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**DOE-STD-1091-96  
February 1996**

# **DOE STANDARD**

## **FIREARMS SAFETY**



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

**AREA SAFT**

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## CONTENTS

<u>PARAGRAPH</u>	<u>PAGE</u>
Foreword .....	v
Scope .....	vii
Purpose .....	vii
Applicability .....	vii
References .....	vii
1. FIREARMS SAFETY CHARTER .....	1
1.1 Purpose .....	1
1.2 Authorities .....	1
1.3 Organization .....	1
1.4 Responsibilities .....	2
1.5 Conduct of Business .....	2
2. RESPONSIBILITIES, TRAINING, OPERATIONS AND PROCEDURES .....	4
2.1 Responsibilities .....	4
2.2 Training .....	4
2.3 Standard Operating Procedures .....	5
2.4 Range Operations and Procedures .....	10
3. FIREARMS MAINTENANCE AND ASSESSMENT .....	17
3.1 Firearms Maintenance .....	17
3.2 Appraisals/Self Assessments .....	18
4. EXERCISES .....	20
4.1 Exercise Hazards and Safety Rules .....	22
4.2 Blank Ammunition and Blank Fire Adapters .....	22
4.3 Light Anti-tank Weapon (Law) Simulator Operation .....	23
4.4 Hand-thrown Pyrotechnics, Flash-sound Diversionary Devices, and Chemical Agents .....	24
5. TRANSPORTATION, HANDLING, AND STORAGE OF MUNITIONS .....	25
5.1 Approved Ammunition .....	25
5.2 Transportation of Munitions .....	25
5.3 Handling of Munitions .....	25
5.4 Storage of Munitions .....	26
5.5 Protective Force Munitions .....	30
6. NON-SECURITY USE OF FIREARMS .....	33
6.1 Work-Related Activities .....	33
6.2 Public Hunting .....	34
6.3 Firearms-Related Activities Not Otherwise Specified .....	35
ATTACHMENT: DEFINITIONS .....	37

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FOREWORD

1. The U.S. Department of Energy (DOE) requires that all DOE activities be conducted in a manner that protects the safety of the public and provides a safe and healthful working environment for employees.
2. The document is approved for use by the Office of Environment, Safety and Health and is available to all DOE components and their contractors. It is also a part of the DOE directives systems and is issued to provide supplemental information regarding the Department's expectations for fulfilling its requirements as contained in Rules, Orders, Notices, and regulatory standards.
3. It is important that up-to-date guidance be readily available to those responsible for conducting DOE programs. Consequently, this document will be periodically reviewed and updated to establish new requirements as appropriate. Therefore, specific comments (recommendations, additions, deletions, and any pertinent data) to enhance this document should be sent to:

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## SCOPE

Information in this document is applicable to all DOE facilities, elements, and contractors engaged in work that requires the use of firearms as provided by law or contract.

The standard in this document provides principles and practices for implementing a safe and effective firearms safety program for protective forces and for non-security use of firearms. This document describes acceptable interpretations and methods for meeting Order requirements.

## PURPOSE

The purpose of this Technical Standard is to facilitate the development, implementation, and maintenance of a comprehensive firearms safety program so as to achieve the policy objectives and fulfill the requirements delineated in DOE O 440.1, "Worker Protection Management for DOE Federal and Contractor Employees."

## APPLICABILITY

1. Departmental. The provisions of this Standard apply to all Departmental Elements performing work that requires the use of firearms.
2. Contractors. The provisions of this Standard apply to all contractors and any of their subcontractors, the performance of whose contracts require the use of firearms.

## REFERENCES

The following DOE Order forms a part of this document to the extent specified herein:

DOE 5632.7A, PROTECTIVE FORCES PROGRAM OF 4-13-94, which prescribes Departmental policies, and requirements for the management, operation, training, and equipping of protective forces charged with the protection of security interests at DOE facilities.

The following other Government documents and publications form a part of this document to the extent specified herein. Unless otherwise indicated, the issues of these documents are those cited in the contracting document.

1. Army Regulation (AR) 385-63, "Policies and Procedures for Firing Ammunition for Training, Target Practice, and Combat," which specifies requirements including Surface Danger Zones for a variety of firing ranges for the U.S. Army and Marine Corps.
2. Atomic Energy Act of 1954 (42 United States Code (U.S.C. 2201k), as amended, section 161k, which authorizes the appropriate arming of Department or Departmental contractor personnel while engaged in the protection of property of the United States and provides the authority to make arrests without warrant.
3. DOD 6055.9-STD, "DOD Ammunition and Explosives Safety Standards," which provides standards for protection to personnel and property, both inside and outside an installation, from damaging effects of potential accidents involving munitions.
4. DOE M 440.1-1, "Department of Energy Explosives Safety Manual," which prescribes the Department's procedures for operations involving explosives.
5. Military Handbook 1027/3, "Range Facilities and Miscellaneous Training Facilities Other Than Buildings," presents design criteria for training facilities for use by design engineers for design of new facilities and rehabilitation of existing facilities for fire-arms used by the Navy and Marine Corps.
6. Title 49 Code of Federal Regulations (CFR) Chapter 1, "Research and Special Programs Administration," Department of Transportation, of 10-1-86, which prescribes the procedures for the development and promulgation of Cargo Security Advisory Standards.



## 1. FIREARMS SAFETY CHARTER

### 1.1 PURPOSE

The DOE Firearms Safety Committee provides a continuing review of Department policy and practices related to the use of firearms, munitions, and associated equipment to ensure that an adequate level of safety and risk assessment is provided to DOE, its contractors, the public, and other affected organizations.

### 1.2 AUTHORITIES

The DOE Firearms Safety Committee is approved by the Assistant Secretary for Environment, Safety and Health to review policies, standards, practices, and guidelines related to firearms safety. The committee develops recommendations for the Office of Occupational Safety and Health Policy on firearms safety issues. It reviews and evaluates Office of Security Affairs Orders that reference firearms activities. It also reviews and evaluates the Office of Nonproliferation and National Security's Orders that reference the use of firearms and firearms training.

### 1.3 ORGANIZATION

The DOE Firearms Safety Committee is composed of one permanent DOE safety representative voting member or alternate from each of the following organizations:

- Office of Occupational Safety and Health Policy (EH-51),
- Office of Office of Security Affairs (NN-512.1),
- the Central Training Academy (NN-511),
- the Transportation Safeguards Division, and
- each DOE Operations Offices.

A member from the Office of Occupational Safety and Health Policy and a member of the Office of Security Affairs, respectively, shall serve as the committee co-chairpersons. A recording secretary shall be named from the personnel in attendance at any meeting to provide a transcription of the minutes of the meeting. In the absence of the permanent member, a permanent voting member can be represented by a knowledgeable DOE

alternate who has voting power. DOE contractor personnel are invited and encouraged to participate in all committee meetings and activities.

#### 1.4 RESPONSIBILITIES

The committee shall meet to present and discuss problems, concerns, and questions of mutual interest and to exchange information concerning firearms safety. The committee shall review, evaluate, and makes recommendations for action on proposed changes to the DOE Technical Standard on Firearms Safety, and the DOE Range Design Criteria Guide.

The committee shall develops and discuss firearms safety issues, and makes recommendations on interpretations of these issues to the Office of Occupational Safety and Health Policy. The committee shall be responsive to the needs and concerns of the firearms safety community.

Manager of DOE Operations Offices an contractors whom providing protective force functions on, at, or for a DOE site shall have a firearms safety committee formally organized and chartered to assist management in providing safe firearms activities.

#### 1.5 CONDUCT OF BUSINESS

The committee shall meet annually (at a minimum) at an appropriate location for the purpose of effective safety and protective forces interface concerning:

- a. firearms and munitions;
- b. live-fire range safety issues;
- c. firearms training;
- d. protective force safety and health issues; and
- e. other firearms-related concerns, training issues, and training developments within the DOE organization.

The committee shall help ensure that this Firearms Safety Standard, and the Range Design Criteria Guide remain current and reflect the latest and best information as changes in firearms and firearms training methods and technologies occur.

The meeting format shall provide voting members and interested representatives from DOE and contractor organizations with an opportunity to present issues and provides a forum for firearms safety policy and practices. Only members officially designated as DOE voting members or designated alternates shall vote on policy issues. A voting member who is unable to attend a meeting can transfer his or her vote to another voting member. This action shall be submitted in writing to one of the committee cochairpersons.

The presence of a simple majority of the DOE Firearms Safety Committee voting members constitutes a quorum for conducting business. A simple majority of the total DOE Firearms Safety Committee voting members is required to make a recommendation for change to existing DOE policy or standards, to initiate action for new DOE firearms safety policy or standards, or to revisit an issue previously voted on.

Minutes of the meeting shall summarize discussions and recommendations. Copies of the minutes shall be distributed to members, attendees, and appropriate interested DOE and contractor organizations.

Any item requiring formal DOE Headquarters action or approval is presented through established channels of communication by the committee cochairpersons.

## **2. RESPONSIBILITIES, TRAINING, OPERATIONS AND PROCEDURES**

### **2.1 RESPONSIBILITIES**

The Department is required to develop and implement its responsibilities by Atomic Energy Act of 1954, as amended; Federal statutes; Executive orders; and, Other standards and requirements, e.g. DOE Orders

These responsibilities include the protection of restricted Data and other classified information or matter; nuclear weapons and nuclear weapon components; and, Departmental and contractor facilities, property, and equipment.

Employees shall not be authorized to carry a firearm until they have demonstrated their technical and practical knowledge governing the safe use of those firearms as set forth in this standard.

Authorization to remain in armed status shall continue only if the employee demonstrates his or her technical and practical knowledge of firearms safety semiannually.

### **2.2 TRAINING**

Firearms safety training and demonstrated technical knowledge and practical proficiency shall be required before firearms are permitted to be carried on duty. Safety training shall be repeated at least semi-annually, at which time safety proficiency must be demonstrated in order to retain firearm carrying status.

Firearms training shall be conducted at a site approved by the Manager of the Operations Office. Sites not falling under any Operations Office shall be approved by the appropriate Departmental official.

Firearms safety training shall include, at a minimum, the following: general firearms safety orientation; instructions on the capabilities of firearms and ammunition and the implications thereof; firearms safety information for each type of firearm required by duty assignment; practice with an unloaded

firearm in the teaching environment; range safety procedures and demonstration of safe firing techniques on the range; dry firing techniques and hazards associated with dry firing; handling of misfires; as 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; 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 shall not include repair, modification, or replacement of parts; and, details of firearms accidents and how they could have been prevented.

Four General Firearms Safety Rules: all firearms are always loaded; never point a firearm at anything you are not willing to destroy; keep your finger off the trigger until your sights are on the target; and, be sure of your target.

### 2.3 STANDARD OPERATING PROCEDURES

The Office of Safeguards and Security, with the assistance of impacted Headquarters and Operations Offices, shall publish standard DOE training programs for firearms being used at the various sites. Such training programs shall contain attachments of specific site developed firing range and on-duty (off-duty when applicable) safety information and shall incorporate those sections of the manufacturer's operating manuals that are necessary for the safe operation, inspection, and maintenance of specific firearms.

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

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

All firearms training, qualification, requalification, practice and test firing shall be conducted by personnel who are certified by the Safeguards and Security Central Training Academy (CTA). This certification is specific and personnel shall not conduct activities for which they have not been certified.

Lesson plans for all firearms training shall be available for review by appropriate safety and security personnel. Such lesson plans shall incorporate safety in addition to other training objectives and task performance standards. The Safeguards and Security Central Training Academy shall provide training on how to develop the categorical information to be contained in typical lesson plans.

All firearms training shall be conducted in accordance with the Office of Safeguards and Security guidance and local standard operating procedures developed in response to specific site needs and tactics as designated by the cognizant local DOE authority for safeguards and security. Standard operating procedures shall include detailed procedures emphasizing the safety of participants, observers, and bystanders and the use of personal protective equipment.

All standard operating procedures shall be reviewed and approved by appropriate contractor safety and protective force personnel at least annually or more frequently if significant revisions are made in the training program. Field Element safety and protective security personnel review and approve standard operating procedures initially and whenever significant changes are made.

All firearms training, qualification and re-qualifications shall require instructor-to-shooter ratios with no more than the following:

- (a) One-to-one for any automatic fire training (e.g., submachine gun, rifle, or machine gun). Other one-to-one ratios include the use of any firearm that has an explosive projectile (e.g., M79, M203, M72, 3.5-inch rocket launcher), or any advanced course of fire with any firearm involving movement of the shooter other than straight down range, or a fan of fire

greater than 10 degrees. An exception shall be for special response team (SRT) courses developed by the CTA and approved by Office of Security Affairs and conducted by the CTA or by sites certified to conduct CTA SRT courses. The ratio for these excepted courses shall be no greater than one-to-four.

- (b) One-to-four 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 in at least one automatic course of fire in the DOE Firearms Qualification Manual.
- (c) One-to-eight when firing in the semiautomatic mode (e.g., automatic rifle in semiautomatic mode, shotgun, semiautomatic rifle, and handgun), except during night firing and initial raining where the instructor-to-shooter ratio shall be no greater than one-to-four. When using an indoor range, whether daylight or simulated night fire, the instructor-to-shooter ratio shall be no greater than one-to-five.

A range safety officer or an instructor with specific delineated responsibilities for range safety (e.g., monitoring the safety performance of the shooters as well as overall safety of the firing range) shall be present during all firearms training activities, qualification, or re-qualification activities.

When the shooter-to-instructor ratio requires only one instructor on the firing line, he or she shall be the lead instructor and may be assigned range safety responsibilities if approved by the range master.

When the shooter-to-instructor ratio requires two or more instructors on the firing line, there shall be a lead instructor presiding over the firing activities (i.e., "calling the line") who will not be assigned additional instructional duties or be included in the shooter-to-instructor 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.

All personnel involved in firearms training shall be required to comply with the personal protective equipment rules in effect at each training location. In particular, eye and hearing protective equipment shall be worn.

Any injury/illness sustained during firearms training, regardless of degree, shall be reported immediately to an instructor. The instructor shall follow the established local operating procedures for accident reporting and injury treatment.

Prior to the implementation of any new training or evaluation method involving firearms tactical operations, a risk analysis report shall be completed.

No person shall be issued a firearm if there is any indication that he or she has a deteriorated mental or physical condition which could have a dangerous consequence while conducting training or work activities with firearms.

Semiautomatic and automatic firearms shall be carried in the manner specified below except when responding to an incident where there is reasonable cause to believe that deadly force is authorized.

Semiautomatic handguns shall not be carried with a live round in the firing chamber unless the following conditions are met:

- (a) The site has, in place, a documented training program for such handguns, which has been approved by the Operations Office Manager;
- (b) The training program in use is approved by the CTA, and
- (c) After receiving CTA approval, and after all involved protective force personnel have successfully completed the training program, the Opera-



tions Office Manager shall formally notify the Office of Occupational Safety and Health Policy and Office of Security Affairs as to when he or she intend to allow the carrying of a round in the chamber at the site.

Semiautomatic long guns, e.g., rifles, shotguns, submachine guns, shall not be carried during normal operations or placed in post or vehicle racks or carriers with a round in the firing chamber.

All duty firearms shall be carried in the manner approved by the cognizant local DOE authority for safeguards and security. Unless otherwise stated, from check-in to check-out a handgun shall always be in a holster; and a rifle, shotgun, or submachine gun shall always 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. At no time shall a firearm be carried with fingers on the trigger or inside the trigger guard.

When firearms are carried in vehicles, watercraft, or aircraft, they shall be mounted in an appropriate rack or container when not held by an individual.

All personnel covered by this Standard shall be required to comply with the personal protective and safety rules in effect at each work place.

Each site shall have an approved procedure for the loading and clearing of firearms which shall take place only in an approved area or when the barrel of the firearm is in or pointing toward a bullet containment device. The procedure shall include those when no bullet containment device is available.

The routine loading and clearing of all firearms shall be witnessed by a supervisor.

If the presence of alcohol or drugs is detected on a person, it shall be grounds for denial of the issuance of a firearm or removal from a duty station.

Departmental elements and contractors performing security operations shall develop 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.

Each Operations Office shall require that analyses be performed to determine what ammunition and firearms can be used safely in each site for which it has responsibility.

#### 2.4 RANGE OPERATIONS AND PROCEDURES

Specific site range safety rules and regulations shall be developed and implemented by the organization designated to be responsible for operating a live-fire range. Such rules and regulations shall be formal, provide a disciplined approach to range operations, and include rules and regulations on pre- and post-firing range activities. The Safeguards and Security Central Training Academy shall provide training on developing basic policy and guidelines for range operations.

A safety analysis shall be prepared on the facilities and the operations of each live-fire range. This analysis shall be reviewed by the contractor safety staff, reviewed by the Operations Office safety staff, and approved by the Operations Office Manager, or as appropriate, Office of Safeguards and Security, Headquarters. In addition, each live-fire range shall be approved by the Operations Office Manager.

Specific site range safety rules and regulations shall be conspicuously posted at all DOE-controlled live-fire ranges and as a minimum shall contain the following elements:

- (a) While on the range, it is mandatory to use approved eye and sound barrier-type ear protection and other personal protective equipment as required by the range safety officer.

- (b) Unsafe conditions shall be immediately reported to the range safety officer or the range master.
- (c) Other than duty equipment, only firearms and ammunition scheduled for use on the firing line shall be brought to the line. An exception is when an on-duty shooter is qualifying with a firearm other than a handgun.
- (d) A firearm shall be exchanged with another shooter only at the direction of the instructor who, prior to the exchange, shall verify that the cylinder or action of the firearm is open and that the chamber is empty. If a firearm is exchanged, both parties shall check it for safety (i.e., verify that the chamber is empty, and depending on the type of firearm, that either the safety is "on" or the selector lever is on "safe").
- (e) All firearms shall be carried in the manner specified in the approved instruction manual.
- (f) Firearms shall not be left unattended or unsecured.
- (g) Finger shall not be placed on a firearm's trigger or in the trigger guard until the firearm is pointed at the target.
- (h) Firearm loading and firing shall commence only on command.
- (i) Shooters shall not be permitted to talk while on the firing line during a firing exercise, except in reply to an instructor as a part of the exercise or to shout "cease fire" in an unsafe situation.
- (j) Until the firing line has been declared safe by the firearms instructor, shooters shall not bend over or move over the line.
- (k) All shooters shall be trained and instructed on what constitutes an unsafe condition and to shout "cease fire" when such a condition is observed.

- (l) Smoking, eating, or drinking shall be prohibited while on the firing range.
  
- (m) Alcohol beverages and drugs are prohibited on DOE firing ranges. If the firearms staff detects the presence of alcohol or drugs on a shooter or if a shooter is believed to be under the influence of either, the firearms staff shall remove the shooter from the range and report the incident to the appropriate DOE official; appropriate follow-up action shall be taken in accordance with pre-established directives. Shooters taking medication shall report this fact to the staff before reporting to the firing line. The staff shall be responsible for determining whether it is safe to allow each shooter to use the range. A medical doctor shall be consulted by the staff if necessary.
  
- (n) When an automatic or semiautomatic firearm is being fired, shooters shall take precautions to prevent hot spent cartridge and gunshot residues from getting inside their clothing. Spent cartridge deflectors, when available and practical, shall be required for all shooters unless it is determined by risk analysis that shooters are protected by partitions or by distance.
  
- (o) When a training session is completed, each firearm shall 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 (clear) condition before leaving the range. If the shooter is using a duty firearm on the range, he or she may reload that firearm at the range if returning directly to duty.
  
- (p) Shooters shall collect unexpended ammunition and return it to a range officer/instructor to ensure its proper accounting and disposition.
  
- (q) Shooters shall collect spent cartridge for proper disposal, checking for live rounds.

- (r) Shooters shall ensure that their firearms are properly cleaned, stored, and secured after firing. Cleaning materials shall be properly stored or disposed of.
  
- (s) While a firearm is being cleaned, live ammunition shall not be allowed in the cleaning area.

Before firing commences, a safety briefing for all participants shall 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.

Dry firing shall only be conducted on a live-fire range or in an approved area, and then under the direct supervision of a firearms instructor.

A scarlet streamer shall be prominently displayed at outdoor live-fire ranges at all times during daylight firing. The streamer shall be replaced with blinking or pulsating red lights for nighttime firing that shall be activated before firing exercises actually begin. These day and night range warning indicators must be visible to aircraft.

For outdoor ranges where it is credible that live-fire operations may affect aircraft operations, the contractor aircraft operations center, the Federal Aviation Administration, or another authorized aviation control center shall be notified of live-fire range schedules and activities. Schedules shall be coordinated with communications, medical, and fire department elements.

If emergency medical technician personnel or professional medical personnel are not available at a live-fire range, all firearms instructors shall be cardiopulmonary resuscitation (CPR)/first-aid trained and qualified and retrained annually. CPR/first-aid training shall be administered by instructors certified by the American Red Cross or the American Heart Association.

An approved plan shall be required for quickly handling, treating, and evacuating injured personnel through the use of air ambulance, on-scene wheeled ambulance, and the like. Emergency response drills shall be carried out at least annually to test personnel preparedness in implementing the plan. Medical equipment shall be available at a live-fire range. The exact equipment shall be determined by the cognizant site physician or other authorized personnel.

Airborne lead concentrations at all firing ranges shall be measured semiannually and the measurement technique shall comply with Occupational Safety and Health Administration (OSHA) lead standard, 29 CFR 1910.1025. The medical surveillance provisions of the lead standard shall be established and implemented, when indications are that employees are or may be exposed to airborne lead concentrations that exceed the action level for 30 days per year.

Any employee involved in regular firearms training (e.g., instructors, security police officers) shall be entered into a Hearing Conservation Program.

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

Shooter-to-target distances for steel targets shall be greater than 21 feet (6.4 meters), except for shooters firing shotgun slugs, where the shooter-to-target distances shall be greater than 150 feet (45.8 meters). Firearms shall not be fired at steel targets unless the steel is thick enough to prevent dimpling.

The design and method of deployment of steel targets shall be approved by the cognizant DOE official in consultation with the Safeguards and Security Central Training Academy.

Steel targets shall be examined prior to every use. Targets that bow in excess of 10 degrees and/or contain dimples in excess of one-sixteenth inch (0.6mm) in depth shall be removed from use.

Live-fire ranges shall be equipped with sufficient lighting to assure safe nighttime firing exercises.

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

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### **3. FIREARMS MAINTENANCE AND ASSESSMENT**

#### **3.1 FIREARMS MAINTENANCE**

All sites, including the Safeguards and Security Central Training Academy, shall 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 shall be prohibited from modifying the basic design of a firearm or any of the firearm's operating or safety components without written approval from the Operations Office Manager or, as applicable, Office of Security Affairs.

Armorers shall successfully complete a factory authorized or U.S. military approved training course for each firearm available for on duty use at a site. In addition, armorers shall demonstrate proficiency in conducting firearms safety inspections; performing minor repair of basic firearms; assembling/disassembling the firearms used at the various sites; rendering firearms safe, including confiscated firearms; knowing the minimum and maximum tolerances associated with safe operation of all firearms in inventory and available for use at each site; and, identifying unapproved modifications to firearms.

Certification procedures for armorers shall be established by the Safeguards and Security Central Training Academy, which shall certify all DOE armorers. Recertification shall be required at least every 2 years or whenever there is a major change in firearms policy.

The armorer shall inspect and certify for use all firearms available for duty issue. This inspection shall be in accordance with the recommendations of the manufacturer or the Safeguards and Security Central Training Academy, but not less often than semiannually.

The armorer shall maintain accurate individual records on all firearms, including the name of manufacturer, model, serial number of firearm, inspection

dates, and nature and date of any repair, in accordance with prescribed authorized schedules.

The armorer shall 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 may have an effect on the safe operation or reliability of the firearm. Any firearm that has experienced an unusual operation shall be tagged "out-of-service" and segregated from operational firearms until certified by the armorer as safe to operate. Records of any unusual occurrence and subsequent inspection/test firing shall be maintained in accordance with prescribed authorized schedules.

### 3.2 APPRAISALS/SELF ASSESSMENTS

Formal appraisals or self assessments of the safety and health aspects of the safeguards and security program shall include firearms safety and shall be performed by line management at least annually.

Contractors shall conduct formal appraisals, and self assessments (i.e., annual program reviews and worksite appraisals and periodic surveillances).

Cognizant DOE field and line management shall conduct formal self assessments to include annual program reviews (assessments) of each contractor and appraisals of selected work sites.

All shall maintain audits of their internal operations.

Such evaluations and audits should be conducted by safety personnel or by a joint safety and protective force evaluation team.

Such evaluations and audits shall cover procedures, responsibilities, and duty assignments within the firearms safety program to ensure that overall objectives and performance are being met. Such evaluations or audits shall include reviews of the records of unauthorized firearms discharges, investigations of such discharges, and the application of lessons learned; armorer's

records of firearms inspections, malfunctions, and repairs; firearms documentation maintained by DOE or contractor Environmental, Safety and Health manager to ensure that management decisions and actions to correct deficiencies have been completed and documented on time; protective force safety performance data, as compared with similar operations and programs, to determine whether there are lessons to be learned or deficiencies that require corrective action; hazardous incidents involving firearms and associated equipment; safety tagout program for defective firearms; disciplinary actions for violation of firearms safety procedures or regulations; results of the airborne lead monitoring programs at firing ranges and of the testing programs for blood lead level changes and hearing loss; storage and handling of firearms, ammunition, and cleaning materials in armories; high risk activities, such as loading, unloading, and exchanging firearms, to ensure the existence of proper accident prevention controls; and firearms training programs.

#### 4. EXERCISES

All exercises shall be governed by a plan that specifically addresses safety issues while remaining consistent with realistic training.

All exercises and related activities shall be regulated by controllers under the supervision of a senior controller who shall have final authority. The senior controller shall signal the beginning and end of the exercises and shall guide and supervise the other controllers.

The senior controller or his or her representative shall conduct pre-exercise briefings to discuss the exercise and to ensure a clear understanding of safety procedures and requirements. Post-exercise briefings of both participants and bystanders shall include a safety recap.

An exercise plan shall be approved by a safety representative designated by the manager of the organization responsible for the exercise. For each force-on-force training exercise, all participants, safety representatives, or controllers shall have the authority to stop an activity if in their opinion unsafe conditions develop.

Individuals with live firearms (shadow force) in an operational area where an exercise is to be conducted must be under the continuous and direct supervision of a controller who preferably is a protective force supervisor. This controller must be knowledgeable of security requirements to ensure that the members of the shadow force understand their roles and do not become involved in the exercise.

Management of facilities/buildings involved in exercises must be informed of exercises in advance. The cognizant DOE official, Federal Bureau of Investigation, and local law enforcement officials shall be notified of pending exercises as appropriate.

During exercises, in the event of an unscheduled security alarm, the exercise controller shall suspend the exercise and release the shadow force to respond to the alarm. The exercise will not resume until the members of the shadow force are out of the exercise area.

All firearms used in an exercise shall be inspected at the beginning of the exercise, clearly marked as exercise firearms, closely controlled, and kept separate from any firearms not associated with the exercise. The senior controller shall not permit issuance of blank ammunition and exercise firearms until all live firearms and live ammunition have been collected from participants and accounted for.

All firearms used in laser engagement simulation system (ESS) exercises shall be designated for ESS use; be individually inspected just prior to the beginning of an exercise unless equipped with an approved live-round inhibitor, and kept segregated from firearms that fire live rounds; not be loaded until authorized by the senior controller; and, never be pointed or fired at an individual who is closer than 10 feet (3.1 meters).

Maintenance or adjustments to ESS laser transmitters shall only be performed by the supplier or by qualified site personnel and approved by the supplier.

The transmitters of all laser engagement systems used in Departmental exercises shall have warning signs or stickers displayed in accordance with American National Standards Institute (ANSI) Standard Z136.1-1986. In addition, safe distances from these systems shall be calculated using the methodologies in ANSI Z136.1-1986.

All equipment containing semiconductor laser diodes shall be FDA certified and shall be subject to ANSI Z136.1-1986.

At the end of an exercise, explosive simulators and exercise firearms shall be collected and accounted for under the direction of the senior controller. Excess blank ammunition and explosive simulators shall be returned to the point of issue. Live firearms and ammunition shall not be reissued until all blank ammunition, simulators, exercise firearms, ESS equipment, and personnel are accounted for.

The exercise plan will include specific direction involving engagement of adversaries, handling of firearms, loading and unloading procedures and locations, and any other scenario specific firearm deployment information. The site range master or designated firearms instructor shall be consulted prior to and should be present during

the exercise to ensure that ESS firearm use procedures are compatible with approved live fire training.

#### 4.1 EXERCISE HAZARDS AND SAFETY RULES

Exercise plans or standard operating procedures shall discuss exercise hazards and enumerate all applicable safety rules such as those dealing with vehicles, fence climbing, and hand-to-hand combat.

Participants in ESS exercises shall wear eye protection and shall wear hearing protective equipment unless exercise safety considerations indicate otherwise as determined by the senior controller and approved in the exercise plan.

Directives for force-on-force exercises shall include or cover the location of the exercise site and the identification of responsible personnel and organizations; a description of the equipment, firearms, ammunition, explosive devices, and materials involved; a description of the operation with appropriate diagrams; details of the hazardous conditions; procedures for the actions of personnel and/or the use and accountability of equipment; procedures for tracking and controlling personnel with live ammunition; procedures covering an accident, emergency, or unexpected occurrence; the assignment of responsibility for ensuring compliance with safety procedures; and, notification of appropriate management and of all personnel affected by the exercise.

#### 4.2 BLANK AMMUNITION AND BLANK FIRE ADAPTERS

All blank ammunition magazines, and belts (first link) shall be distinctively color-coded and, where practicable, adapted to accept only blank ammunition.

All semiautomatic and automatic, using gas expansion as the means to cause the intended cycling of the firing mechanism, shall be equipped with an approved blank fire adapter (BFA), if an approved BFA is available for the firearm. All firearms equipped with BFAs shall not be fired at any individual who is closer than 10 feet (3.05 meters).

Blank ammunition shall not be used in force-on-force exercises except with ESS equipment.

Blank ammunition shall be stored separately from live ammunition, either in a different location or in a locked cabinet, and shall be inspected prior to issuance, preferably by a safety representative having munitions experience.

Prior to each ESS exercise, participants shall inspect their firearms to ensure that only blank ammunition and properly equipped ESS firearms are in use.

Prior to each ESS exercise, each firearm and all ammunition shall be inspected by the responsible safety or protective force supervisor to ensure that only blank ammunition and properly equipped ESS firearms are being used.

Only those blank rounds approved by, or meeting specifications approved by, the manufacturer of ESS equipment shall be used in firearms associated with that equipment.

#### 4.3 LIGHT ANTI-TANK WEAPON (LAW) SIMULATOR OPERATION

Exercise participants shall be given comprehensive instruction before using the LAW simulator and shall make sure that personnel, obstructions, and combustible materials are outside the hazard zone prior to firing a LAW simulator.

Exercise participants shall not cock the LAW simulator until a target is sighted. If the LAW simulator is not fired at a given target but is anticipated to be fired at another target during the exercise, it will be returned to the uncocked position until the next target is sighted. If the LAW simulator is not fired, it will be returned to an unloaded/tube-empty position prior to turn-in.

LAW simulators shall only be used in designated areas identified in the exercise plan.

In training with the LAW simulator, exclusion distances and conditions shall be established as though an actual firearm were being fired.

4.4 HAND-THROWN PYROTECHNICS, FLASH-SOUND DIVERSIONARY DEVICES, AND CHEMICAL AGENTS

Controllers shall ensure that all participants deploying hand-thrown pyrotechnics, flash-sound diversionary devices and chemical agents are fully trained and qualified. Flash-sound diversionary devices shall not be thrown within 50 feet (15.25 meters) of personnel in open areas or into an occupied room.

Participants shall never pick up a thrown pyrotechnic, a flash-sound diversionary device, or a chemical agent, even one that appears to be a dud. Dud must be reported as soon as possible after discovery to the senior controller.

Written and approved procedures for handling duds shall be included in force-on-force directives.

Only flash-sound diversionary devices meeting specifications approved by Office of Safeguards and Security shall be used for training, qualification or operations.

Written and approved procedures for such activities as the wiring of pyrotechnics into vehicle electrical systems and the use of booby traps and trip wires shall be included in force-on-force directives.

Pyrotechnic smoke generators shall not be used indoors. If exposure to smoke is anticipated, participants shall be provided with appropriate protective equipment. Personnel responsible for deploying smoke in exercises shall ensure that the smoke agents in use contain no carcinogens or other harmful by-products.

All pyrotechnic devices generate sufficient heat to start fires and shall only be used in areas identified as safe in the exercise plan. When pyrotechnic devices are to be used in an exercise, appropriate fire-fighting equipment shall be readily available.



## 5. TRANSPORTATION, HANDLING, AND STORAGE OF MUNITIONS

### 5.1 APPROVED AMMUNITION

5.1.1 Office of Security Affairs shall be responsible for developing, updating, and maintaining a list of approved ammunition for the daily use of Departmental personnel. This list shall specify the caliber, bullet type and weight, and manufacturer of the ammunition.

5.1.2 Ammunition used for live fire training and qualification, ESS training, and other nonlethal training shall be of the highest quality. Reloaded, reprocessed, or military surplus ammunition should not be used for training purposes. Ammunition shall not be unboxed and placed in bulk containers.

### 5.2 TRANSPORTATION OF MUNITIONS

5.2.1 Transportation of munitions on public highways shall be governed by Department of Transportation (DOT) regulations (49 CFR part 173). For transportation purposes only, munitions shall be given DOT class designations.

5.2.2 Transportation of munitions onsite shall comply with requirements contained in Chapter I, Section 16, of the Department of Energy Explosive Safety Manual, DOE M 440.1-1. Munitions not in original DOT containers shall be transported in containers specified in paragraph 17.5, Chapter II of the DOE M 440.1-1.

### 5.3 HANDLING OF MUNITIONS

5.3.1 Munitions shall be protected from abnormal stimuli or environments such as impact, shock, high temperatures, and open flames.

5.3.2 Smoking shall be prohibited when handling, transporting, or storing munitions. No matches, lighters, other fire-, flame-, or spark-producing devices shall be taken into a munitions storage area; appropriate signs or markings shall be posted at such areas.

## 5.4 STORAGE OF MUNITIONS

This is a summary of applicable requirements for the munitions listed in this Standard. Additional criteria can be found in the DOE M 440.1-1, and in DOD 6055.9-STD, "DOD Ammunition and Explosives Safety Standards."

5.4.1 Storage Structures. Refer to the DOE Explosives Safety Manual for guidance on design of structures for storing munitions.

### 5.4.2 Hazard Class and Hazard Division

5.4.2.1 For the purpose of placarding, the United Nations Organization (UNO) or the National Fire Protection Association (NFPA) hazard classification systems may be used. To ease identification of hazard characteristics and thus promote safe storage of munitions, the hazard classification system recommended by the UNO is used for DOE explosives classification. The system consists of nine classes for dangerous goods, with munitions included in Class 1. Class 1 is further subdivided into divisions that are based on the character and predominance of the associated hazards and on the potential for causing personnel casualties or property damage. The four divisions of Class 1 are as follows:

- (a) Hazard Class/Division 1.1. Mass detonating with possible fragments.
- (b) Hazard Class/Division 1.2. Non mass-detonating, fragment producing (fragments falling within indicated minimum distances).
- (c) Hazard Class/Division 1.3. Mass fire (fragments and fire brands could fall within indicated minimum distances).
- (d) Hazard Class/Division 1.4. Moderate fire, no blast.

5.4.2.2 When required to properly describe the hazard, a numerical figure in parentheses shall be placed to the left of the hazard class/division 1.1 through 1.3 (e.g., (18) 1.1, (08) 1.2, and (06) 1.3); this number in parentheses is used to indicate the minimum separation distance (in hundreds of feet) for specified levels of protection from munitions for inhabited buildings, public traffic routes, and personnel in the open.

5.4.3 Quantity Distance Requirements

5.4.3.1 Hazard Class/Division 1.1 Munitions. Inhabited building and public traffic route separation distances shall be in accordance with those specified in Table 9-1, DOD 6055.9-STD. If the storage structure is an above-ground magazine (not earth-covered), Column 5 for inhabited buildings and Column 9 for public traffic routes shall be used. The minimum fragment distance has been incorporated into the table except when the minimum fragment distance is indicated by a numerical figure in parentheses. For example, "Hazard Class/Division (04) 1.1" means that for 100 pounds or less of net explosives weight, the minimum fragment distance will be 400 feet.

5.4.3.2 Hazard Class/Division 1.2 Munitions

(a) (04) 1.2 Munitions. Inhabited building and public traffic route separation distances shall be as specified in Table 9-6, DOD 6055.9-STD. If the minimum distances specified are available, there is no limit as to the quantity of the material which can be stored in an approved structure. If the minimum distances are not available, (04) 1.2 material shall not be stored in the structure. Limited quantities of (04) 1.2 items, for reasons of operational necessity, may be stored in security

facilities; however, fragmentation shielding is required.

- (b) (08) 1.2 Munitions. Inhabited buildings and public traffic route separation distances shall be as specified in Table 9-7, DOD 6055.9-STD. If the minimum distance specified is available, there is no limit as to the quantity of material that may be stored in an approved structure. If the minimum distance is not available, the structure shall not be used for this material.
- (c) (12) 1.2 Munitions. Inhabited buildings and public traffic route separation distances shall be as specified in Table 9-8, DOD 6055.9-STD. If the minimum distance is not available, the structure shall not be used for this material.

#### 5.4.3.3 Hazard Class/Division 1.3 Munitions

- (a) Inhabited buildings and public traffic route separation distances shall be as specified in Table 9-10. DOE 6055.9-STD, for Hazard Class/Division 1.3 munitions.
- (b) If the Hazard Class/Division 1.3 material is further described by a numerical figure in parenthesis, that number in hundreds of feet shall be minimum separation distance required, regardless of the distances given in Table 9-10 for the specific quantity.

- 5.4.3.4 Hazard Class/Division 1.4 Munitions
- (a) Limited quantities of Hazard Class/Division 1.4 material for operational use may be stored in security facilities such as guard headquarters, security operations buildings, and guard stations without regard to quantity distance separation requirements.
  - (b) Storage of larger quantities, such as training stocks, shall be in accordance with Table 9-11, DOD 6055.9-STD. Additionally, this material in its original DOT Class C packaging may be stored in warehouses if the material is placed in segregated and specifically designed areas.
- 5.4.3.5 Combined Storage of Hazard Class/Division
- (a) If Hazard Class/Division 1.1, 1.2, and 1.3 materials are stored together, the largest separation distance for each individual Hazard Class/Division shall be required for protection of inhabited buildings and public traffic routes (See Chapter 9, Paragraphs B.1 c through g, DOD 6055.9-STD).
  - (b) Combining Hazard Class/Division 1.4 with any other Hazard Class/Division shall not affect the required separation distances.
- 5.4.3.6 Intra line and Intermagazine Distances. If munitions for a protective force are stored near or within an explosives storage area or near explosives operation buildings, the required Intra line and intermagazine separation distances shall be specified by the cognizant safety office using DOD 6055.9-STD.

5.4.4 Storage Compatibility Requirements

5.4.4.1 Compatibility groupings define which munitions may be safely stored together without increasing the risk of initiation.

5.4.4.2 Storage compatibility mixing

(a) The permitted mixing of storage compatibility groups shall be as specified in the DOE Explosive Safety Manual, Chapter II, Table II-5. Additionally, items from storage compatibility groups C, D, E, F, G, and S may be combined in storage if the net explosives weight in the items (or in bulk) does not exceed 1,000 pounds and if the items are in their original or approved packages.

(b) Electric blasting caps (storage compatibility group B) shall not be stored in a magazine with other munitions unless the blasting caps are separated from the other items by an enclosure built of sandbags.

5.5 PROTECTIVE FORCE MUNITIONS

5.5.1 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 only require appropriate fire-protection distance separation requirements 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 9, Paragraph C.4.b. [page 9-19] of DOD 6055.9 STD).

5.5.2 Transportation of Munitions in Protective Force Vehicles

- 5.5.2.1 Protective force patrol and response vehicles are authorized to transport the minimum quantity of munitions needed to support approved contingency plans and to execute protective force duties.
- 5.5.2.2 Whenever possible, support munitions required for defense against hostile forces should be pre-positioned in readily accessible magazines.
- 5.5.2.3 Protective force vehicles loaded with a combination of up to 25 pounds net explosive weight of Hazard Class/Division 1.1 and 1.2 munitions shall be exempt from explosives quantity-distance requirements when executing approved contingency plans or protective force duties.
  - (a) Vehicles so loaded shall not be used for administrative purposes.
  - (b) Vehicles so loaded shall be separated from inhabited facilities and property lines by a minimum of 125 feet when temporarily out of protective force service.
  - (c) Vehicles so loaded shall be downloaded into properly sited magazines or approved facilities when parked for periods in excess of 4 hours.
- 5.5.2.4 Operation of explosives-loaded vehicles will be restricted to onsite locations.
- 5.5.2.5 The explosives must be secured within the vehicle.

- 5.5.2.6 Smoking in explosives loaded vehicles is prohibited.
- 5.5.2.7 These vehicles shall be downloaded into properly sited magazines or approved facilities prior to repair or maintenance, except under emergency response conditions (see Chapter II, Paragraph 16.1.2.e (1) of DOE Explosives Safety Manual)
- 5.5.2.8 Munition shall not be exposed to temperature conditions within the vehicle that exceed the criteria stated on the MSDS or manufacturer's recommendation. Appropriate safety precautions will be taken to ensure munitions are not exposed to extreme temperatures.

### 5.5.3 Munitions Carried by Protective Force Personnel

Protective Force Personnel shall 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. Appropriate safety precautions for the handling of munitions shall be observed and the munitions shall be placed in an approved location if temporarily removed from the uniform/load bearing equipment used to carry such items.



## **6 NON-SECURITY USE OF FIREARMS**

### **6.1 WORK-RELATED ACTIVITIES**

6.1.1 All DOE and DOE contractor organizations with employees using firearms in non security work-related activities shall develop a program of firearms safety specific to those activities. This program shall be approved by the cognizant DOE Operations Office official and address, as a minimum, the following:

- A. A statement of management policy relating to the safe use of firearms;
- B. Activity-specific procedures for the operations being conducted;
- C. Maintenance and inspection of firearms being used under DOE control;
  - (1) Firearms shall be inspected by the user through functional manipulation prior to use.
  - (2) DOE provided small arms shall be maintained and inspected annually in accordance with manufacturers' guidelines by appropriately trained persons.
  - (3) The integrity of nonstandard modified firearms shall be verified by remote firing before being hand fired.
- D. Provisions for the storage, inventory, and control of firearms and ammunition;
- E. Emergency response and communications needs; and

F. Provisions for ensuring that personnel issued firearms are not under the influence of alcohol or drugs and are otherwise fit-for-duty.

6.1.2 Independent assessments of internal operations shall be conducted at least annually.

6.1.3 Developmental and quality assurance activities involving small arms shall be controlled in accordance with the DOE Explosives Safety Manual.

## 6.2 PUBLIC HUNTING

6.2.1 Prior to any activity that includes access by members of the general public to DOE-controlled security areas for the purpose of hunting and killing of game with firearms, the cognizant DOE official of the Operations Office involved shall provide for the establishment of written procedures for conducting and controlling such activities. Those procedures may be assigned through agreements between DOE and other agencies. The procedures for DOE controlled security areas shall describe, as a minimum, the following subjects:

- A. The means used for identifying each person engaged in a hunting activity;
- B. The provisions and recording of basic safety information and facility orientation specific to the hunting activity to all participants. This may be accomplished by providing each hunter a copy of the site-hunting map and the safety rules and procedures applicable to the hunt. Each hunter must sign that he or she understands the requirements;
- C. Whether emergency medical response and care will be available in the area of the hunt;

- D. The types of firearms and ammunition acceptable for use in the hunting activity; and
- E. The requirement for each hunter to thoroughly inspect his or her firearms for proper and safe function in accordance with the manufacturer's guidelines prior to bringing the firearm onto DOE property.

6.2.2 The use, possession, or being under the influence of alcoholic beverages, illegal drugs, or controlled substances during or immediately prior to coming onto a DOE facility to hunt is strictly prohibited and shall be cause for denying access.

6.2.3 Procedures for hunting on DOE-controlled properties shall conform to all applicable State and Federal regulations for such activity.

6.3 FIREARMS-RELATED ACTIVITIES NOT OTHERWISE SPECIFIED

Specific written procedures shall be developed and approved for any activity not addressed elsewhere in the Standard that involves DOE or DOE contractor personnel in the planned discharge of firearms, e.g., competitive shooting matches or pest control.

INTENTIONALLY BLANK

ATTACHMENT: DEFINITIONS

1. AMMUNITION is a type of munitions normally containing explosives, propellant, pyrotechnics, initiating composition, nuclear, or chemical material which is designed to inflict damage upon structures, personnel, or material. It also includes assembled cartridges, projectiles, grenades, bombs, pyrotechnics, and mines together with projectiles such as bullets, shot, and their necessary primers, propellants, fuzes, and detonators.
2. APPROVED is being in compliance with the provisions of this standard and the instructions issued by the authority having jurisdiction.
3. ARMORER is an individual who by schooling, experience, and assignment is certified by the Safeguards and Security Central Training Academy to operate, maintain, and repair firearms used by protective force personnel.
4. AUTHORIZED FIREARMS are firearms authorized by the Department and issued by the responsible contractor or Departmental Element to be used by protective force personnel in the performance of their duties.
5. AUTOMATIC RIFLE is a lightweight firearm normally shoulder fired, designed to fire rifle ammunition, and capable of firing more than one round of ammunition by a single manipulation of the trigger.
6. BLANK AMMUNITION is a cartridge loaded with powder but containing no projectile, or ammunition that is deemed by the manufacturer to be incapable of firing a projectile that will kill, wound, or otherwise harm any individual at a distance greater than 10 feet (3.05 meters).
7. BLANK FIRE ADAPTER (BFA) is a mechanical device attached to a firearm for the purpose of adapting it for use with blank ammunition.
8. BULLET CONTAINMENT DEVICE (see Clearing Barrel).

9. CENTRAL TRAINING ACADEMY (CTA), located in Albuquerque, New Mexico, is the organization designated by the Director of Office of Security Affairs to carry out a safeguards and security education program that includes instructor training, development of course material, firearms R&D, and selected site assistance programs.
10. CHEMICAL DEVICES are devices that contain incendiary mixtures or liquid mixtures that will produce smoke or irritant, burning, poisonous or asphyxiating gases.
11. CLEARING BARREL is a device used to point a firearm at or into during the loading and unloading process that will contain any inadvertently discharged round.
12. CONTRACTOR is any DOE prime contractor or subcontractor subject to the contractual provisions of DOE or specific negotiated contract provisions indicating DOE's decision to enforce environmental protection, safety, and health protection requirements.
13. CONTROLLER is an individual trained in firearms activities who helps to ensure that training exercises are conducted safely and that all participants are following the rules.
14. DEFECTIVE FIREARM is a firearm that, because of improper assembly, excessive wear, or broken or missing parts, does not function according to design specifications.
15. DRY FIRING is a training procedure to improve proficiency that uses a firearm without blank or live ammunition.
16. DUD is a bomb, grenade, or shell that fails to explode.
17. ENGAGEMENT SIMULATION SYSTEM (ESS) is composed of three elements: (a) devices that provide firearm effects, (b) a control system, and © a training-support package.
18. EXERCISE is any scenario that simulates an actual incident to which a protective force would respond.

19. EXERCISE AREA is an area geographically defined to contain the exercise.
20. EXERCISE PLAN is a plan that is written and reviewed to outline a security exercise.
21. EXPLOSIVE is any chemical compound or mechanical mixture which, when subjected to heat, impact, friction, shock, or other suitable initiation stimulus, undergoes a very rapid chemical change with the evolution of large volumes of highly heated gases that exert pressures in the surrounding medium.
22. FIELD ELEMENT is a Departmental organizational component located outside the Washington, D.C., metropolitan area.
23. FIREARMS are rifles, handguns, shotguns, machine guns, and similar devices designed to be carried and operated by a person. For the purposes of this Standard, laser engagement systems, other firearms simulators, chemical devices, and pyrotechnic devices are considered to be firearms.
24. FLASH-SOUND DIVERSIONARY DEVICES are used to momentarily distract and/or confuse suspects in order to allow SPOs to gain control of a tactical situation. Diversionary devices include both pyrotechnical and non-incendiary methods.
25. FORCE-ON-FORCE EXERCISE simulates the actual engagement of hostile personnel by the protective force personnel. This may include limited scope performance tests and similar exercises.
26. GRENADE LAUNCHER is a lightweight firearm used to deploy multipurpose munitions such as HE, smoke, chemical agents, etc.
27. HANDGUNS are firearms designed to be held and fired with one hand.
28. INCENDIARY DEVICES (see Chemical Devices).
29. LIGHT ANTI-TANK WEAPON (LAW) is a portable, shoulder-fired, recoilless firearm capable of launching explosive projectiles.

30. LAW SIMULATOR is a firearm that simulates the firing of a LAW and emits a coded laser beam in the direction aimed. The simulator does not fire a projectile but does expel fragments and a hot flash from the rear of the launch tube.
31. LIVE-FIRE RANGE is an area designated for firearms training; it does not include training areas where blank ammunition or ESS firearms are used exclusively.
32. LIVE-ROUND INHIBITOR is an obstructive device mounted in the cylinder or barrel permitting chambering and firing of blank ammunition but preventing chambering of a live round.
33. MACHINE GUN is a fully automatic firearm capable of firing multiple rounds of rifle ammunition with a single pull of the trigger; it is belt fed and is usually mounted on a bipod, tripod, or other fixture.
34. MAGAZINE is a mechanical device used to hold a predetermined number of cartridges in position for feeding into a firearm.
35. MISFIRE is an event involving any cartridge, missile, or rocket that does not properly fire when triggered.
36. MODIFICATION is any alteration of a firearms or firearm component part other than that alternation necessary to maintain factory required tolerances, or the addition or attachment of any part or substance not supplied by the particular manufacturer for the specific firearm.
37. MUNITIONS are small arms ammunitions, diversionary devices, and explosives.
38. NON SECURITY USE OF FIREARMS is the utilization of firearms in any activity sponsored and/or funded by DOE and not authorized within the scope of Section 161k of the Atomic Energy Act as amended.



39. PROTECTIVE FORCE PERSONNEL are security officers, security police officers (I, II, III), couriers, authorized escorts, and personnel assigned to protective details, who are employed to protect the security interests of the Department.
40. RANGE MASTER is the individual designated to provide overall management and administration of a live-fire range facility to ensure that all operations and training are conducted in accordance with applicable DOE Orders, Rules, and regulations.
41. RANGE SAFETY OFFICER is the designated and specifically trained individual responsible for safety at a live-fire range.
42. RIFLE is a shoulder firearm with a rifled bore.
43. SAFETY ANALYSIS REPORT (SAR) is prepared in accordance with DOE 5481.1B; the report summarizes the hazards associated with the operation of a particular facility and defines minimum safety requirements.
44. SEMIAUTOMATIC FIREARM is a type of firearm that employs either gas pressure or recoil force and mechanical spring action in ejecting the empty cartridge case after the first shot and loading the next cartridge from the magazine, but that requires release and another pressure of the trigger for firing each successive shot.
45. SENIOR CONTROLLER is responsible for assigning tasks and coordinating the efforts of all controllers during force-on-force exercises.
46. SHADOW FORCE is an armed security force that provides continuing site protection under the constant supervision of a controller while an exercise is being conducted.
47. SMALL ARMS are hand-carried firearms, including but not limited to handguns, rifles, shotguns, submachine guns, machine guns, LAWs, and grenade launchers.
48. SHOTGUN is a shoulder firearm with a smooth bore.

49. SUBMACHINE GUN is a fully automatic or selective-fire firearm designed to fire handgun ammunition.
  
50. SUPERVISOR is a specifically trained person who has been designated by a DOE Element or contractor to accomplish the requirements for a supervisor in this Standard.

**CONCLUDING MATERIAL**

**Review Activity:**

DOE

DP

EH

EM

NE

NS

RW

ER

AD

FE

Field Offices

AL

CH

ID

NV

OR

RL

SF

SR

**Preparing Activity:**

DOE-EH-51

**Project Number:**

SAFT-0036

National Laboratories

BNL

LLNL

LANL

PNL

Sandia

Area Offices

Amarillo Area Office

Kirtland Area Office

Princeton Area Office

Rocky Flats Area Office