

**Army Regulation 385-63  
MCO 3570.1C**

**Safety**

# **Range Safety**

**Headquarters  
Departments of the Army,  
and the U.S. Marine Corps  
Washington, DC  
30 January 2012**

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# ***SUMMARY of CHANGE***

AR 385-63/MCO 3570.1C  
Range Safety

This administrative revision, dated 29 March 2012--

- o Updates U.S. Marine Corps' signature block (title page).

This major revision, dated 30 January 2012--

- o Prescribes responsibilities for firing ammunitions, lasers, guided missiles, demolitions, explosives, rockets, and the delivery of bombs (chap 1).
- o Revises range safety policy (chap 2).
- o Provides guidance for deviations from range standards and procedures (chap 3).
- o Makes administrative changes (throughout).

Headquarters  
Departments of the Army,  
and the U.S. Marine Corps  
Washington, DC  
30 January 2012

\*Army Regulation 385-63  
\*MCO 3570.1C

Effective 29 February 2012


## Safety

### Range Safety

By Order of the Secretary of the Army:

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*General, United States Army*  
*Chief of Staff*

Official:

  
JOYCE E. MORROW  
*Administrative Assistant to the*  
*Secretary of the Army*

By Order of the Commandant of the Marine Corps:

  
RICHARD P. MILLS  
*Lieutenant General, U.S. Marine Corps*  
*Deputy Commandant for*  
*Combat Development and Integration*

**History.** This publication is an administrative revision. This administrative revision is effective 29 March 2012. The portions affected by this revision are listed in the summary of change.

**Summary.** This regulation/order provides revised range safety policy for the Army and Marine Corps. For both the Army and the Marine Corps, this regulation/order is to be used in conjunction with DA Pam 385-63.

**Applicability.** This regulation/order applies to the active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve, unless otherwise stated. It also applies to the following: the United States Military Academy; Departments of the Army and the Navy civilian employees and contractors; Reserve Officers' Training Corps students training on Army or Marine Corps controlled ranges; the Marine Corps Total Force; any person or organization using Army or Marine Corps controlled real estate or operational ranges; operational range training and target practice activities; military real estate areas that are being or have been used as bombing ranges; artillery impact areas or target areas; all areas designated for live-fire weapons firing; recreational ranges and rod and gun club ranges located on

Army or Marine Corps real property controlled by the Army or the Marine Corps; personnel training outside the continental United States; and operational training conducted on test and evaluation ranges (it does not apply to testing and evaluation conducted on such ranges). This regulation/order is advisory for deployed units engaged in combat operations. Army or Marine Corps commanders will apply the provisions of this regulation/order and/or host nation agreements as appropriate. Local standard operating procedures and range policies will reinforce this regulation/order. Contracts for work on Army/Marine Corps ranges will comply with applicable provisions of this regulation/order. During contingency operations, chapters and policies contained in this regulation/order may be modified by the Director Army Staff/Commandant of the Marine Corps.

**Proponent and exception authority.** The Army proponent of this regulation is the Director Army Staff. The proponent has the authority to approve exceptions or waivers to this regulation that are consistent with controlling law and regulations. The proponent may delegate this approval authority, in writing, to a division chief within the proponent agency or its direct reporting unit or field operating agency, in the grade of colonel or the civilian equivalent. Activities may request a waiver to

this regulation by providing justification that includes a full analysis of the expected benefits and must include a formal review by the activity's senior legal officer. All waiver requests will be endorsed by the commander or senior leader of the requesting activity and forwarded through their higher headquarters to the policy proponent. Refer to AR 25-30 for specific guidance. The Army's consultant for surface danger zones and weapon danger zones is Commanding General, U.S. Army Training and Doctrine Command (ATIC-TCT). The Marine Corps proponent of this order is the Commandant of the Marine Corps. The proponent has the authority to approve changes to this order that are consistent with controlling law and regulations. The proponent has delegated approval authority to the Commanding General, Marine Corps Combat Development Command (C465). The Marine Corps technical advisor for range management is Commanding General, Training and Education Command (C465). Range Safety Working Group members are direct representatives of the Service proponents and will ensure changes to this regulation/order follow Army policy and regulation, such as AR 25-30, and will ensure that any changes

\*This regulation supersedes AR 385-63, dated 19 May 2003.

are consistent with controlling law and regulations.

**Army internal control process.** This regulation contains internal control provisions in accordance with AR 11-2 and identifies key internal controls that must be evaluated (see appendix B).

**Supplementation.** For the Army, supplementation of this regulation/order and establishment of command and local forms are prohibited without the approval of the Chief of Staff, Army (Director of Army Safety (DACs-SF)), 9351 Hall Road, Building 1456, Fort Belvoir, VA 22060-5860. For the Marine Corps, supplementation of this regulation/order is prohibited without prior approval from Commanding General, Marine Corps Combat Development Command (C465), 2079 Barnett Avenue, Quantico, VA 22134-5001.

**Suggested improvements.** Users are invited to send comments and suggested

improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Headquarters, Department of the Army, Director of Army Safety Office (DACs-SF), 9351 Hall Road, Building 1456, Fort Belvoir, VA 22060-5860. Marine Corps users are invited to submit comments and suggested improvements to the Commanding General, Marine Corps Combat Development Command (C465), 2079 Barnett Avenue, Quantico, VA 22134-5001.

**Committee Continuance Approval.** The Department of the Army committee management official concurs in the establishment and/or continuance of the committee(s) outlined herein. AR 15-1 requires the proponent to justify establishing/continuing committee(s), coordinate draft publications, and coordinate changes in committee status with the U.S. Army Resources and Programs Agency, Department of the Army Committee Management Office (AARP-ZA), 9301 Chapek Road, Building 1458, Fort Belvoir, VA

22060-5527. Further, if it is determined that an established "group" identified within this regulation, later takes on the characteristics of a committee, as found in AR 15-1, then the proponent will follow all AR 15-1 requirements for establishing and continuing the group as a committee.

**Distribution.** This publication is available in electronic media only and is intended for command levels A, B, C, D, and E for the active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve. Publication and distribution to authorized users within the Marine Corps are indicated in the table of allowance for publications.

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## **Contents** (Listed by paragraph and page number)

### **Chapter 1**

#### **Introduction, page 1**

##### *Section I*

##### *General, page 1*

Purpose • 1-1, page 1

References • 1-2, page 1

Explanation of Abbreviations and Terms • 1-3, page 1

Responsibilities • 1-4, page 1

Range safety programs • 1-5, page 1

##### *Section II*

##### *Responsibilities, page 1*

Army • 1-6, page 1

Marine Corps • 1-7, page 4

Army and Marine Corps • 1-8, page 5

Installation and unit-level range safety programs • 1-9, page 5

### **Chapter 2**

#### **Ranges, page 10**

General • 2-1, page 10

Danger zones • 2-2, page 10

Ammunition and explosive items • 2-3, page 11

Use of non-Department of Defense property • 2-4, page 11

Risk management • 2-5, page 12

Military operations outside the United States • 2-6, page 12

Other military Services and/or agencies • 2-7, page 12

Prohibitions • 2-8, page 12

## **Contents—Continued**

### **Chapter 3**

#### **Deviations, *page 13***

Deviation from range standards and procedures • 3-1, *page 13*

Delegation of deviation authority • 3-2, *page 14*

Deviation limitations • 3-3, *page 14*

#### **Appendixes**

A. References, *page 15*

B. Internal Control Process, *page 17*

#### **Glossary**

## Chapter 1 Introduction

### Section I General

#### 1-1. Purpose

This publication prescribes Army and Marine Corps range safety policies and responsibilities for firing ammunitions, lasers, guided missiles, demolitions, explosives, rockets, and the delivery of bombs on Army and Marine Corps ranges and/or live-fire training facilities. It also provides guidance for range safety programs in support of range operations. For Army and Marine Corps users, DA Pam 385-63 prescribes range safety standards and procedures to be used in conjunction with this publication. When standards in DA Pam 385-63 conflict with standards of other military Services or Federal agencies, the standards providing the higher degree of protection apply. When training in other countries, applicable host nation agreements supersede this publication and Department of Defense directive (DODD) 4715.12.

#### 1-2. References

Required and related publications and prescribed and referenced forms are listed in appendix A.

#### 1-3. Explanation of Abbreviations and Terms

Abbreviations and special terms used in this publication are explained in the glossary.

#### 1-4. Responsibilities

Responsibilities are listed in section II of this chapter.

#### 1-5. Range safety programs

Range safety programs will be established for all ranges in accordance with AR 350-19, DA Pam 385-63, Marine Corps Order (MCO) 3550.9, and MCO P3550.10, change 1 and must—

- a. Enhance safe and realistic live-fire training, enabling the Army and Marine Corps to train as they fight.
- b. Protect personnel and property while improving combat readiness training and helping prevent fratricide in combat.
- c. Protect civilian and military populations who live and work near live-fire operational ranges.
- d. Minimize, to the extent practical through the design and management of ranges, both potential explosive hazards and harmful environmental impacts.
- e. Prevent injuries and property damage by introducing risk management (RM) into the range operations process to enhance combat readiness.
- f. Enhance the sustainability of operational ranges through the implementation of effective range clearance programs, per Department of Defense instruction (DODI) 3200.16.
- g. Establish range safety training and certification programs for range safety professionals and other personnel, as appropriate.

### Section II Responsibilities

#### 1-6. Army

a. *Director Army Staff*. The DAS will serve as the authorized official responsible for executing proponent responsibilities for all Armywide safety publications. The DAS is authorized to approve exceptions and waivers to all Armywide safety publications that are consistent with controlling law and regulations.

b. *Assistant Secretary of the Army (Acquisition, Logistics, and Technology)*. The ASA (ALT) will—

- (1) Establish policy to ensure range safety data specifications are incorporated into research, development, and acquisition strategies and test programs for new weapon systems and ammunition items.
- (2) Ensure approved surface danger zones (SDZs) and weapon/ammunition safety characteristics are available prior to materiel release.
- (3) Ensure project managers develop and provide SDZs in support of equipment and materiel fielding.
- (4) Monitor the research, development, test, evaluation, distribution, and fielding of Army explosive ordnance disposal (EOD) equipment.
- (5) Procure all Army EOD specific equipment and ammunition.

c. *Chief of Staff, Army (Director of Army Safety)*. The CSA (DASAF) administers and directs the Army range safety program as an integral part of the overall Army Safety Program specified in AR 385-10. The DASAF will—

- (1) Plan, program, direct, and evaluate an effective Army range safety program, to include integrating range safety

and RM into Army range operations policies and procedures and identifying and resolving range operations safety issues that affect training and readiness of the Army.

(2) Develop and implement range safety policy as directed by the DAS.

(3) Advise the Deputy Chief of Staff, G-3/5/7 (DCS, G-3/5/7) on the establishment and management of range operating policy.

(4) Advise the DCS, G-3/5/7 on safety and RM issues pertaining to the Army Sustainable Range Program.

(5) Provide key range safety personnel data on accidents and/or incidents occurring on Army/Marine Corps ranges and training areas in a timely manner.

(6) Establish, in coordination with the Deputy Assistant Secretary of the Army (Environmental Safety and Occupational Health), the DCS, G-3/5/7, and the Deputy Chief of Staff, G-4 (DCS, G-4) the Army risk assessment and deviation approval process for improved conventional munitions (ICM) and sub-munition clearance activities.

(7) Serve as Department of the Army focal point to coordinate and integrate range safety policy matters within Headquarters, Department of the Army (HQDA) and with Commanding General (CG), Marine Corps Combat Development Command (MCCDC) (C465), and other agencies as appropriate.

(8) Evaluate the effectiveness and efficiency of range safety policies and publish changes to this regulation.

(9) Oversee publication of Army range safety messages/memoranda to provide updates and other technical information to Army commands (ACOMs)/Army service component commands (ASCCs)/direct reporting units (DRUs) and the Marine Corps (CG, MCCDC (C465)).

(10) Serve as a co-chair of the Range Safety Working Group.

*d. Deputy Chief of Staff, G-1.* The DCS, G-1 will ensure that the Manpower and Personnel Integration Program takes into consideration personnel requirements in the materiel development and acquisition phases for weapon systems and related components.

*e. Deputy Chief of Staff, G-3/5/7.* The DCS, G-3/5/7 will—

(1) Ensure that range safety standards in DA Pam 385-63 are incorporated into the standardization and modernization of ranges.

(2) Ensure adequate range safety training for range operations personnel.

(3) Validate requirements for the use of nonstandard ammunition and explosives.

(4) Approve procurement Army ammunition funds to purchase nonstandard ammunition and explosives after validation of the requirement and appropriate range safety data has been obtained.

(5) Serve as a co-chair of the Range Safety Working Group.

*f. Deputy Chief of Staff, G-4.* The DCS, G-4 will—

(1) Serve as the proponent for munitions logistics (for example, storage, transportation, and demilitarization) issues related to ranges.

(2) Establish procedures with the Assistant Chief of Staff for Installation Management (ACSIM) for life cycle munitions management to ensure compliance with DODD 4715.11 and DODD 4715.12.

(3) Publish safety of use messages and ground precautionary messages pertinent to weapons and/or munitions worldwide in accordance with AR 750-6.

(4) Provide representation on the Range Safety Working Group.

*g. The Surgeon General (Headquarters, Department of the Army).* TSG will—

(1) Provide policies, guidance, and technical assistance to the ACOM/ASCC/DRU and the Marine Corps organic occupational health protection support staffs, with all Army resource expenditures fully reimbursed by the Marine Corps, as appropriate, for occupational health protection regarding electromagnetic radiation, laser, visible light, radar, smoke, and noise and eye hazards on outdoor and indoor operational ranges and associated work areas.

(2) Provide ACOM/ASCC/DRU and the Marine Corps occupational health protection support staffs technical assistance in evaluating and certifying laser ranges upon request.

(3) Evaluate and certify all Army tactical laser devices prior to fielding.

*h. Assistant Chief of Staff for Installation Management.* The ACSIM will oversee policy (Army) to ensure compliance with environmental laws and regulations for real property containing ordnance and explosives.

*i. Chief of Engineers (U.S. Army Corps of Engineers).* The COE (USACE) will—

(1) Ensure that the design of ranges meet the standards prescribed in AR 350-19 and Training Circular (TC) 25-8 and is consistent with Department of Defense (DOD) 6055.09-M.

(2) Negotiate and conclude agreements for real property on behalf of the Army.

*j. Commanding General, U.S. Army Training and Doctrine Command.* The CG, TRADOC will—

(1) Provide advice on range safety policies, procedures, and standards for the Army.

(2) Ensure TRADOC Schools/Centers of Excellence provide required technical information on weapons and munitions development to the Army Training Support Center (Attention: ATIC-TCT).

*k. Commanding General, U.S. Army Materiel Command.* The CG, AMC will—

(1) Establish SDZ development criteria based on weapon, munition capabilities, and user requirements. SDZ criteria established by the CG, AMC are applicable to Marine Corps installations.

(2) Provide weapon system development data and range safety technical data for the maintenance and update of DA Pam 385-63 to CG, TRADOC (Attention: ATIC-TCT).

(3) Provide surface and airspace danger zone dimensions and supporting range safety technical data prior to materiel release of new munitions or weapon systems to CG, TRADOC (Attention: ATIC-TCT) and the Sustainable Range Program-Mandatory Center of Expertise (Attention: CEHNC-CR), Huntsville, AL, per AR 385-10 and DA Pam 385-10.

(4) Ensure munitions data and ballistic characteristics are included in materiel development and acquisition life cycle management phases.

(5) Establish a program to validate or amend existing SDZs, and provide recommendations to CG, TRADOC (Attention: ATIC-TCT), as required.

(6) Provide, upon request, milestone schedules for munitions and weapon systems SDZ development to CG, TRADOC (Attention: ATIC-TCT).

*l. Commanding General, U.S. Army Special Operations Command.* The CG, USASOC will designate a technical consultant to TRADOC for close quarters combat (CQC), advanced military operations in urban terrain (AMOUT), and other USASOC-unique range safety matters. The technical consultant will—

(1) Recommend CQC and/or AMOUT range safety policies, procedures, and standards for Army special operations forces (ARSOF), to include requirements for conducting ARSOF CQC/AMOUT training and operations.

(2) Provide USASOC subject matter expert (SME) on ARSOF CQC/AMOUT to develop proposed updates and revisions to DA Pam 385-63, and submit through CG, TRADOC (Attention: ATIC-TCT).

(3) Analyze USASOC range safety technical data, such as nonstandard munitions data and ballistic characteristics provided by AMC or other sources, and recommend changes to the DASAF (Attention: DACS-SF).

(4) Prepare and recommend SDZ standards for nonstandard weapons/munitions systems used in CQC/AMOUT training and operations to CG, TRADOC.

(5) Coordinate USASOC range safety matters and, in coordination with DASAF, provide USASOC technical range safety assistance to ACOMs/ASCCs/DRUs, Federal agencies, and other Services.

(6) Provide technical assistance on CQC/AMOUT and other USASOC unique range safety matters to other Federal, State, national, international, and other organizations, as appropriate.

(7) Monitor and/or review USASOC CQC/AMOUT ARSOF range safety operations and procedures worldwide to ensure the adequacy of CQC/AMOUT range safety practices.

*m. Commanders of Army commands/Army service component commands/direct reporting units.* Commanders of ACOM/ASCC/DRU will ensure adequate range safety training for appropriate personnel.

*n. Chief, National Guard Bureau (Director, Army National Guard).* The CNGB (Director, ARNG) will—

(1) Ensure resources are provided to review range design plans (to include support structures and facilities) to ensure that safety requirements are adequately addressed prior to new construction or modification/renovation of firing ranges and/or weapons training facilities.

(2) Maintain the central registry for deviations throughout the ARNG.

(3) Provide representation on the Range Safety Working Group.

(4) Ensure resources are provided to establish and maintain the range safety program throughout the ARNG, per applicable directives.

(5) Provide range safety training upon request to NGB installations and units, and others as required.

(a) Designated range safety training instructors and course material must be certified by the proponent for range safety training prior to initial delivery and annually thereafter.

(b) NGB will coordinate scheduling of range safety courses with the range safety training proponent to prevent duplication of effort and to capitalize on opportunities to meet Armywide range safety training requirements.

*o. Director, U.S. Army Training Support Center, U.S. Army Training and Doctrine Command Capability Manager-Live.* The Director, ATSC TCM-Live will designate a technical consultant for Army range safety matters. The technical consultant will—

(1) Provide advice on range safety policies, procedures, and standards for the Army.

(2) Serve as an SME for revisions or changes to this regulation and DA Pam 385-63.

(3) Analyze range safety technical data, such as munitions data and ballistic characteristics validated by AMC or other sources, and recommend resultant regulatory changes.

(4) Review surface and airspace danger zone policies for Army and weapon systems.

(5) Approve new SDZs and/or weapon danger zones and changes to existing SDZs/weapon danger zones based on recommendations from the CG, AMC and others, as appropriate.

(6) Assist in providing technical guidance to ACOMs/ASCCs/DRUs, Federal, State, and local agencies, and other organizations on range safety issues.

(7) Assist in monitoring Army range safety operations and procedures worldwide.



- (8) Serve as proponent for Army range safety training and coordinate range safety instruction.
- (9) Publish Army range safety messages/memoranda to provide updates and other appropriate technical information to ACOMs/ASCCs/DRUs, and the Marine Corps (CG, MCCDC (C465)).
- (10) Provide ATSC TCM-Live representation on the Range Safety Working Group.
- (11) Coordinate, publish, and update a range safety pocket guide for use by Army personnel.
- (12) Coordinate with DOD laboratories to obtain technical data upon which to establish SDZs, weapon danger zones, and other range safety measures.
- (13) Coordinate, publish, and update weapon danger zones for rotary wing-delivered and Army delivered ordnance.

## 1-7. Marine Corps

The Commandant of the Marine Corps (CMC) (Safety Division) establishes overall Marine Corps safety and occupational health policies. The Deputy Commandant, Installations and Logistics (I&L) establishes environmental program policy.

*a. Commanding General, Marine Corps Combat Development Command (C465).* The CG, MCCDC (C465) administers and directs the Marine Corps Range Safety Program in support of the Marine Corps Range and Training Area (RTA) Program as specified in applicable regulations. The CG, MCCDC (C465) serves as the central point of contact for all Marine Corps RTA issues, to include the dissemination of policy guidance. The CG, MCCDC (C465) is the CMC agent for RTA validation in the requirements determination process. The CG, MCCDC (C465) will—

- (1) Maintain this publication with associated pamphlets, and update as required.
- (2) Prioritize training resources, submit training program objective memorandum initiatives, and identify present and future RTA requirements.
- (3) Establish an RTA investment strategy program.
- (4) Serve as coordinator of all RTA issues and act as the Marine Corps RTA safety representative.
- (5) Receive and review requirements documents, integrated logistics support plans, and materiel fielding plans relating to RTAs.
- (6) Coordinate enhancement efforts with installations managing existing RTAs.
- (7) Coordinate with installation efforts for effective scheduling and utilization of military special use airspace (SUA).
- (8) Coordinate with other Services, appropriate Marine Corps staff offices, and regional Marine Corps installation and base/station commanders on range management information systems.
- (9) Ensure that range safety standards in DA Pam 385-63 are incorporated into the standardization and modernization of ranges.
- (10) Ensure adequate range safety training for range operations personnel.
- (11) In conjunction with Marine Corps regional installation and base/station commanders, initiate military construction programs in support of force structure and training area enhancement.
- (12) Coordinate with the Deputy Commandant, I&L (Land Use and Military Construction Branch) to maintain an accurate inventory of RTAs.
- (13) Ensure management plans developed by the bases/stations include management procedures to maintain long-term sustainable range use.
- (14) Coordinate with the Deputy Commandant, I&L (Land Use and Military Construction Branch) to establish and implement procedures to assess the potential environmental impacts of munitions use on RTAs.
- (15) Establish procedures for range clearance operations to permit the sustainable use of RTAs. These procedures will include the frequency and scope of range clearance operations based on safety hazards associated with the clearance operations, the range's intended use, and quantity and type of munitions expended on the range.
- (16) Publish safety of use memorandum and precautionary messages pertinent to weapons/munitions worldwide.
- (17) Provide key range safety personnel with timely data on accidents and/or incidents occurring on Army and/or Marine Corps RTAs.

(18) Coordinate, publish, and distribute a range safety pocket guide for use by Marine Corps personnel.

(19) Coordinate, publish, and update weapon danger zones for aviation-delivered ordnance.

(20) Serve as a co-chair of the Range Safety Working Group.

*b. Commander, Marine Corps Systems Command.* The Commander, MARCORSSYSCOM will—

- (1) Provide CG, MCCDC (C465) hazard assessment and recommendations regarding ammunition and explosives to be used on operational ranges.
- (2) For Marine Corps developed or sponsored items, ensure that approved danger zones and weapons and/or ammunition safety characteristics are available prior to fielding and that data are forwarded to CG, TRADOC (Attention: ATIC-TCT) and CG, MCCDC (C465).
- (3) Serve as the proponent for munitions logistics (for example, storage, transportation, and demilitarization).
- (4) Provide representation on the Range Safety Working Group, as required.

c. *Commanding General, Marine Corps Warfighting Laboratory.* The CG, Marine Corps Warfighting Laboratory will provide all appropriate technical data on nonstandard ammunition, explosive items, and weapon systems to be used on operational ranges to CG, MCCDC (C465).

#### **1-8. Army and Marine Corps**

The following applies to Army and Marine Corps:

a. ACOM/ASCC/DRU commanders and Army separate commanders; the Adjutant Generals of the States/Territories; Commander, Marine Corps Forces Reserve (COMMARFORRES); Commander, Marine Corps Installations Command (MCICOM); and the regional commanders of Marine Corps installations with RTA complexes will ensure accomplishment of the following:

(1) Establishment of range safety programs in accordance with the provisions of this regulation/order, AR 350-19, AR 385-10, and DA Pam 385-63. Marine Corps organizations will follow guidance published in this regulation and MCO 3550.9 and MCO P3550.10.

(2) Establishment of review and approval procedures for conducting RM in accordance with established doctrine.

(3) Maintenance of a central register of deviations from the standards of this publication and DA Pam 385-63 within the command.

(4) Review of range design plans (to include support structures and facilities) to ensure that safety requirements are adequately addressed prior to new construction or modification/or renovation of firing ranges and/or weapons training facilities.

(5) Final safety acceptance surveys are conducted of all firing ranges, weapons training facilities, and related structures following new construction, modification, or renovation.

(6) Proper use of both SUA and airspace outside SUA used for live-fire training.

(7) Appropriate actions, including closure, to control hazards on ranges determined to be unsafe.

(8) Risk management is performed prior to conducting operations on assigned ranges.

(9) Compliance with the prohibitions established in paragraph 2-8 of this regulation/order.

b. Commanders of ACOMs/ASCCs/DRUs, MARFORRES, MCICOM, and the regional commanders of Marine Corps installations with RTA complexes are authorized to approve the use of foreign nation technical data on foreign nation weapon systems not in the U.S. inventory when used by U.S. forces.

c. The Range Safety Working Group membership consists of Army and Marine Corps representatives who are SMEs on operational range safety and the training requirements pertinent to safe range operations. The Range Safety Working Group will—

(1) Develop and coordinate Army and Marine Corps range safety policy and procedures for operational ranges.

(2) Coordinate with and provide technical expertise to weapon and ammunition program managers before and during weapon systems development, to include training simulators.

(3) Review each weapon system to ensure operational range safety requirements are identified and promulgated prior to weapon fielding.

(4) Develop, coordinate, and execute Army and Marine Corps range safety training curricula.

(5) Coordinate with DOD laboratories to obtain technical data upon which to establish danger zones and other range safety measures.

(6) Coordinate changes and revisions to this regulation/order and associated pamphlets.

#### **1-9. Installation and unit-level range safety programs**

a. *Senior Commander (Army) Base/Station Commander (Marine Corps).* The Senior Commander (Army) Base/Station Commander (Marine Corps) will—

(1) Establish a range safety program that meets the requirements of paragraph 1-5.

(2) Assign the installation range control officer (RCO) in writing.

(3) Ensure essential personnel involved with live-fire training receive appropriate range safety training such as the Army/Marine Corps Interservice Range Safety Course (Intermediate) which provides policies and techniques necessary for safe and efficient range operations.

(4) Implement a certification program for installation range officer in charge (OIC)/range safety officers (RSOs).

(5) Establish a range clearance program per DODI 3200.16 that balances training requirements and high-tempo operations with the need to ensure safe and sustainable ranges.

(6) Comply with Military Handbook (MIL-HDBK) 828B, MCO 5104.1, and DA Pam 385-63 in establishing firing ranges, training facilities, and maneuver areas for laser use within the installation training complex.

(7) Appoint a senior range safety officer (SRSO) for air defense artillery (ADA) guided missile and large rocket firing exercises.

(8) Establish and maintain a proactive 3Rs (Recognize, Retreat, Report) Explosive Safety Education Program for assigned and on- and off-post personnel, particularly school children (kindergarten through 12th grade).

(9) Ensure the command's public affairs office's community relations section participates in planning for and the execution of the command's explosives safety program.

(10) Develop procedures to ensure all release of information to the public news media is made through the installation's public affairs office and in accordance with AR 360-1 and Secretary of the Navy (SECNAV) Instruction 5720.44B.

(11) Ensure warnings are issued at least 24 hours in advance through the installation public affairs officer (PAO) to the public news media before firing operations that may involve possible hazards to the general public.

(12) Prohibit use of alcohol and controlled substances in the training complex and any individual under the influence of alcohol or controlled substance entrance into the training complex.

(13) Ensure ammunition and explosives not expended during training are returned to the ammunition supply point (ASP), in the original packaging, when firing is completed or as directed by local policy.

(14) Ensure the use of the Range Facility Management Support System (RFMSS) for the scheduling, daily reporting of usage data, and recording of activation/deactivation of SUA.

*b. The garrison safety manager (Army)/installation range operations director (Marine Corps).* The garrison safety manager (Army)/installation range operations director (Marine Corps) will—

(1) Provide oversight responsibility for all range safety matters (Army) and is responsible for all range safety matters (Marine Corps).

(2) Evaluate the overall effectiveness of the installation range safety program annually to ensure the range safety program is being implemented in accordance with this regulation/order and installation range regulations and procedures.

(3) Inspect the installation training complex semiannually and high-risk training operations quarterly (Army), as required (Marine Corps) to support safety in training missions.

(4) Review proposed local range safety policies and procedures.

(5) Review and comment on all high-risk and/or extremely high-risk assessments for training and operations on installation-owned facilities and units, and others as directed by the commander.

(6) Assist the installation RCO, PAO, and EOD officer as required in developing and implementing an on- and off-post range safety and dud awareness educational program for children (kindergarten through 12th grade).

(7) Investigate or ensure range accidents are investigated by the appropriate command level.

(8) Maintain records of accidents occurring within or originating from the installation training complex in accordance with AR 385-10, DA Pam 385-40, or MCO P5102.1B, as appropriate.

(9) Review all range modification and construction proposals, designs, and plans.

(10) Participate in final range acceptance inspections following construction, renovation, or modification of facilities prior to any firing on the range.

(11) Review all nonstandard range and training activities, to include the user-provided RM documentation for those activities with high or extremely high residual risk.

(12) Review and make recommendations regarding the conduct of overhead fire.

(13) Monitor installation OIC and RSO training program effectiveness. For the Marine Corps, OIC/RSOs must complete the Range Safety Course (Basic) Distance Learning Course prior to attendance at installation OIC/RSO training.

*c. Installation range control officer.* The installation range control officer will—

(1) Serve as the central point for control and coordination for all activities conducted within the installation training complex to ensure safety and unified operations.

(2) Coordinate safety issues with appropriate installation staff including the installation safety manager (Army). Coordinate range safety issues with appropriate installation staff offices (Marine Corps).

(3) If authorized in writing by the installation commander/senior commander, withdraw or suspend installation training complex privileges from any person, organization, agency, or club that willfully violates the policies in this publication or local range regulations and procedures; or from any person whose ability or conduct is incompatible with the safe use of Government range structures and facilities.

(4) Maintain and update RFMSS files of current and historical usage data on the installation training complex to include known hazards, type of ammunition expended on each range, dud accumulation and disposal records, and clearance status of temporary, dedicated, and high-hazard impact areas where available.

(5) Maintain original records of current and historical danger zones, weapon system safety data, firing limitations, and survey data for firing points and impact areas within the installation training complex boundaries.

(6) Approve, control, and monitor personnel access into the installation RTA complex for both training and administrative activities. All visitors to RTAs will be approved by the RCO. The RCO will be included in all range scheduling activities. If empowered by the installation commander/senior commander, the RCO is the final authority regarding the use of training facilities and will authorize the commencement of live-fire and/or lasing operations.

(7) Determine, for the Army, before personnel who have an operational requirement are granted access to range impact areas, whether ICM or sub-munitions are known or suspected to be present. The RCO, in coordination with

installation safety and EOD representatives, determines whether it is safe to permit access and, if required, establishes prerequisite precautions including escort by EOD or unexploded ordnance (UXO)-qualified personnel. Personnel permitted access to any area known or suspected to contain ICM or sub-munitions will be fully apprised of the potential dangers and the safeguards to be exercised. Additional actions required for operational ranges and/or other areas where ICM or sub-munitions are known or suspected to be present are specified in DA Pam 385-63.

(8) Maintain current maps and overlays of training complex impact area boundaries, danger zone diagrams, and ground hazards for dissemination of information to installation training complex users.

(9) Establish, maintain, and document safety certification procedures for unit range OIC and RSOs. For artillery units, the commander provides the installation RCO a list of personnel who have successfully completed the unit certification program. The installation RCO ensures that all OIC and RSOs have received baseline education addressing the use of installation training complex facilities (for example, installation procedures for opening and closing facilities, communications requirements, medical evacuation procedures, and so forth).

(10) Perform administrative and investigative duties related to the safe operation of ranges, training areas, and airspace.

(11) Assist the installation safety office and PAO in establishing and implementing an on- and off-post range safety and dud awareness educational program.

(12) Exercise oversight of unit range OIC and RSO training programs and serve as the authority on suspension or termination of OIC/RSO certification (Army). Installation RCO will conduct all OIC/RSO certifications and serve as the authority on suspension or termination of those certifications (Marine Corps).

(13) Exercise approval authority for the conduct of overhead fires when authorized by the installation commander/senior commander. Approval is based on considering unit RM documentation, maneuver plans, and the installation safety manager's (Army) recommendation.

(14) Coordinate, as required, with installation facilities engineers for maintenance of ranges and training facilities to provide safe operating conditions.

(15) Participate as a member of the installation range accident investigation team, providing weapons and munitions information, scenario input and time-line data, and SME input to the installation safety manager.

(16) Coordinate with local EOD, environmental, installation safety, and other involved staff organizations for clearance of specific UXO on a case-by-case basis as dictated by mission requirements (Army). Coordinate with appropriate staff offices for the clearance of specific UXO on a case-by-case basis as dictated by mission requirements (Marine Corps). This unscheduled UXO clearance is in addition to the recurring operational range clearance requirements in DODI 3200.16. (Marine Corps EOD does not have the mission for range clearance operations.) Maintain a working register of all known RTA facts, circumstances, and information concerning UXO within the installation RTAs. This data must be maintained as a critical historical record and be made available to those installation staff elements that may employ the information to reduce the risk of UXO-related incidents (for example, Department of Public Works, safety office, provost marshal, public affairs office, fire department, and so forth).

(17) Develop and publish an installation/garrison standard operating procedure (SOP)/range regulation.

(18) Ensure that appropriate explosives safety site plans are submitted for permanent ammunition and explosive storage facilities (except for 1.4 small caliber ammunition) on ranges. Note that there is no requirement for a site plan unless the storage/distribution facility is improved and is used on a recurring basis, such as a building or a covered concrete pad.

(19) Designate ranges/areas that are not known or suspected to contain UXO for hunting and other recreational activities. Control the movement of personnel so as not to interfere with operational range training.

(20) Prohibit unnecessary access (for example, livestock grazing, recreational uses such as hunting and hiking) and take appropriate action to deter unauthorized access to areas known or suspected to contain UXO or other munitions that have experienced abnormal environments.

(21) Successfully complete, for the Army, the Interservice Range Safety Course (Intermediate) or the Range Safety Course Level II. For the Marine Corps, successfully complete the Interservice Range Safety Course (Intermediate).

*d. Quality Assurance Specialist, Ammunition Surveillance (Army).* The Quality Assurance Specialist, Ammunition Surveillance (Army) will—

(1) Ensure only ammunition certified and cleared in accordance with Technical Bulletin (TB) 9-1300-385 or NAVSEA TWO 24-AA-ORD-010 is issued for overhead fire of unprotected personnel.

(2) Ensure ammunition is stored, handled, and transported in accordance with applicable regulations, standards, and policies.

(3) Investigate and forward malfunction reports in accordance with AR 75-1 and DA Pam 385-40, as appropriate. Acts as installation's coordinator for ammunition malfunctions, explosive accidents, and ammunition investigations.

(4) Provide using units with technical assistance concerning all aspects of ammunition and explosives.

(5) Provide ammunition liaison with range control office, installation safety office, logistics assistance office, EOD personnel, and training units.

*e. Battalion and/or squadron commanders.* Battalion and/or squadron commanders will—

(1) Comply with the installation procedures for the certification of OIC/RSO/laser range safety officer. Once satisfied through training and testing that individuals are qualified to perform the duties of OIC/RSO/laser range safety officer, forward their names to the range control facility for appropriate action.

(2) For commanders of Army field artillery battalions and larger field artillery units, establish and maintain an artillery safety training and certification program to train and qualify personnel in safety procedures for their specific areas of responsibility.

(3) Ensure personnel who have not completed training and certification are not appointed as an OIC or RSO. For the Marine Corps, commanders of field artillery and tank battalions will establish and maintain weapon safety and certification programs to train and qualify personnel on their respective weapon systems. Personnel must complete this training prior to being nominated by their commanders as OIC and RSOs in the installation's range safety certification program.

(4) Integrate RM into all range operations.

*f. Unit commanders.* Unit commanders will—

(1) Ensure compliance with this publication, DA Pam 385-63, applicable technical manuals, field manuals (FMs), doctrinal publications (Marine Corps), installation range guidance, and applicable SOPs for safe training and firing for each weapon system within the command.

(2) Ensure all personnel within the command are briefed on and comply with installation range procedures and safety requirements including required personal protective equipment.

(3) Designate an OIC and an RSO for each firing exercise and/or maneuver in accordance with OIC/RSO appointment requirements in DA Pam 385-63. Except as designated in paragraph 1-9h(1)(a), below, the RSO may have no additional duties during the firing exercise.

(4) Ensure personnel performing duties of OIC and RSO are certified in accordance with established installation range safety certification program.

(5) Comply with range safety certification program requirements in DA Pam 385-63 for OIC and RSOs to ensure they are—

(a) Competent and properly instructed in the performance of their duties.

(b) Knowledgeable or qualified in the weapon systems for which they are held responsible and in safe ammunition handling and use procedures.

(6) Develop SOPs for laser operations to include provision for immediate medical attention for personnel who incur eye or other overexposure to laser energy and reporting laser overexposure incidents in accordance with DA Pam 385-24, DA Pam 385-40, TB MED 524, MIL-HDBK 828B, and MCO 5104.1C.

(7) Apply RM and develop controls and procedures for all phases of training events.

*g. Officer in Charge.*

(1) *Qualifications.*

(a) Commissioned officer, warrant officer, or noncommissioned officer (NCO) (Army), staff noncommissioned officer (SNCO) (Marine Corps) or civilian equivalent. NCOs serving as OIC will be in the grade as shown for OIC/RSO appointment requirements in of DA Pam 385-63 at a minimum.

(b) OIC will be knowledgeable in the weapon systems for which they are responsible. For weapon systems equipped or dependent on lasers, the OIC will be knowledgeable of laser hazards and proper employment. The OIC holds responsibility and accountability for the conduct of the activity and the adherence to governing regulations and guidance. He/she must be able to fully influence the conduct of the event.

(c) Proof of satisfactory completion of unit (Army) or installation (Marine Corps) range safety certification program.

(2) *Duties.*

(a) Ensures the overall safe conduct of training and proper use of the installation training complex.

(b) Receives a range safety briefing from installation range control organization on use of the RTA complex.

(c) Ensures the using unit is on the correct range, firing point, or firing area as assigned by the range control office, and has the weapons and munitions approved for use on the range.

(d) Ensures the RSO is physically present at the training site.

(e) Determines when it is safe to fire in accordance with applicable regulations and installation range requirements.

(f) Ensures receipt of final clearance to fire from range control.

(g) Ensures proper supervision of personnel performing misfire, hang-fire, and cook-off procedures.

(h) Ensures required communications are established and maintained.

(i) Ensures safe laser operations.

(j) Ensures adequate medical support is available.

(k) Ensures ammunition and explosives are properly handled, transported, stored, and accounted for within the training complex from the time of receipt to the time of expenditure or turn in.

(l) Ensures a written log is maintained of pertinent safety and control data concerning the operation of firing ranges,

weapons training facilities, maneuver areas, authorized operating times, impact areas (entries and exits), and cease-fire authorizations.

(m) Ensures plans for firing exercises and maneuvers are coordinated with range control.

(n) Ensures control of target areas to prohibit entry by unauthorized personnel.

(o) Ensures all ammunition malfunctions and accidents are reported to range control in accordance with AR 75-1 and DA Pam 385-40 (Army), or MCO P5102.1B and MCO 8025.1E (Marine Corps).

(p) Ensures coordination and approval has been gained from the range control agency for all civilian and contractor personnel who will be entering the training site.

(q) Briefs the RSO on the duties to be performed in support of the training event. Clearly establishes the requirement for the RSO to brief the OIC on the safety of the facility and unit, and the readiness to commence live-fire operations prior to the start of firing.

(r) Implements RM in all phases of the training events.

*h. Range safety officer.*

(1) *Qualifications.*

(a) Commissioned officer, warrant officer, or NCO (Army), SNCO (Marine Corps), or civilian equivalent. Civilian contractors may act as RSOs when approved by the installation commander/senior commander. For field artillery applications, the position commander or OIC may assume RSO duties. Grade requirements will be in accordance with OIC/RSO appointment requirements in DA Pam 385-63. Personnel assigned as RSO will have no other duties during that period of training, except for aviation weapons systems training where instructor pilots, standardization instructors, or flight instructors may assume RSO duties. Assistant RSOs may be appointed as required.

(b) Weapon system qualified. For combined arms live-fire exercises (Army) or combined arms exercises (Marine Corps), an exercise RSO will be assigned who may not be weapon system qualified on all weapons used during the training exercise. The exercise RSO will supervise and coordinate the activities of weapon system RSOs who are qualified on those systems. The exercise RSO grade requirements are in accordance with OIC/RSO appointment requirements in DA Pam 385-63.

(c) Proof of satisfactory completion of unit (Army) or installation (Marine Corps) range safety certification program.

(2) *Duties.*

(a) Receives range safety briefing from the installation range control organization on use of the RTAs.

(b) Before granting clearance to fire ensures that—

1. The unit is on the correct range, firing point, or firing area as assigned by the range control office.

2. Weapons and personnel are properly positioned.

3. Authorized ammunition and explosives, to include proper charge, fuze, and fuze settings, are used.

4. Firing settings and weapons systems are within prescribed safety limits and verified.

5. Danger zone is clear of all unauthorized personnel.

6. Proper hearing protection is worn by personnel within noise hazard areas.

7. Proper eye protection is worn by personnel within eye hazard areas.

8. Permission is received from range control to commence training and live-fire operations.

9. Compliance with responsibilities listed in local SOPs.

(c) Prior to commencing live-fire operations, conducts final coordination with the OIC. This coordination will include a summary of checks, inspections, and actions that the RSO has completed, verification that required communications have been established, and that a "hot status" has been received from range control.

(d) Orders immediate cease-fire or check-fire when any unsafe condition occurs.

(e) Is physically present at the training site.

(f) Reports all accidents and ammunition malfunctions to the range OIC.

(g) Verifies, upon completion of firing or firing order, to the OIC that all weapons and weapons systems are clear and safe before allowing the removal of weapons from the firing area.

(h) During laser operations—

1. Ensures unit personnel employing lasers receive thorough safety briefings, to include explanations of specific laser-related hazards, safety equipment, and detailed range safety procedures.

2. Ensures unit personnel comply with procedures in DA Pam 385-63.

3. Knows and observes horizontal and vertical safety limits of the laser range.

4. Follows unit SOPs for laser operations and training exercises.

5. Ensures all personnel engaged in laser operations, to include personnel in target areas, maintain continuous communications.

6. Ceases laser operations immediately if communications or positive control of the laser beam is lost.

7. Allows the laser range safety officer, as required, to serve as the RSO.

(i) During ADA, range firing with crew-served guided missiles and rockets—

1. Receives missile and rocket firing advisory information from the senior RSO and advises the OIC accordingly.

2. Ensures the entire range is clear of unauthorized personnel and equipment prior to firing, and maintains clearance throughout the entire firing sequence.

*i. Senior range safety officer.*

(1) An SRSO is required for ADA guided missile and rocket firing. In addition to requirements outlined in paragraph 1-9*h*, personnel assigned as SRSOs must meet the qualifications, and are responsible for duties outlined below.

(2) Qualifications—

(a) Field grade officer, chief warrant officer 4 or chief warrant officer 5 (Army), or civilian in the grade of GS-12 or above.

(b) Weapon system qualified.

(3) Duties—

(a) Ensures the safe conduct of all ADA crew-served guided missile and rocket firings.

(b) Enforces strict compliance with range safety standards and SOPs.

(c) Ensures RSO(s) comply with responsibilities listed in paragraph 1-9*h* of this regulation/order.

(d) Complies with the restrictions, requirements, and procedures listed in local SOPs (Marine Corps RSOs (Stinger)).

*j. Trajectory safety officer.*

(1) In addition to qualifications and responsibilities outlined in paragraph 1-9*h*, personnel assigned as trajectory safety officers (TSOs) will meet the qualifications, and are responsible for duties as outlined below.

(2) Qualifications—

(a) Officer, warrant officer, or civilian in the grade of GS-09 or above.

(b) Weapon system qualified.

(c) Appointed by the SRSO based on experience with ADA crew-served guided missile and large rocket firings.

(d) Technical knowledge and experience to adequately discharge TSO responsibilities.

(e) Satisfactory completion of range safety certification program.

(3) Duties—

(a) Assists the SRSO.

(b) Observes the trajectory of ADA crew-served guided missiles and large rockets (or free ballistic rockets when provided with controllable destruct systems) to ensure missile or rocket containment within the boundaries of the SDZ.

## **Chapter 2 Ranges**

### **2-1. General**

a. The Senior Commander (Army), Base/Station Commander (Marine Corps) is responsible for the safe conduct of Soldiers and/or Marines involved in training operations.

b. Army indoor firing ranges will be designed, operated, maintained, inspected, and decontaminated in accordance with U.S. Army Public Health Command memoranda, reports, directives, and regulations.

c. Marine Corps indoor firing ranges will be designed by Naval Facilities Engineering Command, inspected in accordance with Bureau of Medicine instructions, and certified per MCO 3550.9.

d. Marine Corps laser ranges will be certified in accordance with MCO 5104.1C.

### **2-2. Danger zones**

a. Danger zones will be created for all weapons used on operational ranges.

b. The goal of danger zones is to contain munitions and hazardous fragments with a probability of escapement from the danger zone not to exceed 1:1,000,000 (one in a million).

c. Danger zones shall be prepared and updated as appropriate according to DA Pam 385-63 for all munitions and laser systems. Hazardous laser systems (such as, class 3B and 4 lasers) will not be fired or employed on operational ranges except within the confines of approved laser range SDZs. Deviations from this policy shall be in accordance with the provisions of deviations of this regulation/order and the procedures in DA Pam 385-63.

d. Danger zones published in DA Pam 385-63 represent Army and Marine Corps minimum safety requirements. Revised danger zones and danger zones for new munitions/weapons will be approved and disseminated in accordance with the provisions in paragraph 1-6 of this regulation/order. They are adequate only when employed with properly functioning safety equipment and devices, and when trained and competent personnel follow published firing procedures. Only those personnel authorized by DA Pam 385-63 will be allowed within the danger zone.

e. If a round exits an approved danger zone, firing of that munition and weapon will cease locally until the cause of the round out of impact has been determined.

(1) If firing occurred with an approved range safety deviation and if the investigation determines all controls required by the deviation were in place, the deviation will be rescinded immediately.

(2) If firing occurred without any deviations from this regulation/order and DA Pam 385-63 and/or if the investigation determines all required controls are in place and there was no ammunition malfunction, the senior commander or a designated representative will report the incident to the weapon system manager and the ACOM/ASCC/DRU safety office. The ACOM/ASCC/DRU safety office will report the incident to the DASAF in accordance with AR 750-6. Marine Corps organizations will report incidents to CMC Safety Division through the installation RCO and safety office, with an information copy provided to CG, Training and Education Command (C465).

f. Baffled firing ranges providing containment of projectiles, fragments, and ricochets designed and maintained in accordance with host nation design requirements or approved Corps of Engineers designs do not require application of danger zone restrictions outside of the baffled area. The approving authorities for this type of range are the Army ACOM/ASCC/DRU commanders. Marine Corps organizations will use guidance from MCO 3550.9 and the CG, MCCDC (C465).

g. For the Army, the creation of new or the expansion of existing impact areas that contain UXO must be validated in accordance with AR 350-19. For the Marine Corps, the areas must be approved by CG, MCCDC (C465), in conjunction with the Deputy Commandant, I&L and other Headquarters, Marine Corps agencies. Existing dedicated impact areas will be used to the maximum extent feasible during live-fire training with military munitions that may not function as intended.

### 2-3. Ammunition and explosive items

a. *Standard ammunition and explosive items.* Standard ammunition and explosive items have been type classified for use by the U.S. military and have a Department of Defense Identification Code and national stock number. Ammunition and explosive items may not be modified or altered to change their characteristics or intended functions and still be considered standard. If modified, this modification or alteration renders them nonstandard and subject to the policies and requirements of this regulation/order. Safety policies and procedures for standard ammunition and explosive items can be found in AR 385-10, DA Pam 385-64 (Army) or NAVSEA OP5 (Marine Corps). Specific information to execute policies and procedures for standard ammunition and explosive items on operational ranges is contained in DA Pam 385-63.

b. *Nonstandard ammunition and explosive items.* Nonstandard ammunition and explosive items have not been type classified for use by the U.S. military; or are standard demolitions or munitions that have been altered to change their characteristics to do an essentially different function from that which they were intended and manufactured, and then used as initially intended. Examples of this are adding excess increments to mortar or artillery ammunition, jamming variable-timed fuzes, increasing the propellant in small arms cartridges, or assembly of explosives components to inert rounds.

(1) *Army.* The DCS, G-3/5/7 validates the requirement for nonstandard ammunition and explosives. The final approval authority for their use on operational ranges rests with the senior commander or Adjutant Generals of States/Territories for the National Guard. Commander, USASOC will validate the requirement and authorize the use of nonstandard ammunitions by USASOC personnel. Installation commanders/senior commanders or Adjutant Generals of States/Territories will be the approval authority for the use of USASOC nonstandard ammunition on their ranges.

(2) *Marine Corps.* Use of nonstandard ammunition and explosive items is prohibited on Marine Corps operational ranges without explicit approval of the CG, MCCDC (C465). The CG, MCCDC (C465) will request and consider a technical review of nonstandard ammunition and explosive items from CG, MARCORSSYCOM as required. Once the use of nonstandard ammunition and explosives has been authorized by CG, MCCDC (C465), the base or station commander has final approval authority for their use on operational ranges. Commander, Marine Corps Special Operations Command (MARSOC) will validate the need and authorize the use of nonstandard ammunition by MARSOC personnel. Base/station commanders will be the approval authority for the use of MARSOC nonstandard ammunition on their ranges. Authorization to store nonstandard ammunition must be requested from Naval Ordnance Safety and Security Activity via CG, MARCORSSYCOM in accordance with MCO P8020.10B.

(3) *Army and Marine Corps.* Information to execute policy and procedures for nonstandard ammunition and explosive items on operational ranges is contained in DA Pam 385-63.

### 2-4. Use of non-Department of Defense property

a. The use of non-DOD property (property not under jurisdiction, custody, or control of the Secretary of Defense) for live-fire exercises requires the approval of ACOM/ASCC/DRU commanders, COMMARFORRES, Commander, MCICOM, or the regional commanders of Marine Corps installations with RTA complexes. AR 405-10 and Naval Facilities Engineering Command publication, NAVFAC P-73, contain mandatory guidance regarding acquisition of real property interest and the necessary approval requirements. Only the USACE has the authority to negotiate and conclude agreements for real property on behalf of the Army.

b. The danger zones for non-DOD training areas must meet the requirements of the facility. This regulation/order will be followed to the extent possible. Danger zones must meet applicable environmental and local regulations. A legal review of any formal agreement with the owner(s) of the non-DOD property is required. For Army organizations,



use agreements will be submitted to the ACOM/ASCC/DRU safety manager for coordination with USACE. The USACE is the approval authority for the Army.

c. Specific guidelines for use agreements include—

- (1) Weapons and ammunition intended for use.
- (2) Procedures for range operations, to include ammunition accountability.
- (3) Agreement outlining the scope of accountability and liability in the event of property damage or injury to military or non-military personnel as a result of Army/Marine Corps operations.
- (4) Airspace requirements, as required by Federal Aviation Administration.
- (5) Operational procedures to notify the public of training operations.
- (6) Risk management plan showing residual risk level for the operation (approved by the appropriate command level), control and supervision measures.
- (7) Specify positive control measures for access to the training area(s) by authorized personnel, and for excluding unauthorized personnel.
- (8) Specific procedures for decontaminating training area(s) prior to release from Army/Marine Corps control if required.

## **2-5. Risk management**

The RM process, described in FM 5-19, DA Pam 385-30, Marine Corps Reference Publication (MCRP) 5-12.1C, and MCO 3500.27B with Erratum will be used to manage risks during all live fire. The RM process will be used to identify range hazards and implement appropriate controls in the development of installation range regulations and SOPs.

## **2-6. Military operations outside the United States**

Standards and procedures contained in this regulation/order and DA Pam 385-63 apply to range operations conducted by Army and Marine Corps units training outside of the United States.

a. Range operations in countries with a permanent U.S. military presence (for example, Germany, South Korea, Japan) will be conducted according to this regulation/order, DA Pam 385-63, and/or host nation regulations as required by the provisions of the status of forces agreement. Normally the stricter regulations will apply.

b. Range operations in countries without a permanent U.S. military presence (for example, a bilateral military exercise) will be conducted according to this regulation/order, DA Pam 385-63, and/or host nation regulations as required by the provisions of the visiting forces agreement. Normally the stricter regulations will apply.

c. For range operations conducted on host nation installations that would require a deviation on a U.S. installation—

(1) If range safety responsibility is designated as the responsibility of the host nation per the terms of the status of forces agreement/visiting forces agreement, the designated approving authority must authorize, in writing, the training event.

(2) If range safety responsibility is not designated to the host nation, a general officer with deviation authority per chapter 3 of this regulation/order in the chain of command must authorize, in writing, the training event.

## **2-7. Other military Services and/or agencies**

Military Services other than the Army and the Marine Corps, as well as local, State, and Federal agencies may use Army/Marine Corps-controlled ranges at the discretion of the installation commander/senior commanders. Agencies wishing to use Army/Marine Corps-controlled ranges must comply with the provisions of this regulation/order and DA Pam 385-63. Requests for range use shall include all technical data regarding munitions and weapons systems in order that the RM process can be applied, and a determination made regarding the adequacy of the range for the proposed operation.

## **2-8. Prohibitions**

Prohibitions pertain to activities on operational ranges that will only be conducted when authorized by the individuals designated below:

a. *Army.*

(1) Unless specifically approved by the DCS, G-3/5/7 and the ACSIM, Army organizations are prohibited from training with or conducting demonstrations using ICM or sub-munitions. This approval authority will not be delegated to the ACOM/ASCC/DRU or ARNG.

(2) Unless approved by ACOM/ASCC/DRU commanders (lieutenant general and above) or the next general officer in the chain of command (for ACOMs/ASCCs/DRUs not commanded by a lieutenant general and above or the DAS), overhead fire above unprotected personnel with ammunitions/explosives is prohibited unless specifically authorized by DA Pam 385-63.

(3) Unless approved by the DCS, G-3/5/7 and the ACSIM, firing ammunitions/explosives over any ammunition storage area is prohibited unless specifically authorized by DA Pam 385-63.

b. *Marine Corps.* Unless approved by the CMC, the following activities are prohibited:

(1) Firing ICM into dedicated impact areas where troops are permitted to maneuver. If an ICM round exits an

approved ICM area, firing of that munition and weapon will cease until the cause of the round out of impact has been determined. Range control authorities and EOD units should be immediately notified of the event and the area identified as a possible ICM area until an explosive ordnance reconnaissance can confirm the area safe for use. If firing occurred with an approved range safety deviation and if the investigation determines all controls required by the deviation were in place, the deviation will be rescinded immediately.

(2) Overhead fire above unprotected personnel with ammunition, pyrotechnics, missiles, and rockets unless specifically authorized by DA Pam 385-63.

(3) Firing ammunition, pyrotechnics, missiles, and rockets over ASPs, field ASPs, or any ammunition storage area with ammunition not approved for overhead fire. Firing over ASPs, field ASPs, or any ammunition storage area with ammunition approved for overhead fire will only be authorized through the deviation process outlined in chapter 3 of this regulation/order and DA Pam 385-63.

*c. Army and Marine Corps.* Unless approved by the DCS, G-3/5/7 and the ACSIM, or the CMC, the following activities are prohibited:

(1) Firing depleted uranium ammunition on operational ranges. The exceptions are those ranges specifically designated Nuclear Regulatory Commission-licensed target or impact areas. For the Army, the approving authority must have visibility of all of the implications of firing depleted uranium, weigh the costs and benefits from the Army perspective, and be in a position to commit the Army to dealing with the regulatory requirements, environmental remediation, and potential negative publicity.

(2) The use of ranges, impact areas, buffer zones, or live-fire training areas that contain or may contain UXO for hunting or other recreational purposes.

(3) Burying live mines for training purposes.

(4) Trip wires, booby traps, or tilt rods used separately or collectively with live mines in training.

(5) Live-mine and practice-mine training taking place concurrently at the same location.

(6) Disarming/arming live mines more than 25 iterations per mine.

(7) Training with non-self-destructing antipersonnel land mines except as authorized by the National Command Authority. When training with non-self-destructing antipersonnel land mines is authorized, the following training is prohibited:

(a) Training with live M14 mines.

(b) Training with the M16 antipersonnel mine without the positive safety pin remaining in the M605 fuse.

(8) Live-fire and blank firing taking place concurrently at the same location supervised by the same OIC/RSO.

(9) Special precautions should be taken when units transition from live-fire to blank round training.

(10) In addition to actual operation of military vessels, aircraft, vehicles, and crew-served weapons systems, civilian visitor participation in the following activities is prohibited:

(a) Throwing live hand grenades.

(b) Using diversionary devices (for example, flash bangs and/or pyrotechnics).

(c) Participating in live-firing in a shooting house (for example, close quarters battle).

(d) Participating in live-firing on maneuver ranges while units are maneuvering.

(e) Fast rope/rappelling from helicopters/special purpose insertion extraction rigging.

(f) Parachuting.

(g) Other activities, as determined by a commander that could cause, or reasonably be perceived as causing, increased safety risks.

## **Chapter 3**

### **Deviations**

#### **3-1. Deviation from range standards and procedures**

*a.* A deviation, as discussed in this regulation/order, is the temporary departure from established range standards and procedures. An example would be reducing SDZ dimensions when terrain, artificial barriers, or other compensating factors which mitigate risks to make smaller SDZs safe. Guidelines for preparing a range safety deviation are contained in DA Pam 385-63.

*b.* Army Senior Commanders in the grade of O-7 and above may authorize deviations.

*c.* For the ARNG, the Adjutant General of the respective State/Territory is the approval authority for all deviations within their State/Territory. This authority shall not be further sub-delegated.

*d.* For the Marine Corps, COMMARFORRES, Commander, MCICOM, or the regional commanders of Marine Corps installations with RTA complexes may authorize deviations.

*e.* The commanders listed in paragraphs *b*, *c*, and *d*, above, do not have authority to grant exceptions to the prohibitions in paragraph 2-8 of this regulation.

### **3-2. Delegation of deviation authority**

*a.* Commander, MCICOM and regional commanders of Marine Corps installations with RTA complexes may sub-delegate deviation authority to base and station commanders with the rank of colonel (O-6).

*b.* This authority shall not be further sub-delegated.

### **3-3. Deviation limitations**

*a.* Deviations are limited to—

(1) Reducing SDZ dimensions when terrain, artificial barriers, or other compensating factors make smaller SDZs safe.

(2) Modifying prescribed firing procedures to increase training realism (such as accepting increased risk when the risks have been incorporated into an approved SDZ) as appropriate for the proficiency of participants.

(3) Allowing personnel not authorized within the SDZ (per DA Pam 385-63), unless prohibited.

*b.* Guidelines for preparing a range safety deviation are contained in DA Pam 385-63.

*c.* Deviations shall not be applied to other Federal agency directives/regulations such as airspace or water traffic requirements.

*d.* Approved deviations will be effective for 1 year or less.

(1) Expired deviations may be renewed by the respective approval authority provided conditions cited in the original deviation have not changed.

(2) The need to incorporate conditions, requirements, controls, and so forth in approved deviations into range development plans will be addressed at each installation range development plan meeting as required by AR 350-19, MCO 3550.9, and MCO P3550.10, change 1.

*e.* Any accident or incident occurring under an approved deviation will cause automatic termination of the deviation until an investigation is completed and the deviation revalidated by the respective approving authority.

*f.* Conflicts regarding level of risk determination will be resolved by the commander holding the deviation authority for the highest level of risk deemed in conflict.

*g.* For live-fire training operations conducted under an approved deviation by nonresident units, the host installation commander/senior commander must approve training at a host installation.

## **Appendix A References**

### **Section I Required Publications**

Unless otherwise stated, all publications are available at: <http://www.apd.army.mil/>.

#### **AR 75-1**

Malfunctions Involving Ammunition and Explosives (Cited in paras 1-9d(3), 1-9g(2)(o).)

#### **AR 350-19**

The Army Sustainable Range Program (Cited in paras 1-5, 1-6i(1), 1-8a(1), 2-2g, 3-3d(2).)

#### **AR 385-10**

The Army Safety Program (Cited in paras 1-6c, 1-6k(3), 1-8a(1), 1-9b(8), 2-3a.)

#### **AR 750-6**

Army Equipment Safety and Maintenance Notification System (Cited in paras 1-6f(3), 2-2e(2).)

#### **DA Pam 385-24**

The Army Radiation Safety Program (Cited in para 1-9f(6).)

#### **DA Pam 385-30**

Mishap Risk Management (Cited in para 2-5.)

#### **DA Pam 385-40**

Army Accident Investigations and Reporting (Cited in paras 1-9b(8), 1-9d(3), 1-9f(6), 1-9g(2)(o).)

#### **DA Pam 385-63**

Range Safety (Cited in paras 1-1, 1-5, 1-6e(1), 1-6k(2), 1-6l(2), 1-6o(2), 1-7a(9), 1-8a(1), 1-8a(3), 1-9a(6), 1-9c(7), 1-9f(1), 1-9f(3), 1-9f(5), 1-9g(1)(a), 1-9h(1)(a), 1-9h(1)(b), 1-9h(2)(h)2, 2-2c, 2-2d, 2-2e(2), 2-3a, 2-3b(3), 2-6, 2-6a, 2-6b, 2-7, 2-8a(2), 2-8a(3), 2-8b(2), 2-8b(3), 3-1a, 3-3a(3), 3-3b.)

#### **DA Pam 385-64**

Ammunition and Explosives Safety Standards (Cited in para 2-3a.)

#### **DOD 6055.09-M**

DOD Ammunition and Explosives Safety Standards (Cited in para 1-6i(1).) (Available at <http://www.dtic.mil/whs/directives/>.)

#### **DODD 4715.11**

Environmental and Explosives Safety Management on Operational Ranges Within the United States (Cited in para 1-6f(2).) (Available at <http://www.dtic.mil/whs/directives/>.)

#### **DODD 4715.12**

Environmental and Explosives Safety Management on Operational Ranges Outside the United States (Cited in paras 1-1, 1-6f(2).) (Available at <http://www.dtic.mil/whs/directives/>.)

#### **DODI 3200.16**

Operational Range Clearance (Cited in paras 1-5f, 1-9a(5), 1-9c(16).) (Available at <http://www.dtic.mil/whs/directives/>.)

#### **FM 5-19**

Composite Risk Management (Cited in para 2-5.) (Available at <https://www.us.army.mil/>.)

#### **MCO 3500.27B with Erratum**

Operational Risk Management (ORM) (Cited in para 2-5.) (Available at <http://www.marines.mil/>.)

**MCO 3550.9**

Marine Corps Ground Range Certification and Recertification Program (Cited in paras 1-5, 1-8a(1), 2-1c, 2-2f, 3-3d(2).) (Available at <http://www.marines.mil>.)

**MCO P3550.10, change 1**

Policies and Procedures for Range and Training Area (RTA) Management (Cited in paras 1-5, 1-8a(1), 3-3d(2).) (Available at <http://www.marines.mil>.)

**MCO P5102.1B**

Navy and Marine Corps Mishap and Safety Investigation Reporting and Record Keeping Manual (Cited in paras 1-9b(8), 1-9g(2)(o).) (Available at <http://www.marines.mil>.)

**MCO 5104.1C**

Navy Laser Hazards Control Program (Cited in paras 1-9f6, 2-1d.) (Available at <http://www.marines.mil>.)

**MCO P8020.10B**

Marine Corps Ammunition Management and Explosives Safety Policy Manual (Cited in para 2-3b(2).) (Available at <http://www.marines.mil>.)

**MCO 8025.1E**

Malfunction and Defect Reporting (Cited in para 1-9g(2)(o).) (Available at <http://www.marines.mil>.)

**MCRP 5-12.1C**

Risk Management (Cited in para 2-5.) (Available at <https://www.doctrine.usmc.mil>.)

**MIL-HDBK 828B**

Laser Safety on Ranges and in Other Outdoor Areas (Cited in paras 1-9a(6), 1-9f(6).) (Available at <http://www.assistdocs.com>.)

**Section II**

**Related Publications**

A related publication is a source of additional information. The user does not have to read it to understand this regulation/order. Unless otherwise stated, all publications are available at: <http://www.apd.army.mil/>. The U.S. Code is available at: <http://www.gpoaccess.gov/fdsys/>.

**AR 200-1**

Environmental Protection and Enhancement

**AR 360-1**

The Army Public Affairs Program

**AR 405-10**

Acquisition of Real Property and Interests Therein

**DA Pam 385-10**

Army Safety Program

**DOD 4160.21-M**

Defense Materiel Disposition Manual (Available at <http://www.dla.mil/dlaps/dod/416021m/guide.asp>.)

**DODD 4715.1E**

Environment, Safety, and Occupational Health

**FM 5-0**

The Operations Process

**TB 9-1300-385**

Munitions Suspended or Restricted

**TB MED 524**

Control of Hazards to Health from Laser Radiation

**TC 25-8**

Training Ranges

**JP 3-09**

Joint Tactics, Techniques, and Procedures for Laser Designation Operations (Available at <http://www.dtic.mil/doctrine>.)

**MCO P5090, with change 2**

Environmental Compliance and Protection Manual (Available at <http://www.marines.mil>.)

**SECNAVINST 5720.44B**

Public Affairs Policy and Regulations

**NAVFAC P-73**

Real Estate Procedural Manual

**NAVSEA OP 5**

Ammunition and Explosives Safety Ashore

**NAVSEA TWO 24-AA-ORD-010**

Ammunition Unserviceable, Suspended and Limited Use

**Navy Publication SWO60-AA-MMA-010**

Demolition Material (Available at the Naval Surface Warfare Center, Crane, IN, Code 4027.)

**40 CFR 260-265**

Environmental Protection Agency: Hazardous Waste Identification Management System: General (Available at <http://www.gpoaccess.gov/cfr/index.html>.)

**10 USC 101(e)(5)**

Unexploded ordnance

**10 USC 2710(e)(3)**

Munitions constituents

**42 USC 2011**

Congressional Declaration of Policy

**Section III**

**Prescribed Forms**

This section contains no entries.

**Section IV**

**Referenced Forms**

Unless otherwise indicated, DA forms are available on the Army Publishing Directorate's Web site at <http://www.apd.army.mil>.

**DA Form 2028**

Recommended Changes to Publications and Blank Forms

**Appendix B**

**Internal Control Process**

**B-1. Function**

The function addressed by this appendix is the safety on ranges used by the Army and the Marine Corps.

**B-2. Purpose**

The purpose of this checklist is to assist commanders and managers in evaluating their key management controls.

**B-3. Instructions**

Range safety programs are established and documented. Commanders and leaders are provided a risk assessment before range operations. Conscious risk management decisions are made at the proper level of decisionmaking. Deviations are processed when the conditions described in chapter 3 of this regulation are met.

**B-4. Test questions**

- a.* Are all conditions described in chapter 3 allowed only under an approved deviation?
- b.* Are range control and safety professionals qualified and trained?
- c.* Are risk decisions made at the proper command level and documented?
- d.* Is a range safety program documented?

**B-5. Comments**

Help make this a better tool for evaluating management controls. Submit comments to the Office of the Vice Director of Army Staff (DACS-ZDV-RMO), 200 Army Pentagon, Washington, DC 20310-0200.

## **Glossary**

### **Section I Abbreviations**

#### **ACSIM**

Assistant Chief of Staff for Installation Management

#### **ACOM**

Army command

#### **ADA**

air defense artillery

#### **AMC**

U.S. Army Materiel Command

#### **AMOUT**

advanced military operations in urban terrain

#### **AR**

Army regulation

#### **ARNG**

Army National Guard

#### **ARSOF**

Army special operations forces

#### **ASA (ALT)**

Assistant Secretary of the Army (Acquisition, Logistics, and Technology)

#### **ASCC**

Army service component command

#### **ASP**

ammunition supply point

#### **ATSC**

Army Training Support Center

#### **CG**

Commanding General

#### **CMC**

Commandant of the Marine Corps

#### **COE**

Chief of Engineers

#### **COMMARFORRES**

Commander, Marine Corps Forces Reserve

#### **CQC**

close quarters combat

#### **CSA**

Chief of Staff, Army

#### **DA**

Department of the Army



**DAS**

Director Army Staff

**DASAF**

Director of Army Safety

**DCS**

Deputy Chief of Staff

**DOD**

Department of Defense

**DODD**

Department of Defense directive

**DODI**

Department of Defense instruction

**DRU**

direct reporting unit

**EOD**

explosive ordnance disposal

**FM**

field manual

**HQDA**

Headquarters, Department of the Army

**ICM**

improved conventional munitions

**I&L**

Installations and Logistics

**MARCORSYSCOM**

Marine Corps Systems Command

**MARSOC**

Marine Corps Special Operations Command

**MCCDC**

Marine Corps Combat Development Command

**MCICOM**

Marine Corps Installations Command

**MCO**

Marine Corps Order

**MCRP**

Marine Corps Reference Publication

**MIL-HDBK**

Military Handbook

**NCO**

noncommissioned officer

**NGB**  
National Guard Bureau

**OIC**  
officer in charge

**PAO**  
public affairs officer

**RCO**  
range control officer

**RFMSS**  
Range Facility Management Support System

**RM**  
risk management

**RSO**  
range safety officer

**RTA**  
range and training area

**SDZ**  
surface danger zone

**SECNAV**  
Secretary of the Navy

**SME**  
subject matter expert

**SNCO**  
staff noncommissioned officer (Marine Corps)

**SOP**  
standard operating procedure

**SRSO**  
senior range safety officer

**SUA**  
special use airspace

**TB**  
technical bulletin

**TC**  
training circular

**TCM**  
TRADOC capability manager

**TSG**  
The Surgeon General

**TSO**  
trajectory safety officer

**TRADOC**

U.S. Army Training and Doctrine Command

**USACE**

U.S. Army Corps of Engineers

**USASOC**

U.S. Army Special Operations Command

**UXO**

unexploded ordnance

**Section II****Terms****Ammunition and explosives**

Includes, but is not necessarily limited to, all items of U.S.-titled (for example, owned by the U.S. Government through the DOD components) ammunition; propellants, liquid and solid; pyrotechnics; high explosive; guided missiles; warheads; devices; and chemical agent substances, devices, and components presenting real or potential hazards to life, property and the environment. Excluded are wholly inert items and nuclear warheads and devices, except for considerations of storage and stowage compatibility, blast, fire, and non-nuclear fragment hazards associated with the explosives. (see Military munitions)

**Barrier**

A permanent or temporary impediment to foot and/or vehicular traffic that personnel are prohibited to pass without approval from range control. A barrier may be sentinel, wire fencing, gate, sign, or other access limiting device.

**Dedicated impact area**

See impact area.

**Deviation**

A temporary departure from the requirements of this regulation/order or the standards of DA Pam 385-63.

**Dud**

An explosive item or component of a weapon system that fails to function as intended when fired or detonated.

**Exposure**

The frequency and length of time personnel and equipment are subjected to a hazard.

*a.* Severity. The expected consequence of an event, in terms of degree of injury, property damage, or other mission impairing factors (loss of combat power, adverse publicity, and so forth) that could occur.

*b.* Probability. The likelihood that a hazardous incident will occur.

**Guided missile**

An unmanned vehicle moving above the surface of the earth whose trajectory or flight is capable of being altered by an external or internal mechanism.

**Hazard**

Any actual or potential condition that can cause injury, illness, or death of personnel, damage to or loss of equipment, property or mission degradation, or a condition or activity with potential to cause damage, loss or mission degradation.

**Impact area**

The area within and above an operational range used to contain fired or launched military munitions. Impact areas may be delineated by operational range use. For example, the delineation of an indirect-fire weapon system impact area accounts for probable error in military munitions range and deflection. The delineation of a direct-fire weapon system impact area accounts for the total surface danger zone from the firing point or position downrange to impact. Impact areas may be further delineated by other operational range uses. These include:

*a.* Dedicated impact area, duded. An impact area with permanently delineated boundaries normally used to contain non-sensitive, high-explosive, military munitions.

*b.* High-hazard impact area. A permanently designated impact area used to contain sensitive, high-explosive military munitions. A high-hazard impact area is normally delineated within a dedicated impact area where access is restricted due to UXO explosive safety hazards.

*c.* Impact area, non-dudded. An impact area with designated boundaries used to contain non-explosive military munitions. These areas are primarily composed of small arms range safety fans and are available for maneuver when not used for military munitions training.

*d.* Impact area, temporarily-dudded. An impact area primarily used to contain non-explosive military munitions that may be temporarily used to contain non-sensitive, high-explosive, military munitions. A temporarily-dudded impact area should be capable of being cleared for maneuver.

*e.* Research, development, testing, and evaluation range impact area, dudded. A high-hazard impact area limited to Research, development, testing, and evaluation activities.

#### **Improved conventional munitions (ICM)**

Munitions characterized by the delivery of 2 or more antipersonnel, antimateriel, and/or antiarmor sub-munitions.

#### **Munitions constituents**

Any materials originating from UXO, discarded military munitions, or other military munitions, including explosive and nonexplosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions (10 USC 2710(e)(3)).

#### **Military munitions**

All ammunition products and components produced for or used by the Armed Forces for national defense and security, including ammunition products or components under the control of the DOD, the Coast Guard, the Department of Energy, and the National Guard.

*a.* This term includes the following:

- (1) Confined gaseous, liquid, and solid propellants.
- (2) Explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries, including bulk explosives, and chemical warfare agents.
- (3) Chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, and demolition charges.

*b.* This term does not include the following:

- (1) Wholly inert items.
- (2) Improvised explosive devices.
- (3) Nuclear weapons, nuclear devices, and nuclear components, other than non-nuclear components of nuclear devices that are managed under the nuclear weapons program of the Department of Energy after all required sanitization operations under the Atomic Energy Act of 1954 (42 USC 2011 et seq.) have been completed.

#### **Military operations in urban terrain**

A terrain complex where manmade construction impacts on the tactical options available to commanders. These MOU facilities replicate urban environments.

#### **Operational range**

A range that is under the jurisdiction, custody, or control of the Secretary of Defense and- that is used for range activities, or although not currently being used for range activities, that is still considered by the Secretary to be a range and has not been put to a new use that is incompatible with range activities.

#### **Overhead fire**

Weapon system firing that is delivered over the heads of personnel located in the SDZ.

#### **Range**

When used in a geographic sense, means a designated land or water area that is set aside, managed, and used for range activities of the DOD. Such term includes the following:

*a.* Firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, electronic scoring sites, buffer zones with restricted access, and exclusionary areas.

*b.* Airspace areas designated for military use in accordance with regulations and procedures prescribed by the Administrator of the FAA.

#### **Range activities**

Research, development, testing, and evaluation of military munitions, other ordnance, and weapon systems. The training of members of the armed forces in the use and handling of military munitions, other ordnance, and weapon systems.

**Range Facility Management Support System (RFMSS)**

An automated scheduling tool for installation management of facilities to support training. The application's purpose is to supplement manual processes for requesting and scheduling facilities with an automated means in order to provide efficient and safe management of resources. RFMSS also tracks, collects, monitors, and displays range specific information, including past, present, and future usage of ranges and training areas.

**Range Managers Toolkit (RMTK)**

A set of automated tools that utilize geo-spatial data sets in a Geographic Information System environment. Allows users to construct digital geo-referenced danger zones with sub-meter accuracy. The parameters of the danger zones are defined by DA Pam 385-63. The RMTK can be downloaded from <https://srp.army.mil> or <https://rtam.tecom.usmc.mil>.

**Residual risk**

The level of risk remaining after controls have been identified and selected for hazards that may result in loss of combat power.

**Risk**

Chance of hazard or undesired consequences or the probability of exposure to chance of injury or loss from a hazard. Risk level is expressed in terms of hazard probability and severity.

**Risk decision**

The decision to accept or not accept the risk(s) associated with an action made by the commander, leader, or individual responsible for performing that action.

**Risk management (RM)**

The process of identifying, assessing, and controlling risk arising from operational factors and making decisions that balance risk cost with mission benefits.

**Risk management process**

The risk management process is the process of identifying and assessing hazards; determining their risk; developing, evaluating, and selecting controls; making risk decisions; and implementing and managing those decisions to improve operational effectiveness and conserve resources.

**Surface danger zone (SDZ)**

The ground and airspace designated within the training complex (to include associated safety areas) for vertical and lateral containment of projectiles, fragments, debris, and components resulting from the firing, launching, or detonation of weapon systems to include ammunition, explosives, and demolition explosives.

**Training complex**

Firing ranges and weapons-training facilities designated for firing ammunition and explosives, rockets, lasers, and guided missiles for training and target practice, and non-live-fire sites for maneuver exercises and operations.

**Unexploded ordnance (UXO)**

Military munitions that—

- a. Have been primed, fuzed, armed, or otherwise prepared for action.
- b. Have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material.
- c. Remain unexploded, whether by malfunction, design, or any other cause (10 USC 101(e)(5)).

**Weapon danger zone**

The ground and airspace required for the lateral and vertical containment of projectiles, fragments, debris, and components resulting from the firing, launching, and detonation of aviation-delivered ordnance. This three-dimensional zone accounts for weapon accuracy, failures, ricochets, and broaches/porpoising of a specific weapon/munition type delivered by a specific aircraft type. weapon danger zones represent the minimum safety requirements designed for aviation weapons training on DOD ranges.

**Section III****Special Abbreviations and Terms**

This section contains no entries.

**UNCLASSIFIED**

**PIN 003240-000**