

**BY ORDER OF THE COMMANDER
AIR EDUCATION AND TRAINING
COMMAND**



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Supplement 1**

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Space, Missile, Command, and Control

RANGE PLANNING AND OPERATIONS

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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AFI 13-212, Volume 1, 7 August 2001, is supplemented as follows:

This supplement provides additional guidance for the operation of weapons ranges within AETC. It applies to all agencies under the operational control of HQ AETC to include the Air National Guard (ANG) and the Air Force Reserve Command (AFRC).

AETC units will submit suggested improvements to this supplement on AF Form 847, **Recommendation for Change of Publication**, to HQ AETC/DOF, 1 F Street Suite 2, Randolph AFB TX 78150-4325. Unless otherwise specified, HQ AETC/DOF is the overall waiver authority for this supplement. Waivers to this supplement will be requested through HQ AETC/DOF. Records created as a result of prescribed processes in this publication will be maintained and disposed of in accordance with AFMAN 37-139, *Records Disposition Schedule* (will become AFMAN 33-322, Volume 4).

SUMMARY OF REVISIONS

This revision is completely rewritten in response to the revised basic AFI.

1.3. AETC range operating agencies (ROA) are Goldwater Air Force Range, 56 FW, Luke AFB AZ, and Tyndall Air Combat Maneuvering Instrumentation (ACMI), 325 FW, Tyndall AFB FL.

1.4.1. The ROA comprehensive range plan will be updated as the mission dictates, but at least annually.

1.6.3. Units requesting exemptions or waivers will route their requests through the ROA to HQ AETC/DOF.

2.7.5. As a minimum, the local supplement will be sent to (1) all known regular using units (five copies each unless they request more); (2) 19 AF/DOO and DOK (one copy each); (3) HQ AETC/DOF, CEV, and SEF (one copy each); (4) AFRC/DOT (one copy); (5) ANG/C4R (one copy); and (6) HQ USAF/XOOR (one copy).

2.7.5.1. ROAs will supplement this instruction to identify local range operating procedures. The supplement will contain sufficient detail to allow it to be used as a stand-alone document for non-Air Force users. **NOTE:** When ROAs reposition existing targets or add new targets to a range, they will publish a revised local supplement within 30 days. In addition to the local supplement, each ROA will maintain a copy of the basic AFI and MAJCOM supplement in each Class A range tower.

2.7.11. The normal range control officer RCO tour of duty will be 8 hours, not to exceed 12 hours in any one 24-hour period. The maximum number of duty hours in any 7 days will be 60, which may be waived on a case-by-case basis by the operations group commander or designated representative. Only qualified officers, NCOs, or civilians (government employees or contractors) may perform RCO duties. All RCOs (military or civilian) will meet the qualification, training, certification, currency, evaluation, and recordkeeping requirements listed in Attachment 4 (Added)(AETC), this supplement.

3.1. The civil engineering point of contact for natural resources management must be consulted during the earliest stages of planning for new ground-disturbing activities; for example, relocating targets or creating access routes. This consultation is necessary to ensure timely consideration of environmental impact analysis, cultural resources survey, threatened and endangered species protection, and other environmental and natural resources requirements.

3.2.2.1. ROAs will forward a wing commander-validated test/training space need statement (T/TSNS) to HQ AETC/DOFR.

3.2.2.2. HQ AETC/DOFR will ensure coordination with MAJCOM-level agencies via the range and airspace interdisciplinary product team (RAIPT).

3.5. The senior representative for AETC is the Chief, Aircrew Training and Standardization Division (HQ AETC/DOF), or designated representative.

3.7. The ROA will coordinate his or her unit comprehensive range plan with HQ AETC/DOFR.

4.1. AETC Form 330, **Weapons Delivery Scoring Record**, will be used to record coordinates from the M-2 aiming circle, bomb and rocket miss distance, and strafe hits indicated by the strafe scoring system. Range personnel will provide weapons scores to range users by radio, telephone, or e-mail as soon as possible after the range mission. This form will be maintained according to AFMAN 37-139.

4.1.2.1. Written agreements for ranges will be forwarded to HQ AETC/DOFR.

4.1.4.1.1. HQ AETC/DOFR will approve RCO training programs, including the use of night vision devices (NVD).

4.1.5.3. ROAs will ensure a range laser evaluation is accomplished every 3 years or earlier if the laser type, aircraft or platform, weapons, targets, tactics, range boundary, or airspace changes. When these

changes occur, the Brooks AFB Optical Radiation Safety (ORS) team will determine the need for another evaluation. This requirement should be included in the range funding requirement forecast.

4.1.6. Air-to-ground and ground-to-air communications from the range tower will be recorded by the RCO. (Recorders are authorized in the allowance source [AS] to satisfy this requirement.) The first tape used each day will contain the range name, date, RCO's name, time, and current weather. Tapes will be numbered in sequence and major changes, such as weather and RCOs, will be noted as they occur. Tapes will be held at least 24 hours before being reused. Tapes containing records of any range incident will be kept and secured until released by the investigating agency.

4.1.6.1.2. Ground-to-air communications must include the capability to simulcast emergency information on each radio frequency normally in use during range operations and on ultra-high frequency (UHF) guard (243.0).

4.2.1. Personnel requiring access to a range will be trained on range operating procedures, range access control, unexploded ordnance (UXO) safety, and communications requirements.

4.3.3.3.1. ROAs will forward new training weapon safety footprint requests to HQ AETC/DOFR, who will coordinate requests with HQ ACC/DOR.

4.3.11. On multiple passes, if a segment of the traffic pattern takes an aircraft outside the restricted area boundary, release systems will immediately be placed in the **Off** or **Simulate** position. The release systems will not be re-armed until the aircraft is once again within the restricted area boundary.

5.2.2. Requests to deactivate or transfer threat emitters will be forwarded to HQ AETC/DOFR.

6.2. ROAs will submit a quarterly range utilization report (RCS: AETC-DOF(M)9501) to HQ AETC/DOFR no later than 10 workdays following the reporting period.

6.3. ROAs will submit a quarterly expended munitions tracking report to HQ AETC/DOFR no later than 10 workdays following the reporting period.

6.4. ROAs will submit a range residue clearance/decontamination report to HQ AETC/DOFR after each periodic or annual clearance activity.

7.4.3. In addition, 10 percent of the land surrounding targets on a range will be visually surveyed to determine ordnance density. This area will be cleared when a density factor of greater than five whole ordnance items per acre is discovered.

7.6.1. The format in Attachment 5 (Added)(AETC), this supplement, will be used to document the explosive ordnance disposal (EOD) training required in the basic AFI. One copy of the briefing memorandum will be maintained by the ROA and one copy will be sent to the EOD element.

8.5. (Added)(AETC) Form Prescribed. AETC Form 330.

8.6. (Added)(AETC) Form Adopted. AF Form 847.

NOTE: The following is added to Attachment 1:

Abbreviations and Acronyms (Added)(AETC)

A/A—air-to-air

ARMS—Aviation Resource Management System

CCT—combat crew training

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Director of Operations

2 Attachments (Added)(AETC)

4. RCO Qualifications and Requirements

5. Sample EOD Briefing Statement

Attachment 4 (Added)(AETC)**RCO QUALIFICATIONS AND REQUIREMENTS**

A4.1. (Added)(AETC) Experience. RCOs must have experience in at least one of the following areas:

A4.1.1. (Added)(AETC) Military experience in the tactical air delivery of air-to-ground ordnance and munitions.

A4.1.2. (Added)(AETC) Military or civilian experience in the management, supervision, or control of air operations in the military environment of a conventional or tactical range.

A4.1.3. (Added)(AETC) Military or civilian experience in the management, supervision, or control of air operations in the military environment of an airfield, including fighter or conventional bomber operations.

A4.2. (Added)(AETC) Qualifications. RCOs must possess the following qualifications:

A4.2.1. (Added)(AETC) The ability to operate ultra-high frequency (UHF), very high frequency (VHF), citizen's band (CB), frequency modulation (FM), and telephonic two-way communications equipment.

A4.2.2. (Added)(AETC) A working knowledge of range scoring systems, range target systems, and emergency response actions.

A4.2.3. (Added)(AETC) Familiarity with the general classes and types of aircraft and ordnance expected to be employed at the range and the general classes and types of pattern deliveries that may be employed.

A4.2.4. (Added)(AETC) The ability to assimilate a variety of information in a dynamic environment and react with sound decisions and judgment while adhering to established practices and procedures.

A4.3. (Added)(AETC) Physical Requirements. RCOs must have:

A4.3.1. (Added)(AETC) Vision correctable to 20/20 and the ability to distinguish primary colors.

A4.3.2. (Added)(AETC) Normal depth perception.

A4.3.3. (Added)(AETC) Full use of both hands and arms.

A4.3.4. (Added)(AETC) Normal hearing.

A4.3.5. (Added)(AETC) The ability to climb up steps to a height of 120 feet.

A4.3.6. (Added)(AETC) The ability to lift dead weights up to 60 pounds.

A4.3.7. (Added)(AETC) The ability to maintain civilian and government driver's licenses.

A4.4. (Added)(AETC) RCO Records. RCO records will be kept with the Gila Bend Operations and Maintenance contractor RCO supervisor at the range. These records will reflect the training and qualifications of all RCOs and will be available for review as required. As a minimum, each RCO's records will include:

A4.4.1. (Added)(AETC) Section 1: Personnel Data.

A4.4.2. (Added)(AETC) Section 2: RCO Certification and Currency Documentation.

A4.4.3. (Added)(AETC) Section 3: Academic, On-Range, and Demonstration Training.

A4.4.4. (Added)(AETC) Section 4: Evaluations.

A4.4.5. (Added)(AETC) Section 5: Supplemental Data.

A4.4.6. (Added)(AETC) Section 6: Certification of Annual Physical Examination.

A4.5. (Added)(AETC) Academic Training. Academic training programs for RCOs will be approved by HQ AETC/DOFR and will include the following items, as applicable: (**NOTE:** On-range RCO checklists and training will also include potential traffic conflicts with other ranges in the complex or nearby airspace and combat laser and safety procedures, as applicable.)

A4.5.1. (Added)(AETC) Safety.

A4.5.2. (Added)(AETC) Range security.

A4.5.3. (Added)(AETC) RCO authority and responsibility.

A4.5.4. (Added)(AETC) Range weather minimums.

A4.5.5. (Added)(AETC) Communications procedures.

A4.5.6. (Added)(AETC) Aircraft ordnance deliver patterns.

A4.5.7. (Added)(AETC) Foul criteria.

A4.5.8. (Added)(AETC) Range facilities.

A4.5.9. (Added)(AETC) Pattern safety.

A4.5.10. (Added)(AETC) Range records maintenance.

A4.5.11. (Added)(AETC) Handling of training munitions.

A4.5.12. (Added)(AETC) Radio operations.

A4.5.13. (Added)(AETC) In-flight emergency.

- A4.5.14. (Added)(AETC) Tape recorder operations.
- A4.5.15. (Added)(AETC) Bomb plotting.
- A4.5.16. (Added)(AETC) Minimum altitude measuring devices.
- A4.5.17. (Added)(AETC) Dive angle references.
- A4.5.18. (Added)(AETC) Fire control and suppression.
- A4.5.19. (Added)(AETC) Crash and rescue operations.
- A4.5.20. (Added)(AETC) Tactical range operations.
- A4.5.21. (Added)(AETC) Night operations.
- A4.5.22. (Added)(AETC) Traffic conflicts with other ranges.
- A4.5.23. (Added)(AETC) Pattern spacing.
- A4.5.24. (Added)(AETC) Strafe impact area inspections, maintenance, berms, scoring devices, testing, and bull's-eye pole.
- A4.5.25. (Added)(AETC) Helicopter operations.
- A4.5.26. (Added)(AETC) Divert procedures.
- A4.5.27. (Added)(AETC) General aviation corridor.
- A4.5.28. (Added)(AETC) Automated range scoring systems.
- A4.5.29. (Added)(AETC) Proper storage, transportation, and firing of training munitions, such as smokey surface-to-air missile (SAM) and guns.
- A4.5.30. (Added)(AETC) Combat laser operations and safety procedures.
- A4.5.31. (Added)(AETC) Generator operations.
- A4.6. (Added)(AETC) RCO Certification.** RCO certification requires a written examination, an on-range demonstration, and a memorandum of certification.
- A4.7. (Added)(AETC) RCO Written Examination:**
- A4.7.1. (Added)(AETC) An open-book, written examination, consisting of 35 randomly selected, multiple-choice questions, will be administered by an RCO supervisor. The examination will cover the topics and publications listed in paragraph A4.5 (Added)(AETC).
- A4.7.2. (Added)(AETC) A passing score is 85 percent, corrected to 100 percent.

A4.7.3. (Added)(AETC) The RCO will be immediately decertified if he or she fails the written examination. If the RCO fails a second time, he or she must re-accomplish the entire RCO training program. If the RCO fails a third time, he or she will be dismissed from performing RCO duties.

A4.8. (Added)(AETC) On-Range Demonstration. The on-range demonstration involves observing a qualified RCO display the proper methods and techniques for controlling aircraft during air-to-ground operations. After observing a qualified RCO control at least four flights on the range (two at night), the upgrading RCO will control four flights (two at night) under the supervision of a qualified RCO. Day qualification is a prerequisite for night qualification. If four-ship formations frequent the range, the upgrading RCO must also control at least one of these during the on-range demonstration.

A4.9. (Added)(AETC) RCO Currency. To maintain currency, each RCO must:

A4.9.1. (Added)(AETC) Complete initial qualification and certification training.

A4.9.2. (Added)(AETC) Perform RCO duty at least once every 90 days (once a year for fighter aircrew).

A4.9.3. (Added)(AETC) Successfully complete the RCO written examination once every 12 months.

A4.10. (Added)(AETC) RCO Recurrency. If an RCO becomes noncurrent, he or she must regain currency according to paragraph A4.9 (Added)(AETC). Recurrency actions will be documented. The governing operations group commander may waive RCO currency, but only under unusual circumstances. Any waivers will be in writing and for a period not to exceed 24 hours.

A4.11. (Added)(AETC) RCO Evaluations. The operations group commander or designated representative will select qualified people to make periodic, no-notice visits to the range to evaluate the on-duty RCO. Evaluations will be documented.

A4.12. (Added)(AETC) RCO Certification Training Period. The certification training period and requirements vary with each range, but upgrading RCOs will be certified within 30 workdays.

A4.13. (Added)(AETC) Air-to-Air (A/A) RCO Program. The A/A RCO program applies to combat crew training (CCT) units involved in aerial gunnery. A/A RCOs must be CCT instructors selected by their squadron commander and certified by the operations group commander or designated representative. The following requirements apply to the program:

A4.13.1. (Added)(AETC) Academic training, supervised by the squadron weapons officer, will include:

A4.13.1.1. (Added)(AETC) AFI 13-212, Volume 1, *Range Planning and Operation*; Volume 2, *Range Construction and Maintenance*; and Volume 3, *Safe-Range Program Methodology*, and as supplemented.

A4.13.1.2. (Added)(AETC) Applicable mission design series (MDS)-specific Air Force tactics, techniques, and procedures (AFTTP) publications.

A4.13.1.3. (Added)(AETC) Applicable MDS-specific, AFI 11-2XX publications.

A4.13.1.4. (Added)(AETC) Applicable MAJCOM publications.

A4.13.1.5. (Added)(AETC) Limits and sources of RCO authority and responsibility.

A4.13.1.6. (Added)(AETC) Aerial gunnery weather minimums.

A4.13.1.7. (Added)(AETC) Communications procedures.

A4.13.1.8. (Added)(AETC) Foul criteria.

A4.13.1.9. (Added)(AETC) Hazards and towed target range safety.

A4.13.2. (Added)(AETC) Certification will include:

A4.13.2.1. (Added)(AETC) An open-book, written examination on the topics listed in paragraph A4.5.

A4.13.2.2. (Added)(AETC) A passing score of 85 percent, corrected to 100 percent.

A4.13.2.3. (Added)(AETC) Documentation in the Aviation Resource Management System (ARMS) if available. If ARMS is not available, this documentation will be placed in the aircrew's training folder.

A4.13.3. (Added)(AETC) The A/A RCO will brief all applicable training rules during the preflight DART briefing.

Attachment 5 (Added)(AETC)

SAMPLE EOD BRIEFING STATEMENT

I certify that I briefed the following individuals on all explosive items that may be encountered on the Barry M. Goldwater Air Force Range. I placed specific emphasis on identification and proper safety precautions associated with each item. I instructed these individuals to not touch or handle any ordnance items on which they are not trained and to notify EOD personnel of other types of ordnance items they might find. I instructed them on the safe handling and temporary storage of practice ammunition. The ordnance items briefed were:

Signature and Grade of Briefer

Date of Briefing

This is to certify that I have been briefed by _____ (above):

Printed Name(s)

Signature, Grade, AFSC, and Squadron
