protective force.

b. Storage. Category I quantities of SNM must be stored within an MAA.

(1) Category I, attractiveness level A SNM must be stored in a vault. Storage facilities constructed after July 15, 1994 for Category I, attractiveness level A SNM must be underground or below grade.

(2) Category I, attractiveness level B SNM must be stored in a vault or provided enhanced protection that exceeds vault type room (VTR) storage (e.g., collocated with a protective force response station and/or activated barriers).

(3) At a minimum Category I, attractiveness level C SNM must be stored in a vault-type room (VTR).

3. CATEGORY II QUANTITIES OF SNM.

a. In Use or Processing. Category II quantities of SNM must be located within a PA and under material surveillance procedures.

b. Storage. Category II quantities of SNM must be stored in a vault or VTR located within a PA.

4. PROTECTED AREAS. PAs are security areas typically located within an limited area (LA) that are established to protect Category II or greater quantities of SNM and may also contain classified matter. The PA provides concentric layers of security for the MAA. In addition to meeting LA requirements, the following apply to a PA.

a. General Requirements. PAs must be encompassed by physical barriers that identify the boundaries, surrounded by a perimeter intrusion detection and assessment system (PIDAS), and equipped with access controls that ensure only authorized personnel are allowed to enter and exit.

b. Inspection Program. An inspection program must ensure prohibited and controlled articles are detected before being brought into PA facilities. All personnel, vehicles, packages, and hand carried articles are subject to inspection before entry into a security area. Likewise, such programs must ensure safeguards and security (S&S) interests are not removed. An inspection program must be established by the ODSA and documented in the site security plan (SSP).

c. Access Control. When the personal identification number (PIN) or biometric system is either not working or not implemented at security areas requiring measures in addition to access control (e.g., at a PA or MAA boundary), protective force (PF) or other trained security personnel must perform the access control requirements as documented in the SSP.

(1) Personnel Access.

(a) Unescorted access must be controlled to limit entry to individuals with an appropriate security clearance, need-to-know, and for the conduct of official duties.

(b) Individuals without appropriate security clearance must be escorted.

1 The ODSA must establish escort to visitor ratios for the PA.

2 The escort must ensure measures are taken to prevent compromise of classified matter or access to SNM.

3 Visitor logs must be used for PAs.

(c) Validation of the security clearance must occur at PA entry control points.

1 The identity and security clearance of each person seeking entry must be validated by armed PF personnel or

2 If PA access is controlled by an unattended automated access control system, the system must verify the following:

a a valid DOE security badge (badge validation must match the data assigned to the badge holder),

b valid security clearance, and

c valid PIN or

d valid biometric.

(2) Vehicle Access.

(a) Private vehicles are prohibited.

(b) Government owned or leased vehicles may be admitted only when on official business and only when operated by properly cleared and authorized drivers or when the drivers are escorted by properly cleared and authorized personnel.

(c) Vendor vehicles are prohibited unless the vehicles and drivers have been subjected to a thorough inspection/investigation and been given access approval by the ODFSA. As an alternative, provisions must be established for using trained escorts.

(3) Entrance Inspections. Entrance inspections of all personnel, vehicles, packages, and hand carried items must be performed to deter and detect prohibited and controlled articles.

(a) Bypass routes around inspection equipment must be closed or monitored to deter unauthorized passage of personnel and hand carried articles.

(b) Uninterrupted power must be provided to all control point inspection equipment.

(c) Measures must be taken to preclude the unauthorized alteration of control settings on all entry/exit control point inspection equipment.

(d) Equipment, to include portal monitors, must have both audible and visual alarms monitored by assigned PF personnel.

(e) Ingress/egress points must be designed to preclude commingling of searched and unsearched personnel.

(f) Passage of individuals, vehicles, and/or packages or mail through entry control point inspection equipment must be observed and controlled by PF personnel. Inspection equipment can include metal detectors, SNM detectors, explosive detectors, and x ray systems and must ensure that prohibited and controlled articles specific for the PA are detected before being brought into DOE facilities. Hand held and/or portable detectors, etc., must be available to resolve alarms and be available for use during inspection equipment failures.

(4) Explosive Detection.

(a) Sites must analyze their facilities to determine the potential for an adversary to use explosives to affect consequences and show that sufficient protective measures have been implemented to reduce the risk of a successful attack. The specific location of the screening will be determined by the ODSA. In any instance it must be before gaining access to a PA. The scope of the protective measures are described in Section A, Chapter II of this Attachment and supported by a risk analysis.

(b) If the analysis determines that explosive detection is required, explosive detection equipment must ensure that explosives are not introduced without appropriate authorization. The SSP must document the analysis that establishes a facility's capability to

detect explosives and provides protection against the malicious use of explosives.

(c) Documentation must include the rationale for explosive detection equipment/systems selection, deployment, and use.

(5) Metal Detection. Metal detection must be used in the entry process at all designated protected area boundaries.

(a) Metal detectors must ensure prohibited and controlled articles are not introduced to designated protection areas without authorization.

(b) Metal detectors used for entry inspection must detect test weapons listed in Section A, Chapter V.

(c) Metal detectors scheduled to be replaced after Fiscal Year 2010 must meet the performance testing procedures and objects cited in Section 5.1, 5.2 and portions of 5.3 relating to nonferromagnetic stainless knives cited in National Institute of Justice (NIJ) Standard 0601.02, *Law Enforcement and Corrections Standards and Testing Program* (see Section A, Chapter X).

(6) SNM Detectors. SNM detectors used in the inspection process must ensure SNM is not removed without authorization. The testing should provide for the identification of detection thresholds for the SNM type, form, quantity, attractiveness level, size, configuration, portability, and credible diversion amounts of articles or property contained within the area.

(7) Exit Inspections. Personnel, vehicles, and hand carried items including packages, briefcases, purses, and lunch containers are to be inspected to deter and detect unauthorized removal of classified matter or other S&S interests from PAs. The ODSA is to determine whether the inspections will be conducted at the PA. The determination will be documented in a SSP.

(a) SNM detectors and metal detectors must be used in a combination that precludes the opportunity to defeat the detectors individually and/or when used to inspect personnel for prohibited and controlled articles.

(b) Metal detectors used in the exit inspection process must ensure shielded SNM is not removed without authorization.

(c) Specific inspection procedures and the approach to responding to alarms with limitations and thresholds for SNM detectors must be established and documented in the SSP or a procedure.

(d) Exit inspection procedures must be written to ensure the following.

1 Identification of detection thresholds for security interests. The thresholds must be consistent with the type, form, quantity, attractiveness level, size, configuration, portability, and credible diversion amounts of articles or property contained within the area.

2 The detection of shielded SNM (e.g., by using entry control point screening system equipment in a combination that precludes the opportunity to defeat the detectors individually).

3 Entry control points without the means to detect unauthorized removal of material are not used to exit except in emergencies where equivalent protection measures are implemented when emergency exits are used (e.g., searches are conducted at an assembly area).

4 Random exit inspections are conducted at facility boundaries. The frequency must be approved by DOE line management.

(8) Entry and Exit Control Points. Entry control point systems must allow the authorized entry and exit of personnel while detecting prohibited and controlled articles. Entry control point design must include separate material package inspection stations for inspecting personnel, packages, and hand carried items. The following design criteria apply.

(a) Entry/exit point inspection monitors must be collocated with PF posts to facilitate the initiation of a response to an alarm.

(b) Security posts must be designed with an unobstructed view to facilitate observation of any attempt to bypass systems.

(c) Security structures must meet the requirements in Section C, Chapter VII.

(d) Entrances/exits must be equipped with intrusion detection sensors or controlled at all times.

5. MATERIAL ACCESS AREAS. MAAs are security areas that are established to protect Category I quantities of SNM. In addition to requirements for a PA the following apply to an MAA.

a. General Requirements. MAAs must have defined boundaries with barriers that provide sufficient delay time to impede, control, or deter unauthorized access.

(1) MAAs must be located within a PA and must have distinct boundaries. Multiple MAAs may exist within a single PA; however, an MAA cannot cross a PA boundary.

(2) While an MAA is required for the protection of Category I quantities of SNM, classified matter may exist within an MAA. In such instances, the classified matter must be stored according to the requirements in DOE O 470.4A.

b. Access Control. Access control must be administered by armed PF personnel and/or automated access control systems.

(1) Access must be controlled to limit entry to individuals with an appropriate security clearance and who have been authorized for entry consistent with need to know and operations.

(2) Individuals without appropriate security clearance must be escorted.

(a) The ODSA must establish escort to visitor ratios for the MAA.

(b) The escort must ensure measures are taken to prevent compromise of classified matter or access to SNM.

(3) S&S interests, not in approved storage within an MAA, must be controlled by the custodian or authorized user.

(4) Validation of security clearance must occur at MAA entry control points.

(a) If MAA access is controlled by an unattended automated access control system, the system must verify:

1 a valid DOE security badge (badge validation must match the data assigned to the badge holder),

2 valid security clearance,

3 valid PIN, and

4 valid biometric template.

(b) The identity and security clearance of each person seeking entry may be validated by armed PF personnel or biometrics.

(5) Site specific requirements and procedures for visitors must be developed and approved by DOE line management. The procedures must provide for the information described in Section A, Chapters II and VI.

c. Entry/Exit Control Inspections. Security requirements for entry/exit inspections must be approved by DOE line management and documented in the SSP.

(1) A separate physical or electronic inspection of each vehicle, person, package, and container must be conducted at all MAA exit points.

(2) Metal detectors used for MAA entry inspection must detect the test weapons listed in Section A, Chapter V.

CHAPTER II. ALARM MANAGEMENT AND CONTROL SYSTEM

1. GENERAL REQUIREMENTS. The requirements for S&S alarm management and control systems used in the protection of Category I and II quantities of SNM and installed and operational after January 1, 2008, are contained in Annex 1 of this Attachment. This Chapter establishes requirements for integrated physical protection systems protecting nuclear weapons, components, and category I and II SNM. Facilities with Category I and II quantities of SNM, or other high consequence targets as identified by vulnerability assessments, must have a central alarm station (CAS) and a secondary alarm station (SAS). All intrusion detection system (IDS) sensors must annunciate directly to CAS/SAS when an alarm point is activated. Systems installed after July 15, 1994, where feasible, use redundant, independently routed, or separate communication paths to avoid a single point failure. The PIDAS surrounding the PA must be monitored in a continuously manned CAS and SAS. In addition to the requirements in Section B for Category III and IV SNM, the following requirements apply.

   a. Central Alarm Station.

      (1) The CAS must be attended continually.

      (2) The CAS and SAS must be physically separated.

      (3) To avoid a single point failure, systems for the protection of Category I and II quantities of SNM installed after July 15, 1994, where feasible, use redundant, independently routed, or separate communication paths.

      (4) The CAS must be designed as a hardened post, located within a LA or greater security area and manned 24 hours a day.

      (5) Exterior walls, windows, doors, and roofs must be constructed of, or reinforced with, materials that have a bullet penetration resistance equivalent to the Level 8 rating given in Underwriters Laboratories (UL) Standard 752, *Standard for Bullet Resisting Equipment*.

      (6) Entryways must be fitted with doors equipped with locks that can be operated from within the alarm station.

   b. Secondary Alarm Station. The SAS must be used as an alternative alarm annunciation point to the CAS and be manned 24 hours a day so that a response can be initiated if the CAS cannot perform its intended function.

      (1) The SAS need not be fully redundant to the CAS but must be capable of providing full command and control in response to S&S events (see paragraph 1a[3] above).

      (2) The SAS may be located in a property protection area.

2. CLOSED CIRCUIT TELEVISION (CCTV) SYSTEM. CCTV assessment systems must be functional under day, night, overcast, and artificial lighting conditions. The system must provide a clear and suitable image for assessment.

a. Primary Assessment. When used as the primary means of alarm assessment and to determine response level, the system requirements are listed below.

(1) CCTV systems must annunciate when the video signal from the camera is disrupted or lost.

(2) The video subsystem must be integrated with the CAS/SAS alarm display systems.

(3) The system must have the capability to automatically switch to the camera associated with the alarm event and to display that event for operator assessment.

(4) Video recorders must be actuated by the intrusion alarm and record automatically.

(5) Video recorder response time must be rapid enough to record the actual intrusion, be able to capture sufficient information for alarm assessment, and have the capacity to store at least 45 days of "event logs" before archiving the information to removable nonvolatile media.

(6) Video assessment coverage must be complete (e.g., no gaps between zones or areas that cannot be assessed because of shadows or objects blocking the camera's field of view).

(7) CCTV used for primary assessment must be tamper protected on a 24 hour circuit (camera enclosures and the video and data lines) and use fixed cameras with fixed focal length lenses that provide a clear image for assessment (pan tilt and zoom cameras may be used for surveillance).

(8) CCTV systems must use real time signal or near real time transmission of camera views.

(9) The video system must accept manual override of automatic features. This capability permits the operation of a CCTV camera associated with another event.

b. Additional CCTV Requirements.

(1) When CCTV systems are used, the alarm control system must be able to call the operators' attention to an alarm associated video recorder/monitor.

(2) The picture quality must allow the operator to recognize and discriminate between human and animal presence in the camera field of view.

CHAPTER III. COMMUNICATIONS, ELECTRICAL POWER, AND LIGHTING

1. COMMUNICATIONS.

a. General Requirements. Communications equipment must meet the following requirements.

(1) Redundant Voice Communications. Facilities protecting Category I and II quantities of SNM must have a minimum of two different voice communications technologies to link the CAS/SAS to each fixed post and PF duty location. Alternative communications capabilities must be available immediately if the primary communications system fails. Channels considered critical to protective personnel communications must have backup channels.

(2) Records. Records of the failure and repair of all PF radio communications equipment must be maintained so that type of failure, unit serial number, and equipment type can be compiled.

b. Communication Systems. Protection system communications must support two vital functions: alarm communication/display and PF communications. PF communications include the procedures and hardware that enable officers to communicate with each other.

(1) Design Considerations. The design of a PF communication system must address resistance to eavesdropping, vulnerability to transmission of deceptive messages, and susceptibility to jamming.

(2) Protective Force Radio System Requirements. The application of digital encryption may be implemented on a graded basis. When the PF communications are converted to meet Federal Communications Commission (FCC) narrow band frequency requirements, digital encryption (see ANSI/TIA/EIA 102 Phase I, referred to as Project 25) must be included.

(3) Alternative Means of Communication. Alternative means of communication must be in place such as telephones, intercoms, public address systems, hand signals, sirens, lights, pagers, couriers, computer terminals, flares, duress alarms, smoke, or whistles.

(4) Local Law Enforcement Agency (LLEA) Communication. A mechanism must be established to ensure communication with LLEAs. An alternative communications capability from a SAS must be provided if the primary station is compromised. Daily tests of these communications systems must be conducted with LLEAs unless a different rate is required by memorandum of agreement/understanding and is documented in the SSP.

c. Duress Systems. Facilities with protected areas and material access areas must have duress notification capabilities for mobile and fixed posts and for the CAS/SAS. The duress system must meet the following requirements.

(1) Activation of the duress alarm must be as unobtrusive as practicable. The duress alarm must annunciate at the CAS and SAS but not at the initiating PF post.

(2) The duress alarm for a CAS must annunciate at the SAS while the duress alarm for the SAS must annunciate at the CAS.

(3) Mobile duress alarms must annunciate at the CAS, SAS, or another fixed post.

(4) All PF fixed posts must have duress devices.

d. Radios. Fixed post radios, mobile radios, and portable radios must be provided to support operational security requirements.

(1) Radio System Requirements. The radio system must be capable of accessing security operational and support channels.

(a) Radios must have power and sensitivity for two way voice communications with the facility base stations.

(b) Security communication channels must be restricted to security operations.

(c) Radio system components must be protected against destruction and unauthorized access.

(d) Radio programming consoles must be protected from unauthorized programming changes.

(2) Portable Radios. Portable radios must be capable of two way communication from within buildings and structures. An alternative means of communications must be provided if safety or process procedures prohibit transmission within a building or structure.

(3) Two Way Communications. Mobile radios and base station radios must be capable of maintaining two way communication with the CAS/SAS.

(4) Emergency Response Channels. Base stations, which are controlled from the CAS, must include emergency response channels.

(5) Battery Power. Portable radios must operate for an 8 hour period at maximum expected duty cycles. Procedures for radio exchange, battery exchange, or battery recharges can be used to meet this requirement.

(6) Repeater Stations. A radio repeater station must be placed in a location that ensures all weather access for vehicles and personnel to the station building, antenna, standby generator plant, and fuel storage tanks. The station must be designed to minimize risk of damage to the antenna structure and supporting guy lines from vehicular traffic.

e. PF Tracking Systems. Systems capable of tracking and displaying the live movements and state of health of PF may be used to improve the situational awareness of PF commanders. Data associated with these systems are typically transmitted by radio frequency so the following limitations apply:

(1) Classified information must not be transmitted by the wireless communications associated with tracking systems.

(2) PF tracking systems used at sites with Category I quantities of SNM must be evaluated prior to implementation by the ODSA. The evaluation is to determine if the high system effectiveness rating would be degraded, if compromised unless encrypted.

f. Radio Frequency Alarm Communications. The radio frequency alarm communications systems, when used to protect Category I and II quantities of SNM, must be limited to emergency, temporary situations, or early warning detection applications. When used, a comprehensive risk assessment must be conducted and a DOE graded security protection (GSP) implementation plan must be established. Radio frequency alarm systems and associated communication systems used for the protection of Category I and II quantities of SNM must comply with the requirements outlined for the protection of Category III and IV quantities of SNM and meet the following additional requirements.

(1) RF alarm communications systems are used for auxiliary security applications and do not require the same robustness as primary systems for protection of Category I and II quantities of SNM.

(2) Use of a RF alarm communications system must be evaluated prior to implementation by the ODSA and determined to not effect a high system effectiveness rating.

2. ELECTRICAL POWER.

a. Primary Power Supply. All IDSs protecting S&S interests must have a primary power source from normal onsite power. Early warning systems that have self contained electrical power are exempt from this requirement. Power sources must contain a switching capability for operational testing to determine required auxiliary power sources. The following power supply requirements apply:

(1) Alarm and Communication Systems. Normal primary power must come directly from the onsite power distribution system or for isolated facilities, directly from the public utility.

(2) Communications and Automated Information Systems, Alarm Stations, and Radio Repeater Stations. Essential system elements must be connected to an uninterruptible power supply (UPS) or to auxiliary power.

(3) Radio System Centers. Power supply requirements must be determined assuming that all transmitters are keyed simultaneously while associated receivers and other equipment and building services are in operation.

b. Auxiliary Power Sources. Intrusion detection and assessment, automated access control, and CCTV systems protecting Category I and II quantities of SNM and/or Top Secret matter must have an auxiliary power capability.

(1) Transfer to auxiliary power must be automatic upon failure of the primary source and must not affect operation of the protection system, subcomponents, or devices.

(2) The CAS and SAS must receive an alarm indicating failure of the protection system's primary power and immediately transfer to the auxiliary power source.

(3) When used, rechargeable batteries must be kept fully charged or subject to automatic recharging whenever the voltage drops to a level specified by the battery manufacturer. Non rechargeable batteries must be replaced based on manufacturer's recommendations. The system must be capable of generating a low battery alarm which shall be transmitted to the CAS and SAS.

(4) Power sources must have the necessary built in features to facilitate periodic operational testing to verify their readiness.

c. Uninterruptible Power Sources. UPS must be provided for systems requiring continuous power and considered for systems that, if interrupted, would degrade the protection of the associated security area.

3. LIGHTING.

a. Lights must support a 24 hour visual assessment and provide, as a minimum, 2 foot candle illumination at ground level for at least a 30 feet (9.14 meters) diameter around PF posts and a minimum of 0.2 foot candle illumination within the PIDAS isolation zone.

b. Sufficient lighting for assessment must be maintained on the PIDAS sensor zones and the clear zones for CCTV assessment and surveillance 24 hours a day. The

lighting must compliment the CCTV system in supporting its video assessment capability.

c. Where protective lighting at remote locations is not feasible, PF patrols and/or fixed posts must be equipped with night vision and/or thermal imaging devices. Night vision and/or thermal imaging devices should not be used routinely in lieu of protective lighting at entrances and exits but may be used if lighting is lost.

d. Light glare must be minimized.

e. Light sources on protected perimeters must be located so that illumination is directed outward so that the PF is not blinded or silhouetted.

f. When back up emergency lighting is used, it must be periodically tested to ensure that it will function as configured for a specified sustained period.

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CHAPTER IV. INTRUSION DETECTION AND ASSESSMENT SYSTEMS

1. GENERAL REQUIREMENTS. Nuclear weapons and Category I and II quantities of SNM must be protected by an integrated physical protection system using protective force, barriers, and Intrusion Detection and Assessment Systems (IDAS).

   a. Protecting SNM. The following requirements apply for alarms protecting Category I and II quantities of SNM.

      (1) Interior or exterior IDASs must be designed with independent, redundant data communication lines from the DGP to the alarm stations.

      (2) Intrusion detection and assessment must be immediate.

      (3) The video signal must be protected based on the classification level. Video signal protection would include video signal encryption for conditions wherein video coverage cannot be masked from viewing classified matter.

   b. Early Warning Intrusion Detection. Sites may use early warning intrusion detection to supplement their PIDAS as a means of achieving increased adversary detection and improved overall system performance. The false and nuisance alarm rates, degradation, and detection area maintenance requirements of a PIDAS do not apply to early warning systems. Each individual early warning or extended range exterior intrusion detection sensor must have false and nuisance alarm rates that do not degrade the overall effectiveness of the system, including monitoring personnel's ability to assess and manage alarms, and be documented in the SSP.

2. EXTERIOR INTRUSION DETECTION SYSTEM. Exterior IDASs are designed to detect unauthorized entry into security areas.

   a. Exterior IDS. The location of communication lines must be documented in the SSP consistent with Table 2-2).

      (1) Intrusion detection and assessment systems must function effectively in all environmental conditions and under all types of lighting conditions or compensatory measures must be implemented.

      (2) PIDAS must use multilayered, complementary intrusion detection sensors.

   b. Perimeter Intrusion Detection and Assessment System. The PIDAS surrounding the protected area must be monitored in a continuously manned central alarm station and a secondary alarm station. PIDAS must be:

(1) designed to cover the entire perimeter without a gap in detection, including the walls and roofs of structures situated within the designated security area;

(2) located such that the length of each detection zone is consistent with the characteristics of the sensors used in that zone and the topography;

(3) designed, installed, and maintained to prevent adversaries from circumventing the detection system;

(4) systems installed after July 15, 1994, must, where economically feasible, use redundant, independently routed, or separate communication paths, to avoid a single point failure;

(5) provided with an isolation zone at least 20 feet (6 meters) wide and clear of fabricated or natural objects that would interfere with operation of detection systems or the effectiveness of the assessment; and

(6) free of wires, piping, poles, and similar objects that could be used to assist an intruder traversing the isolation zone or that could assist in the undetected ingress or egress of an adversary or matter.

c. Detection Capability. A PIDAS must be capable of detecting an individual crossing the detection zone by walking, crawling, jumping, running, rolling, or climbing the fence at any point in the detection zone, with a detection probability of 90 percent and confidence level of 95 percent. Performance testing should be conducted to determine the proper settings for high detection rates with the lowest possible nuisance alarm rates. Tests should be performed with a low profile target (crawling) and a higher velocity and profile targets (walking, running, fast crawl, rolling). Whenever practical, the tests should be conducted under the sort of adverse weather and lighting conditions that are common to the local environment.

(1) The IDS must be tested when installed and annually (at least every 12 months) thereafter to validate that it meets detection probability and confidence level requirements.

(2) Any time the IDS falls below the required probability of detection, the IDS must be repaired and retested.

(3) When calculating detection probability for multiple sensor systems, detection is assumed if any of the sensors report an intrusion.

(4) Additional operability and effectiveness testing must be conducted and documented in the SSP.

d. PIDAS Zone Degradation. Each PIDAS detection zone must be kept free of snow, ice, grass, weeds, debris, wildlife, and any other item that may degrade the effectiveness of the system. When this cannot be accomplished and detection capabilities become degraded, compensatory measures must be taken.

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CHAPTER V. ACCESS CONTROLS AND ENTRY/EXIT INSPECTIONS

1. ACCESS CONTROL SYSTEMS AND ENTRY CONTROL POINTS. Entry control points must be located within the PIDAS and protected by the PIDAS when not in use. This configuration must provide a continuous PIDAS zone at the barrier that encompasses the entry control point. The entry control point should permit entry of only one person at a time into PAs and MAAs. Electronic entry control point search equipment (e.g., metal detectors) must annunciate locally to a protective force staffed entry control point instead of annunciating at the CAS and SAS.

2. AUTOMATED ACCESS CONTROL SYSTEMS. Automated access control systems may be used in place of or in conjunction with protective or other authorized personnel to meet access requirements.

   a. Both the CAS and SAS must monitor the automated access control system's intrusion alarm events.

   b. Badge readers at PAs and MAAs must have anti passback protection.

3. ENTRY/EXIT INSPECTIONS. Entry/exit inspections are required at PAs and MAAs, and at other security areas as required by DOE line management and documented in the SSP.

   a. Entry inspections of personnel, hand carried items, packages, and/or vehicles must ensure prohibited articles are detected and are not introduced without authorization.

   b. Exit inspections must ensure S&S interests are not removed without authorization.

4. EMERGENCY PERSONNEL AND VEHICLES. Emergency personnel and vehicles may be authorized for immediate entry to security areas in response to an emergency if:

   a. The protective force (PF) or other designated site personnel maintain continuous surveillance of all emergency vehicles that enter the site.

   b. Arrangements must be made to inspect emergency personnel and vehicles when exiting after the emergency is over or when leaving the site. If the emergency condition prevents an exit inspection before departing the site, an escort must be provided, and both personnel and emergency vehicles must be inspected as soon as the emergency is over.

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CHAPTER VI. SECURE STORAGE

1. SPECIAL NUCLEAR MATERIAL VAULT. An SNM vault must be a penetration resistant enclosure that has doors, walls, floor, and roof/ceiling designed and constructed to significantly delay penetration from forced entry and equipped with intrusion detection system devices on openings allowing access. The material thickness must be determined by the requirement for forcible entry delay times for the safeguards and security interests stored within, but must not be less than the delay time provided by a minimum 8 inch (20.32 centimeters) thick reinforced concrete poured in place with a 28 day compressive strength of 2,500 pounds per square inch (17,237 kilopascal). Activated technologies such as activated barriers or passive/active denial systems may be used in lieu of thicker concrete when analysis indicates that delay times exceeding that of 8 inch (20.32 centimeters) thick reinforced concrete are required. The site's analysis of the protection measures in use must be documented in the site security plan.

2. VAULT DOOR. A vault door and frame must meet the General Services Administration's (GSA's) highest level of penetration resistance. The lock on the door must be a minimum of a GSA approved Federal Supply Schedule listed high security lock, as described in Section A, Chapter IV.

3. WALL PENETRATIONS. Any openings of a size and shape to permit unauthorized entry (larger than 96 square inches [619.2 square centimeters] in area and more than 6 inches [15.24 centimeters] in its smallest dimension) must be equipped with the measures described in Section A, Chapter VIII.

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CHAPTER VII. PROTECTIVE FORCE POSTS

1. SPECIAL NUCLEAR MATERIAL ACCESS. Permanent PF posts controlling access to protected areas and material access areas must be constructed to meet the requirements for a hardened post. Exterior walls, windows, roofs, and doors must be constructed of, or reinforced with, materials that have a bullet penetration resistance equivalent to the Level 8 high power rifle rating given in Underwriters Laboratory (UL) 752, *Standard for Bullet Resisting Equipment*.

2. PF TOWERS. PF towers intended to be used as tactical fighting positions must have, as a minimum, a bullet penetration resistance equivalent to the Level 8 high power rifle rating given in UL 752.

3. FIGHTING POSITIONS. Designated fighting positions must be sited in locations that command significant fields of fire and must be able to serve as bases of maneuver for PF tactical units. These positions must, as a minimum, have a bullet penetration resistance equivalent to .50 caliber armor piercing.

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CHAPTER VIII. BARRIERS

1. GENERAL REQUIREMENTS.

   a. Barriers must be used to facilitate effective, economical use of protective personnel while maximizing their tactical posture.

   b. Barriers must be used to direct the flow of personnel and vehicular traffic through designated entry control points to permit efficient operation of access controls and entry point inspections and to provide PFs the ability to identify and engage adversaries along all feasible pathways.

   c. A clear zone must be provided along each side of security fences to facilitate intrusion detection and assessment. Double fences should be separated by a clear zone of at least 20 feet (6 m).

   d. The barrier design must deter or prevent an insider from diverting S&S interests past the barrier for retrieval.

2. PENETRATION OF SECURITY AREA BARRIERS. In addition to the requirements for a limited area, penetration of security area barrier requirements for a PA includes the following:

   a. Overhead utilities must not allow for access into a PA or higher security area without physical protection features to prevent or detect unauthorized access into the security area.

   b. Two permanent, continuous parallel fences (requirement for the perimeter intrusion detection and assessment system) must identify the boundary of the PA.

   c. Barrier requirements for a material access area include those required for a PA in addition to the following:

      (1) Barriers must delay or deter the unauthorized movement of SNM while allowing access by authorized personnel and material movement through entry control points and emergency evacuation as necessary.

      (2) Doors at entry control points such as transfer locations must be alarmed, and the alarms must communicate with the central alarm station/ secondary alarm station when an unauthorized exit occurs.

      (3) PF response time to an intrusion alarm must be less than the delay time that can be demonstrated from the time an alarm is activated at the PA boundary until the task is completed.

      (4) Penetrations in the floors, walls, or ceilings for piping, heating, venting, air conditioning, or other support systems must not create accessible paths

that could facilitate the removal or diversion of S&S interests. Exits designed for emergency evacuation must be alarmed with an intrusion detection system or controlled at all times.

3. BARRIERS DELAY MECHANISMS. Mechanisms must be used to deter and delay access, removal, or unauthorized use of Category I and II quantities of SNM and nuclear weapons.

   a. Delay mechanisms may include both passive physical barriers (e.g., walls, ceilings, floors, windows, doors, and security bars) and activated barriers (e.g., sticky foam, pop up barriers, cold smoke and high intensity sound). The appropriate delay mechanisms must be used at site specified target locations to reduce reliance on PF recapture/recovery operations.

   b. Active and passive denial systems will be deployed, as appropriate, to reduce reliance on recapture operations.

4. ACTIVATED BARRIERS, DETERRENTS, AND OBSCURANTS. If used, activated barrier and deterrent systems must meet site specific requirements when deployed at improvised nuclear device/radiological dispersal device denial target locations. Activated barriers, deterrents, and obscurants must meet the following requirements:

   a. Obscurants must consider spatial density versus time to deploy as determined by vulnerability analysis.

   b. Dispensable materials must be individually evaluated for effectiveness of delay.

   c. Controls and dispensers must be protected from tampering and must not be collocated.

5. VEHICLE BARRIERS. Vehicle barriers must be used to preclude, deter, and where necessary, prevent penetration into security areas when such access cannot otherwise be controlled.

   a. At Category I/II facilities, all potential vehicle approach routes to identified target areas must have barriers installed that will preclude an adversary from reaching the target.

   b. If required by vehicle barrier design limits, speed reducers must be used to slow adversary vehicles to achieve site specific threat/target system response requirements.

   c. These requirements must be consistent with the operation of the facility and protection goals as documented in the vulnerability analysis.

CHAPTER IX. PROTECTION DURING TRANSPORTATION

1. GENERAL REQUIREMENTS. This chapter defines requirements for the transportation of Category I and II SNM. Packages or containers containing SNM must be sealed with tamper indicating devices.

2. OFFSITE SHIPMENT. Offsite shipment of fissile nuclear materials of national security interest Category I and II quantities of SNM must be transported within the Transportation Safeguards System as addressed in DOE O *460.2A, Departmental Materials Transportation and Packaging Management*. Specific items included in this policy are nuclear explosives, nuclear explosive components, special assemblies, sub critical test devices, trainers, bulk fissile nuclear materials, and truck transported naval fuel elements.

3. ONSITE SHIPMENTS. Movements of SNM between protected areas at the same site or between protected areas and staging areas on the same site must be escorted by armed PF officers.

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CHAPTER X. MAINTENANCE

1. MAINTENANCE. Maintenance must be performed on site determined essential and non essential system elements.

   a. Compensatory Measures. Compensatory measures must be implemented immediately when any part of the essential system element protecting Category I and II quantities of SNM, is out of service. Compensatory measures must be continued until maintenance is complete and the essential system is back in service.

   b. Corrective Maintenance within 24 Hours. Corrective maintenance must be initiated within 24 hours of receiving a report that there has been a malfunction of a site determined essential system element protecting Category I and II quantities of SNM.

   c. Corrective Maintenance within 72 Hours. Corrective maintenance must be initiated within 72 hours of detection of a malfunction for all other protection system elements protecting Category I and II SNM.

   d. Non Critical Systems Maintenance. For non essential system elements, the ODFSA must approve compensatory measure implementation procedures.

2. PREVENTIVE MAINTENANCE. Preventive maintenance must be performed on essential subsystems and components in accordance with manufacturers' specifications and/or local procedures.

3. MAINTENANCE PERSONNEL SECURITY CLEARANCES. Personnel who test, maintain, or service essential system elements must have security clearances consistent with the S&S interest being protected.

   a. Security clearances are not required when such testing and maintenance are performed as bench services away from the security area.

   b. Systems or essential system elements bench tested or maintained away from the security area by personnel without the appropriate security clearances must be inspected and operationally tested by qualified and cleared personnel before being returned to service.

   c. Personnel who test, maintain, or service non essential system elements must have security clearances consistent with the S&S interest being protected as determined by the ODSA.

4. TESTING AND MAINTENANCE OF SCREENING EQUIPMENT. Screening equipment can include explosive detectors, metal detectors, x-ray systems, and SNM

detectors and must ensure that prohibited and controlled articles are detected before being permitted into DOE facilities.

a. The following should be used as standard test weapons or the site must implement the performance testing procedures and test objects cited in Sections 5.1, 5.2 and the portion of 5.3 of NIJ Standard 0601.02, *Law Enforcement and Corrections Standards and Testing Program*, relating to nonferromagnetic stainless steel knives:

(1) steel and aluminum alloy .25 caliber automatic pistol manufactured in Italy by Armi Tanfoglio Giuseppe, sold in the United States by Excam as Model GT27B and by F.I.E. the Titan (weight: about 343 grams); or

(2) aluminum, model 7, .380 caliber Derringer manufactured by American Derringer Corporation (weight: about 200 grams); and

(3) stainless steel 0.22 caliber long rifle mini revolver, manufactured by North American Arms (weight: approximately 129 grams).

b. X-ray machines may be used to supplement metal detectors and protective personnel hand searches for prohibited and controlled articles.

(1) X-ray machines must provide a discernable image of prohibited and controlled articles.

(2) X-ray machines must image an unobstructed (discernable) set of wires and other objects as described in American Society for Testing and Materials (ASTM) standard for test objects (see ASTM Standard F792 01e2, *Standard Practice for Evaluating the Imaging Performance of Security X-ray Systems*).

c. SNM detectors used in the inspection process must be tested using trace elements that depict the type of material located within the security area. The testing should provide for the identification of detection thresholds for the prohibited/controlled articles. The thresholds must be consistent with the SNM type, form, quantity, attractiveness level, site, configuration, portability, and credible diversion amounts of articles or property contained within the area.

5. RECORD KEEPING.

a. Testing and maintenance records must be retained in accordance with the requirements of approved records management procedures.

b. Records of the failure and repair of all communications equipment must be maintained so that type of failure, unit serial number, and equipment type can be compiled

ANNEX 1 SAFEGUARDS AND SECURITY ALARM MANAGEMENT AND CONTROL SYSTEMS (SAMACS)

The requirements for Safeguards and Security Alarm Management and Control Systems used in protection of Category I and II quantities of special nuclear material and installed and operational after January 1, 2008, are provided in Annex 1, which contains Unclassified Controlled Nuclear Information and will be issued separately from this Order. This document has not been revised since it was originally published on 8-26-05. A copy of Annex 1 may be obtained by contacting the Office of Security Policy at 301-903-6209.