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Safety



FIELD TRAINING EXERCISES

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This instruction implements Air Force Policy Directive (AFPD) 91-2, *Safety Programs Information*, and AFMAN 91-201, *Explosive Safety Standards*. It establishes the explosives safety procedures for the 512th Airlift Wing at Dover Air Force Base in accordance with AFMAN 91-201, *Explosives Safety Standards*. It applies to all 512th Airlift Wing personnel assigned or attached to Dover AFB to include all geographically separated units (GSU).

1. General.

1.1. This instruction outlines procedures for the use of specific explosive items used in field training exercises. The use of explosive items not covered in this instruction during field training exercises or other types of exercises involving the use of explosives must be outlined in specific Operating Instructions (OI's) or Exercise Lesson Plans developed in accordance with (IAW) AFMAN 91-201. This instruction, in conjunction with the applicable references listed will be used for conducting training of personnel and planning of field training exercises. A copy of this instruction must be available at the exercise site.

1.2. Commanders and supervisors are responsible for ensuring personnel are properly trained, exercises are thoroughly planned, and requirements are stringently complied with. Individuals are responsible for full compliance with all instructions given.

2. Safety Requirements.

2.1. Explosives will be handled, transported, and used only by personnel trained in the task to be performed.

2.1.1. Explosives will not be tumbled, thrown, dropped, or handled in a rough manner.

2.1.2. No attempt will be made to disassemble, modify, or alter explosive items; or to use in a manner other than their intended purpose.

2.1.3. **If abnormal conditions relating to the safe configuration of an explosive item are noted, no attempt will be made to use or correct the condition.** Explosive Ordnance Disposal (EOD) assistance will be required.

2.1.4. Explosive items will be stored and transported in their storage and shipping container.

2.1.5. Only the quantity of munitions necessary for a specific operation will be drawn from the munitions storage area (MSA). This will be identified in the exercise plan IAW paragraph 3. of this instruction.

2.1.6. A pre-exercise safety briefing will be conducted for all personnel before deployment to the exercise site. Exercise plans developed IAW paragraph 3. will identify specific times, locations, and briefer. The briefing must include the following as a minimum (see [Attachment 4](#) for example).

2.1.6.1. Hazards and precautions for the handling and use of the explosives involved.

2.1.6.2. Range/exercise area safety criteria.

2.1.6.3. Procedures for handling of duds, misfired munitions and abnormal conditions.

2.1.6.4. Procedures to ensure the control and accountability of munitions.

2.1.6.5. Range/exercise area clean-up requirements and procedures.

2.1.7. A suitable number of appropriate fire extinguishers will be available in areas where Ground Burst Simulators (GBS), and Smoke Producing Munitions (SPM) are used.

2.2. Individuals armed with live ammunition IAW AFI 31-207, *Arming and Use of Force by Air Force Personnel*, will not participate in the exercise scenario except in an advisory or trainer capacity. Weapons will be loaded IAW AFI 31-229, *USAF Weapons Handling Procedures*, at an approved clearing barrel.

2.3. A minimum of at least one communications device must be readily available in case of emergency. This device must be in working order and must be tested immediately before using any explosive item. A communications link must be established by the OPR with the Base Fire Department.

2.4. In the event of an emergency, the exercise scenario will be stopped, all weapons will be safed, and personnel will await instructions from appropriate supervisory personnel.

3. Exercise Planning.

3.1. An exercise plan will be developed before each exercise by the agency having primary responsibility (OPR). The plan will be signed by the OPR, coordinated with each additional agency directly participating (OCR), to include the base Fire Chief (CEF), Explosive Ordnance Disposal (EOD) and the Wing Safety Office (SE). The plan format outlined in [Attachment 2](#) can be used for this purpose.

3.1.1. Exercise plans will be prepared by the exercise OPR. The OPR, each OCR and Wing Safety will maintain a copy.

3.1.2. When accomplishing the exercise plan, compile a detailed list of explosives and weapons authorized for use in the exercise. The OPR Unit Commander must approve the list.

4. Requisition of Munitions.

4.1. Once munitions requirements are identified, the OPR will coordinate through 512/436 EMS Munitions Management to ensure training munitions are available. The specific munitions persons authorized or designated to draw munitions, and the scheduled pickup date/time will be included in the exercise plan IAW paragraph 3.

5. Munitions Accounting and Control.

NOTE: Explosive training items, although normally containing comparatively small amounts of explosive material, can be extremely hazardous if not properly handled and used. Stringent control and accountability are essential to ensure they do not fall into the wrong hands or are used in an unauthorized manner. Experience has shown those items inadvertently left on training exercise areas or taken to quarters and used for pranks or experimentation can result in serious mishaps.

5.1. Accurate recording of munitions issued and expended by individuals will be accomplished as follows:

5.1.1. OPR or designated representative will submit a "Pull Sheet" to the munitions storage area representative for requested munitions.

5.1.2. Individual designated to draw the munitions will be trained in the use, handling, and transportation of explosives.

5.2. Munitions Issue/Turn-in Log. The individual designated to draw the munitions will make a physical inventory before departing the pickup point. The munitions custodian should use an AF Form 3126, General Purpose Form to record issue of munitions to individuals prior to leaving for the exercise site.

5.2.1. The quantity expended and turned in will be recorded at the termination of the exercise. Discrepancies in accountability will be resolved before departing the exercise area.

5.3. Storage:

5.3.1. Explosive devices solely used for the exercise should be picked up from the MSA just prior to use, and will not be stored in any facility utilized by personnel for the duration of the exercise.

5.3.2. Weapons and Munitions/Explosives will not be stored together nor stored with any unrelated items.

5.4. If temporary storage of munitions/explosives is necessary, the following conditions and precautions will be adhered to:

5.4.1. Wing Safety will be notified in order to obtain an AF IMT 2047 a temporary explosive facility license, for storage of munitions/explosives. The license is valid only for the duration of the exercise.

5.4.2. A minimum separation of 25 feet is required between licensed location(s) containing GBS and/or SPM explosives and adjacent operations, personnel, or other licensed locations. Where 25 feet cannot be obtained, a 2 hour fire wall, constructed in accordance AFMAN 91-201 is required.

5.4.3. Hazard Class/Division (HC/D) 1.1 and 1.2 shall never be stored anywhere within the base Exercise Training Area.

5.4.4. The structure or room used for storage shall be locked to prevent pilferage and unauthorized handling. If the storage building or room cannot be locked then an armed guard will be present to protect the explosive inventory.

5.4.5. Fire and chemical symbols must be posted.

5.4.6. AF Form 2047 is not required for storage of less than 1,000 rounds of HC/D 1.4 small arms ammunition (.50 Caliber or less).

6. Training for Ground Burst Simulators (GBS) and Smoke Producing Munitions (SPM).

6.1. Unit commanders are responsible for ensuring all personnel who handle, transport, or use simulators and/or smoke producing munitions are properly trained.

6.2. The following applies to the use of these devices during exercises and training:

6.2.1. Only US Air Force stock listed items are authorized for use.

6.2.2. Only trained personnel can prepare and activate these devices. Qualified personnel will provide training on an annual basis to personnel whose duties require them to initiate training simulators. The qualified personnel providing training will be determined locally but may be from EOD, munitions, or weapons safety. These qualified trainers must have had at least four hours of classroom instruction, passed a written test and be qualified to handle, maintain and inspect these items. It is the responsibility of the user organization to request training and maintain training records. Higher headquarters evaluation teams using these devices must present proof of training to the base safety office, prior to use.

6.2.3. It is the responsibility of the user organization to request training and maintain training documentation on the AF IMT 55, Employee Safety and Health Record, AF IMT 623, On-the-Job Training Record, or Certificate of Training. .

6.2.4. The unit requesting training will provide a minimum of two ground burst simulators and one smoke producing munitions for each individual requiring training.

7. Minimum Safe Distances.

7.1. Minimum distances for explosive simulators.

7.1.1. Prior to functioning of any simulator or smoke producing explosives device, clear all combustible material a minimum of 25 feet.

7.1.2. Personnel or vehicle: Maintain a minimum of 125 feet separation. Personnel who initiate these munitions may be closer than 125 feet, but they should be as close to 125 feet away as possible and have their back to the munitions at detonation.

7.1.3. Facilities without facing window: Maintain a minimum separation of 100 feet.

7.1.4. Facilities with facing window: Maintain a separation of 200 feet.

7.1.5. Bulk petroleum, oil, and lubricant storage: Maintain a minimum separation of 200 feet.

7.2. Aircraft in the open: Maintain a minimum separation of 100 feet.

7.3. Smoke from grenades may be toxic in high concentrations. These items, along with simulators present a fire hazard. Remove combustible materials before functioning. Consider winds and fire

hazards such as dry grass or fire bans. Consider using a barrier to control spread of heat during functioning of grenades.

7.4. Ground burst simulators or smoke producing munitions present a blast hazard. Exercise caution around people, facilities, and equipment. Clear the area of debris that could become projectiles from the blast. Monitor for proper functioning and disposal of residue. Notify EOD when a munitions malfunction or when an abnormal condition presents itself.

8. Exercise Location.

8.1. Base X located south of the AMC Museum, behind the 436th SFS K-9 kennel is the designated field exercise training area designated in the base explosive D-8 map.

8.2. Base X is the only location authorized for use of explosives covered in this Wing Instruction. Should another area be required the following particular considerations will be complied with:

- 8.2.1. Potential fire hazards to vegetation and facilities.
- 8.2.2. Availability of fire fighting equipment and personnel.
- 8.2.3. Accessibility for emergency equipment.
- 8.2.4. Ability to control accesses during the exercise.
- 8.2.5. Disruption or interference with other installation activities.
- 8.2.6. Ease of cleaning and validation of the area at the completion of the exercise.
- 8.2.7. Adverse public reaction and safety.

8.3. Obtain approval for use of the site from the authority having jurisdiction. On Dover AFB, that authority is the 436 AW/CC or designated representative. Prior to exercise planning, Base X use must be coordinated through 436 CES/CEX for availability.

8.4. Coordinate exercise site approval with the host installation fire department and wing safety offices.

8.5. Exercise plans developed IAW paragraph 3. will identify the specific location on the installation, and the person(s) designated to coordinate/obtain approval from the agencies identified in paragraph 3. above.

9. Transportation of Explosives.

9.1. Individuals operating vehicles or equipment transporting explosives will be trained and qualified to handle and transport explosives IAW DAFBI 91-201. Drivers will be identified in the exercise plan IAW paragraph 3. and [Attachment 2](#).

9.2. Explosives will be transported in military vehicles only. Specific types of vehicle to be used will be identified in the exercise plan.

9.3. The vehicle used must be in good mechanical condition. There will be no fuel leaks or excessive oil on the engine or exhaust system. Particular attention will be given to chafing or deteriorated electrical wiring. The vehicle will be equipped with sideboards and tailgate.

9.4. A minimum of two, 2A and 10BC (classification) fire extinguishers will be available with the transport vehicle.

- 9.5. Vehicles will not be fueled with explosives on board.
- 9.6. Vehicles loaded with explosives will not be left unattended.
- 9.7. Passengers will not ride in the cargo compartment of vehicles transporting explosives.
- 9.8. Explosive items will be packaged, loaded, and tied down to prevent movement during transport.
- 9.9. Vehicle operator will be thoroughly familiar with their explosive cargo, and in the event of a mishap, breakdown, or other unusual event, will be prepared to brief emergency response personnel or local authorities on the class, quantity, and characteristics of the cargo.
- 9.10. Follow fire fighting guidance in [Attachment 3](#) in all instances.
- 9.11. Vehicles transporting explosives will be placard as follows:
 - 9.11.1. M115A2 Simulator, use fire symbol 2 placards.
 - 9.11.2. MK 13/M124 Signals, AN-M8/M18 Smoke Grenades, or M69 Practice Grenades, use fire symbol 4.
 - 9.11.3. Blank 5.56 mm or 9 mm Cartridges, no placards are required.
 - 9.11.4. When transporting explosives on Dover AFB, appropriate fire symbols or placards will be displayed on the front, back, and both sides of the vehicle. If transport is off Dover AFB, refer to DAFBI 91-201 for appropriate procedures.
- 9.12. Travel routes for vehicles transporting explosives on Dover AFB will be IAW DAFBI 91-201.
- 9.13. Smoking is not permitted in or within 50 feet of vehicles transporting explosives.
- 9.14. Except for emergencies or abnormal conditions, explosives laden vehicles will not stop nor park at any location between the pickup point and the destination.

10. Weapons and Munitions Procedures.

- 10.1. All handguns loaded with blank, live ammunition or unloaded will be hand carried in an approved holster or approved container.
- 10.2. All M-16 weapons will be fitted with blank adapters prior to loading blank ammunition.
- 10.3. A complete search, using the buddy system, of ammo pouches, equipment, magazines, and blank ammunition will be conducted to ensure no live ammunition is introduced into the exercise scenario.
- 10.4. Blank ammunition and live ammunition will never be stored together in the exercise area.
- 10.5. Exercise personnel should check all ammunition and equipment for obvious safety defects or the presence of live ammunition.
- 10.6. Blank ammunition will not be fired at or toward personnel who are within 25 feet.
- 10.7. If an armed person becomes sick or injured, their weapon and ammunition will be turned over to the person in charge for proper turn-in.
- 10.8. After the completion of any exercise using blank ammunition, the person in charge will ensure all weapons are cleared/empty prior to leaving the exercise area.

10.8.1. Upon arrival at armory or weapons storage facility all weapons must be cleared at an approved clearing barrel area.

10.8.2. If an approved clearing barrel is not available, the Ground Defense Force Commander or overall exercise commander may designate an approved area or areas where weapons handling can be performed IAW AMCP 31-1, *Air Mobility Command Arming Policy*, and 512AWI 91-201.

11. Adverse Weather Conditions during Field Training Exercises.

11.1. Field Training Supervision shall be responsible for contacting the Base Weather Support and Readiness (BWS) for initial notification of any adverse weather conditions in the area.

11.2. Adverse weather conditions include: strong surface winds, heavy rain, freezing precipitation and thunderstorms (i.e., frequent dangerous lightning, damaging winds, and hail).

11.3. General Lightning Safety.

11.3.1. When lightning is detected or observed within the immediate vicinity during the field training exercise, do not go out of doors or remain out unless it is absolutely necessary. Take appropriate precautions even though the thunderstorm may not be directly overhead.

11.3.2. If you are caught in the field around base X and are away from shelter and you feel your hair stand on end, lightning may be about to strike. Crouch down with feet and knees together hunched slightly forward and place your hands over ears to minimize potential hearing damage from thunder. **DO NOT LIE FLAT ON THE GROUND.**

11.3.3. The Field Training Exercise Commander or designated representative shall ensure local procedures are developed to advise supervisors and notify combined agencies involved with the exercise of any high-risk or adverse weather conditions. Supervisors, in turn, will advise all personnel to take proper precautions and timely actions.

11.3.4. A *Lightning Watch* is in effect 30 minutes prior to thunderstorms being within a 5-nautical mile (nm) radius of any pre-determined location or activity as forecasted by the BWS.

11.3.5. A *Lighting Warning* is in effect whenever any lightning is occurring within a 5-nm radius of the pre-determined locations and activities.

12. Post Exercise Clean-up.

12.1. A thorough policing of the exercise area must be accomplished at the completion of the exercise to ensure the removal of any unexploded items or munitions residue that could be harmful to the public or used in an unauthorized manner. The clean-up effort will consist of the following, as a minimum:

12.1.1. A review of accounting and control records for accountability of munitions stocks transported to the exercise area.

12.1.2. Recovery of deployed simulators where no attempt to fire occurred.

12.1.3. Disposition of duds by EOD.

12.1.4. Close-abreast sweeping and policing of the exercise area and removal of all expended munitions residue, packing material, and other litter. This includes expended brass. Any dud munitions discovered by these sweeps will be marked for later disposal by EOD..

12.2. A responsible individual will validate the clean up of the exercise area. The individual must have first-hand knowledge of the clean-up efforts. The person responsible for validation will be identified in the exercise plan.

12.3. All expended munitions residue and packing material will be returned to 512/436 EMS Munitions Management for inspection and disposition.

12.4. Unused serviceable munitions that have been removed from their shipping/storage containers will be returned to 512/436 EMS Munitions Management for inspection and repackaging IAW applicable technical orders.

RONALD A. RUTLAND, Colonel, USAFR
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 91-2, *Safety Programs*

AFMAN 91-201, *Explosives Safety Standards*

AFI 91-202, *USAF Mishap Prevention Program*

AFI 91-204, *Investigating and Reporting Mishaps,*

AFPAM 91-216, *USAF Safety Deployment and Contingency Pamphlet*

DAFBI 91-201, *Weapons Safety Program*

AFI 31-207, *Arming and Use of Force by Air Force Personnel*

AFM 31-229, *USAF Weapons Handling Procedures*

Technical Order 11A-1-60, *Inspection of Reusable Munitions Containers and Scrap Metal Generated from Items Exposed or Containing Explosives*

AMCP 31-1, *Air Mobility Command Arming Policy*

AFI 91-207, DAFB Sup1, *Traffic Safety Program*

AF IMT 55 Employee Safety and Health Record

AF IMT 483 Certificate of Competency

AF IMT 623 On-the Job-Training Record

AF IMT 2047 Explosives Facility License

AF IMT 3126 General Purpose Form

Abbreviations and Acronyms

NSN—National Stock Number

HC/D—Hazard Class / Division

QTY—Quantity

NEW—Net Explosive Weight

GBS—Ground Burst Simulator

SPM—Smoke Producing Munitions

GSU—Geographically Separated Unit

BWS—Base Weather Support and Readiness

EOD—Explosive Ordnance Disposal

MSA—Munitions Storage Area

Attachment 2**EXERCISE PLAN LETTER - EXAMPLE**

DATE: _____

MEMORANDUM FOR *Unit Commander*

FROM: _____

SUBJECT: Field Training Exercise Plan

1. Purpose: *(Brief description of the type and scope of the exercise)*

2. Exercise dates and times:

Date/Time:

Start:

Finish:

3. Location *(Installation and location of exercise)*: Base X, DOVER AFB

4. Unit(s) involved:

Unit and No. Persons involved:

512 CES/CED 5 – Example

512 SFS 25 - Example

5. Munitions:

NSN	Nomenclature	HC/D	QTY	NEW
1305-00-182-3217	5.56MM BLANK	1.4S	1,500	1.65 LBS

Examples:

1305-00-182-3217 5.56mm, Blank 1.4S 1,500 1.65 lbs.

1305-00-752-8087 7.62mm, Blank 1.4S 1,250 2.75 lbs.

1330-00-289-6851 Grenade, Smoke 1.4G 25 18 lbs.

1370-00-752-8126 Simulator, Project 1.2.2G 20 2.82lbs.

6. Weapons:

Nomenclature	Quantity

7. Persons authorized/designated to draw munitions:

RANK/NAME/UNIT:

MSgt George Bullet/512 CES

TSgt Samual Guns/512 SFS

8. Munitions pick-up time and date:

0745/26May03 - Example

9. Transportation:

Note: Government transportation will be used to transport munitions from the MSA to the exercise area. Only properly trained personnel will transport munitions.

9.1. Munitions Transport Route: *(List Specific Route to be taken)*10. Pre-Exercise Safety Training/Briefing: *(All participants). (Examples listed below)*

10.1. 0700/26May03/Bldg605.

10.2. Designated Trainers/Briefer:

MSgt Bomb, 512 CES & TSgt Bullet, 512 CES/EOD. (Example)

10.3. Signature of Trainer/Briefer and Date of Safety Briefing:

_____.

11. Person Authorized to Function/Deploy/Expend Munitions:

(Only personnel trained by EOD may function simulators or smoke grenades).

12. Only EOD personnel will be authorized to retrieve/dispose of suspect or dud ammunition. All unused munitions and munitions residue will be returned to 512/436 EMS Munitions Management Section located at the (MSA).

13. Person/agencies designated to accomplish post exercise clean up of the range/exercise area:

(Person Agency Signature/Date)

MSgt Bomb, 512 CES: _____ Example _____

14. Coordination: Notification of exercise and the use of the exercise area:

14.1. 512/436 EMS/MXMW (Munitions) _____

14.2. 512/436 CES/CED (EOD) _____

14.3. 436 CES/CEF (Fire Chief) _____

14.4. 436 OSS/OSA (Airfield Management) _____

14.5. 436 SFS/SFCC (SFS Control Center) _____

14.6. 512.436 AW/SE (Wing Safety) _____

Name of Exercise Commander, Rank, USAFR

Commander

Attachment 3**FIRE SYMBOL HAZARDS AND ACTIONS**

Fire Symbol	Materials	Hazard	Action/Remarks
1	1.1 Explosives and class IV liquid propellants and 1.5 munitions	Mass Detonation	1. Do not fight fire unless rescue attempt is planned. 2. If there is suitable separation to symbol 1 materials and fire chief approves, fire-fighting forces may attempt to extinguish the fire. 3. If personal safety is in doubt, take cover. 4. Evacuate personnel 4000 feet.
2	1.2.X Ammunition and explosives and 1.6 extremely insensitive detonating substances	Explosion with fragments	1. Give alarm; attempt to extinguish fire if in early stage. 2. Firefighting forces should fight fire. If not possible, prevent spread of fire. 3. Detonation of items could occur. Provide protection from fragments. 4. Evacuate personnel 2500 feet.

Fire Symbol	Materials	Hazard	Action/Remarks
3	1.3 Ammunition and explosives	Mass Fire	<ol style="list-style-type: none">1. May be fought if explosives not directly involved.2. For fires involving HC and incendiaries use dry sand or dry powder in early stage.3. For fires involving pyrotechnics and magnesium incendiaries.<ol style="list-style-type: none">a. Protect adjacent facilities and equipment.b. Do not use carbon dioxide, Halon extinguishers, or water on munitions.c. Allow magnesium to cool unless upon flammable material. In this case, use a 2-inch layer of dry sand or powder on the floor, rake the burning material onto this layer, and re-smother.4. Evacuate personnel 600 feet.
4	1.4 Ammunition and explosives	Moderate fire	<ol style="list-style-type: none">1. Fight these fires.2. Expect minor explosions and hot fragments.3. Evacuate personnel 300 feet.

Attachment 4**PRIOR TO EXERCISE - SAFETY BRIEFING (SAMPLE)**

1. Hazards and precautions for the handling and use of the explosives involved. Ensure only blank ammunition is issued to exercise participants. **NO LIVE AMMO.** Personnel issued live ammo for security reasons will be identified and will not be exercise participants or permitted in the exercise area. Only EOD trained personnel will function simulators or smoke producing munitions. Ensure simulators are only functioned at safe distances from personnel and equipment. Only qualified personnel will be issued weapons. Should you have any questions about your weapon or ammunition notify a supervisor immediately.
2. Range/exercise area safety criteria. Do not function simulators or smoke grenades in dry grass or combustibles. Ensure at least two water fire extinguishers are present and serviceable.
3. Procedures for handling of dud or misfired munitions. Only EOD personnel are allowed access to misfired or dud ammunition. Identify misfires or duds and keep non-essential personnel at least 300 feet away.
4. Procedures to ensure the control and accountability of munitions. All issued ammunition must be accounted for at the conclusion of exercise. Munitions can only be stored in a 512/436 AW Safety approved licensed location.
5. Range/exercise area clean-up requirements and procedures. All expended munitions residue is accountable and must be returned to 436/512 EMS Munitions Management. All munitions packaging and containers must be returned to Munitions Management.
6. All fires starting in the vicinity of ammunitions or explosives will be reported and fought immediately with all available means to prevent spreading of fire and munitions involvement. However, if the fire engulfs explosive materials or is supplying heat to it, or if the fire is so large that it cannot be extinguished with the equipment at hand, the personnel involved shall evacuate and seek safety.