

**BY ORDER OF THE COMMANDER
AIR COMBAT COMMAND**

**AIR COMBAT COMMAND
INSTRUCTION 10-707**



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Operations

**ELECTROMAGNETIC WARFARE (EW)
PROCEDURES**

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This instruction implements Department of the Air Force Policy Directive (DAFPD) 10-7, *Information Operations (IO)*; Air Force Doctrine Publication (AFDP) 3-51, *Electromagnetic Warfare and Electromagnetic Spectrum Operations*; Department of the Air Force Instruction (DAFI) 10-706, *Electromagnetic Warfare (EW)*; and Combat Air Force (CAF) Plan 53, *Weapons System Evaluation Program (WESP)*. It provides guidance for EW capability development and sustainment. This instruction defines and establishes procedures for accomplishing EW within Air Combat Command (ACC). This publication applies to all ACC wings, gained units, EW sites, EW equipment supporting United States Air Force (USAF) ranges, and operating locations. It is applicable to Air National Guard (ANG) and Air Force Reserve Command (AFRC) units and members. This instruction is applicable to Air Force Global Strike Command (AFGSC), and Air Force Special Operations Command (AFSOC) units and aircraft operating over ACC EW sites, EW equipment supporting USAF ranges, and operating locations. This publication is not applicable to the United States Space Force. The reporting requirements in this publication are exempt from licensing in accordance with (IAW) Air Force Instruction (AFI) 33-324, *The Air Force Information Collections and Reports Management Program*. Ensure that all records generated as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed of in accordance with the Air Force Records Disposition Schedule which is located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using Department of the Air Force (DAF) Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate functional chain of command. This publication may be supplemented at any level, but

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SUMMARY OF CHANGES

This document is substantially revised and must be completely reviewed. Major changes to this Instruction include the addition of numerous tasks from the recently revised DAFI 10-706. As the 350th Spectrum Warfare Wing (SWW) develops to reach final operating capability, roles and responsibilities will be defined and revised as necessary.

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Chapter 1

DOCTRINE AND GUIDANCE.

1.1. Background. Air Combat Command (ACC) recognizes the electromagnetic spectrum (EMS) as a fundamental component of the natural environment encompassing all forms of electromagnetic radiation and as an increasingly congested maneuver space populated by both military and civilian entities competing for access to the Electromagnetic Operating Environment (EMOE). Electromagnetic spectrum operations (EMSO) are designed to support military operations throughout the competition continuum to achieve desired objectives and end-states. ACC is committed to organize, train, and equip our Airmen to effectively conduct EMSO while continuing to develop capabilities that will permit our forces to gain and maintain EMS superiority.

1.2. General Guidance. Doctrine provides fundamental principles by which military forces guide their actions in support of national objectives. This publication reflects updated information based on Combat Air Force (CAF) Plan 53, *Weapons System Evaluation Program (WESP)*; DAFI 10-706, *Electromagnetic Warfare (EW)*; Department of the Air Force Manual (DAFMAN) 10-703, *Electromagnetic Warfare Integrated Reprogramming*; and AFDP 3-51, *Electromagnetic Warfare and Electromagnetic Spectrum Operations*, and is nested within Joint Publication (JP) 3-85 *Joint Electromagnetic Spectrum Operations (JEMSO)*.

1.3. Vision. The Department of Defense's (DoD's) vision of providing freedom of action in the EMS at the time, place, and parameter(s) of our choosing is a required precursor to the successful conduct of operations in all domains. In coordination with Headquarters Air Force (HAF) and other Major Commands (MAJCOMs), ACC supports the Department of the Air Force *Electromagnetic Spectrum Superiority Strategy* strategic goals of: 1) Establish[ing] and sustain[ing] innovatively led and aggressively employed organizations and authorities, 2) Develop[ing] and deliver[ing] agile EW/EMS capabilities with relevant rapidity, and 3) Develop[ing] the EW/EMS superiority force for the future (USAF EMS Superiority Strategy ver. 1.0, signed 8 April 2021).

1.4. EMSO Mission Areas. EMSO is comprised of multiple disciplines coordinating, synchronizing, and executing their mission areas. EMSO primary mission areas include EW and EMS management and EMSO related mission areas include cyberspace, space, air, land, and maritime operations.

1.4.1. EW. EW refers to military actions involving the use of electromagnetic (EM) and directed energy (DE) to control the EMS or to attack the enemy. EW consists of three distinct divisions: electromagnetic attack (EA), electromagnetic warfare support (ES), and electromagnetic protection (EP). EW is a key function of EMSO and critical to joint force operations and success in the dynamic EMOE.

1.4.2. EMS Management. EMS management refers to operational, engineering, and administrative procedures to plan and coordinate use of the EMS. EMS management is composed of three interrelated functions: frequency management (FM), host-nation coordination, and joint spectrum interference resolution. EMS management is a key function of EMSO and critical to the success of joint force operations in a dynamic EMOE.

1.4.3. Cyberspace Operations. The majority of military systems contain cyberspace and EMS dependent components, requiring close integration of EMSO and cyberspace capabilities to

ensure prioritization, synchronization, and de-confliction. Many cyberspace operations require use of the EMS. Air, space and radio-frequency-enabled cyber operations are dependent on the EMS to establish communications paths to execute their targeting.

1.4.4. Space Operations. All space operations rely on the EMS for command and control (C2), sensing, and information distribution. The vital nature of space operations to overall joint operations requires close coordination with other EMS activities to ensure proper prioritization, integration, synchronization, and de-confliction.

1.4.5. Air, Land and Maritime Operations. The EMS overlaps these physical domains simultaneously and EMSO provides the processes to effectively prioritize, integrate, synchronize, and de-conflict the EMS.

1.5. EMSO Actions. EMSO actions to exploit, attack, protect, and manage the EMOE rely on personnel and systems from EW, EMS management, intelligence, space, and cyberspace mission areas. Instead of the mission areas being planned and executed in a minimally coordinated and stovepiped fashion, EMSO guidance and processes prioritize, integrate, synchronize, and deconflict all operations in the EMOE, enhancing unity of effort. The result is a fully integrated scheme of maneuver in the EMOE to achieve EMS superiority and commander objectives.

1.5.1. Exploit. Exploitation takes full advantage of available information for tactical, operational, or strategic purposes. In an EMSO context, exploitation refers to EMS systems capable of sensing the EMOE. Sensing systems support intelligence collection, situational awareness, targeting, and warning. EMS sensors can be active (e.g., air-to-air radars, identification friend-or-foe (IFF) interrogators) or passive (e.g., radar warning receiver (RWRs), passive radars, Infrared (IR) weapons seekers). These sensing missions are typically executed through signals intelligence and ES operations.

1.5.2. Attack. EMSO capabilities can directly produce effects in the EMOE. These capabilities can be used to deny (e.g., disrupt, degrade, destroy) and/or deceive an enemy's military EMS activities. For example, EA is the division of EW involving the use of EM energy, including DE or anti-radiation weapons, to attack personnel, facilities, or equipment with the intent of degrading, neutralizing, or destroying enemy combat capability.

1.5.3. Protect. ACC forces are critically dependent on exploiting the EMOE, EMSO facilitate the necessary EMS access by minimizing electromagnetic interference from friendly, neutral, adversary, and enemy actions. EMSO integrate EW and EMS management protection actions throughout planning and execution, enabling joint force EMS-dependent systems to operate in the EMOE as intended. For example, EMS coordination measures that protect our use of the EMS are the joint restricted frequency list and emissions control (EMCON).

1.5.4. Manage. Operations in the EMS must be managed to facilitate unity of effort in executing the planned scheme of maneuver within the EMOE. EMS management's objective is to enable EMS-dependent capabilities and systems to perform their functions as designed, without causing or suffering unacceptable electromagnetic interference. EMS management provides the framework to utilize the EMS in the most effective and efficient manner. EMS management is analogous to the airspace management function in air operations, coordinating and integrating joint EMS use in terms of time, space, and frequency.

Chapter 2

ROLES AND RESPONSIBILITIES.

2.1. General. EW encompasses a vital role within EMSO to achieve EMS superiority because it is heavily incorporated into three of the four EMSO actions. EA is the primary form of EMSO attack, EP encompasses portions of EMSO protect, and finally ES, in coordination with signals intelligence, performs EMSO exploitation. Therefore, it is vital for ACC forces to incorporate EW into their training and operations to achieve EMS superiority wherever they are operating. This chapter defines the roles and responsibilities for all levels of EW operations.

2.2. Commanders at All Levels:

2.2.1. Ensure EW is an integral part of combat operations, contingency plans, and training exercises.

2.2.2. Maintain EW combat readiness by ensuring personnel receive realistic, recurring training on EW equipment and EW equipment operations, both in-flight and during ground simulator EW-focused scenarios.

2.2.3. Commanders shall obtain exercise commander/staff experience in areas emphasizing the employment of EW.

2.2.4. Deploy available EW assets to include training support equipment and expendables on unit deployments, when possible.

2.2.5. Deploy individual EW officer personnel to support individual rated staff deployment requirements when needed and as available.

2.2.6. Identify intelligence requirements and integrate them into all EW operational and training programs and capability development activities.

2.2.7. Establish, train, execute, evaluate, and update EMCON standard procedures (reference [Chapter 4](#) for additional info).

2.2.8. Report EW readiness IAW Defense Reporting Readiness System reporting procedures (as applicable).

2.3. Common to all ACC Directorates. When able, incorporate applicable EMS mission planning tools, such as Integrated Many on Many (IMOM), into the planning process. This will facilitate increased awareness of how friendly, adversarial, and neutral EW equities will affect execution.

2.4. ACC Directorate of Manpower (ACC/A1):

2.4.1. Ensure manning document reflects appropriate requirements to ensure qualified government and military personnel are assigned to EW-related positions

2.4.2. Coordinate with ACC/A3/2/6KL to determine the requirements for EW-related positions.

2.5. ACC Directorate of Intelligence (ACC/A2):

2.5.1. Coordinate with ACC/A3/2/6KL regarding operational EW intelligence concerns.

2.5.2. Coordinate with United States Air Force Warfare Center (USAFWC) to ensure training, exercises, and operations have the required intelligence support that incorporate EW equities.

2.5.3. Coordinate with Numbered Air Force(s) (NAF) and Intelligence Community (IC) partners (e.g. National Security Agency (NSA), Defense Intelligence Agency (DIA), National Air and Space Intelligence Center (NASIC), Missile and Space Intelligence Center (MSIC)) to satisfy intelligence requirements.

2.5.4. Coordinate with ACC Electromagnetic Spectrum Operations (ACC/A6OF) for EMS management considerations such as but not limited to: EA clearance reviews, host nation coordination procedures, and coordination/approval timelines.

2.5.5. Coordinate with Commanders to identify any intelligence gaps and Priority Intelligence Requirements (PIRs). Develop plan to gather intelligence aimed at answering Requests for Information (RFIs).

2.6. ACC Directorate of Operations (ACC/A3): A3 retains oversight over all operational and training requirements for EW but has delegated the specific duties listed below:

2.6.1. ACC/A3/2/6KL:

2.6.1.1. Develop concepts and procedures for the C2 of EW assets.

2.6.1.2. Direct the movement and control of EW equipment/systems and support equipment to meet operational and test requirements.

2.6.1.3. Direct the appropriate EW capability when coordinating requirements for electronic, radar, communication, and weapon system training and testing.

2.6.1.4. Direct and approve the use of operational and training EW software and mission data for training, exercises, and operational missions. Ensure EW is an integral part of combat operations, contingency plans, and training exercises.

2.6.1.5. Establish ACC EMCON standards, procedures, and/or best practices to minimize the interception and exploitation of ACC aircraft EW radiations and tactics. Ensure allocation of EA training pods to enable ACC flying units to accomplish required EW training during air-to-air sorties.

2.6.1.6. Ensure EW training and assessments are incorporated into FLAG exercises to the maximum extent possible.

2.6.1.7. Ensure CAF frequency clearance requests for any ACC units conducting EA within the United States (US) and/or Canada are submitted IAW Chairman of the Joint Chiefs of Staff Manual (CJCSM) 3212.02E, *Performing Electronic Attack in the United States and Canada for Tests, Training, and Exercises*; and CJCSM 3212.03A, *Performing Tests, Training, and Exercises Impacting the Global Positioning system (GPS)*. (T-0)

2.6.1.8. Identify, document, and correct EW system deficiencies.

2.6.1.9. Maintain the ACC/A3/2/6KL EW SharePoint® site (<https://usaf.dps.mil/sites/ACC-A3/A326K/Electromagnetic> Warfare Branch) to include but not limited to a data repository, calendar, information sharing forum, and situational awareness of activities across the EW community.

- 2.6.1.10. Oversee COMBAT SHIELD EW Assessment Program (EWAP). (reference **Chapter 5** for information regarding COMBAT SHIELD)
- 2.6.1.11. Review and provide update to any relevant EW doctrine and policy.
- 2.6.1.12. Solicit quotas, distribute schedule, and course allocations for ACC, Air Education and Training Command (AETC), Joint, and Combined EW training courses, as applicable.
- 2.6.1.13. Facilitate reoccurring meetings to coordinate and synchronize EW efforts within ACC and as required across MAJCOMs.
- 2.6.1.14. Act as lead command for the sustainment of multi-platform common EW systems.
- 2.6.1.15. Act as ACC lead for Operational Reconnaissance (Ops Recce) for CAF.
- 2.6.1.16. Be the primary point of contact for issues regarding 390th Electronic Warfare Squadron (EWS) and USAF support to the Navy's EA-18 Growler airborne EA platform.
- 2.6.1.17. Act as ACC lead for information warfare events at the Playas Training and Research Center.
- 2.6.1.18. Act as course manager for Introduction to EW, Fighter Electromagnetic Combat Officers Course (FECOC), Electromagnetic Spectrum Operations Course, and advocate for the Non-Kinetic Operations Course (NKOCC).
- 2.6.1.19. Coordinate EA and chaff clearances IAW appropriate instructions.
- 2.6.1.20. Ensure ACC and subordinate organizations are appropriately staffed with EW expertise IAW with their command manning documents, can support applicable EMS operations centers (e.g., EMSO Cells), and assist filling any existing manning gaps.
- 2.6.1.21. Coordinate with ACC/A2 to ensure intelligence requirements support EW program(s).
- 2.6.1.22. Coordinate with ACC Airspace Ranges and Airfield Operations Division (ACC/A3A) to determine if EW system gaps or shortfalls exist with regard to USAF training ranges, if EW systems could be utilized for training and/or range use, and confirm training ranges have appropriate EA procedures.
- 2.6.1.23. Coordinate with ACC Operations Division (ACC/A3O) and NAF(s) to determine what EW systems are currently in use and how they are being employed.
- 2.6.1.24. Coordinate with ACC Flight Operations Division (ACC/A3T) if EW systems will be utilized for training and/or range use, confirm EA training is incorporated into training plans and activities, and resolve any training gaps and/or shortfalls.
- 2.6.1.25. Coordinate with the Directorate of Logistics, Engineering & Force Protection (ACC/A4) to confirm logistical and maintenance capability support of EW systems and equipment.
- 2.6.1.26. Coordinate with Spectrum Superiority Division (ACC/A5L) to ensure EW program(s) meet established requirements, resolve EW system requirements, and acquisition gaps and/or shortfalls, support capability development requirements derivation

and programmatic issues, and determine what EW systems are incorporated into ACC plans.

2.6.1.27. Coordinate with ACC/A6OF for EMS management considerations such as but not limited to: EA clearance reviews, host nation coordination procedures, and coordination/approval timelines.

2.6.1.28. Coordinate with ACC International Affairs (ACC/IA) to ensure Ally/Partner EW capabilities are authorized to conduct EA in the U.S. or Canada.

2.6.1.29. Coordinate with USAFWC to identify potential EW equipment requirements and determine if additional or updated training is required.

2.6.1.30. Coordinate with the 350 SWW on EW doctrine, policy, capability development, requirements derivation, operational sustainment, or programmatic issues.

2.6.1.31. Coordinate with 350 SWW to ensure COMBAT SHIELD and Ops Recce have sufficient resources.

2.6.1.32. Coordinate with United States Space Force on COMBAT MACE.

2.6.1.33. Act as the coordinating office for tier waiver authorities identified in this document.

2.6.1.34. As required, coordinate with internal ACC divisions and external organizations to formalize EW training to cover individual, unit and senior officer training and continued career learning courses tailored to the command's specific mission(s).

2.6.1.35. If required, coordinate with CAF and subordinate units to determine if EW system gaps or shortfalls exist within their operations.

2.6.1.36. If required, coordinate with Resource and Budget Division (ACC/A3R) regarding resourcing issues.

2.6.1.37. Be prepared to support and/or lead additional information warfare efforts.

2.6.1.38. Support Air Force Life Cycle Management Center (AFLCMC) as required.

2.6.1.39. As appropriate coordinate AF modeling and simulation support to EW training at the operational level.

2.6.1.40. Coordinate with ACC International Affairs (ACC/IA) to support Ally/Partner EW intelligence mission data sharing as prescribed in applicable policy and memoranda of agreement.

2.6.2. ACC/A3A:

2.6.2.1. Provide administrative and management guidance for Range Threat Systems on ACC ranges to ensure they provide a realistic environment that supports combat readiness training requirements.

2.6.2.2. Support an overall Range Threat System strategy through the Enterprise Range Plan that will:

2.6.2.2.1. Ensure Range Threat System capabilities meet CAF long-term training objectives.

- 2.6.2.2.2. Prioritize and align Range Threat System improvements for EW capabilities to stated objectives.
- 2.6.2.2.3. Direct the movement and control of range threat systems to meet operational training requirements.
- 2.6.2.2.4. Ensure procedures are established and published for conducting and providing mission feedback of Range Threat Systems on ACC ranges (automated and integrated with other range training data where possible).
- 2.6.2.3. Coordinate the validation of Range Threat System emitter databases to ensure proper function and fidelity of the systems.
- 2.6.2.4. Coordinate with ACC/A2 to verify threat databases accurately represent the system(s) they are supposed to emulate.
- 2.6.2.5. Coordinate with ACC/A3/2/6KL regarding Range Threat Systems allocation and support as required.
- 2.6.2.6. Coordinate with ACC Weapons and Tactics (ACC/A3TW) to verify operational training requirements for Range Threat Systems.
- 2.6.2.7. Coordinate with ACC Resource Integration Division (ACC/A4P) to ensure Range Threat Systems have sufficient logistical support (Centralized Asset Management System (CAMS)).
- 2.6.2.8. Coordinate with ACC/A5T regarding Range Threat Systems requirements.
- 2.6.2.9. Coordinate with appropriate ACC weapon system training stakeholders and Functional Area Managers (FAMs) regarding Range Threat Systems future considerations.
- 2.6.2.10. Coordinate with ACC/A6OF for EMS management considerations such as but not limited to: EA clearance reviews, host nation coordination procedures, and coordination/approval timelines.
- 2.6.3. ACC/A3C:
 - 2.6.3.1. Coordinate with ACC/A3/2/6KL for EW expertise support and to develop concepts and procedures for the C2 of EW assets.
 - 2.6.3.2. Coordinate with the 479 Operations Support Squadron (OSS) to educate Airmen on EW cell equities.
 - 2.6.3.3. Coordinate with applicable EW/EMS components within the Air Operations Center.
- 2.6.4. ACC/A3O:
 - 2.6.4.1. As required, coordinate with ACC/A3/2/6KL to facilitate incorporation of EW equities into FLAG, Joint, and Combatant Command Campaign level training.
 - 2.6.4.2. Coordinate with ACC/A3/2/6KL to determine operational impact.
- 2.6.5. ACC/A3T:
 - 2.6.5.1. Ensure EW training requirements are incorporated in applicable publications to include course syllabi and 10 and 11-series publications.

- 2.6.5.2. Coordinate and review ground and airborne EW training programs.
- 2.6.5.3. Determine EW training deficiencies and formulate solutions.
- 2.6.5.4. Develop EW training concepts to support weapon system training programs and ensure EW configuration in aircrew training devices are compatible with aircraft configurations.
- 2.6.5.5. Ensure part-task trainers, aircrew training devices, range threat simulators, ACC ranges, and all Air Combat Maneuverability and Instrumentation Ranges are integrated into a cohesive EW training system.
- 2.6.5.6. Manage and allocate CAF expendables for training, testing, and operational use.
- 2.6.5.7. Submit reports that include EW training deficiencies IAW AF/A3 and Space Staff equivalent guidance.
- 2.6.5.8. Coordinate with ACC/A3/2/6KL to review and incorporate operational level EW training objectives in AF Weapons School training and for support on the operational impact of training shortfalls.
- 2.6.5.9. Coordinate with ACC/A3A to ensure range and operations procedures support EW training programs.
- 2.6.5.10. Coordinate with ACC/A4 to ensure EW tests have the required material support.
- 2.6.5.11. Coordinate with ACC/A6OF for EMS management considerations such as but not limited to: EA clearance reviews, host nation coordination procedures, and coordination/approval timelines.
- 2.6.5.12. Coordinate with NAF(s) to address if they are experiencing training shortfalls.
- 2.6.5.13. Coordinate with 350 SWW, 850th Spectrum Warfare Group (SWG), and 87th EWS COMBAT SHIELD leadership on training and exercise results for annual Weapons System Evaluation Program (WSEP) brief to Commander Air Combat Command (COMACC).
- 2.6.5.14. As required, coordinate with the ACC Inspector General (ACC/IG) for assistance in resolving shortfalls.

2.7. ACC Directorate of Logistics, Engineering and Force Protection (ACC/A4):

- 2.7.1. Provide a continuing maintenance capability to support unit allocation of EW equipment to include deployed and bare base operations.
- 2.7.2. Ensure maintenance personnel are adequately trained.

2.8. ACC Directorate of Plans, Programs, and Requirements (ACC/A5/8/9):

- 2.8.1. Define EW requirements to be included in the acquisition process for new equipment that employ the EMS, such as EP requirements for radars.
- 2.8.2. Include EW/EMS assessability attributes in requirements (to include manpower, technical specifications, and other resources). Coordinate with COMBAT SHIELD Executive Agent or their delegate on these requirements.
- 2.8.3. ACC/A5L:

- 2.8.3.1. Document EW system deficiencies during the acquisition process and take action to correct deficiencies in conjunction with ACC/A3.
- 2.8.3.2. Act as lead command representative for the acquisition and upgrade of EW systems for multiplatform common EW systems.
- 2.8.3.3. Lead ACC efforts to develop innovative EW concepts or sustainment actions to support the Department of the Air Force *Electromagnetic Spectrum Superiority Strategy*.
- 2.8.3.4. Coordinate with ACC/A3, ACC/A4, and ACC/A5/8/9 to develop, evaluate, and monitor requirements for ACC EW systems, support equipment, range threat simulators and all warfare ranges, and EW simulation/training equipment.
- 2.8.3.5. Ensure requirements for new simulators and other training devices include EW equipment and manpower.
- 2.8.3.6. Define, advocate, and direct the acquisition, sustainment, and modernization of EW and EMS dependent systems, platforms, equipment, and support assets for which ACC is lead command. Ensure those systems are resourced through the Planning, Programming, budgeting and Execution (PPBE) process.
- 2.8.3.7. Develop requirements for and fund scalable, modular, and interoperable EW systems and equipment that can dynamically share and maneuver in complex EMOEs.
- 2.8.3.8. Plan, program, and coordinate EW equipment into the CAF inventory.
- 2.8.3.9. Provide qualified subject matter experts to participate in Department of the Air Force (DAF) studies related to EW or to attaining or maintaining EMS superiority.
- 2.8.3.10. Participate in high performance team actions associated with EW requirements development.
- 2.8.3.11. Host annual combat air forces and senior leader conferences as well as supporting the spectrum integration group as defined within its charter.
- 2.8.3.12. Assume operational lead for the combat air forces on innovative EW concepts or sustainment (current and future) actions.
- 2.8.3.13. Coordinate and comment on relevant EW doctrine, policy, capability development, requirements, operational sustainment, or programmatic issues.
- 2.8.3.14. Coordinate with AF/A2/6L when initiating or developing EW-related force development concepts.
- 2.8.3.15. Coordinate with ACC/A3A to ensure range policy, operations, and sustainment management are considered in the development of support equipment and when providing system upgrades.
- 2.8.3.16. Coordinate with the ACC Range Operations and Requirements Branch (ACC/A3AR) to ensure policy, operations, and sustainment management are incorporated supporting EW equipment and training activities.
- 2.8.3.17. Coordinate with ACC/A3T for training programs equities.

2.8.3.18. Coordinate with the ACC/A6OF for EMS management considerations such as but not limited to: EA clearance reviews, host nation coordination procedures, and coordination/approval timelines.

2.8.3.19. Coordinate with NAF(s) to verify planning activities incorporate appropriate sustainment considerations for their EW equipment.

2.8.3.20. As required, coordinate with ACC/A3/2/6KL for support.

2.8.3.21. If performing acquisition related activities for cyber systems coordinate with AF/A3 through the HAF Chief, Cyber Warfare Division (AF/A3CX/A6CX) on EW-specific cyber policy, guidance and AF/A5/7 through the HAF Chief, Cyberspace Requirements Division (AF/A5RK) on requirements and programmatic issues.

2.8.4. ACC/A5T:

2.8.4.1. Ensure any EW test activity utilizes appropriate DoD test facilities and are IAW DAFI 99-103, *Capabilities-Based Test and Evaluation*.

2.8.4.2. Coordinate with Nevada Test and Training Range (NTTR) to determine EW range requirements and with the Nellis Virtual Test and Training Center (VTTC) to determine EW virtual training system hardware and support requirements.

2.8.4.2.1. As required, coordinate with 805th Combat Training Squadron, Shadow Operations Center – Nellis (ShOC-N) to determine EW requirements for joint all domain C2 & air battle management system.

2.8.4.3. As required, coordinate with appropriate training and test stakeholders to ensure ACC Test and Training Division (ACC/A5T) responsible systems have addressed or help determine EW requirements.

2.8.4.4. As required, coordinate with ACC/A3/2/6KL for operational support.

2.8.4.5. As required, coordinate with ACC/A6OF for EMS management considerations such as but not limited to: EA clearance reviews, host nation coordination procedures, and coordination/approval timelines.

2.8.5. ACC/A8:

2.8.5.1. Ensure derived system requirements for new EW capabilities are accompanied with command-sponsored analysis.

2.8.5.2. Coordinate with ACC/A3 to incorporate operational equities.

2.8.5.3. Coordinate with ACC/A4 to incorporate logistical and sustainment equities.

2.8.5.4. Coordinate with ACC/A5L with regard to identified requirements.

2.9. ACC Directorate Cyberspace and Information Dominance (ACC/A6):

2.9.1. ACC/A6OF

2.9.1.1. Coordinate on and process EA/chaff requests IAW CJCSM 3212.02E, *Performing Electronic Attack in the United States and Canada for Tests, Training, and Exercises*; and CJCSM 3212.03A, *Performing Tests, Training, and Exercises Impacting the Global positioning System (GPS)*.

2.9.1.2. Provide spectrum guidance during the development and acquisition of RF dependent EA systems.

2.9.1.3. Process the Application for Equipment Spectrum Supportability, to obtain spectrum certification, for RF dependent systems, as required.

2.9.1.4. Process host nation coordination requests for RF dependent system to be deployed outside the US, as required.

2.10. ACC FAMs.

2.10.1. Execute mission data upgrades on a timeline appropriate to the urgency of the change and provide upgrades to gained reserve component units before any real-world deployments.

2.10.2. Coordinate with CAF and NAFs to determine if assigned forces require upgrades.

2.10.3. As required, request support from ACC/A3/2/6KL.

2.11. Numbered Air Force(s).

2.11.1. Identify EW manpower requirements for deployment manning documents.

2.11.2. Review appropriate operational plans and contingency plans to ensure EW equities are accounted for and correctly utilized.

2.11.3. Provide inputs to Exercise/Operational Plan EW appendices for their area of responsibility.

2.11.4. Manage EW aircraft and self-protection system deployment/support issues for their area of responsibility (AOR).

2.11.5. Continually assess the effectiveness of current EW support to operations. If shortfalls are identified, coordinate with the appropriate higher headquarters.

2.11.6. Oversee operational and exercise EW system reprogramming efforts for units deployed to their AOR.

2.11.7. Submit requests for allocations of ACC and AETC EW course quotas for NAF headquarters personnel to ACC.

2.11.8. Provide (bi-annual/ yearly) ACC/A3/2/6KL update(s) with your organizations' EW points of contact(s). These can be submitted via email to ACC.A326KL.EWBranch@us.af.mil or uploaded to the ACC/A3/2/6KL SharePoint® site (<https://usaf.dps.mil/sites/ACC-A3/A326K/Electromagnetic> Warfare Branch).

2.11.9. Act as the focal point for Joint Suppression of Enemy Air Defense and air tasking order development efforts for their AOR.

2.11.10. Contribute and support the development and execution of information operations tactics, concepts of operation, and campaign plans.

2.11.11. Coordinate intelligence support for EW planning for their AOR.

2.11.12. Coordinate Air Force frequency de-confliction efforts for their AOR.

2.11.13. Coordinate EW activities with allied nations in support of exercises and contingency operations within their AOR.

2.11.14. Coordinate with appropriate point of contact (e.g. FAMs, Air Force Personnel Center (AFPC), MAJCOM Functional Managers (MFMs)) to support any manning or personnel gaps with regard to EW expertise or billeted positions

2.11.15. Coordinate with ACC/A5L to identify requirements in order to alleviate shortfalls.

2.11.16. If required, coordinate with ACC/A6OF regarding EMS management considerations such as but not limited to: EA clearance reviews, host nation coordination procedures, and coordination/approval timelines.

2.12. United States Air Force Warfare Center:

2.12.1. Conduct Large Force Exercises (LFEs) and ensure EW training and assessments are incorporated into every exercise to the greatest extent feasible.

2.12.2. Obtain and coordinate ground and air frequencies clearance for EA activity and chaff clearances for center flying operations and maintenance programs IAW CJCSM 3212.03A and CJCSM 3212.02E.

2.12.3. Identify potential EW equipment requirements to ACC.

2.12.4. Conduct EW testing as directed by ACC. These tests will be tasked via ACC's test prioritization list or via direct taskings from ACC.

2.12.5. Develop, evaluate, document, and disseminate EW employment tactics/techniques.

2.12.6. Manage the range assets in support of unit and ACC training, testing, and exercise requirements.

2.12.7. Manage and conduct ACC-directed EW operational test and evaluation and test design and evaluation programs.

2.12.8. Submit requests for allocations of ACC and AETC EW course quotas for center personnel.

2.12.9. Provide EW academic training.

2.13. 350th SWW:

2.13.1. Support the integrated reprogramming enterprise IAW DAFMAN 10-703.

2.13.2. Serve as the CAF EW subject matter expert and focal point for mission data (MD) related issues. Additionally, provide EW expertise and a live virtual, constructive (LVC) environment to enable tactics, training, and procedures validation.

2.13.3. Program, test, and field MD for CAF EW systems.

2.13.4. Coordinate with ACC/A2 to provide intelligence support to assist in the EW Integrated Reprogramming (EWIR) process.

2.13.5. Manage the COMBAT SHIELD EWAP and Ops Recce.

2.13.6. Develop EW training assessments that ACC, and units outside of ACC (if requested), can utilize to support EW readiness, evaluations, and inspections.

2.13.7. Provide an EW assessment team for large force exercises as applicable.

2.13.8. Provide recommendations to higher headquarters on how to improve/maintain EW readiness across the AF.

2.13.9. Shall convene an annual mission data reprogramming working group to discuss, review, and confirm mission data files for each Mission Design Series (MDS). (T-2)

2.13.9.1. Participants should include engineers and reprogrammers from the EWIR process, wing electromagnetic warfare officers (EWO), electromagnetic combat pilots (ECP), electromagnetic combat officers (ECO), weapons school graduates, and intelligence analysts.

2.13.9.2. If possible included appropriate subject matter experts to assist in validation of AOR specific threats.

2.13.10. Coordinate with ACC/A3/2/6KL regarding operational impacts and request assistance as required.

2.13.11. Coordinate with ACC/A5L for EWIR modernization efforts.

2.13.12. Coordinate with ACC/A6OF for EMS management considerations such as but not limited to: EA clearance reviews, host nation coordination procedures, and approval timelines.

2.13.13. Coordinate with CAF units with regard to self-inspection program(s).

2.13.14. Coordinate with ACC/IG with regard to EW inspection trends analysis.

2.14. ACC CAF Wings/Groups.

2.14.1. Where authorized manpower positions, or authorized variances exist (i.e., bomber, fighter, and rescue wings/groups); establish a Wing EWO office with a full time Wing EWO within the operations support squadron, weapons and tactics and/or training flight), which will be the unit's single point of contact for EW matters.

2.14.2. Where authorized manpower positions or authorized variances do not exist, a Wing/Group EWO shall be assigned as an additional duty within the operations support squadron to act as the unit's single point of contact for EW matters until a manpower position is authorized, if required by workload. If assigned as an additional duty, the Wing EWO should be the only additional duty performed by this individual. Contact ACC/A3/2/6KL if assistance is required. (T-2)

2.14.3. The Wing EWO duties will be performed by a qualified and appropriately trained Combat Systems Officer (preferably an EWO), ECP, Weapons Systems Officer, Air Battle Manager, or Air Surveillance Officer (reference [paragraph 2.14](#) Wing EWO training requirements).

2.14.4. Where possible, an alternate Wing EWO should also be assigned to ensure continuity during deployments, contingencies, exercises, etc. Where no wing structure exists, a Group or Squadron EWO will assume Wing EWO responsibilities.

2.14.5. Provide (bi-annual/ yearly) ACC/A3/2/6KL update(s) with your organizations' EW points of contact(s). These can be submitted via email to ACC.A326KL.EWBranch@us.af.mil or uploaded to the ACC/A3/2/6KL SharePoint® site (<https://usaf.dps.mil/sites/ACC-A3/A326K/Electromagnetic> Warfare Branch).

2.14.6. Wing/Group shall enable EWOs to attend the annual mission data reprogramming working group administered by the 350 SWW.

2.14.7. Submit requests for allocations of ACC and AETC EW course quotas for Wing/Group personnel. ACC Wing Training Managers should submit a prioritized list of their respective wing's nominations to ACC/A3/2/6K. Submit nominations by e-mail to ACC/A3/2/6KL Electromagnetic Warfare Branch (ACC.A326KL.EWBranch@us.af.mil).

2.14.8. For Multi-MDS Wings, each squadron shall appoint an ECP or squadron EWO to liaise and coordinate EW matters with the Wing EWO office. (T-3)

2.14.9. Information regarding lasing incidents will be collected and maintained IAW standard reporting procedures including notification to the Wing EWO.

2.15. Wing EWO Training Requirements.

2.15.1. Wing commanders will send their EWO nominations to the ACC/A3/2/6KL organization box (ACC.A326KL.EWBranch@us.af.mil) for review by the ACC/A3/2/6KL branch chief in order to determine the appropriate training for nominee.

2.15.2. Training for the Wing EWO position will be tailored based on the individuals prior education/experience.

2.15.2.1. EW courses can include, but are not limited to, Introduction to Electromagnetic Warfare course (B-V7C-E), Electromagnetic Spectrum Operations Course (S-V8E-S), and FECOC. Information on these courses can be found in [Attachment 3](#).

2.15.2.2. If Introduction to Electromagnetic Warfare course is unavailable the Mobility Electronic Combat Officer Course is an acceptable substitute.

2.15.2.3. Combat System Officers who track EWO and complete advanced EWO training meet the prerequisites to attend the EMSO Course (S-V8E-S).

2.16. Wing EWO Duties.

2.16.1. Establish guidelines and directives governing procedures, training, and administration of EW programs.

2.16.2. Coordinate with operations group, standards and evaluations to monitor and identify all deficiencies particular to EW.

2.16.3. Manage and prepare guidance for the unit EW programs to include applicable training, tactics development, and employment IAW Air Force Manual (AFMAN) 11-2MDS volume sets and this instruction.

2.16.4. Manage the unit EW program. Overall program management will be the responsibility of the operations support squadron. A continuity book will be developed and maintained to allow seamless assumption of duties due to deployments or assignment changes.

2.16.5. Maintain a reference library of applicable manuals, instructions, tests, EWIR message traffic, and a current list of operations and training for each wing/group/squadron assigned EW system.

- 2.16.6. Ensure aircrews are informed of current EW equipment capabilities via all source materials (e.g., PACER WARE messages, test plans/reports, mission guides, system handbooks, and Air Force Tactics, Techniques, and Procedures (AFTTP) publications).
- 2.16.7. Coordinate requirements for EW clearances and aircraft equipment configurations with staff agencies for EW training programs.
- 2.16.8. Assist sponsored ANG/AFRC units to conduct EW training.
- 2.16.9. Coordinate COMBAT SHIELD EWAP visits to support Wing/Group requirements.
- 2.16.10. Coordinate with Groups/Squadrons to ensure the full breadth of EW capabilities (for example RWR, Electromagnetic Countermeasures (ECM) systems) on fully mission capable aircraft will be made available during COMBAT SHIELD assessments.
- 2.16.11. Ensure all available training assets (internal, ranges, ALQ-188, Advanced Capabilities Pod, and large force exercises) are utilized to the maximum extent possible.
- 2.16.12. Act as the Wing focal point for EWIR procedures IAW DAFMAN 10-703. Develop and implement local procedures for alerting appropriate personnel of reprogramming changes and for coordinating and implementing those changes.
- 2.16.13. Ensure ACC and reprogramming centers are updated annually on current point of contact for EWIR (PACER WARE/SERENE BYTE) message traffic and data, as applicable. Develop and implement procedures for use of the Multi-Service Data Distribution System, ensuring that EWIR data is updated weekly.
- 2.16.14. Monitor operational/maintenance status of unit possessed EW equipment. Report discrepancies via reliability, availability, and maintainability for pods (RAMPOD), as applicable. In conjunction with maintenance, develop local tracking procedures to document current EW equipment status and required interval checks.
- 2.16.15. Ensure aircrew participation in maintenance-established jammers/EA pods/RWR/IFF/transponder pre-launch checks. Coordinate the development of checklists with operations and maintenance groups.
- 2.16.16. Maintain EW equipment fault trend analysis in coordination with avionics maintenance personnel and brief aircrews on corrective operational procedures. Identify and report deficiencies in EW equipment and normal operation procedures to ACC/A3/2/6KL.
- 2.16.17. Interact with scheduling and maintenance to ensure aircraft reflect required configurations for EW training/ranges, in-flight equipment checks, and training exercises.
- 2.16.18. Ensure unit electromagnetic interference incidents are investigated and reported. Accomplished reports AFI 17-221, *Spectrum Interference Resolution Program*, and coordinate with the installation spectrum manager.
- 2.16.19. Ensure requests for jamming and chaff clearances for operational checks of EW equipment are submitted through ACC/A3/2/6KL IAW CJCSM 3212.02E. For outside continental United States (OCONUS) overseas operations, in addition to CJCSM 3212.02E, ensure theater-specific procedures are followed.
- 2.16.20. Wing/Group EWOs shall attend the annual mission data reprogramming working group that is administered by the 350 SWW. (T-2)

2.16.21. As required, coordinate with the Installation Laser Safety Officer IAW AFI 48-139, *Laser and Optical Radiation Protection Program*.

2.16.22. As applicable, establish EW programs closely associated with the unit's weapons and tactics program.

2.16.23. As applicable, coordinate with the unit training officer and unit intelligence officer to develop lesson plans for EW academic, simulator, and flying instruction for initial qualification, continuation/refreshers, instructor upgrade, and verification/certification training IAW AFMAN 11-2MDS volume sets.

2.16.24. As applicable, establish and coordinate unit weapons and EW range flight profiles with other staff agencies and range operations personnel.

2.16.25. As applicable, monitor the progress of EW academic, simulator, hands-on, and flying training. Ensure adequacy of training and the appropriate documentation is accomplished.

2.16.26. As applicable, appoint an ECP or squadron EWO to liaise and coordinate EW matters with the Wing EWO office.

Chapter 3

ELECTROMAGNETIC WARFARE TRAINING.

3.1. General. The Department of the Air Forces' *Electromagnetic Spectrum Superiority Strategy* states that Airmen must be ready to fight and win in all domains through the deliberate pursuit of EMS superiority. EW is a key function in the pursuit of EMS superiority and cannot be achieved without increasing our Airmens understanding and incorporation of EW into all aspects of our training. This chapter delineates EW training requirements for all ACC CAFs and provides guidance for units performing specific EW training missions/events/scenarios.

3.2. Responsibilities.

3.2.1. All personnel conducting EW training shall be familiar with DAFMAN 10-703; DAFI 10-706, *Electromagnetic Warfare*; AFDP 3-51, *Electromagnetic Warfare and Electromagnetic Spectrum operations*; AFI 11-214, *Air Operations Rules and Procedures*; AFI 11-215, *Flight Manuals Program*; AFMAN 13-212V1, *Range Planning and Operations*; CJCSM 3212.02E; and this publication.

3.2.2. All Wings conducting EW training shall comply with range specific guidance, processes and procedures. **(T-2)**

3.3. EW Operational Training Concept. The primary goal for EW operational training is to "Train like we fight" by maintaining a high state of readiness through active and integrated EW training programs. This applies to all planners/staff officers, aircrews, logistics support, and theater air control system personnel assigned to ACC, ANG, and AFRC units. Airpower will be tasked into threat environments ranging from permissive to intensely hostile. Our EW capabilities must be available to deny, disrupt, and degrade hostile C2; air defense systems; and provide self-protection survivability of personnel and aircraft systems. We must also be able to operate in the face of an adversary who is employing EW against our forces.

3.3.1. "Train like we fight" by incorporating the divisions of EW into all aspects of training (unit level training to joint and/or multinational exercises). By including EA, EP, and ES into training, Airmen will become familiar and understand how to utilize EW in offensive and defensive manners whether it is with specialized equipment or individual tactics, techniques, and procedures (TTPs).

3.3.1.1. EA. Reference paragraphs **3.11 – 3.17**.

3.3.1.2. EP. Airmen should incorporate EP techniques into all aspects of training. The integration of EP and other security measures can prevent enemy detection, denial, disruption, deception, degradation or destruction of friendly combat capability. Examples of EP include but are not limited to frequency agility, changing pulse repetition frequency, and EMCON.

3.3.1.3. ES. Airmen should be familiar with the relationship between ES and signals intelligence (SIGINT), how they mutually support one another, and their differences. The distinction between an asset performing an ES mission or a SIGINT mission is delineated by purpose, scope, and context and is determined by who tasks or controls the collection assets, what they are tasked to provide, and for what purpose they are tasked. ES can be used to provide near real time information to supplement information from other

intelligence sources to provide a more accurate picture of the EMOE and therefore a better understanding of the battlespace.

3.3.2. If shortfalls are discovered (e.g., training requirements, ranges, EW equipment, EW software/MD) that do not allow the optimum performance of an EW training activity, identify and send these shortfalls to ACC/A3/2/6KL. ACC/A3/2/6KL will coordinate with the appropriate ACC staff for resolution.

3.3.3. To ensure the maximum degree of readiness, initial and continuation EW training will be incorporated into peacetime training programs and exercises at all levels of command.

3.3.4. The unit commander is responsible for the unit's EW training program, to include academic instruction, controlled hands-on environment training (e.g., simulators, part-task trainers, training aids), deployment preparation training, and flying training.

3.3.5. Specialized EW courses should be used to ensure the standardization of EW instruction at the wing, group, and unit levels.

3.4. Aircrew EW Training:

3.4.1. All aircrews will be trained in enemy threat environment capabilities and maintain proficiency in the operation of EW equipment TTPs. Training will consist of a mix of ground, simulator, and flying training (focused on the unit's mission, wartime operational plan, and contingency plan taskings).

3.4.2. EW training programs must be conducted on a regular basis. Training requirements will be as directed in aircraft specific 11-series publications and Ready Aircrew Program tasking.

3.4.3. EW Instructors. The Wing or Group/Squadron EWO is responsible for ensuring EW academics are taught by qualified instructors in that EW area of expertise. Personnel other than EWOs identified as unit EW academic instructors should be fully qualified IAW this instruction.

3.5. Theater Air Control System Unit EW Training:

3.5.1. EW training will be conducted IAW AFI 13-113V1, *Tactical Air Control Party (TACP) Training Program* and this instruction.

3.5.2. EW Instructors. The Wing or Group/ Squadron EWO is responsible for ensuring EW academics are taught by knowledgeable instructors.

3.6. Commander EW Training: Commanders should attend or have attended the Introduction to Electromagnetic Warfare course (B-V7C-E).

3.7. EW Training Operations.

3.7.1. EW training facilities shall ensure all EW training operations are IAW AFMAN 13-212V1.

3.7.2. Communications Jamming Training events. Wings shall ensure communication jamming training events are IAW AFI 11-214.

3.7.3. Expendables (e.g., chaff and flares) activity. Wings shall ensure expendable activities are IAW AFI 11-214, AFMAN 13-212V1, and CJCSM 3212.02E (as applicable). In the case of an inadvertent flare drop, aircrew shall follow applicable safety and reporting guidance and

immediately notify air traffic control of the incidence's nature, location, and estimated damage (if any observed).

3.7.4. Global Positioning System (GPS) EA. Planners should be aware that requesting GPS EA can be a lengthy process and will require coordination outside of USAF organizations.

3.7.4.1. Units performing GPS EA within the continental United States shall ensure all GPS EA events are employed IAW CJCSM 3212.03A, *Performing Tests, Training, and Exercises Impacting the Global Positioning System (GPS) in the United States and Canada. (T-0)*

3.7.4.2. Units performing GPS EA OCONUS shall adhere to AOR guidance to include but not limited to host nation coordination, frequency management and EW authorities. Units should inform ACC/A3/2/6KL when temporarily supporting OCONUS training and exercises.

3.7.5. Laser and DE Weapon Operations. Wings shall ensure all laser and DE weapon operations shall be IAW AFMAN 13-212V1.

3.7.6. All Wings conducting EW training shall comply with range-specific guidance, processes and procedures.

3.8. AN/ALQ 188 (V) Training Pods.

3.8.1. The AN/ALQ-188 (V) is the USAF-dedicated EA training pod system. The ALQ-188 was developed to provide aircrews the tools necessary to enhance the probability of mission success and survival in a hostile EA environment.

3.8.1.1. The AN/ALQ-188 simulates known EA threats for aircrew EA/EP training and weapons system development. It can also emulate observed and postulated threats for research and development, weapons system evaluation, and operational flight program validations. The AN/ALQ-188 aircrew handbooks and user's guides are available on the 350 SWG Secure Internet Protocol Router Network (SIPRNET) website "53wg.acc.af.smil.mil/ewg/EWToolbox" under the handbook's pull down menu.

3.8.2. The AN/ALQ-188 (V) is a fully programmable EA training pod capable of generating up to 30 noise/deception EA techniques. It is lightweight, and flight-certified to aircraft stores limits on the F-15/F-16, with a mean time between failure exceeding 300 hours. It has both forward and rear transmit and receive antennas that are controlled from the cockpit by a C-9492A/B Control Indicator and the AN/ALQ-213(V) Countermeasures Set.

3.8.3. The 350 SWG programs, tests and fields EA training pod mission data techniques IAW DAFMAN 10-703. EA training pod techniques are and documented accordingly in both the EA pod handbook and reprogramming impact messages. These techniques are designed to emulate known EA threat waveforms (based on National Air and Space Intelligence Center assessment) or provide specific electromagnetic counter-countermeasures cues in the cockpit for standard EA training. Training techniques should not significantly degrade blue radar performance.

3.8.4. Fighter wings should utilize the AN/ALQ-188 to the maximum extent possible.

3.9. User Costs and Maintenance Support for the AN/ALQ-188:

- 3.9.1. One-time Temporary Duty (TDY) cost for two 355th Component Maintenance Squadron (CMS) personnel to train the user on upload/download and operation of pod (1-2 days plus travel).
- 3.9.2. The requesting operations unit is responsible for shipping and the initial beddown costs associated with the AN/ALQ-188. Those costs are the only costs units are responsible to pay.
- 3.9.3. All repairs are funded by Warner Robins-AFLCMC/WNYCD, Warner-Robins, Air Force Base (AFB) GA. Material Support Division costs are not incurred by the user. If a pod breaks, the unit will return the malfunctioning pod to the 355th CMS and subsequently receive a replacement pod.
- 3.9.4. All AN/ALQ-188 maintenance, other than that outlined in the beddown briefing will be performed solely by the 355 CMS.
- 3.9.5. All AN/ALQ-188 pods will be returned to the 355 CMS within 14 calendar days (30 for OCONUS locations) of discovery of unscheduled maintenance requirements or periodic maintenance inspection. Pods will not be flown beyond their initial periodic maintenance inspection due date, unless a waiver is approved by the Maintenance Operations Officer or Maintenance Superintendent. **(T-3)**

3.10. ALQ-188 Points of Contact:

- 3.10.1. To request the use of the AN/ALQ-188 (V) pod, contact ACC/A3/2/6KL for initial Scheduling: Defense Switched Network (DSN) 764-6642; Commercial (Comm) 757-764-6642; or email: ACC.A326KL.EWBranch@us.af.mil.
- 3.10.2. Additional information concerning maintenance support for the AN/ALQ-188, or associated equipment, may be obtained by contacting the 335 CMS at DSN: 228-4424, Comm: 520-228-4424 or email: 355CMS.EWS.CRF@us.af.mil.
- 3.10.3. To obtain MD information contact 350 SWW at: DSN: 872-2179, Comm: 312-872-2179 or email 350SWW.CCE.Workflow@us.af.mil.

3.11. Procedures for conducting EA training. This section establishes procedures for accomplishing EA activity against EW site, facilities, and EW equipment supporting USAF ranges. It applies to all ACC-assigned wings, gained units, and CAF aircraft participating in active EA training activities.

3.12. Responsibilities:

- 3.12.1. Wing/Groups/Squadrons must ensure that:
 - 3.12.1.1. All crew members conducting EA are familiar with CJCSM 3212.03A; CJCSM 3212.02E; AFTTP 3-1 (appropriate volumes); AFI 11-215; AFMAN 11-202V1, *Aircrew Training*; this publication, and applicable EA system handbooks.
 - 3.12.1.2. EA activity is conducted according to this instruction.
- 3.12.2. Each EW site/EW facilities will:
 - 3.12.2.1. Ensure EA activity is conducted IAW this instruction and other ACC directives.

3.12.2.2. Ensure facilities are maintained to conduct the activity described in this instruction.

3.12.2.3. Provide aircrew EA training that simulates actual threat engagements as closely as possible by following prescribed actual threat engagement procedures and tactics.

3.12.2.4. Submit frequency clearance requirements to the cognizant frequency manager for EA activity conducted at an EW site/EW facilities. Once approved, authorized air frequencies for individual EW sites facilities must be made available to all flying units that conduct active EA.

3.13. Terms and Equipment:

3.13.1. EW sites activities:

3.13.1.1. A training run is accomplished at an EW site or primary training range equipped with emitters (for example Joint Threat Emitter), simulators (for example Multiple Threat Emitter Simulator (MUTES)), or any system designed to emit multiple signals at the same time; designed to provide aircrew training against airborne interceptor (AI), surface-to-air missile, air defense artillery, early warning/ground controlled intercept, naval threats, U.S. and western threats in a dense threat environment.

3.13.1.2. Multiple Threat Run (MTR). A run at any appropriate equipped range designed to train aircrews to penetrate a dense threat area defended by various combinations of surface-to-air missile, air defense artillery, and AI defenses. A MTR will have several threats of various types.

3.13.1.3. Passive EA Runs. EA activity for an aircraft that may or may not be capable of conducting actual EA. It provides a flexible signal environment for signal recognition. Aircrews should request a passive EA run with individual signals or a precoordinated scenario prior to arrival to the initial point (IP).

3.13.2. Simulated Equipment Malfunction Runs (SEMR). Wings are highly encouraged to conduct EA activity with simulated EW system malfunctions. SEMRs will not be scheduled on higher headquarters directed missions or accomplished on in-flight evaluations - scheduled or no-notice. The EW sites must be advised of SEMR no later than the IP call if not pre-coordinated.

3.14. General Procedures:

3.14.1. Command procedures described in applicable volumes of AFTTP 3-1, EA mission guides, and EA system handbooks provide aircrews with the best possible information available for countering threats. These procedures and tactics must be continually emphasized and used within peacetime constraints. The use of unproven or unauthorized guidance jeopardizes training effectiveness and negatively reinforces the application of these guidelines in a combat environment.

3.14.2. Aircrews should attempt EA runs concurrent with bomb runs, at all times, unless training or safety dictates otherwise.

3.14.2.1. Before flight, aircrews should contact the site/range for current EA capability and request EA activity.

3.14.2.2. When EA runs are performed in formation, all aircraft will be subject to threats. Aircraft will counter all non-restricted threats provided by the site. All aircraft may take credit for the run providing each aircraft detects and counters the signal environment threat (as appropriate).

3.14.2.3. Non-concurrent high altitude EA runs must start from an IP of no less than 50 nautical miles (NM) from the EW sites and should continue to within 5 NM for fidelity but no closer than 3 NM of the site due to site aircraft tracking limitations.

3.14.3. Crews will plan each training run as if they are conducting the attack in a combat situation.

3.14.3.1. Transmitters will be preset, search procedures in place, EW transmitter allocation applied, crew coordination conducted, and Fence Checks complete along with employing tactics that must simulate combat conditions.

3.14.3.2. Aircrews will preset equipment and react to simulated threat signals according to applicable volumes of AFTTP 3-1, appropriate technical orders, applicable EA mission guides, and/or EA system handbooks, and local directives.

3.14.3.3. Low-level EA training tactics will reflect terrain following procedures, regardless of actual altitude flown by aircrews, during the training mission.

3.14.4. EA run vulnerability will be from initial engagement until site and/or aircraft termination and will be based on current frequency clearance restrictions.

3.14.4.1. Aircrews will provide the site with sufficient notice and information to ensure the proper feedback of EA activity.

3.14.4.2. EA requests should be passed to the site via electronic means during mission planning.

3.14.4.3. Attempt to contact the site and confirm requested activity prior to the IP.

3.14.4.4. For readiness exercises or nuclear operational readiness exercises, specific EA activity will not be requested.

3.14.5. If EA is not requested in advance, the site may determine the band and type of activity to be conducted, depending on the equipment available, and according to the following instructions:

3.14.5.1. MUTES capable sites will provide a scenario other than maximum proficiency and practice readiness inspection/nuclear operational readiness inspection scenarios. The scenario will start once the MUTES acquire the aircraft. If the site controls Mini-MUTES pedestals, its personnel will select Mini-MUTES scenarios compatible with the MUTES scenario selected.

3.14.5.2. Sites equipped with only Mini-MUTES will select any scenario other than a maximum proficiency scenario. The selection will be based on the operational capability of the site.

3.14.6. Aircrews will counter appropriate early warning, ground controlled intercept, and acquisition signals (if capable) in conjunction with the threats. Active countermeasures will be initiated against signals per the EA system handbook, applicable AFTTP 3-1 volumes, and

airborne EA frequency authorizations. Acquisition jamming which causes ineffective communications will be terminated IAW range procedures or safety dictates.

3.14.7. When the aircrew establishes radio contact, they shall confirm the activity previously scheduled via electronic means.

3.14.7.1. Feedback recording begins when scenario threat radars become a threat to the aircraft and the aircraft is within the site's frequency clearance range.

3.14.7.2. Termination will be before the IP of the next inbound EA run. Aircrews should be aware EA runs may be compressed or terminated early to allow site to set up for subsequent runs.

3.14.7.2.1. Aircrew will not radiate until within the frequency-cleared area around the site. Refer to each site's specific frequency clearance. **Exception:** radiation outside site-specific cleared area is authorized provided cleared frequencies exist. Refer to ACC/A3/2/6KL guidance for current clearances.

3.14.7.3. Sites will not engage the aircraft until an EA request is received from the aircrew. The site will make every effort to provide feedback for the EA run if it is capable to do so.

3.14.8. During EA runs, IFF/selective identification feature modes and codes must be used IAW air traffic control instructions or as directed by the site or communications plan. Specific EA requests and coordinated Mode 3 codes, made in advance, are especially important at Mini-MUTES-equipped sites, since Mini-MUTES pedestals can engage the aircraft long before the IP or ultra-high frequency radio range. The site needs valid Mode 3 to provide feedback to the aircrews. Other aircraft in the formation may squawk Mode 3 STBY if authorized by air route traffic control center.

3.14.9. Sites may be able to provide presence/absence of "MUSIC" if equipment configuration allows. Contact site for status. If site is capable, "MUSIC" check request should be made at the initial call in.

3.15. EA Procedures and Scenarios:

3.15.1. Aircrews should request EA activity for EW equipment supporting USAF ranges and EW sites during mission planning, if possible. EA requests are imperative for Mini-MUTES activity. Due to the locations of remote Mini-MUTES pedestals, the aircraft may be engaged prior to the IP. If the EA request is not made in advance, the aircrew may receive incorrect or unwanted activity. The Joint Threat Emitter is capable of presenting more than one signal, so aircrews should coordinate with the site on a specific scenario.

3.15.2. Aircrews have the following request options:

3.15.2.1. "MUTES EA," will result in a site-selected scenario being presented. Mini MUTES sites will select a compatible scenario for each pedestal. Maximum proficiency and practice evaluation/inspection scenarios will be presented only if specifically requested and must be coordinated with the EW sites/EW equipment supporting USAF ranges in advance.

3.15.2.2. There are multiple codewords for requesting different training runs. Aircrews may request a type of scenario, for example, "Tango," a specific scenario, for example, "Tango 2", or a pre-coordinated scenario, for example, "Aircraft Call Sign 01."

3.15.3. If reporting is necessary, use the associated unclassified MUTES signal number on the matrix located on the SIPRNET at <https://www.nellis.af.smil.mil/units/range/riis>.

3.15.4. Maximum Proficiency Scenarios. These scenarios simulate penetration and withdrawal of areas heavily defended by naval, strategic, tactical, and airborne defenses while over water, coastal, and target areas. These scenarios are designed to provide a challenge for experienced aircrews and increase their proficiency against multiple threats. The Wing EWO will make the determination to allow credit based on the signal environment.

3.16. Mini-MUTES Procedures and Scenarios:

3.16.1. The AN/MST-T1(V) Mini-MUTES is a smaller, more mobile version of the MST-T1A MUTES. There are seven Mini-MUTES configurations (pedestals), which combine transmitters identical to those used in the MUTES. Each pedestal is designed to simulate only a particular family of threat or acquisition signals and is referred to by letter: B, C, G, H, K, L, or M.

3.16.2. Scheduling:

3.16.2.1. Schedule Mini-MUTES requests during mission planning.

3.16.2.2. Aircrews not desiring Mini-MUTES during an EA run will stipulate "MUTES ONLY" after their MUTES scenario request via electronic means on mission planning day.

3.16.2.3. If MUTES are inoperable at a MUTES and Mini-MUTES-configured site, Mini-MUTES sites may schedule and present scenarios on a stand-alone basis.

3.17. MTR Procedures. Aircrews may take credit for an MTR whenever an appropriate signal environment is encountered. Only MUTES maximum proficiency, practice evaluation/inspection scenarios, MUTES combined with Mini-MUTES scenarios, and EA activity at ranges (e.g., RED FLAG) are MTR-creditable. The Wing EWO will make the determination to allow credit based on the signal environment.

Chapter 4

EMISSIONS CONTROL

4.1. General. Adversary EW collection and detection threat(s) combined with our complacency regarding our EMS signature makes us much more vulnerable to adversary direction finding. This chapter will establish procedures for protecting ACC's electromagnetic combat capabilities from hostile exploitation.

4.1.1. EMCON is a passive application of EP which is selective and controlled use of EM, acoustic, or other emitters to optimize C2 capabilities. Effective EMCON inhibits hostile sensor detection, mutual friendly system interference, and hostile interference against friendly military deception efforts.

4.1.2. All ACC wings and gained units participating in training and exercises worldwide shall follow these procedures and guidelines. These guidelines and procedures override ACC EA activities conducted in conjunction with ACC or joint exercises, tests, etc.

4.2. EMCON Matrix. Figure 4.1 represents an example of establishing EMCON levels supporting ACC operations. Commanders shall identify the appropriate EMCON level for each operation and all Airmen shall adhere with their commander's EMCON levels. While there is no DoD standard for EMCON conditions, ACC personnel must understand that EMCON conditions are not static and should be continuously assessed and updated as necessary to correspond to the appropriate risk level.

Figure 4.1. Sample EMCON Matrix.

EMCON	Guidelines
1 Routine Operations	Radio Transmissions: Routine, normal transmissions authorized ¹ Emissions: Routine, normal emissions such as personal devices (e.g., cell phones, fitness trackers, etc.), as well as vehicles, generators, and radars authorized ^{1, 2} Adversary: Assumed but unlikely to interfere with operations Condition: Likely garrison or friendly operations (Competition Phase)
2 Essential Emissions	Radio Transmissions: Essential, mission critical and emergency only ^{1, 3} Emissions: Routine and normal emissions are authorized, but must be turned off when not in use ^{1, 2} . All personal electronic devices must be placed in airplane mode or turned off. Adversary: Probable but unlikely to interfere with operations Condition: Likely garrison or friendly operations, contingency operations or pre-hostilities (Competition Phase)
3 Limited Emissions	Radio Transmissions: No voice, limit to text or burst data only; wired preferred Emissions: Receive-only or OFF, persistent emitters (e.g. cellular, HF ALE) are OFF ^{1, 2} . Unencrypted emitters are prohibited. Personal devices (e.g. fitness trackers) OFF and secured. Limit vehicles, generator use to mission critical and OFF when not in use ^{1, 2} Adversary: Highly Probable and will likely interfere with operations Condition: Conflict. Adversary/Adversaries are known to be collecting and/or targeting (Conflict Phase)
4 Suppression	Radio Transmissions: No voice or data Emissions: All emitters are OFF. All personal devices are OFF and batteries OUT, generator power is OFF. Vehicles are OFF. Lights are OFF. Runners and visual communication methods PRIMARY. Adversary: Near Certain Condition: Conflict. Adversary/Adversaries are known to be collecting and/or targeting (Conflict Phase)
Notes: 1. Must adhere to local spectrum authorizations (consult base spectrum manager). 2. Must adhere to local operational security conditions or considerations. 3. Units should have a developed Primary Alternate Contingency and Emergency (PACE) communications plan developed and distributed to all Airmen. PACE plans should include at least one non-EMS form of communication when able (e.g., runners).	

4.3. General EMCON Guidance.

4.3.1. EMCON procedures are designed to prevent hostile collection and compromise of wartime equipment settings, operations, and techniques. Mission planning cells are responsible for planning and executing appropriate EMCON conditions.

4.3.2. EMCON procedures must account for both organization equipment (e.g., radars, radios, air force Wi-Fi) and personal equipment (e.g., game systems, cell phones, tablets). (**T-3**)

4.3.3. Avoid all unnecessary emissions; only radiate what you need to when you need to in order to minimize adversary collection opportunities.

- 4.3.4. Coordinate with intelligence to assist in developing unit specific TTPs and EMCON condition(s).
- 4.3.5. Conduct own-force monitoring to verify EMCON conditions and correct any violations.
- 4.3.6. IAW Commander's EMCON guidance, establish circumstances where breaking EMCON is authorized (e.g., medical emergency, aircraft in distress).
- 4.3.7. Considerations should be given to the use of current and emerging technologies to conceal force operations such as, but not limited to, low-probability of detect/intercept, HAVE QUICK II, and passive detect systems.

4.4. EA EMCON Guidance. This section highlights the active transmission of ECM applied to simulated threat radars or friendly radar systems for the purpose of training.

- 4.4.1. EMCON procedures must be followed when using training techniques to mitigate potential vulnerabilities of applied jamming to blue radar systems with special EA techniques from blue ECM systems.
- 4.4.2. Dependent on their mission, Airmen will utilize either training mission data files or operational mission data files.
 - 4.4.2.1. If available, only training mission data files will be authorized for peacetime training use worldwide.
 - 4.4.2.2. Operational mission data files for peacetime training requires special ACC authorization. (e.g., range testing of real world mission data files in peacetime). **(T-2)**
- 4.4.3. Special EA air-to-air training ECM techniques may be developed to significantly degrade blue radar performance. Special EA air-to-air training techniques emanating from blue EA jammers have open air restrictions and will be treated the same way as combat techniques from an EMCON perspective.
- 4.4.4. Continental United States exercises and lead-in/continuation training and testing on USAF ranges:
 - 4.4.4.1. All aircrew actively transmitting ECMs within DoD ranges and applicable training sites shall comply with CJCSM 3212.02E, CJCSM 3212.03A, and range-specific procedures to preclude possible compromise. **(T-0)**
 - 4.4.4.2. Approved test plans can authorize the radiation of current or newly developed combat EA settings supporting testing (developmental test and evaluation, initial operational test and evaluation, qualification operational test and evaluation, force development evaluation, and follow-on operational test and evaluations).
 - 4.4.4.3. Do not use wartime/combat settings or special EA air-to-air training techniques at Nellis AFB and inside the NTTR during exercises with foreign participation in any capacity. **(T-2)**
 - 4.4.4.4. Do not use wartime/combat settings and special EA air-to-air training techniques in software reprogrammable EW systems on any training mission or on any range complex without written authorization from ACC/A3/2/6KL. **(T-2)**
 - 4.4.4.4.1. Request will be made via SIPRNET no later than 30 days prior to the sortie.

4.4.4.4.2. The following information must be submitted to ACC/A3/2/6KL for use of war tapes or special EA air to air training techniques:

4.4.4.4.2.1. Planned EA has been coordinated with the event lead and is IAW CJCSM 3212.03E.

4.4.4.4.2.2. Participants are adhering to local operational security (OPSEC) standards.

4.4.4.4.2.3. Risk assessment(s) focusing on risk of adversary collection and risk to mission if the request is not approved.

4.4.4.4.2.4. Any additional classified standards on the appropriate system(s).

4.4.4.4.2.5. Date, time, area, aircraft type, number of aircraft, number of sorties, requested tape(s)/MD, and desired training outcomes. Training gained must be balanced against possible exploitation.

4.4.4.4.2.6. In addition, planners must ensure the following:

4.4.4.4.2.6.1. Aircrews ensure transmit switches are OFF/STANDBY, not transmitting outside applicable airspace. Verify emissions of EW systems using off-board instrumentation.

4.4.4.4.2.6.2. Follow all CJCSM 3212.02E and CJCSM 3320.01D, *Joint Electromagnetic Spectrum Management Operations in the Electromagnetic Operational Environment*, frequency restrictions as well as ACC EMCON procedures.

4.4.4.4.2.6.3. Notify ACC/A3/2/6KL if any EW system is placed to transmit outside applicable airspace.

4.4.4.4.2.6.4. Flights in the NTTR shall follow EMCON procedures during use of the allowable airspace. Also, ensure the non-encrypted microwave link is not operating.

4.4.4.4.2.6.5. Do not allow foreign persons and/or entities to view jamming/jamming effectiveness against ground threats.

4.4.4.4.2.6.6. Review

https://issa.usafwc.acc.smil.mil/issaweb/docs/websatran_doc/websatran_in.doc.htm for satellite reconnaissance advanced notice (SATRAN) information.

4.4.4.4.2.7. Approval will be predicated on:

4.4.4.4.2.7.1. Mission ready aircrews being in the seat during all sorties with the operational EC tape/MD loaded.

4.4.4.4.2.7.2. Feedback to ACC/A3/2/6KL in the form of an after-action report no later than 10 days after the exercise.

4.4.4.4.2.7.3. Compliance with ACC EMCON procedures.

4.4.4.4.2.7.4. ACC/A3/2/6KL SIPRNET email is usaf.jble.acc-a3.mbx.acc-a326kl-electromagnetic-warfare-branch@mail.smil.mil.

4.4.5. Air-to-Air Training (Fighters):

4.4.5.1. USAFWC will develop EA training settings.

4.4.5.2. Maximum use of training pods for this training is preferred.

4.4.5.3. Operation of the ALQ-131(A), Eagle Passive/Active Warning and Survivability System and/or, ALQ-161, and the ALQ-184. These are authorized for worldwide EW training and exercise purposes only if training MD is uploaded.

4.4.6. ALQ-188 specifics.

4.4.6.1. EMCON procedures must be followed when using training techniques.

4.4.6.2. ECM techniques are authorized for worldwide EA air-to-air training purposes. EMCON procedures must be followed to protect potential vulnerabilities to blue radar systems. EMCON procedures will be published by ACC/A3T and distributed for posting in local wing weapons read files until published in the appropriate AFTTP 3-1 Volume.

4.4.6.3. All EA training pod MD will be treated as unclassified (see EA pod security classification guide); however, the effects of the techniques on blue radar systems must be protected (and may be classified) by following EMCON procedures, the appropriate weapon system security classification guide and the EA training pod security classification guides.

4.4.7. EA Operations OCONUS. Units performing EA OCONUS shall adhere to AOR guidance to include but not limited to: host nation coordination, frequency management and EW authorities. Units should inform ACC/A3/2/6KL when temporarily supporting OCONUS training, exercises or testing.

Chapter 5

COMBAT SHIELD ELECTROMAGNETIC WARFARE ASSESSMENT PROGRAM.

5.1. General. COMBAT SHIELD assesses the combat readiness and mission assurance of specified CAF EW equipment by means of a series of scheduled unit visits IAW CAF Plan 53, DAFI 10-706, and this instruction.

5.1.1. The 350 SWW/CC is designated as the ACC/A3/2/6/K Executive Agent for all COMBAT SHIELD activities and is delegable in writing no lower than the O-6 level within the 350 SWW.

5.1.2. The 87 EWS will provide functional management and reporting of COMBAT SHIELD activities and EW assessment teams to support large force exercises.

5.1.3. COMBAT SHIELD is a mandatory annual assessment; wing commanders will support the execution of this program to the maximum extent possible. Assessments should occur, as required, to ensure EW system readiness of assets within Air Force force generation models.

5.2. Purpose. COMBAT SHIELD assessments are conducted to document EW capabilities of aircraft and weapons systems as directed by DAFI 10-706 and “report results through MAJCOM to AF/A3/5 annually.”

5.2.1. Incorporate cyber related assessments for aircraft and weapon systems.

5.2.2. COMBAT SHIELD assessments provide on-site analysis and feedback on the readiness of unit EW systems, assist unit personnel in identifying cyber and EW system discrepancies, and provide unit commanders with recommendations to improve mission assurance and EW/cyber system readiness operations and maintenance processes.

5.3. Scheduling. ACC units employing EW systems on weapons platforms will be scheduled for COMBAT SHIELD assessments annually, as required by Lead MAJCOM requirements.

5.3.1. The 87 EWS will coordinate with CAF wings to create and publish an annual COMBAT SHIELD master schedule no later than 1 July each year for the following fiscal year.

5.3.1.1. The COMBAT SHIELD master schedule will combine COMBAT SHIELD visits geographically to preserve resources and avoid hazardous seasonal road conditions.

5.3.1.2. The 87 EWS may require a home-station visit prior to the end of the 12-month window following a unit’s previous assessment; units should anticipate their next home-station assessment accordingly.

5.3.1.3. Using the current CAF Aviation Schedule (<https://cfsipt.langley.af.smil.mil>), the 87 EWS will deconflict unit long-range schedules (deployments, inspections, major exercises, etc.) to optimize resource effectiveness.

5.3.1.4. The 87 EWS will coordinate all continental United States (CONUS) assessments through MAJCOM IG Gatekeepers, IAW AFI 90-201, *The Air Force Inspection System*. Initial scheduling and Gatekeeper coordination of United States Air Forces in Europe – Air Forces in Africa (USAFE-AFAFRICA) and Pacific Air Forces (PACAF) assessments will be led by USAFE-AFAFRICA and PACAF A3s.

5.3.1.5. Following Gatekeeper approval, the 87 EWS will contact each wing (EWO/ ECP and maintenance point of contact) well in advance of the assessment to begin detailed coordination.

5.3.1.6. Requests to defer or cancel COMBAT SHIELD assessments must be forwarded to the 87 EWS by the wing commander or designated representative to the; the 87 EWS will forward requests to appropriate MAJCOM directorates for consideration.

5.4. Assessment Venues.

5.4.1. COMBAT SHIELD supports DAFI 10-706 requirements through home-station (wing) assessments.

5.4.2. COMBAT SHIELD teams also conduct assessments during large force exercises and WSEP events.

5.4.2.1. Large Force Exercises. COMBAT SHIELD assessments are coordinated through project managers at planning conferences and IAW COMACC EXPLAN 80. Ground checks begin the weekend prior to exercise start. Participating unit wing leadership will receive a report with assessment results. Large Force Exercise participants will deploy to these venues prepared to support COMBAT SHIELD activities as requested by the 87 EWS.

5.4.2.2. Weapons System Evaluation Program. COMBAT SHIELD assessments accomplished during WSEP events are coordinated with the respective WSEP functional management unit and WSEP participating unit, and are in accordance with CAF Plan 53. COMBAT SHIELD team members, working with the participating unit's maintenance team, will accomplish ramp checks during non-flying periods. Wing leadership for participating units will receive a report with assessment results.

5.4.3. COMBAT SHIELD assessments at other venues may be conducted on a by-request basis for non-CAF units or as directed by ACC.

5.4.4. The 87 EWS may provide support to other MAJCOMs (PACAF/USAFE-AFAFRICA) on a fee-for-service basis and as resources permit.

5.5. Mission Execution.

5.5.1. Goal. The goal of COMBAT SHIELD is to improve the combat readiness and mission assurance of CAF EW and cyber systems.

5.5.2. Systems Assessed. COMBAT SHIELD assessments are conducted on full mission capable RWR, external/internal ECM systems, missile warning systems, countermeasures dispensing systems, and High-speed Anti-Radiation Missile (HARM) Targeting System (HTS) pods which do not have an internal end-to-end system check capability.

5.5.2.1. These systems will be assessed in combat configuration, loaded with combat mission data files, with the exception of HTS pods which are assessed on a specialized mount while detached from the aircraft.

5.5.2.2. COMBAT SHIELD cyber assessments are conducted on wing cyber systems that directly or indirectly contact aircraft and weapon platforms. These systems include, but are not limited to, portable maintenance aids (common aircraft portable reprogramming equipment, common munitions bit/reprogramming equipment, etc.), mission planning

systems (e.g., Joint Missions Planning System), and avionics subsystems (line replaceable units).

5.5.2.3. Additionally, COMBAT SHIELD assesses the status of EW system support and diagnostic equipment.

5.5.3. Standards. RWRs, external/internal ECM systems, missile warning systems, countermeasures dispensing systems and HTS pods are assessed on the ramp for the purposes of determining their capability to accurately detect, identify, process, and respond to threat signals.

5.5.3.1. Units will make available 100% of full mission capable RWRs capable of complete system checkout; 100% of EW full mission capable aircraft will be configured with ECM pods assigned to the unit.

5.5.3.2. RWRs and missile warning systems must display the proper symbology.

5.5.3.3. ECM systems must respond with the appropriate countermeasures technique.

5.5.3.4. Countermeasures dispensing systems must pass inventory, timing, and sequencing.

5.5.3.5. These checks are designed to assess hardware and software performance for selected signals in all bands and represent a sample of current adversary threats.

5.5.3.6. All system assessments are pass/fail; systems must accurately process all transmitted threats to be considered passing.

5.5.3.7. All aircraft and weapon system cyber assessments are pass/fail; systems must pass all configuration and threat detection scans.

5.5.4. Equipment:

5.5.4.1. COMBAT SHIELD assessments will be conducted using the USM-642 RAVEN Test Set, HTS pod test set, the Multi-Spectral Test Set, the countermeasures dispensing systems test set, and applicable antenna coupler sets or free-space equipment for each EW systems tested.

5.5.4.2. Cyber technical assessments will be conducted by 87 EWS Mission Defense Team (MDT) members and cyber engineers using the Air Force Cyber Vulnerability Assessment/Hunter weapon system and/or tools approved by the respective System Program Offices. The 87 EWS will publish COMBAT SHIELD test parameters to the COMBAT SHIELD SIPRNet website (<https://53wg.acc.af.smil.mil/ewg/EWToolbox/Shared%20Documents/COMBAT%20Shield/Combat%20Shield.aspx?RootFolder=/ewg/EWToolbox/Shared%20Documents/COMBAT%20Shield>)

5.5.5. Process Assessments.

5.5.5.1. COMBAT SHIELD will conduct interviews with host unit operations, maintenance, and MDT personnel to compare local processes against best practices from across the CAF and assess cyber controls for aircraft and weapon systems.

5.5.5.2. COMBAT SHIELD will request detailed historical information from systems such as the Integrated Maintenance Data System, the joint service electromagnetic systems tester automated test log, or from local trackers for inclusion in the final report.

5.6. Reporting.

5.6.1. COMBAT SHIELD assessment results are archived and retained for the life of the program by the 87 EWS.

5.6.2. After each assessment, the 87 EWS will submit a final report on unit EW systems status and related operations and maintenance process findings directly to MAJCOM and host unit wing commander.

5.6.2.1. The report will attribute all findings and a specific grading criterion will be determined by ACC/A3/2/6KL and/or the 87 EWS.

5.6.2.2. In the event the COMBAT SHIELD tester (USM-642 RAVEN) leads to a negative finding, host units may provide the most recent USM-670 Joint Service Electronic Combat Systems Tester (JSECST) log test data and other applicable maintenance data for consideration and inclusion in the final report. If host unit maintainers cannot duplicate findings with their JSECST (on a noninterference basis with COMBAT SHIELD during the assessment) the unit may report the conflicting results to ACC/A3/2/6KL for resolution.

5.6.3. Unit Inbrief/Outbrief.

5.6.3.1. During home-station (wing) assessments, the COMBAT SHIELD mission director will inbrief the host wing commander (or designated representative) on the COMBAT SHIELD program and set expectations for the assessment.

5.6.3.2. An outbrief detailing assessment results, significant observations, trends, and recommendations will be presented to the host wing commander (or designated representative) at the end of each unit's COMBAT SHIELD assessment.

5.6.3.3. Unit commanders will provide responses to any findings, to include appropriate corrective actions to ACC/A3/2/6KL and ACC/A4 Workflow within 45 days of receipt of the final report.

5.6.4. Quarterly Reports. Composite and unit-specific CAF results as well as EW system-specific results will be reported directly to ACC/A3/2/6KL electronically at the end of each of the first three quarters for trend information (fourth quarter results will be included in annual report). These quarterly quick looks will be dispatched no later than the 30th of the month following the end of reported quarter. ACC/A3/2/6KL will coordinate these reports through ACC/A4 Workflow.

5.6.5. Annual Reports. The 87 EWS will prepare an annual report summarizing results and observations for the fiscal year. This report is forwarded directly to ACC/A3/2/6KL electronically for review and submission to AF/A5L per DAFI 10-706. ACC/A3/2/6KL will coordinate these reports through ACC/A4 Workflow.

5.6.6. Annual Briefing. The 87 EWS will prepare a briefing based on all assessments for the previous fiscal year.

5.6.6.1. This COMBAT SHIELD annual report will be briefed as a part of the annual WSEP briefings presented to COMACC, followed by presentation to the Chief of Staff of the Air Force and the Secretary of the Air Force.

5.6.6.2. The 87 EWS will coordinate the annual briefing with ACC/A3/2/6KL before presenting to COMACC.

5.6.6.3. This briefing will also be presented to other supported MAJCOM Commanders.

5.6.6.4. The 87 EWS will coordinate with ACC/A3/2/6KL for a more detailed, program level COMBAT SHIELD annual report briefing for ACC/A3. ACC/A3/2/6KL will staff the annual report briefing prior to presentation to ACC/A3.

5.6.7. Supplemental Reports. Observations and concerns of a perishable nature will be reported directly to ACC/A3/2/6KL for disposition to the staff as required.

Chapter 6

MOVEMENT OF ELECTROMAGNETIC ATTACK ASSETS.

6.1. General. ACC/A3 is responsible for controlling all ACC EA assets and has delegated this responsibility to ACC/A3/2/6KL. ACC/A3/2/6KL will direct all permanent and temporary unit-to-unit transfers of EA assets. This does not include normal maintenance transfers.

6.2. Compliance. Unless otherwise indicated, policy and procedures apply to all ACC wings, Direct Reporting Units, and gained ANG and AFRC units.

6.3. Policy. Units requesting ALQ-184/188 (V) pods for temporary loan will forward their request to ACC/A3/2/6KL not later than 30 days prior to need date. Pods and related equipment will not be sub-loaned to other units by borrowing units without prior approval of ACC/A3/2/6KL. Test agencies/operational units may establish memorandum(s) of agreement outlining temporary loan procedures/responsibilities. Agencies/units will submit memorandum(s) of agreement for ACC/A3/2/6KL approval.

6.3.1. EA assets will be picked up and returned to the owning unit at the expense of the borrowing unit with the specific prior approval by ACC/A3/2/6KL.

6.3.2. Borrowing units must return non-mission capable pods to the owning unit within 7 working days after discovering the condition unless the unit has a pod repair capability. **Exception:** Units borrowing pods for short-term exercises, such as RED FLAG, may return pods at exercise conclusion. Units borrowing serviceable pods will take the responsibility for repair costs of loaned pods. Repair costs for ALQ-188 pods are funded by AFLCMC/WNYCD. Round-trip shipping costs for ALQ-188 pods are centrally funded IAW ALQ-188 memorandum of agreement, 17 Aug 2010, as long as money is available. If funding is not available, the borrowing unit will be notified of the funds needed to transport the training pods. 35 CMS, Davis-Monthan AFB-AZ, is the ALQ188 Central Repair Facility for ACC, USAFE-AFAFRICA, PACAF, AETC, AFRC, and ANG. Return non-mission capable training pods within 20 calendar days by the most expeditious and traceable means.

6.3.3. In the event of wartime contingency or other alert condition (as determined by owning unit operations group/maintenance group, NAF, or ACC), the borrowing unit must return all borrowed pods and equipment to owning unit within 24 hours of notification. Borrowing units must provide an emergency point of contact to unit operations group/maintenance group and ACC/A3/2/6KL within one working day after pod pick up. (Not applicable to training pods.)

6.4. Responsibilities:

6.4.1. Borrowing unit will:

6.4.1.1. 48 hours before receipt, provide owning unit with aircraft MDS, pod configuration, and station on which pods will be operated. (Not applicable for training pod.)

6.4.1.2. Ensure that only trained qualified personnel operate, upload/download, and reprogram pods. Approved maintenance includes reconfiguration of lugs and pad. Maintenance actions other than those identified will be coordinated with owning unit or 355 CMS for training pods.

6.4.1.3. Monitor and adhere to all ground and flight restrictions (e.g., ground operating time, maximum airspeed).

6.4.1.4. Notify owning unit or 355 CMS of significant changes in borrowed pod and equipment status or condition within one working day of discovering condition.

6.4.1.5. Payment for the delivery and return shipment costs.

6.4.2. Owning units will:

6.4.2.1. Ensure loan will not adversely affect unit readiness, pod maintenance schedule, the unit's training and flying schedule, or planned exercises. If significant changes in these areas occur after pod loans have been scheduled or implemented, owning units will immediately notify the gaining unit of the change in status of the unit's requirements.

6.4.2.2. Identify pods and equipment on loan to the applicable headquarters in reliability, availability, and maintainability for pods.

6.4.2.3. Notify borrowing unit one month in advance for pods requiring scheduled maintenance.

6.4.3. Permanent Transfer of EA Assets:

6.4.3.1. Sending unit will incur all shipping costs to move assets to the gaining unit.

6.4.3.1.1. Shipping methods are at the discretion of the sending unit and may include commercial shipping, government transportation, and air ferrying.

6.4.3.1.2. Sending unit will recode EA assets in reliability, availability, and maintainability for pods reflecting transfer within 24 hours of transfer.

6.4.3.2. Gaining units, upon receipt of transfer message, may directly contact sending unit to facilitate the transfer. Gaining units will report delivery to ACC/A3/2/6KL within 48 hours of transfer.

6.5. Information Collections, Records, and Forms:

6.5.1. Information Collections. No downward reporting requirements imposed by this publication.

6.5.2. Records. No records prescribed or adopted by this instruction.

MARK H. SLOCUM,
Major General, USAF
Director of Operations

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

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DAFMAN 10-703, *Electromagnetic Warfare Integrated Reprogramming*, 2 June 2021

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Prescribed Forms

None

Adopted Forms

DAF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

ACC—Air Combat Command

ACCI—Air Combat Command Instruction

AETC—Air Education and Training Command

AF—Air Force

AFB—Air Force Base

AFGSC—Air Force Global Strike Command

AFI—Air Force Instruction

AFLCMC—Air Force Life Cycle Management Center

AFMAN—Air Force Manual

AFPC—Air Force Personnel Center

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFSOC—Air Force Special Operations Command

AFTTP—Air Force Tactics, Techniques, and Procedures

AI—Airborne Interceptor

ANG—Air National Guard

AOR—Area of Responsibility

BIT—Built-in Test

C2—Command and Control

CAF—Combat Air Forces

CAMS—Centralized Asset Management System

CJCSM—Chairman of the Joint Chiefs of Staff Manual

CMS—Component Maintenance Squadron

COMACC—Commander Air Combat Command

Comm—Commercial

CONUS—Continental United States

CROW—Non-Kinetic Operations Airborne Package Commander

DAF—Department of the Air Force

DAFI—Department of the Air Force Instruction

DAFMAN—Department of the Air Force Manual

DAFPD—Department of the Air Force Policy Directive

DE—Directed Energy

DIA—Defense Intelligence Agency

DISS—Defense Information Security System

DoD—Department of Defense

DSN—Defense Switched Network

EA—Electromagnetic Attack

ECM—Electromagnetic Countermeasures

ECO—Electromagnetic Combat Officer

ECP—Electromagnetic Combat Pilot

EM—Electromagnetic

EMCON—Emission Control

EMOE—Electromagnetic Operating Environment

EMS—Electromagnetic Spectrum

EMSO—Electromagnetic Spectrum Operations

EP—Electromagnetic Protection

ES—Electromagnetic Warfare Support

EW—Electromagnetic Warfare

EWAP—Electromagnetic Warfare Assessment Program

EWIR—Electromagnetic Warfare Integrated Reprogramming

EWO—Electromagnetic Warfare Officer

EWS—Electronic Warfare Squadron

FAM—Functional Area Manager

FECOC—Fighter Electromagnetic Combat Officer Course

FM—Frequency Management

GPS—Global Positioning System

GSSO—Government Special Access Program Security Officer

HAF—Headquarters Air Force

HTS—High-speed Anti-radiation missile Targeting System

IAW—In Accordance With

IEW—Introduction to Electromagnetic Warfare

IFF—Identification Friend-or-Foe

IMOM—Improved Many on Many

IP—Initial Point

IR—Infrared

JEMSO—Joint Electromagnetic Spectrum Operations

JP—Joint Publication

JSECST—Joint Service Electronic Combat Systems Tester

LFE—Large Force Exercise

LVC—Live, Virtual, Constructive

MAJCOM—Major Command

MD—Mission Data

MDS—Mission Design Series

MDT—Mission Defense Team

MFM—MAJCOM Functional Manager

MTR—Multiple Threat Run

MUTES—Multiple Threat Emitter Systems

NAF—Numbered Air Force

NAS—Naval Air Station

NKDO—Non-Kinetic Duty Officer

NKOCC—Non-Kinetic Operations Coordination Course

NM—Nautical Miles

NSA—National Security Agency

NTTR—Nevada Test and Training Range

OCONUS—Outside Continental United States

OPR—Office of Primary Responsibility

OPSEC—Operations Security

OSS—Operations Support Squadron

PACAF—Pacific Air Forces

PACE—Primary Alternate Contingency and Emergency

PIR—Priority Intelligence Requirements

RAMPOD—Reliability, Availability, and Maintainability for pods

RFI—Requests for Information

RWR—Radar Warning Receiver

SATRAN—Satellite Reconnaissance Advanced Notice

SEMR—Simulated Equipment Malfunction Runs

ShOC-N—Shadow Operations Center – Nellis

SIGINT—Signals Intelligence

SIPRNET—Secure Internet Protocol Network

SI/TK—Special Intelligence/Talent Keyhole

SWG—Spectrum Warfare Group

SWW—Spectrum Warfare Wing

TACP—Tactical Air Control Party

TDY—Temporary Duty

TLN—Training Line Number

TS/SCI—Top Secret/Sensitive Compartmentalized Information

TTP—Tactics, Techniques and Procedures

USAF—United States Air Force

USAFE-AFAFRICA—United States Air Forces in Europe–Air Forces Africa

USAFWC—United States Air Force Warfare Center

VTTC—Virtual Test and Training Center

WSEP—Weapon System Evaluation Program

Attachment 2

EW EQUIPMENT CHECK GUIDANCE (CAF AIRCRAFT)

A2.1. Purpose. The purpose of this attachment is to provide guidance for ground and airborne ops checks of unit possessed EW equipment. In general, aircrew members will perform the periodic ops checks. Daily Built-In Test (BIT) checks need not be documented unless a malfunction occurs. Applicable equipment operational checks will be documented in the aircraft's historical record. This guide does not apply to bomber aircraft or the EC-130H Compass Call.

A2.2. Procedures:

A2.2.1. Radar warning receiver/radar threat warning systems:

A2.2.1.1. Interval. RWR will be BIT checked each tactical mission. Pre-launch checks will be IAW AFI 21-101, *Aircraft and Equipment Maintenance Management*.

A2.2.1.2. RWR Ops Check. RWR ops check consist of a BIT check IAW the flight manual tech order and a ground or in-flight stimulation of the RWR by threat signals external to the aircraft such that antennas and lead-in cables can be evaluated for proper installation/operation.

A2.2.2. EW Pod:

A2.2.2.1. Interval. EW pods will be turned on through STANDBY and the pod control unit BIT checked on each mission a pod is carried on the aircraft. Pods will remain in standby while airborne to prevent cold soaking. An EW pod ops check will be performed and documented for each unit EW pod at a maximum interval of 180 days (360 days ALQ-188 (V) training pods).

A2.2.2.2. EW Pod Ops Check. An EW pod ops check consists of a pod control unit BIT check IAW the flight manual tech order and activation of possible combinations of switch and button positions while checking for indications of a malfunction.

A2.2.3. Internal Self-Protection Systems:

A2.2.3.1. Interval. The internal self-protection systems will be turned on through STANDBY and BIT checked prior to each flight.

A2.2.3.2. Internal self-protection systems Ops Check. An ops check consists of a BIT check IAW the flight manual and operations of the system while checking for indications of a malfunction.

A2.2.4. IFF/transponder:

A2.2.4.1. Interval. IFF/transponder will be self-tested each mission. An in-flight air-to-air or air-to-ground check will be accomplished each mission when available as stated in AFMAN 11-202 Volume 3, *General Flight Rules*. Pre-launch checks will be IAW AFI 21-101.

A2.2.4.2. IFF/transponder Ops Check. An IFF/transponder ops check consists of self-test IAW the flight manual with an external interrogation and confirmation of a valid reply. An air-to-ground check is preferred.

A2.2.5. Jam-Resistant Communications System--HAVE QUICK:

A2.2.5.1. Interval. A HAVE QUICK active mode operational check will be performed on each mission.

A2.2.5.2. HAVE QUICK Ops Check. A HAVE QUICK ops check will consist of word-of-day, time-of-day, and net entry such that discernible communications in either an air-to-air or air-to-ground (preferred) check on a HAVE QUICK training net is accomplished.

A2.2.6. Secure Voice Systems:

A2.2.6.1. Interval. A secure voice systems ops check will be performed each mission where they are expected to be used.

A2.2.6.2. Secure voice systems Ops Check. A secure voice systems ops check will consist of a BIT check IAW the flight manual tech order and discernible communications.

A2.2.7. Self-Protection Expendables (Chaff/Flares):

A2.2.7.1. Interval. A self-protection check for expendables will be performed each mission when expendables are loaded, operations are conducted in an approved area and an appropriate flare and/or frequency clearance has been obtained.

A2.2.7.2. Self-Protection Expendables Ops Checks. For dual chaff/flare systems an ops check may be accomplished using chaff only.

Attachment 3

EW COURSES INFORMATION

A3.1. Purpose. The purpose of this attachment is to provide an overview of EW courses that are available, or in some cases required, for Airmen. These courses will be either managed by ACC/A3/2/6KL or provide significant input into the owner of the course. Check the provided websites for additional guidance.

A3.2. Introduction to Electromagnetic Warfare. Introduction to EW introduces basic EW concepts particularly radar principles, the EMS, doctrine, and various EMS applications. Students will become familiar with the three pillars of EW; EA, EP, and ES. Additionally, students will be introduced to a variety of EW-related topics including but not limited to: space ops, cyberspace ops, low observable technology, DE, and missile guidance concepts. Introduction to EW is ideal for pilots and other aircrew members, intelligence officers and enlisted, acquisitions and testing professionals.

A3.2.1. Location: Pensacola, FL

A3.2.2. Host unit: 479 OSS

A3.2.3. Course length: 5 training days (Monday-Friday)

A3.2.4. Course ID: B-V7C-E

A3.2.5. Prerequisites.

A3.2.5.1. Introduction to EW is open to all officers, enlisted and DoD civilians. Students must have a SECRET clearance before entering class. Clearances will be verified via Defense Information Security System (DISS) prior to class and issued security badges to the building upon arrival. Attendees do not need to submit a visit request.

A3.2.6. Registration Instructions.

A3.2.6.1. Coordinate with supervisor and/or squadron leadership for approval.

A3.2.6.2. Upon approval, coordinate with your unit training management and complete a nomination form (format may vary per squadron).

A3.2.6.3. Send completed nomination form to your Wing training monitor. They will route the nomination to the MAJCOM representative.

A3.2.6.4. MAJCOM representative will assign a Training Line Number (TLN) for the student and once complete, the approved student should receive an AETC cross org line of accounting.

A3.2.6.5. The student will log into defense travel system and create a new authorization for TDY.

A3.2.6.5.1. If lodging is available, it will be provided on base and does not have to be booked in defense travel system.

A3.2.6.5.2. If lodging is unavailable, obtain a letter of non-availability and book off base lodging in defense travel system.

A3.2.6.6. Students should be registered at least 30 days prior to class start date.

A3.2.7. Admin Instructions.

A3.2.7.1. Duty status: TDY.

A3.2.7.2. AETC funds travel, lodging, and per diem.

A3.2.7.3. 479th OSS prearranges billeting under the name “Introduction to Electromagnetic Warfare” or “IEW”.

A3.2.7.4. It is highly recommended that students confirm billeting with Naval Air Station (NAS) Pensacola billeting, DSN 922-2755 or Commercial (850) 452-2755.

A3.2.7.5. Unit funding of a rental car is mandatory.

A3.2.8. Graduates of Introduction to EW course are eligible to attend the EMSO Course (S-V8E-S PN).

A3.2.9. Website: Please check the course website for additional information.
<https://cs2.eis.af.mil/sites/aetc-rnd-479ftg-oss/spectra/layouts/15/start.aspx#/SitePages/IEW.aspx>

A3.3. Electromagnetic Spectrum Operations Course. Qualifies EWOs to perform the duties and responsibilities of an EW coordinator (advises the combatant commander and battle staff on EW situations and makes recommendations on the use of EW assets). Training includes capabilities, limitations, and employment doctrine of hostile and friendly air defense assets; hostile and friendly EW asset employment; integrated air defense systems; and information warfare. The course contains two field trips, a graduate-level presentation and a course exercise that students must perform to complete the course. Graduates of this course are awarded an AF Form 1256 and are eligible for a Special Experience Identifier.

A3.3.1. Location: Pensacola, FL

A3.3.2. Host unit: 479 OSS

A3.3.3. Course length: 10 training days (2 weeks)

A3.3.4. Course ID: S-V8-S PN

A3.3.5. Prerequisites.

A3.3.5.1. Students must be a U.S. citizen and have an adjudicated Top Secret/Sensitive Compartmentalized Information (TS/SCI) clearance and be indoctrinated for SI/TK before entering class. Students are required to submit additional clearance paperwork and justification to the GSSO at least 30 days prior to class start date. Students will be officers (O-3 to O-6) or select NCOs (E-5 minimum). Rank waivers are available. Air Force members must be loaded by their MAJCOMs prior to 60 days from class start date. Members from other services and government civilians are encouraged to apply. Seat priority is based on duty assignment and upcoming deployments. Contact the GSSO for additional details

A3.3.6. Registration instructions.

A3.3.6.1. Perspective AF students should have their Unit Training Manager email their MAJCOM representative.

A3.3.6.2. Students must be registered at least 60 days prior to class start date.

A3.3.7. Admin instructions.

A3.3.7.1. Duty status is TDY.

A3.3.7.2. AETC funds travel, lodging and per diem for AF attendees.

A3.3.7.2.1. Students are responsible for arranging their own billeting with NAS Pensacola billeting, DSN 922-2755 or Commercial (850) 452-2755.

A3.3.7.3. Unit funding of a rental car is mandatory.

A3.3.8. Website. Please check the course website for additional information.

<https://cs2.eis.af.mil/sites/aetc-rnd-479ftg-oss/spectra/layouts/15/start.aspx#/SitePages/EWCC.aspx>

A3.4. Fighter Electromagnetic Combat Officer Course (FECOC). This course is designed as an academic preparation for unit and wing level ECO and is required for wing ECOs. There are three tracks: F-15, F-16 and A-10. The terminal objective of this course is to provide knowledge and skills required for assumption of ECO duties IAW Air Combat Command Instruction (ACCI) 10-707. This is further defined by ACCI 10-707 as ECO at all levels being able to maintain EW combat readiness by ensuring that they and their unit's personnel receive realistic training on EW equipment, EW equipment operations, in-flight EW-focused scenarios as well as conducting EW-focused ground simulator missions on a regular basis. Graduates of FECOC are certified as ECO.

A3.4.1. Location: Nellis AFB, NV

A3.4.2. Host unit: 561st WPS

A3.4.3. Course length: 10 working days (2 weeks)

A3.4.4. Prerequisites.

A3.4.4.1. F-15C pilot, F-15E pilot/weapons systems officer, A-10 pilot, or F-16 pilot, in the rank of O-2 to O-5, and nominated by their respective wings. Wings may also select support navigators, air battle managers, or air surveillance officers/technicians who are or may be assigned to their fighter wings.

A3.4.4.2. Student eligibility: Aviators who will assume Fighter Wing EWO duties per this instruction.

A3.4.4.2.1. Current access to Joint Air Dominance Campaign is required for F-15C/E and F-16 students.

A3.4.4.3. A TS//SCI clearance is required. SI-G/TK/HCS is highly desired to maximize briefing opportunities. Any exception to this will be on a case-by-case basis and must be coordinated through the FECOC director.

A3.4.5. Admin instructions.

A3.4.5.1. Send rank, SSAN, aircraft, unit/office, and unit mailing address to ACC/A3/2/6KL no later than 31 working days before class start date via ACC FECOC nomination application. Selection list will be released 30 days prior to class start date.

A3.4.5.2. USAFE-AFAFRICA assigned units must submit nominees through their A3TW office.

A3.4.5.2.1. A3TW office will forward a consolidated list of applicants to ACC/A3/2/6KL (ACC.A326KL.EWBranch@us.af.mil) and then to the 561 WPS (561JTS.WPS.FECOC@us.af.mil)

A3.4.5.3. PACAF assigned units must submit nominees directly to ACC/A3/A3/2/6KL (ACC.A326KL.EWBranch@us.af.mil) and then to the 561 WPS (561JTS.WPS.FECOC@us.af.mil)

A3.4.6. Website. Please check the course website for additional information. <https://intelshare.intelink.gov/sites/561jts/FECOC/layouts/15/start.aspx#/SitePages/Home.aspx>

A3.5. Non-Kinetic Operations Coordination Course (NKOCC). The NKOCC will provide students with the knowledge and skills to build, brief, and execute a Non-Kinetic Operations Plan. Students will be able to function in their assigned specialty within the range of Non-Kinetic planning and execution to include duties in the Combat Plans Division and Combat Operations Division at an Air Operation Center, as Non-Kinetic Duty Officer (NKDO) or Non-Kinetic Operations Airborne Package Commander (CROW).

A3.5.1. Location: Offutt AFB, NE

A3.5.2. Host unit: 55 WG/CVW

A3.5.3. Course Length: 5 training days (1 week)

A3.5.4. Prerequisites:

A3.5.4.1. The intended audience for the NKOCC are individuals that will participate as part of a Non-Kinetic Team, aircrew members that will execute Non-Kinetic mission sets, and those that support Non-Kinetic missions from the ground.

A3.5.4.2. TS/SCI Clearance / JWICS or NSA accounts with PKIs.

A3.5.4.3. Access to both JWICS and SIPR is strongly encouraged prior to student arrival at the course.

A3.5.5. Admin instructions: Contact information: NKOC Office number: Comm: 402-294-5618 / DSN: 271-5618, E-mail: 55oss.nkoc@us.af.mil

A3.5.6. Website. Please check the course website for additional information. <https://intelshare.intelink.gov/sites/55OSK/NKOCC/layouts/15/start.aspx#/SitePages/Home.aspx>