

**BY ORDER OF THE  
SECRETARY OF THE AIR FORCE**

**AIR FORCE INSTRUCTION 11-2F-15E  
VOLUME 1**

**9 JANUARY 2007**

**Flying Operations**

**F-15E --AIRCREW TRAINING**



**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This volume implements AFPD 11-2, *Aircraft Rules and Procedures*; AFPD 11-4, *Aviation Service*; and AFI 11-202V1, *Aircrew Training*. It establishes the minimum Air Force standards for training and qualifying personnel performing duties in the F-15E. This publication does not apply to the Air National Guard (ANG) or US Air Force Reserve Command (AFRC). Selected paragraphs of this publication do not apply to all Air Force units. When an exception exists to the requirements of a paragraph, the exception is indicated in a parenthetical within the paragraph, or by using subparagraphs directed at specific units. MAJCOMs, Direct Reporting Units (DRU) and Field Operating Agencies (FOA) will forward proposed MAJCOM/DRU/FOA-level supplements to this volume to HQ USAF/A3OT, through HQ ACC/A3TO, for approval prior to publication IAW AFPD 11-2, paragraph 4.2. Copies of approved and published supplements will be provided by the issuing office to HQ USAF/A3OT, HQ ACC/A3TO, and the user MAJCOM/DRU/FOA offices of primary responsibility (OPR). Field units below MAJCOM/DRU/FOA level will forward copies of their supplements to this publication to their parent MAJCOM/DRU/FOA OPR for post publication review. **NOTE:** The above applies only to those DRUs/FOAs that report directly to HQ USAF. Keep supplements current by complying with AFI 33-360, *Publications and Forms Management*, section 3F.

Waiver authority to this publication is set out in **paragraph 1.13**. See **paragraph 1.3** for guidance on submitting comments and suggesting improvements.

This instruction requires the collection or maintenance of information protected by the Privacy Act of 1974. The authority to collect and maintain the records prescribed in this instruction are 37 USC 301a, Incentive Pay; Public Law 92-204 (Appropriations Act for 1973), Section 715; Public Law 93-570 (Appropriations Act for 1974); Public Law 93-294 (Aviation Career Incentive Act of 1974); DOD Instruction 7730.57, *Aviation Career Incentive Act of 1974 and Required Annual Report*; AFI 11-401, *Aviation Management*; and E.O. 9397, *Numbering System for Federal Accounts Relating to Individual Persons*. System of records notice F011 AF/XOA, Aviation Resource Management System (ARMS), applies.

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**NOTE:**

This instruction contains references to the following field (subordinate level) publications and forms which, until converted to departmental level publications and forms may be obtained from the respective MAJCOM publication distribution office.

**Publications:** AFTTP 3-1, AFTTP 3-3, ACCI 11-464

**SUMMARY OF CHANGES**

This publication contains significant changes. Of note, this revision aligns RAP training with AEF cycle; **Table 4.1.** Ground Training Cycle Requirements and **Table 4.2.** Basic Skills (NON-RAP) Cycle Training Requirements are removed and replaced with tables in the RAP Tasking memorandum; adds or changes ACT (2 v 2 min), night TFR, NVG, and NVG DEMANDING currency requirements; adds and refines strafe definitions; removes Maverick upgrade; removes most paragraphs with specific MAJCOM instructions; makes guidance more directive where required; and updates office symbols with the A-staff designation.

Changes by paragraph are as follows:

**Para 1.2.4.4.** adds MAJCOM/A3T review of wing syllabi. **Para 1.2.5.12.** updates procedures for submission of training reports. **Para 1.3.5.** directs annotation of changes within the regulation. **Para 1.4.3.** includes RAP description. **Para 1.4.4.4.** adds USAFWS nomenclature and instructions for BMC aircrew. **Para 1.5.4.1.** changes “may be required” to “is required.” **Para 1.6.** moves the requirements for experienced aircrew out of **Attachment 1.** **Para 1.7.** significantly revises RAP training periods and instructions. **Table 1.1.** CMR minimum missions and 3-month lookback totals are increased, one Basic Skills mission per month now counts toward lookback. **Para 1.12.** adds unit manpower guidance. **Para 1.12.3.** is reworded, but guidance remains the same. **Para 1.12.4.** adds ACC/IGS inspector and Test unit guidance. **Table 1.2.** changes aircraft codes, training cycle numbers replace annual. **Para 1.13.** adds waiver guidance. **Para 2.2.** clarifies approval and waiver authority for formal course changes. **Para 2.4.** includes references to new training devices. **Para 3.1.** clarifies MQT program responsibilities for the SQ/CC and OG/CC. **Para 3.1.1.** and **para 3.1.4.** no longer contain specific MAJCOM guidance. **Para 3.1.2.** change CW to ACDT. **Para 3.1.5.2.** allows ops SQ/CC to use FTU initial weapon quals and events. **Para 3.2.3.1.** adds verification guidance. **Para 3.2.4.1.** states USAFE certification guidance. **Para 3.3.2.1.** adds PC-ATD use guidance. **Para 3.4.4.** rearranges requirements and removes TI references. **Table 3.1.** clarifies guidance and removes USAFE reference. **Para 3.4.6.7.1.** removes specific reference to “How Low Can You Go” video. **Para 3.4.6.8.4.** and **para 3.4.6.8.7.** no longer require proficiency demonstration for previous LASDT categories (now required by **Table 3.1.**). **Para 3.5.** replaces CW with ACDT, ACDE; references to obsolete publications removed. **Para 4.1.** general guidance now includes summary of CMR, BMC, BAQ, special qual, FTU, and Test unit requirements. **Para 4.1.2.3.** adds ACC/IGS inspectors. **Para 4.1.5.** removes ACC specific guidance and sub-paragraphs are rearranged for clarity. **Para 4.1.5.1.** has syllabus and test missions counting toward mission lookback. **Para 4.2.** Removed **Table 4.1.**, Ground Training Cycle Requirements, requirements now in RAP Tasking memo (as Aircrew Ground Training Cycle Requirements table). **Para 4.2.1.2.1.** gives new PC-ATD guidance. **Para 4.2.3.** SEPT guidance is revised.

**Para 4.2.6.1.** states USAFE certification guidance. **Para 4.3.** Removed **Table 4.2.** Basic Skills (NON-RAP) Cycle Training Requirements, requirements now in RAP Tasking memo (as F-15E Basic Skills Training Cycle Requirements table); adds ACC/IGS inspectors. **Para 4.4.2.** adds ACC/IGS inspectors. **Para 4.6.2.2.** changes "...the best control..." to "...effective control..." **Para 4.6.4.** Landing and sortie recurrency requirements are clarified. **Table 4.1.** adds sortie, ACT (2 v 2 min), and NVG currency; NT TFR and NVG DEMANDING recurrency reqs are changed. **Table 4.1. NOTES** are rearranged and edited, with TF, NVG, and ACT (2 v 2 min) clarifying remarks. **Table 4.2.** proration numbers extended for cycle. **Para 4.14.1., para 4.14.2.1., and para 4.14.5.** now include aerospace physiologist. **Para 4.14.2.4.** 180-degree minimum for second G awareness turn (A-A missions) is eliminated. **Para 5.3.6.** AIM 7 is now a FAM event. **Para 5.3.7.1.** clarifies strafe qualification. **Para 5.4.1.1.** adds LAS parameters. **Para 5.4.1.2.** modifies HAS parameters. **Para 5.4.2.2.2.** and **para 5.4.2.3.5.** refines HARB definition. **Para 5.4.3.** Maverick delivery removed. **Para 5.4.3.3.** adds IAM delivery. **Para 5.5.** now refers to the RAP Tasking memo for FSWD and live delivery guidance. **Chapter 6** Maverick upgrade is removed. **Para 6.3.3.** FLUG flight training is restructured; ACM reduced to one mission; CAS/TST/Dynamic targeting included; Dart/AGTS mission is removed. **Para 6.4.1.** changes IP entry flight hour requirement. **Para 6.4.2.7.** add CRM to ground training. **Para 6.4.4.** Dart/AGTS mission is removed. **Para 6.5.1.** changes IWSO entry flight hour requirement. **Para 6.5.2.7.** add CRM to ground training. **Para 6.5.4.** refines IWSO upgrade supervision guidance. **Paras 6.4.4.5.** and **6.4.4.6.** Additional IWUG SAT sortie (low/med and high threat). **Para 6.6.2.1.** modifies sim instructor guidance for MST. **Para 6.9.** removes specific ACC references. **Para 6.10.4.** subparagraphs are reordered. **Para 6.10.4.6.** clarifies NVG instructor requirements. **Para 6.11.** removes specific CONPLAN references. **Para 6.12.1.** CSAR instructions consolidated. **Attachment 1 Terms** moves experienced aircrew definition to **Chapter 1**, and defines "mission" and "sortie" for use in this publication. TST added to definitions. **Para A2.1.** changes attrition, night definitions; adds non-effective definition. **Para A2.1.22.** adds Red Air flown under Limited training rules to list of non-demanding missions. **Para A2.2.** removed as redundant. **Para A2.3.1.** adds on-board ACMI to ACMI event definition. **Para A2.3.8.** adds Dynamic A/G Targeting. **Para A2.3.28.** revises Target Mark event description. **Paras A3.5.6.** and **A4.5.5.** adds sensor management plan to brief outlines.

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## Chapter 1

### GENERAL GUIDANCE

1.1. Abbreviations, Acronyms, and Terms. See [Attachment 1](#).

#### 1.2. Responsibilities:

1.2.1. HQ ACC/A3 is designated as the responsible agency for this volume IAW AFD 11-2, *Aircraft Rules and Procedures*. HQ ACC/A3 will:

1.2.1.1. Chair semi-annual ACC Realistic Training Review Boards (RTRBs) to review ground and Flight training requirements and programs for Combat Air Forces (CAF) units. RTRB participants will include applicable ACC active and reserve component representatives. MAJCOM/A3s with major weapons systems for which ACC is lead command will be invited to send representatives and inputs.

1.2.1.2. Process all change requests.

1.2.2. All user major commands (MAJCOMs) will:

1.2.2.1. Determine training requirements to meet expected unit tasking.

1.2.2.2. Submit MAJCOM supplements to HQ USAF/A3OT, through HQ ACC/A3TO, for approval before publication. Provide HQ USAF/A3OT, HQ ACC/A3TO, and all applicable MAJCOM/A3s a copy of their supplements after publication.

1.2.2.3. Review subordinate unit supplemental instructions and training programs annually.

1.2.3. Direct reporting units (DRUs) will:

1.2.3.1. Provide standard instructional texts to support operational weapons and tactics training. Forward two copies to each MAJCOM and NAF/A3, and five copies to each CAF wing/group.

1.2.3.2. Review, update, and distribute changes to instructional texts annually.

1.2.3.3. Review subordinate unit training programs annually.

1.2.4. Wings and groups will:

1.2.4.1. Develop programs to ensure training objectives are met. Assist subordinate units in management of training programs, ensure programs meet unit needs, and provide necessary staff support.

1.2.4.2. Attach Aircrew Position Indicator (API) -6/-8 flyers to a flying squadron.

1.2.4.3. Except when otherwise mandated, designate the training level to which each API – 6 will train. Upon request provide ACC/A3T with a list of Basic Mission Capable (BMC) and Combat Mission Ready (CMR) manning positions. Review programs and manning position designations annually.

1.2.4.4. Forward supplements of this volume and wing syllabi to MAJCOM/A3T (or equivalent) for review upon initial release or after significant changes. Review supplements each training cycle.

1.2.5. Squadron supervision will:

1.2.5.1. Ensure adequate continuity and supervision of individual training needs, experience, and proficiencies of assigned and attached aircrew.

1.2.5.2. Ensure review of training and evaluation records of newly assigned aircrew and those completing formal training, to determine the training required for them to achieve BMC or CMR and to ensure provisions of this volume have been met.

1.2.5.3. Ensure Ready Aircrew Program (RAP) missions are oriented to maintaining basic flight abilities, developing combat skills, or practicing tactical employment simulating conditions anticipated in the unit mission. Provide guidance to ensure only effective RAP missions are logged as such. See [Attachment 2](#) for RAP mission definitions.

1.2.5.4. Determine missions and events in which individual BMC aircrew will maintain qualification versus familiarization.

1.2.5.5. Determine utilization of BMC aircrew.

1.2.5.6. Determine how many and which BMC and CMR aircrew will carry special capabilities and qualifications.

1.2.5.7. Identify the levels of supervision required to accomplish the required training, unless specifically directed.

1.2.5.8. Determine program for supervisory review of armament recordings.

1.2.5.9. Assist the wing or group in developing the unit training programs.

1.2.5.10. Monitor individual assigned and attached aircrew currencies and requirements.

1.2.5.11. Ensure aircrew participate only in sorties, events, and tasks for which they are adequately prepared, trained, and current.

1.2.5.12. Designated combat aircraft (CC-coded) squadrons will submit a training report to MAJCOM/A3T IAW RAP Tasking memo instructions.

1.2.6. Individual aircrew will:

1.2.6.1. Hand carry all available training records to assist the gaining unit in assessing qualifications and training requirements.

1.2.6.2. Be responsible for completion of training requirements and currencies within the guidelines of this volume.

1.2.6.3. Ensure they participate only in ground and flight activities for which they are qualified, current, and prepared.

### **1.3. Processing Changes:**

1.3.1. Forward recommendations for change to this volume to MAJCOM/A3 on AF Form 847, *Recommendation for Change of Publication*.

1.3.2. MAJCOMs will forward approved recommendations to HQ ACC/A3.

1.3.3. HQ ACC/A3 will:

1.3.3.1. Coordinate all changes to the basic volume with all MAJCOM/A3s.

1.3.3.2. Forward recommendations for changes to this volume to HQ USAF/A3OT for HQ USAF/A3 approval.

1.3.3.3. Address time sensitive changes by immediate action message.

1.3.4. MAJCOM/A3s will determine training requirements for subordinate units. Changes will be issued via revision, Interim Change, or Administrative Change to this publication. Coordinate publication changes through HQ ACC/A3.

1.3.5. Units will annotate all changes in this document, referring operators to the current supplement or RAP Tasking memorandum.

**1.4. Training.** Aircrew training is designed to progress a crewmember from Initial Qualification Training (IQT) (Basic Course or Transition/Re-Qualification Training), then to Mission Qualification Training (MQT), and finally to Continuation Training (CT).

1.4.1. IQT provides aircrew the basic training necessary to initially qualify in flight duties without regard to any specific unit's mission. See **Chapter 2**. Upon completion of IQT, the pilot attains Basic Aircraft Qualification (BAQ) status. BAQ is a prerequisite for all follow-on training, including MQT. Except for general officers above the wing level, BAQ is not a long-term qualification status.

1.4.2. MQT provides aircrew the advanced training necessary to qualify in flight duties that directly support a unit's mission. See **Chapter 3**. Aircrew maintain BAQ status until complete with MQT and subsequently designated Combat Mission Ready (CMR) or Basic Mission Capable (BMC). The Formal Training Unit (FTU) Instructor course is equivalent to a unit MQT program. Waiver authority for any aircrew other than general officers above the wing level to remain BAQ for longer than six months is MAJCOM/A3.

1.4.3. CT provides aircrew the training necessary to maintain flight proficiency and consists of two aspects. The first involves training in the basic flight skills necessary to ensure the safe operation of the aircraft. The second consists of specific mission-related training required to accomplish the unit's assigned missions. RAP is the CT program designed to focus training toward needed skills. Specific RAP instructions are issued by each MAJCOM via a RAP Tasking memorandum. See **Chapter 4**.

1.4.4. Aircrew must have received training in all the basic missions of a specific unit upon completion of IQT and MQT, unless excepted in **Chapter 3**. Aircrew will then be designated either CMR or BMC.

1.4.4.1. **CMR.** The minimum training required for aircrew to be qualified and proficient in all of the primary missions tasked to their assigned combat unit and weapons system.

1.4.4.2. All CC-coded unit active duty API -1 and API -2 positions, flying SQ/CC and SQ/DO positions are designated CMR positions. OG/CCs may designate other API -6 positions not assigned to the flying squadron as CMR. (EXCEPTION: If a unit is over-manned, the SQ/CC may elect to train the front line of their Unit Manning Document (UMD) API -1s and -2s to CMR and designate the overage BMC. In this case, priority should be given to inexperienced aircrew, with at least 50%, if available, designated CMR). CMR aircrew maintain proficiency and qualification in all core missions of the flying unit to which they are assigned or attached. CMR aircrew maintain currencies which affect CMR status, accomplish all core designated flight training (missions and events), and all mission ground training. Failure to complete this training or maintain these currencies results in regression to Non-CMR status unless waived by appropriate authority. While

Non-CMR, aircrew may perform missions (including exercises and contingencies) and events in which they are current and qualified at the discretion of the SQ/CC.

1.4.4.3. **BMC.** The minimum training required for aircrew to be familiarized in all (and may be qualified and proficient in some) of the primary missions tasked to their assigned or attached unit and weapons system.

1.4.4.4. All active duty wing aircrew positions that are not designated CMR positions, are BMC positions. BMC designations are assigned to aircrew that have a primary job performing wing supervision or staff functions that directly support the flight operation, or are FTU/USAFWS instructors, or operational test aircrew. Many of these aircrew are required to provide additional sortie generation capability, either in lieu of or in addition to, the personnel assigned to the flying squadrons. BMC aircrew maintain familiarization with all unit core missions. They may also maintain proficiency and qualification in some of the unit core missions. BMC aircrew must be able to attain proficiency and qualification in 30 days or less for those missions that they maintain familiarization only. BMC aircrew accomplish all mission related ground training designated by their attached SQ/CC. BMC aircrew may deploy and may participate in any mission for which they are proficient and qualified, without additional training, as determined by the SQ/CC. Failure to complete BMC required training results in regression to Non-BMC status. While Non-BMC, SQ/CC will determine missions the aircrew may perform and supervision required.

1.4.4.5. **Non-CMR/Non-BMC.** Aircrew that regress to Non-CMR/Non-BMC status will accomplish the requirements in accordance with paragraph 4.7.

1.4.5. **Specialized Training.** Specialized training is training in any special skills necessary to carry out the unit's assigned mission that is not required by every aircrew. Specialized training consists of upgrade training such as flight lead upgrade (FLUG), instructor upgrade (IPUG, IWUG), etc., as well as CT to maintain proficiency and qualification in unit tasked special capabilities and missions. Specialized training is normally accomplished after an aircrew is assigned CMR/BMC status and is normally in addition to CMR/BMC requirements. Unless otherwise specified, aircrew in CMR or BMC positions may hold special capabilities/qualifications as long as any additional training requirements are accomplished.

## 1.5. Training Concepts and Policies:

1.5.1. Units will design training programs to achieve the highest degree of combat readiness consistent with flight safety and resource availability. Training must balance the need for realism against the expected threat, aircrew capabilities, and safety. This volume provides training guidelines and policies for use with operational procedures specified in applicable flight and operations publications.

1.5.2. ACC Training Support Squadron (ACC TRSS) will develop and validate training programs when tasked by HQ ACC/A3. Other MAJCOMs may submit requests for training program support to HQ ACC/A3. If validated, these requests will be prioritized and tasked to ACC TRSS. Designated test units (CB-coded) may develop syllabi to upgrade Operational Test Aircrew in support of specific test plans. These syllabi will be approved by the OG/CC and submitted to ACC TRSS.

1.5.3. Design training missions to achieve combat capability in squadron tasked roles, maintain proficiency, and enhance mission accomplishment and safety. BMC and CMR training missions should emphasize either basic combat skills, or scenarios that reflect procedures and operations based on employment plans, location, current intelligence, and opposition capabilities. Use of procedures and

actions applicable to combat scenarios are desired (e.g., appropriate use of code words, authentication procedures, combat tactics, safe recovery procedures, tactical deception, in-flight reports, threat reactions, Intel brief/debrief). Tactical training will include use of inert and live ordnance, threat simulators, countermeasures, and dissimilar aircraft as much as possible.

#### 1.5.4. In-flight Supervision:

1.5.4.1. Unless specifically directed, the SQ/CC determines the level of supervision necessary to accomplish the required training. If the mission objectives include introduction to tasks or instruction to correct previous discrepancies, then an instructor (IP, IW) is required.

1.5.4.2. IPs and flight lead (FL)-qualified Squadron (SQ) supervisors may allow any pilot to lead limited portions of a mission if appropriately briefed. This provision will only be used to allow the pilot to practice events in which the pilot is already qualified or to help determine if the pilot is ready for FLUG. In either case, the IP or SQ supervisor is responsible for the flight.

1.5.4.3. Flight leads may give their wingman the tactical lead for specific tasks. As the tactical lead, the wingman makes tactical decisions for the flight, but the flight lead retains overall authority and responsibility.

### 1.6. Experienced (EXP) Aircrew Requirements

1.6.1. An experienced aircrew has one of the following:

1.6.1.1. 500 hours PAI.

1.6.1.2. 1,000 hours (FP/IP/MP), of which 300 are PAI.

1.6.1.3. 600 fighter hours, of which 200 hours are PAI.

1.6.1.4. Previously fighter experienced and 100 hours PAI.

1.6.2. For pilots, hours are FP/IP/MP and fighter time is defined as FP/IP/MP hours logged in aircraft while assigned an AFSC of 11FX. OA-10 and AT-38 are considered fighter time.

1.6.3. For WSOs, fighter time is hours logged in aircraft while assigned an AFSC of 12F3X or 12F4X.

1.6.4. Some simulator time may count toward experienced requirements, as specified in the current HQ ACC RAP Tasking memorandum.

### 1.7. Ready Aircrew Program Policy and Management:

1.7.1. The aircrew training cycle is 20 months and is aligned with the unit's AEF cycle. Units not assigned to an AEF pair will use 9/10 (the pair aligned with the entire 20-month AEF cycle). Each RAP qualification level is defined by a total number missions, broken down into mission types, plus specific weapons qualifications and associated events as determined by the MAJCOM and unit commanders.

1.7.2. The total number of BMC and CMR missions accomplished is the primary factor for maintaining an individual's qualification level. The breakout of mission types is provided as a guideline to be followed as closely as possible, but minor variances (other than Red Air allocations) are authorized. Variations in mission types may be used as a basis for regression by the SQ/CC. Qualification in a

mission is determined by the SQ/CC considering the MAJCOM guidance and the individual's capabilities.

1.7.3. An effective BMC or CMR training mission requires accomplishing either a tactical profile or building block type training, and successfully completing a significant portion of the events applicable to that mission type (as determined by the SQ/CC and [Attachment 2](#)). Only one mission will be logged per sortie (day or night) unless separated by Air Refueling (AAR). Each mission on either side of the AAR must stand alone as an effective training mission. A maximum of two missions per sortie will be logged under these rules.

1.7.4. The SQ/CC's first priority should be to train all designated aircrew to CMR.

1.7.5. Progression from BMC to CMR requires:

1.7.5.1. A 1-month look back at the higher mission rate.

1.7.5.2. Qualification in all core missions and weapons events required at CMR.

1.7.5.3. Confirmation that the progressed aircrew can complete the prorated number of mission and event requirements remaining at CMR by the end of the training cycle.

1.7.5.4. Completion of mission-related ground training, to include a current verification or certification.

1.7.5.5. Squadron CC certification.

1.7.6. SQ/CCs will determine and assign aircrew that will train for and maintain special capabilities or qualifications. Specialized training is normally accomplished in addition to baseline CMR/BMC mission and event requirements, except for mission commander and flight lead training.

1.7.7. Wing CMR and BMC aircrew will fly the required monthly mission rate. If unable, refer to Regression, paragraph [4.7](#).

1.7.8. End of Cycle training requirements are based on the aircrew's experience level on the last day of the current training cycle.

1.7.9. Units converting to another mission-design-series (MDS) may fly aircrew in CMR positions at the BMC rate until one month prior to the operationally ready date if the CMR mission rates cannot be supported. CMR aircrew should be flown at a CMR rate for the month prior to initial operational capability (IOC). Active duty wings converting to new MDS are authorized one SQ equivalent (7/6 for 24/18 or less Primary Aircraft Inventory (PAI)) of additional API -6's during the conversion period. However, total wing staff flying the new aircraft shall not exceed total authorized for final conversion equipment.

## **1.8. Training Mission Program Development:**

1.8.1. RAP Tasking memorandum BMC/CMR mission and event requirements apply to all BMC and CMR aircrew as well as those carrying special capabilities or qualifications. See [Attachment 2](#) for definitions. The standard mission requirements at [Table 1.1](#), establish the minimum number of missions per training cycle for BMC and CMR levels of training. The current RAP Tasking memorandum takes precedence over this volume, and may contain updated requirements, missions or events not yet incorporated in [Attachment 2](#).

1.8.2. RAP Tasking memorandum Basic Skills Training (e.g. AHC, instrument, and night) are requirements to ensure basic aircrew skills are maintained.

1.8.3. Experiencing and collateral sortie requirements must be considered when developing unit flight hour programs.

1.8.3.1. Experiencing sorties are additional training sorties necessary to achieve desired proficiency in optimum time. RAP missions may not provide sufficient hours to experience aircrew to achieve overall unit experience levels. The USAF sets a required number of hours to experience aircrew and a percentage goal of the unit aircrew that should meet these requirements.

1.8.3.2. Collateral sorties are not directly related to combat employment training but are necessary in day to day unit operations. These include but are not limited to functional check flights, ferry flights, deployments, and air shows. For the training cycle, the MAJCOM allocates a block of sorties to the unit for these purposes.

1.8.4. Unit flight hour programs are allocated a number of sorties that compensate for non-effective training sorties. Non-effective sorties are logged when a training sortie (Basic Skills or BMC/CMR mission) is planned and flown, but a major portion of valid training for that type of mission is not accomplished due to poor weather, air aborts, etc. It is essential that units log non-effective sorties appropriately for HHQ to allocate the proper number of sorties each year.

**Table 1.1. F-15E Sortie and Mission Requirements.**

<b>Minimum Requirement (Period)</b>	<b>BMC (Inexp/Exp)</b>	<b>CMR (Inexp/Exp)</b>
Total Sortie Requirement, all missions [Basic and BMC/CMR] (20 month)	130/110	190/170
Total Sortie Requirement, all missions [Basic and BMC/CMR] (12 month for FY forecasting )	78/66	114/102
<b>**Only one Basic Skills mission (Inst, AHC) per month may be applied to lookback**</b>		
Mission Lookback (3-Month)	18/15	27/24
Mission Lookback (1-Month)	6/5	9/8

## **1.9. Training Records and Reports:**

1.9.1. Units will maintain aircrew records for individual training and evaluations IAW:

1.9.1.1. AFI 11-202V1, *Aircrew Training*

1.9.1.2. AFI 11-202V2, *Aircrew Standardization/Evaluation Program*

1.9.1.3. AFI 11-401, *Aviation Management*.

1.9.2. Track the following information for all aircrew (as applicable):

1.9.2.1. Ground training.

1.9.2.2. Requirements and accomplishment of individual sorties, mission types, and events cumulatively for the training cycle.

1.9.2.3. BMC and CMR mission requirements and accomplishment using 1-month and 3-month running totals for lookback.

1.9.2.4. Currencies.

1.9.2.5. Weapons employment records in sufficient detail to document all employment attempts and hit/miss percentages. A commercial off-the-shelf database of choice is acceptable for weapons employment tracking.

1.9.3. Units may fill in ARMS with either the date of the last FTU or United States Air Force Weapons School (USAFWS) equivalent training accomplished, or the unit mission certification date.

#### **1.10. Armament Recording:**

1.10.1. Aircrew will use and assess all available training documentation such as air combat maneuvering instrumentation (ACMI) and Aircraft Video Tape Recorder (AVTR) data on all tactical missions. Aircrew will review their own data with their flight and element member(s).

1.10.2. As a guide, the following AVTR items should be reviewed: titling, weapons parameters, trigger check, identification procedures, adherence to Training Rules (TR), communications procedures and discipline, flight discipline, proper Anti-G Straining Maneuver IAW para 6.4.2.5., tactical employment, and instrument approaches.

#### **1.11. Aircrew Utilization Policy:**

1.11.1. Commanders (CCs) will ensure wing/group tactical aircrew (API -1/-2/-6s) fill authorized positions IAW unit manning documents and that aircrew status is properly designated. The overall objective is that aircrew perform combat-related duties. Supervisors may assign aircrew to valid, short-term tasks (escort officer, flight evaluation board (FEB)/mishap board member, etc.), but must continually weigh the factors involved, such as level of aircrew tasking, flight proficiency, currency, and experience. For inexperienced aircrew in the first year of their initial operational assignment, supervisors will limit non-flight duties to those related to combat activities.

1.11.2. Duties required by various publications that may be assigned to CAF API -1/-2 aircrew are weapons and tactics officer, programmer, flight safety officer, supervisor of flying (SOF), mobility/contingency plans, training (except ARMS documentation), SQ Standardization/Evaluation Liaison Officer (SELO), squadron life support officer, electronic combat officer, and other duties directly related to flight operations (runway operations monitor [ROM], range control officer [RCO], etc.). In some instances, such as squadron-assigned flight safety officers, API -1/-2s may be attached to the wing. API -1/-2s will not be attached to wing staffs or man wing staff positions unless total wing aircrew API -1/-2 manning is 100 percent or better. CCs will ensure wing staff aircrew (API -6s) perform duties justified in manpower standards documents and authorized in UMDs.

#### **1.12. Sortie Allocation and Unit Manpower Guidance:**

1.12.1. In general, inexperienced API -1 and API -2 aircrew should receive sortie allocation priority over experienced aircrew. Priorities for sortie allocation are as follows:

1.12.1.1. **Formal Training Units and USAFWS.** Formal syllabus training, Instructor Upgrade, Instructor CT, authorized staff personnel not performing Instructor or Flight Examiner (FE) duties

1.12.1.2. **Operational Units.** CMR API -1/-2, MQT API -1/-2, CMR API -6, MQT API -6, and BMC.

1.12.1.3. **Test and Test Evaluation Squadron (TES) Units.** Requirements directed by MAJCOM, training required to prepare for assigned projects and tasking, BMC training requirements that cannot be accomplished on primary missions.

1.12.2. Wing API -6 authorizations are IAW unit manning documents.

1.12.3. For wings consisting of both FTU (TF-coded) and CC-coded units, at least one of the following aircrew will maintain FTU instructor status: wing commander (WG/CC), wing vice commander (WG/CV), OG/CC, operations group deputy commander (OG/CD). For FTU only wings, all API -6 aircrew will maintain instructor status (optional for WG/CC, OG/CC, functional check flight (FCF) aircrew, and one other). FTU only wings will fly API -1/-2/-6 aircrew as required by programmed flight training (PFT).

1.12.4. API -8 rated personnel flight authorizations, ACC/IGS inspectors in API -6 billets and Test Unit aircrews will be IAW AFI 11-401 and MAJCOM guidance. API -8 crewmembers will fly the BMC mission rate, but they are not required to complete BMC specific missions or events, or meet monthly lookback requirements. Test Unit crewmembers will fly the BMC mission rate as a minimum and should meet monthly BMC lookback. Units should provide assigned API -6/-8 flyers adequate resources to maintain minimum training requirements. However, API -6/-8 flyer support will not come at the expense of the flying squadron's primary mission. API -6 flyers will accomplish Basic Skills requirements with allotted BMC sorties. API -8/ACC/IGS flyers will strive to accomplish Basic Skills requirements with allotted BMC sorties. If attached units cannot meet attached flyer requirements, they must request relief IAW AFI 11-401, as supplemented. Units requiring flight hour adjustments for attached API -8 and applicable API -6 flyers must request program changes IAW MAJCOM directives.

1.12.5. There is no maximum sortie requirement for CMR aircrew. **Table 1.2.** defines the maximum sortie requirements for other aircrew per training cycle. On occasion, unique operations may require aircrew to fly more than the maximum number of sorties authorized; however, this may impact training of other aircrew.

1.12.6. Aircrew assigned or attached to ACC/IGS as API -6 will maintain currencies and lookback per API -8 guidance.

**Table 1.2. F-15E Cycle Sortie Requirements for Other Than API -1/-2 Aircrew.**

<b>RPI/API Level</b>	<b>CT Status (Minimum Sortie Requirement)</b>	<b>Unit's Aircraft Code</b>	<b>Organization Level</b>	<b>Maximum Sortie Allowance (Inexperienced/Experienced)</b>
-6	CMR	CC	Any	None
-6	BMC	CC	Wing	160/140
-6	BMC	TF	Wing	As required by PFT
-6	BMC	CB	Wing	As determined by test program requirements
-8	BMC	CB	Wing	143/123
-8	BMC	CC, TF, or CB	Above Wing	150/130, or as required by PFT
-5	BAQ	Any	All	If qualified and current in unit aircraft – 160/140. Otherwise, IAW AFI 11-202V1 as supplemented.
Any	BAQ	Any	Any	BMC Rate

**1.13. Waiver Authority:**

1.13.1. Unless specifically noted otherwise in the appropriate section, waiver authority for all requirements of the RAP Tasking memorandum and for all provisions in **Chapter 4**, **Chapter 5**, and **Chapter 6** of this volume is the OG/CC. This waiver is on a case-by-case basis considering the experience level of an individual aircrew. For all other provisions of this volume, the waiver authority is MAJCOM/A3.

1.13.2. All waivers will include HQ ACC/A3T as an information addressee. Units subordinate to a NAF will forward requests directly to MAJCOM/A3T/XOT and provide their NAF/A3/OV/A3 with an information copy. Waivers from other than MAJCOM/A3 will include their appropriate MAJCOM/A3T as an information addressee.

1.13.3. Waivers to this volume will be valid until the approving official cancels in writing or revises the publication.

1.13.4. Waivers to this volume extending beyond the end of the unit training cycle must be resubmitted at the start of each subsequent training cycle.

## Chapter 2

### INITIAL QUALIFICATION TRAINING

**2.1. General.** This chapter outlines Initial Qualification Training (IQT) of aircrew into unit aircraft.

2.1.1. **Formal Training.** IQT includes Basic Qualification (B), Transition/Re-qualification (TX) and Senior Officer Course (SOC) training, which will be conducted during formal syllabus courses at FTU squadrons whenever possible.

2.1.2. **Local Training.** In exceptional circumstances, when FTU training is not available within a reasonable time period local IQT may be performed at the unit IAW the provisions of this chapter. This local IQT will normally be conducted using appropriate formal USAF Transition or Requalification Training Course syllabus tracks, flow programs, and requirements. When local IQT is authorized, the gaining MAJCOM assumes responsibility for the burden of providing this training.

**2.2. Approval and Waiver for Local IQT.**

2.2.1. Gaining MAJCOM/A3 is approval authority to conduct local IQT. Info HQ ACC/A3T.

2.2.1.1. Gaining MAJCOM/CC is the approval authority for local IQT for colonel selectees and above to be conducted at the unit to which the officer is assigned. Info HQ ACC/A3T.

2.2.2. Gaining MAJCOM/A3 is waiver authority to change the requirements of the formal course syllabus for local IQT. Coordinate changes through HQ ACC/A3T.

2.2.3. Requests to conduct local IQT will include the following:

2.2.3.1. Justification for the local training in lieu of FTU training.

2.2.3.2. Summary of individual's flight experience, to include last centrifuge training date.

2.2.3.3. Date training will begin and expected completion date.

2.2.3.4. Requested exceptions to formal course syllabus, with rationale.

2.2.4. Successful completion of IQT requires the upgrading aircrew to complete an aircraft qualification and instrument evaluation IAW AFI 11-202V2 and AFI 11-2F-15EV2.

**2.3. Prerequisites.** Course prerequisites will be IAW the appropriate formal course syllabus and the USAF Education and Training Course Announcements at <https://etca.randolph.af.mil/>.

**2.4. Ground Training.** Ground training may be tailored to the individual's background and experience or particular local conditions. Current and available reference materials, such as AFTTP 3-3, instructor guides, and audiovisual programs, will be used as supporting materials to the maximum extent possible. Simulator missions will be accomplished in a Weapon System Trainer (WST) or Mission Training Center (MTC) when practical; if these devices are not available a Cockpit Familiarization Trainer (CFT), Cockpit Procedures Trainer (CPT) or Personal Computer-Based Aviation Training Device (PC-ATD) may be used.

**2.5. Flight Training:**

2.5.1. Mission sequence and prerequisites will be IAW the appropriate formal course syllabus.

2.5.2. Training will be completed within the time specified by the syllabus, as approved. Failure to complete within the specified time limit requires notification through channels to MAJCOM/A3 with aircrew member's name, rank, reason for delay, planned actions, and estimated completion date.

2.5.3. Aircrew in IQT will fly under IP/TWSO supervision (in the aircraft or chased) until completing the qualification checkride.

2.5.4. Formal course syllabus mission objectives and tasks are minimum requirements for IQT. However, additional training events, based on student proficiency and background, may be incorporated into the IQT program with authorization of the SQ/CC. Additional training due to student non-progression is available within the constraints of the formal course syllabus and may be added at the discretion of the SQ/CC.

## **2.6. IQT for Senior Officers:**

2.6.1. All formal training courses for senior officers (colonel selectees and above) will be conducted at FTUs unless waived IAW paragraph 2.2.

2.6.2. Senior officers must meet course entry prerequisites and will complete all syllabus requirements unless waived IAW syllabus directives. Note--paragraph 2.2.2. waiver authority applies only for local IQT.

2.6.3. If senior officers must be trained at the base to which they are assigned they will be in formal training status. Unit duties will be turned over to appropriate deputies or vice commanders until training is completed. Exceptions to this policy must be approved by gaining MAJCOM/CC.

## Chapter 3

### MISSION QUALIFICATION TRAINING

**3.1. General.** Mission Qualification Training (MQT) is a unit developed training program that upgrades newly assigned aircrew to BMC or CMR to accomplish the unit mission. Guidance in this chapter is provided to assist SQ/CCs in developing their MQT program. The SQ/CC is responsible for developing the unit specific MQT program and the OG/CC will approve for use. Squadrons are allowed to further tailor their programs for all aircrew, based on current qualification, experience, currency, documented performance, and formal training. Applicable portions of MQT may be used to create a requalification program for aircrew that have regressed from BMC or CMR to specifically address deficiencies that caused regression.

3.1.1. MQT will be completed within 90 calendar days. Notify MAJCOM/A3 if training exceeds this period. Timing starts at the aircrew member's first duty day at the gaining operational unit. If the aircrew elects to take leave prior to being entered into MQT, the timing will begin after the termination of the leave. Training is complete upon SQ/CC certification to BMC or CMR.

3.1.2. AAR and initial Aircrew Chemical Defense Training (ACDT) flight training will be completed NLT 90 days from completion of MQT. AAR accomplished in IQT may fulfill MQT requirements as determined by the SQ/CC. Failure to comply will result in regression to Non-CMR/Non-BMC until qualification is complete.

3.1.3. Aircrew in MQT will not fly in FLAG, AIR WARRIOR, COPE THUNDER exercises, Weapons School support deployments, WSEP, or equivalent type exercises.

3.1.4. Night MQT will satisfy any unaccomplished night training requirement from IQT. If night training was accomplished in IQT, the SQ/CC may certify aircrew to BMC/CMR without night MQT. All night training requires previously demonstrated proficiency and currency in similar day events, unless accomplished with an instructor. Night MQT may be combined with the Night Vision Goggle (NVG) upgrade. NVG upgrade may be combined with any upgrade. If not completed during MQT, night training will be accomplished NLT 90 days, or as specified by MAJCOM, from completion of MQT.

3.1.5. Prior to CMR certification aircrew must complete the following:

3.1.5.1. LASDT CAT I training. SQ/CC may approve the use of LASDT training completed in the FTU towards satisfaction of LASDT CAT I MQT syllabus requirements. For example: the trainee completes LASDT 1 and 2 while in the FTU program; at SQ/CC discretion, only LASDT 3 is required in MQT training.

3.1.5.2. Initial qualification in all weapons delivery or employment events required QUAL at CMR/BMC. SQ/CC may approve the use of events and qualifications accomplished in the FTU.

### 3.2. Ground Training:

3.2.1. Units will develop blocks of instruction covering areas pertinent to the mission as determined by the SQ/CC. Training accomplished during IQT may be credited towards this requirement.

3.2.2. Aircrew transferring from another MAJCOM require the theater-specific portions of IRC before first flight. MQT academics or the MQT Local Area Orientation (LAO) mission will satisfy this requirement.

3.2.3. **Initial Verification.** Initial verification will be completed within 90 days after completing MQT (recommended, but not required for BMC). Failure to comply will result in regression to Non-CMR until qualification is complete. Suggested briefing guides are at [Attachment 3](#) and [Attachment 4](#). Each aircrew will demonstrate to a formal board a satisfactory knowledge of the squadron's assigned mission. Board composition will be established by the SQ/CC (OG/CC for composite wings). Desired composition is SQ/CC or SQ/DO (chairman), weapons, electronic combat, intelligence, and plans representatives.

3.2.3.1. Experienced F-15E aircrew who accomplished initial verification or certification at a previous F-15E assignment may, at SQ/CC discretion, complete either an initial or a continuation verification to meet the requirements of this section.

3.2.4. **Certification.** Aircrew assigned to nuclear-tasked squadrons will certify IAW AFI 10-419, *Dual Capable Aircraft Nuclear Tasking, Planning and Operational Procedures: F-15E/F-16* and as supplemented. Aircrew who certify are exempt from verification requirements. Units with Designed Operational Capabilities (DOC) core aircrew may elect to verify or certify aircrew not identified as their core members.

3.2.4.1. Aircrew assigned to nuclear-tasked squadrons in USAFE will certify IAW both AFI 10-419 and ACE Directive 75-6, *Special Weapons Training for Strike Aircrew*, and will apply the most restrictive guidelines of the two documents.

3.2.4.2. Initial certification will be completed within 90 days after completing MQT. With OG/CC approval, aircrew unable to meet this requirement due to unit deployments will complete an initial verification IAW paragraph [3.2.3](#) of this volume. Aircrew will certify IAW AFI 10-419/AD 75-6 within 45 days of returning from the unit deployment.

### 3.3. Simulator Training:

3.3.1. MQT aircrew should fly the mission profiles outlined in paragraph [3.3.3](#). Each training device mission will include selected emergency procedures (EP), unusual attitude, and inadvertent weather entry procedures. WST/MTC MQT-1 is a prerequisite for the first MQT flight.

3.3.2. If a WST/MTC is unavailable:

3.3.2.1. PC-ATD may be used for WST/MTC MQT-2 or MQT-3. In this case MQT aircrew must have a minimum of two WST/MTC missions prior to WST/MTC MQT-4 for practicing unusual attitude recovery and EPs.

3.3.2.2. The CFT may be used to accomplish appropriate switchology and emergency procedures training.

#### 3.3.3. MQT WST/MTC Profiles:

3.3.3.1. **WST/MTC MQT-1--Local Area Orientation/Instruments.** Normal ground operations, standard departure(s), navigation, emergency airfield procedures and approaches, published penetration and approach to primary alternates and home base, emergency divert procedures, and

emergency procedures to include departure recognition and recovery procedures for both autoroll and spin recoveries.

**3.3.3.2. WST/MTC MQT-2--Air-to-Air Procedures.** Trail departure, FENCE check, radar search techniques, horizontal conversions, slice/chandelle conversions, EID procedures, Medium Range Missile (MRM)/Short Range Missile (SRM) employment, Tactical Electronic Warfare System (TEWS) interpretation, Electronic Warfare Warning Set (EWWS) operation, Electronic Countermeasures (ECM)/Electronic Counter Countermeasures (ECCM) operations, FDL operations, threat detection and defensive reactions, emergency procedures, instrument recovery and approach.

**3.3.3.3. WST/MTC MQT-3--Air-to-Surface Procedures.** Heavyweight takeoff, Low Altitude Navigation and Targeting Infrared for Night (LANTIRN) and Terrain Following (TF) procedures (including flyup procedures), weapons deliveries, TGT pod operation, jettison procedures, Electronic Combat (EC) equipment operation, FDL operations, threat recognition and defensive reactions, local range procedures, emergency divert procedures, hung ordnance procedures.

**3.3.3.4. WST/MTC MQT-4--Emergency Procedures Evaluation.** This evaluation will be administered by a SEFE IAW AFI 11-202V2, MAJCOM supplements, and unit directives.

**3.4. Flight Training.** The appropriate missions from those listed below will be used to upgrade to BMC or CMR. Unit-developed MQT programs should use profiles typical of squadron missions. Maximum use of armament recording assets and captive missiles is encouraged on all MQT missions. The OG/CC will approve the MQT program. Non-effective student non-progression "X" sorties are limited to 2 per phase and 4 total for MQT; continued MQT requires SQ/CC written approval in the training records.

**3.4.1. Supervision.** A SQ supervisor or instructor (IP/IW) in the element is required unless specified otherwise. On some sorties, more specific guidance is provided. The SQ/CC will determine the proper flight position of the supervisor/instructor unless specified otherwise.

**3.4.2.** If more than 14 calendar days elapse between sorties, an additional review sortie will be flown before continuing in the program.

**3.4.3.** All aircrew must conduct practice airborne emergency procedures training during any one of the MQT sorties. As a minimum, the training will consist of briefing, flight, and debriefing a simulated emergency procedure scenario to include airborne communication with the SOF.

**3.4.4. Sortie Requirements.** The LAO/AHC/Instrument sortie is mandatory IAW **3.4.4.1**. The wing/group will develop a LAO/AHC/Instrument program with a minimum of two sorties for inexperienced aircrew, one sortie for experienced. These sorties will emphasize basic airmanship skills (i.e. instruments, formation) while providing the aircrew familiarity with the local operating area. Individual program events may be accomplished during MQT, however all events will be accomplished prior to CMR/BMC or theater certification. Aircrew will demonstrate proficiency in the following events: trail departure, lost wingman, route abort, precision and non-precision instrument approach (at least one approach will be flown at the unit's primary divert base), and radar trail arrival. The Mission Evaluation Checkride is also mandatory, unless previously accomplished in the MQT portion of formal training or the SQ/CC accepts the aircrew's current mission evaluation checkride. The sorties listed in paragraphs **3.4.5**. ACBT Qualification, **3.4.6**. Low Altitude Step Down Training, and **3.4.7**. Air-to-Surface Training, are suggested mission profiles that the SQ/CC may use to develop the unit's MQT program based on unit tasking.

3.4.4.1. **LAO/AHC/Instrument--Mission Objectives.** The LAO/AHC/Instrument mission is mandatory, except for aircrew assigned to the 4 FW who have just completed FTU formal course training. Mission Objectives: Practice aircraft handling characteristics, local area orientation, and local instrument procedures. Specific Mission Tasks: Local area familiarization, emergency airfield(s) overflight/approach(s), AHC and high Angle-of-Attack (AOA) maneuvering, instrument penetration/approach (home field), FDL procedures and normal and simulated emergency patterns and landings. (*IP in the aircraft for pilots, IP/SQ sup for WSOs*).

3.4.4.2. **Mission Evaluation Checkride (If Required).** The Mission Evaluation Checkride is also mandatory, unless the squadron commander accepts the aircrew's current mission evaluation checkride. This sortie will be flown IAW AFI 11-202V2 and AFI 11-2F-15EV2 on a mission representing the unit's primary mission tasking.

3.4.5. **ACBT Qualification.** A/A training programs will be based on unit tasking and conducted IAW AFI 11-214, *Air Operations Rules and Procedures*, and applicable instructions. Sorties should be flown in sequence with the following exception: defensive rides (Defensive Basic Fighter Maneuvers (D-BFM), Defensive Air Combat Maneuvering (D-ACM), Defensive Counter Air (DCA)) can be flown the ride prior to offensive rides (Offensive Basic Fighter Maneuvers (O-BFM), Offensive Air Combat Maneuvering (O-ACM), Offensive Counter Air (OCA)) of the same type, with SQ/CC approval. Adherence to training rules will be assessed throughout the phase.

3.4.5.1. **Aircraft Handling Characteristics (AHC)--Mission Objectives.** Familiarize aircrew with aircraft maneuvering capabilities and limitations by practicing advanced handling maneuvers. Mission Tasks: "G" warm-up exercise, pitchback and sliceback maneuvers, nose-high/low-air-speed recoveries, low speed (below 100 KIAS) handling characteristics high AOA maneuvering, high and low speed rate/radius turns, and acceleration demonstrations.

3.4.5.2. **O-BFM--Mission Objectives.** Mission Objectives: Practice/Demo Pro offensive BFM and weapons employment. Mission Tasks: Weapons system checks, tactical formation, FENCE check, ranging/tracking exercise, intercepts, offensive BFM from low and medium aspect visual perch set-ups, weapons employment, Battle Damage (BD) check. NOTE: Introduce high aspect BFM as proficiency dictates.

3.4.5.3. **D-BFM--Mission Objectives.** Practice/Demo Pro defensive BFM. Mission Tasks: Weapons system checks, tactical formation, FENCE check, ranging exercise, intercepts, defensive BFM from low and medium aspect visual perch setups, weapons employment (if applicable), BD check. Note: Introduce/practice high aspect BFM.

3.4.5.4. **O-ACM--Mission Objectives.** Practice/Demo Pro 2V1 offensive air combat maneuvering. Mission Tasks: Weapons system checks, tactical formation, FENCE check, element attacks from visual perch and Beyond Visual Range (BVR) set-ups (emphasis on engaged/support fighter responsibilities, attack coordination, directive/descriptive commentary, engaged maneuvering, mutual support, weapons employment, and separations), BD check.

3.4.5.5. **D-ACM--Mission Objectives.** Practice/Demo Pro 2V1 defensive air combat maneuvering against an adversary attacking from any quadrant. Mission Tasks: Weapons systems checks, tactical formation, FENCE check, 2V1 counter-offensive maneuvering from visual and BVR set-ups (emphasis on visual/radar lookout, directive/descriptive commentary, initial moves, mutual support, element maneuvering to negate an attack and bring weapons to bear or separate), BD check.

3.4.5.6. **DCA-Day 2 v X. Mission Objectives.** Practice/Demo Pro element tactics/maneuvering in an area/point defense scenario. Mission Tasks: Weapons system checks, tactical formation, FENCE check, Combat Air Patrol (CAP) procedures, radar plan (search/sort/target), FDL operations, visual lookout, tactical intercept, element maneuvering versus an adversary element, weapons employment, radio discipline, mutual support, CAP/Forward Edge of the Battle Field (FEBA) awareness, fuel awareness, AWACS/Ground Controlled Intercept (GCI) procedures (if available), separations, BD check.

3.4.5.7. **DCA-Night 2 v X. Mission Objectives.** Practice/Demo Pro element tactics/maneuvering in an area/point defense scenario. Mission Tasks: Weapons system checks, tactical formation, FENCE check, CAP procedures, radar plan (search/sort/target), FDL operations, visual lookout, tactical intercept, element maneuvering versus an adversary element, weapons employment, radio discipline, mutual support, CAP/FEBA awareness, fuel awareness, AWACS/GCI procedures (if available), separations, BD check.

3.4.5.8. **OCA Sweep 2 v X. Mission Objectives.** Practice/Demo Pro element tactics/maneuvering in a Sweep role. Mission Tasks: Weapon system checks, tactical formation, FENCE check, FDL operations, radar plan (search/sort/target), FDL operations, visual lookout, tactical intercept, element maneuvering versus an adversary element, weapons employment, radio discipline, mutual support, fuel awareness, AWACS/GCI procedures (if available), separations, BD check.

3.4.5.9. **OCA Force Protection 2 v X. Mission Objectives.** Practice/Demo Pro element tactics/maneuvering in a Force Protection role. Mission Tasks: Weapon system checks, tactical formation, FENCE check, radar plan (search/sort/target), FDL operations, visual lookout, tactical intercept, element maneuvering versus an adversary element, weapons employment, radio discipline, mutual support, fuel awareness, AWACS/GCI procedures (if available), separations, BD check.

#### 3.4.6. **Low Altitude Step-Down Training (LASDT):**

3.4.6.1. To conduct low altitude operations safely, aircrew need to be knowledgeable of aircraft handling and performance characteristics, tactical formation, intercept, offensive maneuvering, defensive reactions, and navigation. The low altitude environment requires a well-supervised LASDT program, including initial certification and currency requirements. LASDT qualifies aircrew to conduct low altitude training (LOWAT) at or below 1,000 feet AGL. LOWAT block/category certification is required prior to performing unsupervised operations in that block/category.

3.4.6.2. To provide a structured approach, the step-down training program is built on a multi-phase training process IAW [Table 3.1](#). There is no time limit to progress beyond Category I and progress will be based upon individual aircrew proficiency and training availability. Progression through the step-down training program is based on IP/squadron supervisor assessment of aircrew performance, TR compliance, and judgment. All LASDT sorties will be supervised by an IP/IWSO or FL-qualified SQ supervisor who has completed LASDT training and is current. All previous low altitude training may be used to determine the required low altitude sorties and training required for LOWAT certification.

**Table 3.1. LOWAT Categories.**

Category	Altitude Block	Minimum Requirements To Certify
I	1,000-500	LASDT-1, -2, -3
II	500-300	LOWAT Cat I Certified; LASDT-4, -5, -6
III	300-100	LOWAT Cat II Certified; LASDT-7, -8, -9

3.4.6.3. Demonstrated proficiency down to 500 feet AGL is required for Category I certification and is normally accomplished during IQT and/or MQT. Units may accept a transfer aircrew's LOWAT qualification from other units. Category I qualification is a minimum requirement for CMR status.

3.4.6.4. Entry into LASDT requires SQ/CC approval. The altitude to which an aircrew is certified is determined by the SQ/CC and based on the lowest altitude at which all tasks can be comfortably performed and proficiency demonstrated. The goal is proficiency down to the minimum altitude compatible with squadron mission. Upon successful completion of LASDT training, the SQ/CC will certify the aircrew to the minimum approved altitude of the LASDT category. With SQ/CC approval, low altitude training conducted at a formal course may be used to fulfill applicable requirements of this paragraph.

3.4.6.5. LASDT will be scheduled and briefed as a primary portion of the flight; however, compatible events may be accomplished as long as the objectives of the LASDT training are met. LASDT training will not be accomplished as an alternate mission. Supervisors must be aware of the added stress and task loading associated with low altitude operations and provide breaks in training above the training altitude. Training profiles will be developed to avoid over-tasking the upgrading aircrew, and upgrade sortie continuity should be emphasized.

3.4.6.6. TRs will be IAW AFI 11-214 and AFI 11-2F-15EV3, *F-15E--Operations Procedures*. During LASDT, Knock It Off (KIO) will include a climb to at least 1000 feet AGL.

3.4.6.7. **Ground Training.** The following ground training outline is applicable to all LASDT training. Coverage should support the mission and concept of operations of the squadron, incorporating appropriate portions of AFTTP 3-1, *Mission Employment Tactic*; and AFTTP 3-3, *Combat Aircraft Fundamentals*. All ground academics will be completed prior to flight brief and flight training.

3.4.6.7.1. **AHC.** Discussion of aircraft performance as it applies to the low altitude environment, to include: control response (low/high speed, over-G potential, speed brake use, stores effects); afterburner (fuel considerations, selection techniques), acceleration and deceleration, level turns, vertical maneuvering, climb/dive/slice, recoveries, effects of gross weight, power settings, density altitude, G-loading, and bank angles; terrain avoidance (ridge crossings), HUD use, terrain clearance versus turning room, dangers inherent in overbanking during turns, importance of frequent cross check of aircraft attitude relative to horizon.

3.4.6.7.2. **Environmental Factors.** Discuss out-of-cockpit visibility and Field of View (FOV) restrictions, sun angle, terrain and G-excess illusions/perceptions, weather (WX) considerations, and use of the HUD.

3.4.6.7.3. **Task Management.** Discuss low altitude tasks and task management/prioritization concept.

3.4.6.7.4. **Low Altitude Tactical Navigation (LATN).** Discuss system use and dead reckoning, pilotage, INS/EGI use/techniques, etc.

3.4.6.7.5. **Low Altitude Tactical Formation (LATF).** Discuss formations (including line abreast and wedge), hazards at low altitudes, task prioritization, tactical turns, visual lookout/mutual support.

3.4.6.7.6. **Defensive Reactions.** Discuss visual lookout and mutual support, threat weapons systems envelopes, defensive maneuvering against air-to-air and surface-to-air threats, and flight member deconfliction.

3.4.6.7.7. **Low Level Awareness Factors.** Discuss factors affecting low level awareness: airspeeds and maneuverability, formation size and design, formation and aircrew responsibilities, environmental effects on visibility, factors influencing individual proficiency and airmanship, route familiarity and complacency, air turbulence, jet wash and bird strike, route obstacles, terrain features, planning and chum responsibilities, route abort procedures, techniques and considerations.

3.4.6.7.8. **Low Altitude Air-to-Air Employment.** Discuss intercepts (horizontal turn radii, preferred aspects, pursuit options), fuel rules of thumb, required turning room, maximum dive angle restrictions, low altitude weapons employment (weapons envelope/rules of thumb, weapons selection, missile pursuit curves, minimum launch altitudes), low altitude intercept (radar capabilities including detection, Line of Sight (LOS) problems, false targets, and sorting), low-to-high, high-to-low, and co-altitude intercepts (altitude, airspeed, and power considerations, vertical vice offset conversions, conversion aborts, high/low speed targets, use of HUD).

3.4.6.7.9. **Special Subjects.** Discuss training rules, WX abort procedures, aircraft emergencies, and separation/disengagement considerations. Student will view current low-altitude audiovisual and CBT training aids.

### 3.4.6.8. **Flight Training:**

3.4.6.8.1. **LASDT-1 (Single Ship, or w/Chase)--Mission Objectives.** Demonstrate proficiency in single-ship maneuvering between 5,000 and 1,000 feet AGL. Introduce low altitude operations down to a minimum altitude of 500 feet AGL. Specific Mission Tasks: AHC (low altitude handling/flight qualities, vertical awareness exercise, climb/dive/slice maneuvers, nose low recoveries, attitude awareness maneuvers); G-awareness exercise; low level navigation; airspeed control; fuel management; low level turns; ridge crossings; terrain masking/maneuvering techniques for level/rolling/rough terrain; visual lookout; altitude awareness/control; attack maneuvering; practice KIOs; defensive reactions; and single-ship low altitude tactical intercepts.

3.4.6.8.2. **LASDT-2 (Single Ship, or w/Chase)--Mission Objectives.** Demonstrate proficiency in single-ship maneuvering in the low altitude environment down to a minimum altitude of 500 feet AGL. Specific Mission Tasks: AHC (low altitude handling/flight qualities, vertical awareness exercise, climb/dive/slice maneuvers; nose low recoveries, attitude awareness maneuvers); G-awareness exercise; low level navigation; airspeed control; fuel management; low level turns; ridge crossings; terrain masking/maneuvering techniques for level/rolling/rough terrain; visual lookout; altitude awareness/control; attack maneuvering; practice KIOs; defensive reactions; single-ship low altitude tactical intercepts.

3.4.6.8.3. **LASDT-3 (Two-Ship)--Mission Objectives.** Demonstrate proficiency in 2-ship maneuvering in the low altitude environment down to a minimum altitude of 500 feet AGL. Specific Mission Tasks: AHC (low altitude handling/flight qualities, vertical awareness exercise, climb/dive/slice maneuvers, nose low recoveries, attitude awareness maneuvers); G-awareness exercise; low level navigation; fuel management; low level turns; LATF; terrain masking maneuvering techniques for level/rolling/rough terrain; ridge crossings; visual lookout; altitude awareness/control; attack maneuvering; practice KIOs; defensive reactions; weather route abort; 2-ship low altitude tactical intercepts and low altitude weapons employment considerations. Upon satisfactory completion of this mission, the SQ/CC can certify the aircrew to LOWAT Category I.

3.4.6.8.4. **LASDT-4 (Single Ship, or w/Chase)--Mission Objectives.** Introduce low altitude operations down to a minimum altitude of 300 feet AGL. Specific Mission Tasks: AHC (low altitude handling/flight qualities, vertical awareness exercise, climb/dive/ slice maneuvers, nose low recoveries, attitude awareness maneuvers); G-awareness exercise; low level navigation; airspeed control; fuel management; low level turns; ridge crossings; terrain masking/maneuvering techniques for level/rolling/rough terrain; visual lookout; altitude awareness/control; attack maneuvering; practice KIOs; defensive reactions; and single-ship low altitude tactical intercepts.

3.4.6.8.5. **LASDT-5 (Single Ship, or w/Chase)--Mission Objectives.** Demonstrate proficiency in single-ship maneuvering in the low altitude environment down to a minimum altitude of 300 feet AGL. Specific Mission Tasks: AHC (low altitude handling/flight qualities, vertical awareness exercise, climb/dive/slice maneuvers, nose low recoveries, attitude awareness maneuvers); G-awareness exercise; low level navigation; airspeed control; fuel management; low level turns; ridge crossings; terrain masking/maneuvering techniques for level/rolling/rough terrain; visual lookout; altitude awareness/control; attack maneuvering; practice KIOs; defensive reactions; single-ship low altitude tactical intercepts.

3.4.6.8.6. **LASDT-6 (Two-Ship)--Mission Objectives.** Demonstrate proficiency in 2-ship maneuvering in the low altitude environment down to a minimum altitude of 300 feet AGL. Specific Mission Tasks: AHC (low altitude handling/flight qualities, vertical awareness exercise, climb/dive/slice maneuvers, nose low recoveries, attitude awareness maneuvers); G-awareness exercise; low level navigation; fuel management; low level turns; LATF; terrain masking maneuvering techniques for level/rolling/rough terrain; ridge crossings; visual lookout; altitude awareness/control; attack maneuvering; practice KIOs; defensive reactions; weather route abort; 2-ship low altitude tactical intercepts and low altitude weapons employment considerations. Upon satisfactory completion of this mission, the SQ/CC can certify the aircrew to LOWAT Category II.

3.4.6.8.7. **LASDT-7 (Single Ship, or w/Chase)--Mission Objectives.** Introduce low altitude operations down to a minimum altitude of 100 feet AGL. Specific Mission Tasks: AHC (low altitude handling/flight qualities, vertical awareness exercise, climb/dive/ slice maneuvers, nose low recoveries, attitude awareness maneuvers); G-awareness exercise; low level navigation; airspeed control; fuel management; low level turns; ridge crossings; terrain masking/maneuvering techniques for level/rolling/rough terrain; visual lookout; altitude awareness/control; attack maneuvering; practice KIOs; defensive reactions.

3.4.6.8.8. **LASDT-8 (Single Ship, or w/Chase)--Mission Objectives.** Demonstrate proficiency in single-ship maneuvering in the low altitude environment down to a minimum altitude of 100 feet AGL. Specific Mission Tasks: AHC (low altitude handling/flight qualities, vertical awareness exercise, climb/dive/slice maneuvers, nose low recoveries, attitude awareness maneuvers); G-awareness exercise; low level navigation; airspeed control; fuel management; low level turns; ridge crossings; terrain masking/maneuvering techniques for level/rolling/rough terrain; visual lookout; altitude awareness/control; attack maneuvering; practice KIOs; defensive reactions.

3.4.6.8.9. **LASDT-9 (Two-Ship)--Mission Objectives.** Demonstrate proficiency in 2-ship maneuvering in the low altitude environment down to a minimum altitude of 100 feet AGL. Specific Mission Tasks: AHC (low altitude handling/flight qualities, vertical awareness exercise, climb/dive/slice maneuvers, nose low recoveries, attitude awareness maneuvers); G-awareness exercise; low level navigation; fuel management; low level turns; LATF; terrain masking maneuvering techniques for level/rolling/rough terrain; ridge crossings; visual lookout; altitude awareness/control; attack maneuvering; practice KIOs; defensive reactions; weather route abort. Upon satisfactory completion of this mission, the SQ/CC can certify the aircrew to LOWAT Category III.

3.4.7. **Air-to-Surface.** Air-to-Surface training missions consist of Basic Surface Attack Day (BSA) and night (BSAN), Surface Attack Tactics day (SAT) and night (SATN), Close Air Support (CAS), and Strike type missions.

3.4.7.1. **BSA-1 (Instructor/Sq Supervisor in the AC)--Mission Objectives.** Practice low and medium level navigation, Terrain Following Radar (TFR) operations, and conventional deliveries on a controlled range. Specific Mission Tasks: Route/threat planning, airborne systems checks, tactical formation (as applicable), visual/systems low level navigation, timing control, manual TF operations and flyup procedures, controlled range procedures, conventional deliveries from box, curvilinear, and pop patterns, BD check, recovery, Trail arrival (if available), armament recording and assessment procedures.

3.4.7.2. **BSA-2--Mission Objectives.** Demonstrate proficiency in low/medium level navigation, TFR operations, and conventional deliveries on a controlled range. Specific Mission Tasks: Route/threat planning, airborne systems checks, tactical formation (as applicable), visual/systems low level navigation, auto TF operations, controlled range procedures, conventional deliveries from box/curvilinear and pop patterns, BD check, recovery and landing.

3.4.7.3. **SAT-1--Mission Objectives.** Practice low/medium level tactical formation, navigation, and conventional delivery on a tactical target. Specific Mission Tasks: Airborne systems checks, low level navigation in tactical formation, threat reactions, conventional deliveries as required on tactical targets, BD check, in-flight report, recovery and landing.

3.4.7.4. **SAT-2--Mission Objectives.** Demonstrate proficiency in low/medium level tactical formation and navigation to a prescribed Time Over Target (TOT), and conventional delivery on a tactical target. **NOTE:** Upgradees will plan, brief, and debrief the mission through the first attack. Specific Mission Tasks: Mission planning, airborne system checks, low level navigation in tactical formation, threat reactions, conventional deliveries as required against tactical targets, egress, BD check, in-flight report, recovery and landing.

3.4.7.5. **BSAN-1 (Instructor in Aircraft for Pilots; IP/Sq Supervisor in Aircraft for WSOs)--Mission Objectives.** Practice night low/medium level navigation, LANTIRN and TFR operations, and night conventional deliveries on a controlled range. Specific Mission Tasks: Radar trail departure, airborne systems check, low level navigation, LANTIRN and TFR operations, flyup procedures, night range orientation, level, loft, and high altitude deliveries as required, formation recovery, practice approach at divert airfield (time and fuel permitting), instrument approach and landing.

3.4.7.6. **BSAN-2--Mission Objectives.** Demonstrate proficiency in night low/medium level navigation, LANTIRN and TFR operations, and night conventional deliveries on a controlled range. Specific Mission Tasks: Radar trail departure, airborne systems check, low level navigation, LANTIRN and TFR operations, flyup procedures, night range orientation, level, loft, and high altitude deliveries as required, formation recovery, practice approach at divert airfield (time and fuel permitting), instrument approach and landing.

3.4.7.7. **SATN-1--Mission Objectives.** Practice night low/medium level navigation to a TOT, LANTIRN and TFR operations, and night conventional deliveries on a controlled range. **NOTE:** Upgradees will plan, brief, and debrief the mission through the first attack. Specific Mission Tasks: Airborne systems checks, low level navigation, threat reactions, LANTIRN operations, conventional deliveries as required, and instrument approach and landing.

3.4.7.8. **SATN-2--Mission Objectives.** Demonstrate proficiency in night low/medium level navigation to a TOT, LANTIRN and TFR operations, and night conventional deliveries on a controlled range. **NOTE:** Upgradees will plan, brief, and debrief the mission through the first attack. Specific Mission Tasks: Airborne systems checks, low level navigation, threat reactions, LANTIRN operations, conventional deliveries as required, and instrument approach and landing.

3.4.7.9. **CAS-(Day)--Mission Objectives.** Demonstrate proficiency in day tactical mission employment based on unit tasking. Specific Mission Tasks: Mission planning; threat detection and reactions (adversary desired); first-look attacks using simulated combat munitions, egress, safe recovery procedures, in-flight report, authentication procedures, use of a Forward Air Controller (FAC) is desired.

3.4.7.10. **CAS-(Night)--Mission Objectives.** Demonstrate proficiency in night tactical mission employment based on unit tasking. Specific Mission Tasks: Mission planning; threat detection and reactions (adversary desired); first-look attacks using simulated combat munitions, egress, safe recovery procedures, in-flight report, authentication procedures, use of a FAC and NVGs are desired.

3.4.7.11. **Low/Medium Level Strike**, if applicable, should be conducted prior to initial certification, but not more than 30 days after initial certification. This mission is not required prior to the MQT checkride. Mission Objectives: Practice nuclear procedures, low and medium level navigation, Terrain Following Radar (TFR) operations, and nuclear deliveries on tactical targets or a controlled range. Specific Mission Tasks: Route/threat planning, message receipt/taxi/launch procedures, airborne system checks, navigation, timing control, threat reactions, loft and high altitude deliveries as required, recovery, in-flight report, armament recording and assessment procedures. (Note: Two Person Control and BARON procedures should be simulated for this mission)

**3.5. Initial Aircrew Chemical Defense Training.** (N/A for CB/TF-coded units) Designed to ensure aircrew proficiency in the overall use of the Aircrew Chemical Defense Ensemble (ACDE) and to familiarize aircrew with combat capabilities while wearing ACDE. Aircrew must complete Initial ACDT NLT 90 days from MQT completion. Initial ACDT affects CMR/BMC, but is non-grounding. All initial ACDT is to be accomplished prior to the first ACDE flight. Aircrew will be ACDE certified upon the completion of initial ACDT. Aircrew who accomplished initial ACDT in previous tours in a fighter type MDS are not required to reaccomplish the ACDE flight.

3.5.1. **Ground Training.** Aircrew Chemical Defense Training/ACDT (LL04) initial and CT refresher thereafter. Egress Training with ACDE (LL05) IAW AFI 11-301, and Emergency Parachute Training with ACDE IAW AFI 16-1301 will be accomplished once in a career (per MDS).

3.5.2. **ACDE SIM.** A SIM mission in full ACDE gear (anti-exposure suit liner may be substituted), harness, and G-suit. Within the mission profile, practice doffing simulated contaminated equipment. An ACDE SIM mission may use existing SIM mission profiles and count toward TAC SIM training cycle requirements. Units will use their best available simulator or actual aircraft cockpit for ACDE SIM training. The initial ACDE SIM should be conducted as close as possible to the day before (but not more than 30 days prior) to the ACDE flight.

3.5.3. **ACDE Flight.** The ACDE flight will be accomplished once in a career (unless previously accomplished in a fighter type MDS). Flight training must consider limitations of operating while wearing ACDE. Full donning and doffing procedures/sequence will be practiced in conjunction with the ACDE flight but the only ACDE worn in-flight will be mask, filter pack, and gloves.

**3.5.4. ACDE Flight Restrictions:**

3.5.4.1. Aircrew will be fully current and qualified in an event prior to accomplishing that event on an ACDE sortie.

3.5.4.2. Minimum formation spacing is route unless fingertip is required for safe mission accomplishment (i.e., WX penetration).

3.5.4.3. Minimum altitude is 500 feet AGL, except approaches and landing.

3.5.4.4. No ACBT or night sorties. AAR requires an IP/IWSO in the flight.

3.5.4.5. Weather minimums are 1,500 feet ceiling and 3 miles (4.8 km) visibility for pilots in CW gear.

3.5.4.6. Formations are limited to two-ship. Only one aircrew per aircraft and no more than one pilot in the element can wear ACDE gear. Pilots in ACDE gear need an experienced aircrew member in the Rear Cockpit (RCP). Pilots wearing ACDE gear will not fly in dissimilar formations.

3.5.4.7. Operations supervision should not conduct in-flight ACDT when, in their judgment, temperature or dew point conditions are not favorable to safe operations.

**3.6. Flight Surgeons (FS) and Ground Liaison Officer (GLO) Training:**

3.6.1. **Ground Training.** Flight surgeons and GLOs who are assigned to units and who have not previously flown the unit-assigned aircraft will accomplish the following before the initial flight brief: Aircraft general review; hanging harness training (as applicable); egress training, protective equipment training; Anti-G Straining Maneuver (AGSM) training (to include mandatory viewing of current

AGSM training media), and an instrument/EP simulator (if available) with an instructor (1 hour minimum).

3.6.2. **Flight Training.** The first flight in the unit-assigned aircraft will be with an IP and may be flown in conjunction with other training sorties. The brief and sortie will emphasize crew coordination, communications and equipment, instrument interpretation, and the aircraft's performance envelope.

## Chapter 4

### CONTINUATION TRAINING

**4.1. General.** This chapter outlines ground and flight training requirements for CMR, BMC, and BAQ aircrew. Aircrew must be qualified IAW AFI 11-401 and AFI 11-202 V1/V2. Additionally, they must complete MQT to fly in CMR status, MQT or FTU IP upgrade to fly in BMC status, or IQT to fly in BAQ status.

#### 4.1.1. **Combat Mission Ready (CMR) Requirements:**

- 4.1.1.1. Performance satisfactory to the SQ/CC.
- 4.1.1.2. Mission Evaluation IAW AFI 11-202V2 and AFI 11-2F-15EV2.
- 4.1.1.3. Mission rate (lookback) IAW [Table 1.1.](#) and paragraph [4.7.1.](#)
- 4.1.1.4. RAP missions and events (amount and types), and weapons qualifications IAW the procedures set forth in this volume and the MAJCOM RAP Tasking Memorandum.
- 4.1.1.5. Currencies (as applicable) IAW paragraph [4.6.](#)
- 4.1.1.6. LASDT Category I certification.
- 4.1.1.7. Ground Training IAW [paragraph 4.2.](#)
- 4.1.1.8. Nuclear Surety Training (tasked units).
- 4.1.1.9. Verification or Certification IAW unit tasking.

#### 4.1.2. **Basic Mission Capable (BMC) Requirements:**

- 4.1.2.1. Mission Evaluation IAW AFI 11-202V2 and AFI 11-2F-15EV2.
- 4.1.2.2. Currencies (as applicable) IAW paragraph [4.6.](#)
- 4.1.2.3. Mission rate (lookback) IAW [Table 1.1.](#) and paragraph [4.7.1.](#) (N/A for API -8 and ACC/IGS inspectors).
- 4.1.2.4. BMC aircrew will accomplish ground training requirements related to applicable RAP missions and events.
- 4.1.2.5. LASDT Cat I Certification.
- 4.1.2.6. RAP missions and events (amount and types), and weapons qualifications IAW the procedures set forth in this volume and the MAJCOM RAP Tasking Memorandum.

#### 4.1.3. **Basic Aircraft Qualification (BAQ) Requirements:**

- 4.1.3.1. Qualification Evaluation IAW AFI 11-202V2.
- 4.1.3.2. Currencies (as applicable) IAW paragraph [4.6.](#)
- 4.1.3.3. BAQ aircrew will fly a supervised sortie with a squadron supervisor or an IP/IWSO at least once every 60 calendar days. In addition, if a BAQ aircrew does not fly for 21 days (inexperienced) or 30 days (experienced), the next sortie must be flown with a squadron supervisor or an IP/IWSO.

4.1.3.4. BAQ aircrew that remain in BAQ status for more than 6 months will be grounded (except General Officers), unless currently enrolled in a program to achieve CMR/BMC (waiver authority: MAJCOM/A3).

**4.1.4. Special Capabilities and Qualification Requirements:**

4.1.4.1. Specialized training IAW **Chapter 6** and guiding syllabi.

4.1.4.2. Sortie and mission requirements IAW the MAJCOM RAP Tasking Memorandum.

4.1.4.3. Failure to accomplish the requirements specified in this document or the RAP Tasking Memorandum requires loss of designation or qualification.

4.1.4.4. Re-certification or requalification is IAW paragraph **4.8.4**.

**4.1.5. Designated Training (TF-Coded)/Designated Test (CB-Coded) Aircraft Unit Requirements:**

4.1.5.1. API -1/-2/-6 aircrew assigned or attached to TF or CB coded units will fly at the BMC rate and accomplish the BMC Basic Skills requirements as shown and noted in the RAP Tasking memo. Formal training syllabus-directed missions and approved test plan missions apply to look-back for TF and CB coded units respectively. Any listed BMC and CMR RAP mission flown also counts toward lookback requirements.

4.1.5.1.1. Instructors failing to accomplish Basic Skills requirements will not lose instructor status, but will require additional training as determined by the SQ/CC prior to performing instructor duties in the delinquent event.

4.1.5.1.2. Aircrew assigned or attached to CB-coded units and the 475 Weapons Evaluation Group (WEG) do not need to maintain instructor status.

4.1.5.2. **Ground Training.** Training as directed by the unit or SQ/CC.

4.1.5.2.1. WST/MTC requirements do not apply to USAFAWC and USAFWTC aircrew, with the following exception: Each crewmember must accomplish one graded (IAW AFI 11-2F-15E V1) or evaluated (IAW AFI 11-202 V2) emergency procedures simulator per year. This training must be accomplished in a fully functional WST, MTC, Unit Training Device (UTD) or Full Mission Trainer (FMT). Part task training devices and cockpit mock-ups are not acceptable. Waivers to this requirement will require ACC/A3 approval.

4.1.5.3. **Flight Training.** SQ/CC will direct the addition of sorties if programmed syllabus or test missions do not provide sufficient aircrew proficiency training.

4.1.5.4. **Weapons Events.** Air-to-Surface qualified aircrew assigned or attached to USAFAWC, 422 TES, 85 TES, and 86 FWS will maintain appropriate weapons delivery currencies. Instructors must be initially qualified in the weapons events they plan to instruct.

4.1.5.5. Mission and Instructor Evaluations will be conducted as applicable, IAW AFI 11-202V2 and AFI 11-2F-15EV2.

4.1.5.6. Night flight and AAR requirements are waived for USAFAWC and USAFWTC aircrew unless required for syllabus requirements or to meet program objectives.

4.1.5.7. 83 FWS aircrew will maintain ACBT currency and may fly in the RCP of aircraft participating in WSEP at the discretion of 83 FWS/CC.

4.1.5.8. **Visits/Deployments.** Only qualified WIC instructors will be sent on weapons school visits/deployments. During these visits, WIC instructors may perform FL and instructor duties during tactical missions if they fly in the aircraft in which they are qualified. When flying with students during deployments to FTUs, USAFWS IPs will occupy the Front Cockpit (FCP).

**4.2. Ground Training.** Ground training will be accomplished IAW Aircrew Ground Training Cycle Requirements table, published in the current RAP Tasking memorandum. Waiver authority for ground training specified is IAW the reference directive. Ground training accomplished during IQT/MQT may be credited toward CT requirements for the training cycle in which it was accomplished. The table is intended to be a reference for aircrew ground training only. **This table does not include Air Force ancillary training, which will also be tracked at unit level.** Where discrepancies exist, the reference directive takes precedence.

4.2.1. **Simulator (SIM):** The minimum Emergency Procedure (EP), Tactics (TAC) and ACDE SIM training requirements in the RAP Tasking memo will be accomplished in best available simulator. SQ/CC will determine the required supervision for CT SIM missions, based on SIM capabilities, and mission training objectives. Units will develop scenarios that cover both EP and TAC SIM missions based on expected employment tasking and general systems knowledge requirements. Emphasis should be placed on training not readily attainable during daily flight activities. Units will review scenarios each training cycle and update as required. Aircrew may receive credit for training accomplished in special SIM devices or HHQ-directed simulator test support, etc., if approved by the SQ/CC. Units must track all aircrew device training used to satisfy Basic Skills and mission requirements.

4.2.1.1. During EP SIM missions, training in the following areas will be accomplished each training cycle: unusual attitude recoveries, spatial disorientation, inadvertent weather entry, controlled flight departure recognition and recovery procedures, controlled and uncontrolled ejection parameters, aircraft subsystem failure checklist procedures, relevant critical action procedures, and precision instrument procedures. Aircrew may use EP SIM missions to satisfy Situational Emergency Procedures Training (SEPT) currency requirements.

4.2.1.2. During TAC SIM missions, training in the following areas will be accomplished each training cycle: DOC relevant simulated combat employment; threat recognition, reactions and counter tactics; aircraft subsystem failure checklist procedures; relevant critical action procedures; controlled flight departure recognition and recovery procedures; controlled and uncontrolled ejection parameters.

4.2.1.2.1. Aircrew may accomplish Basic Skills TAC SIM requirements using PC-ATD (SQ/CC approval required).

4.2.1.3. ACDE SIM. A SIM mission in full ACDE gear (anti-exposure suit liner may be substituted), harness, and G-suit. Within the mission profile, practice doffing simulated contaminated equipment. An ACDE SIM mission may use existing SIM mission profiles and count toward TAC SIM training cycle requirements. Initial ACDE SIM training will count toward fulfilling CT requirements.

#### 4.2.2. **Situational Emergency Procedures Training.**

4.2.2.1. This training is not an evaluation, but a review of abnormal/emergency procedures and aircraft systems operations/limitations during realistic scenarios. SEPT should be accomplished in the best available simulator. If a simulator is not available, SEPT will be accomplished one-on-one

or in small flight-sized groups as long as all members participate fully and share equal time responding to emergency situations. One aircrew should present a situation and another discusses actions necessary to cope with the malfunction and carry it to a logical conclusion. Critical action procedures and squadron special interest items should be emphasized. Incorporate the following elements into squadron SEPT programs:

4.2.2.1.1. SQ/CC/DO involvement in the selection of a monthly SEPT topic.

4.2.2.1.2. Develop SEPT scenarios using actual mishaps/incidents as baseline cases.

4.2.2.1.3. Discuss at least one EP for each major subsystem (engine, electrical, hydraulic, fuel, flight control and auxiliary power as applicable) in each session. The EPs should also span all phases of flight.

4.2.2.1.4. Accomplish three SEPTs each training cycle with an instructor or SQ supervisor. Include minimum fuel and emergency divert training during the supervised SEPT.

4.2.2.2. The intent is for each aircrew to accomplish SEPT once every month they actively fly. SEPT currency will expire at the end of the following month. Failure to accomplish SEPT prior to expiration will result in grounding until subsequently completed.

4.2.2.3. Completion of a simulator EP profile satisfies the monthly SEPT requirement. The EP sim will also satisfy the SEPT requirement of the administering instructor or FE.

4.2.2.4. Formal course student SEPTs may satisfy the monthly requirement for the instructor whom administers this training.

4.2.3. **Weapons and Tactics Academic Training.** Units will establish a weapons and tactics academic training program to satisfy MQT and CT requirements. Training is required in each training cycle. Audio-visual programs may be used in place of academic instruction. The program will require successful completion of an examination (85 percent minimum to pass). Use testing to validate qualification to the maximum extent possible throughout the training program. Aircrew successfully scoring 85 percent or greater may be given training credit in lieu of ground CT, where authorized by the governing publication.

4.2.3.1. Academic instructors should be USAFWS graduates or have attended the applicable academic portion(s) of school, if possible.

4.2.3.2. Instruction and tests should include (as applicable), but are not limited to:

4.2.3.2.1. Air-to-Air and Air-to-Ground weapons description, operation, parameters, fusing, limitations, preflight, tactics, normal and emergency procedures/techniques.

4.2.3.2.2. **ACBT.** Principles of aerodynamics, maneuverability, AHC, formations, signature management, flow priorities, tactical intercept principles, alert procedures and scrambles, use of GCI/AWACS, and enemy capabilities.

4.2.3.2.3. Foreign and domestic electronic combat equipment, capabilities, operation, checks, procedures, IRMD, RMD, countermeasures, and hostile EW tactics.

4.2.3.2.4. Specialized training to support specific weapons, tactics (to include threat VID tactics), mission capabilities, authentication, wartime ROE, and safe passage.

4.2.3.2.5. Low altitude flight academics review, IAW the outline in paragraph 3.4.6.7., LASDT Ground Training.

4.2.4. **Continuation Verification** updates aircrew on their squadron's wartime mission. Each CMR aircrew will participate in a squadron initial/CT verification as a briefer, board member, or seminar participant. BMC aircrew should participate in a CT verification to facilitate future upgrade to CMR status, at the discretion of the SQ/CC. Aircrew who participate in a unit deployment to a tasked AOR may receive credit for continuation verification.

4.2.5. **Continuation Certification.** Aircrews assigned to nuclear-tasked squadrons will certify IAW AFI 10-419. Aircrews who certify are exempt from verification requirements.

4.2.5.1. USAFE units will certify IAW AFI 10-419 and ACE Directive 75-6, and will apply the most restrictive guidelines of the two documents.

4.2.6. **US/Russia Prevention of Dangerous Military Activities.** Initial, annual refresher, and pre-deployment training for the Prevention of Dangerous Military Activities will be conducted to familiarize aircrew with the agreement, the implementing provisions of CJCSI 2311.01, and the Procedures for the Prevention of Dangerous Military Activities Between the U.S. and Russia section of the Flight Information Handbook.

4.2.7. **Cockpit/Crew Resource Management (CRM).** Units will participate in MAJCOM established CRM CT. Training builds upon the basic cockpit management skills taught in undergraduate pilot/WSO training and FTUs. Briefs and debriefs will include the core curriculum of CRM training IAW AFI 11-290 *Cockpit/Crew Resource Management Training Program* and the appropriate MAJCOM Supplements. Training frequency for each crewmember is stated in the RAP Tasking memo and the governing AFIs. The instructor CRM course may be used to satisfy the periodic requirement. Training will be tracked in ARMS. Failure to attend CRM training results in grounding (waiverable by OG/CC).

4.2.8. **Night Vision Goggle Refresher Academics.** Refresher training as a minimum will consist of common NVG hazards, F-15E specific hazards, and limitations, performing preflight adjustment procedures, and focusing on an eye chart or use of the Hoffman 20/20 tester. The use of a mock-up terrain display is encouraged for this training.

**4.3. Flight Training.** All aircrew except API -8 and ACC/IGS inspectors will accomplish the requirements as shown on the F-15E Basic Skills Training Cycle Requirements table, published in the current RAP Tasking memorandum. API -8 flyers and ACC/IGS inspectors will strive to accomplish the requirements as shown on this table. Failure to accomplish these requirements will not affect BAQ, BMC, or CMR status but may require additional training as determined by the SQ/CC.

#### **4.4. Special Categories:**

##### **4.4.1. Flight Surgeon, Ground Liaison Officer:**

4.4.1.1. FS may fly selected missions to enhance understanding of tactical missions with which they are directly associated. GLOs will fly with an experienced pilot. Initial checkouts will be IAW [para 3.6](#).

4.4.1.2. FS flight rates and requirements will be IAW AFI 11-202V1 and AFI 11-202V2.

##### **4.4.2. MAJCOM, NAF API -8 Aircrew and ACC/IGS Flight Inspectors:**

4.4.2.1. Mission Directed Training (MDT) for HHQ personnel (other than that conducted in support of a formal inspection) requires coordination with the supporting unit. MAJCOM division chiefs and NAF/A3 are reviewing authorities for assigned personnel. They will:

4.4.2.1.1. Coordinate with the supporting agency to ensure appropriate ARMS data is maintained and provided IAW AFI 11-401.

4.4.2.1.2. Review assigned aircrew accomplishments and currencies prior to authorizing aircrew to participate in MDT.

4.4.2.1.3. Provide each aircrew with written documentation specifying the mission types and events the aircrew is authorized to fly.

4.4.2.2. HHQ personnel maintaining BMC flight status are exempt from non-grounding academic ground training, NAAR, CW training, and special training programs within authorized mission areas. Specific currencies will be provided to the host squadron and HHQ supervisors will determine aircrew qualifications to participate in squadron scenarios for MDT.

4.4.2.3. HHQ aircrew will:

4.4.2.3.1. Review accomplishments and currencies for accuracy.

4.4.2.3.2. Submit qualification and authorization documentation to the supporting SQ/CC, SQ/DO or authorized representative prior to flights with that squadron.

4.4.2.3.3. Evaluate the demands of each mission scenario, and in coordination with SQ/CC, SQ/DO, or authorized squadron supervisor, determine that their ability and proficiency will not be exceeded.

4.4.2.4. Instructor-qualified aircrew may perform instructor duties with the concurrence of the OG/CC, if qualified and current for the applicable missions or events.

#### **4.5. Multiple Qualification/Currency.**

4.5.1. MAJCOM/A3 may authorize qualification in more than one MDS aircraft for aircrew only when such action is directed by command mission requirements and is economically justifiable. This authority cannot be delegated below MAJCOM level. Commanders must not permit aircrew qualified in primary mission aircraft to maintain qualification in support aircraft, unless required for unit mission accomplishment.

4.5.1.1. Submit multiple qualification requests through command channels to MAJCOM/A3. All requests must contain full justification. Approval for multiple qualification requests must be provided to the appropriate host base aviation management office; flights are not authorized until aircraft assignment is updated into ARMS.

4.5.1.2. Individually authorized multiple qualifications are valid as long as the individual is assigned to the specific position and aircraft requested, or rescinded by MAJCOM/A3.

4.5.2. Multiple qualification is not appropriate for senior wing supervisors of units with different types of aircraft. Wing commanders will qualify in only one of their wing's aircraft. Either the WG/CV or OG/CC should qualify in another of the wing's aircraft (not the same aircraft selected by the WG/CC).

4.5.3. **Multiple Requirements.** Aircrew will satisfy at least 50 percent of the sortie requirements of their primary aircraft in their primary aircraft. If CMR, they will meet all RAP mission and event requirements of the primary aircraft. In addition, aircrew will fly an equitable distribution of emergency patterns, instrument sorties, penetrations, non-precision approaches, and precision approaches in each MDS to fulfill their Basic Skills requirements.

4.5.4. **Multiple Currencies.** Aircrew will fly at least once each 45 days in each aircraft. They will comply with all other currency requirements for each aircraft.

4.5.5. Aircrew must complete conversion training IAW an approved syllabus.

#### 4.6. Currencies, Recurrencies and Requalification.

4.6.1. **Currency.** **Table 4.1.** defines currency requirements for aircrew. If an aircrew loses a particular currency, that mission or event may not be performed except for the purpose of regaining currency as noted.

4.6.2. Recurrency is required whenever an aircrew exceeds a currency requirement in this instruction.

4.6.2.1. Overdue requirements must be satisfied before the aircrew is considered qualified to perform tasks applicable to the delinquent training. Training annotated as affecting CMR status will require regression to Non-CMR until appropriate training, as specified by SQ/CC, is accomplished. Training identified as not affecting CMR does not require regression, although it may result in grounding until training is completed (e.g. life support training).

4.6.2.2. Unless otherwise specified, recurrency supervision requirements may be satisfied in the cockpit or flight position that offers effective control of the mission, as determined by the SQ/CC.

4.6.3. **MAJCOM Currency Requirements.** Units will comply with AFMAN 11-217V1, *Instrument Flight Procedures*, for additional currencies required for flight delivery of aircraft coordinated through ACC AOS.

4.6.4. **Landing Recurrency (pilot), Sortie Recurrency (WSO).** Loss of landing or sortie currency for greater than six months results in unqualified status IAW AFI 11-202V1. Recurrency requires the following actions (timing starts from the last landing in either cockpit [pilot], last sortie [WSO]):

4.6.4.1. 31-90 days (46-90 Days for Experienced): Regain landing or sortie currency.

4.6.4.2. 91-135 days: All above items, plus instructor supervised WST/MTC (tactics, normal and emergency procedures for CMR aircrew; normal, instrument, and emergency procedures for BMC aircrew).

4.6.4.3. 136-210 (225 for Experienced) days: All above items, plus qualification and tactical written examinations and EP evaluation.

4.6.4.4. 211 (Inexperienced) / 226 (Experienced) or more days: IQT, LASDT re-qualification, and initial weapons event qualification required.

4.6.5. **Loss of Instructor Status.** Instructors will be decertified if:

4.6.5.1. They fail a flight check. To regain instructor status, they must successfully complete a flight check IAW AFI 11-202V2 and AFI 11-2F-15EV2.

4.6.5.2. They fail a qualification, instrument, or tactical examination. To regain instructor status, the instructor must successfully reaccomplish the written exam.

4.6.5.3. Their instructor currency expires. To regain status, see [Table 4.1](#).

4.6.5.4. They become noncurrent in a mission or event which causes removal from CMR/BMC status and the SQ/CC deems that loss of currency is of sufficient importance to require decertification. If the SQ/CC does not elect this option or if the instructor becomes noncurrent in missions or events which do not require removal from CMR/BMC status, instructor status may be retained, but the instructor will not instruct that mission or event until the required currency is regained.

4.6.6. **ACBT Recurrency.** Aircrew losing currency in ACBT must accomplish the following missions:

4.6.6.1. 61-90 Days (91-120 Experienced). Either O-BFM or D-BFM.

4.6.6.2. 91-180 Days (121-180 Experienced). AHC, and either O-BFM or D-BFM.

4.6.6.3. Over 180 Days. Accomplish a tailored program as directed by the SQ/CC.

4.6.7. **NVG Demanding Mission Recurrency.** Aircrew losing NVG demanding mission currency must accomplish the following events prior to unrestricted night operations:

4.6.7.1. 2-ship basic formation work, light drills and unit specific mission elements.

4.6.7.2. Tactical turns and maneuvers.

4.6.7.3. Minimum of one of the following night profiles or missions:

4.6.7.3.1. Intercept IAW NVG-2 profile not to exceed 1v1, above 5,000 feet AGL or MSA whichever is higher, or

4.6.7.3.2. BSA above 5000 feet AGL or MSA whichever is higher (unless on TFR), or

4.6.7.3.3. Unopposed SAT above 5000 feet AGL or MSA whichever is higher IAW NVG 4 profile (unless on TFR).

4.6.7.4. Aircrew must accomplish 15 minutes of flight above 5000 AGL or MSA whichever is higher, prior to conducting any training below MSA (unless on TFR).

Table 4.1. F-15E Aircrew Currencies.

Event	To Update, Fly:	INEXP	EXP	Affects CMR	To Regain Currency:	NOTES
DEMANDING MISSION	Sortie	21	30	No	Non-Demanding Sortie	1
SORTIE (WSO)	Sortie	30	45	No	Sortie (see 4.6.4.)	2
LANDING (Appropriate Cockpit) (+)	Day or Night Landing	30	45	No	Day Landing (see 4.6.4.)	2, 3
NIGHT LANDING (+)	Day or Night Landing	21	30	No	Day Landing	
ACBT	Event	60	90	Yes	IAW 4.6.6.	5, 9, 14
ACT (2 v 2 min)	Event	60	90	No	Event (Day)	5, 9, 14, 17
WEAPON DELIVERY	Event	60	90	Yes	Event	4, 9, 11
RANGE	Event	120	180	No	Event	4, 11, 15
Night (NT) TFR	TF Event (Day or NT)	45	60	No	Academic review, Day TF Event	7, 8, 11
LOW A/A	LOW A/A Event	60	90	No	LOW A/A Event	5, 9, 12, 14
LOW ALT	LOW ALT Event	60	90	No	LOW ALT Event	5, 9, 12, 14
AAR (+)	Day or Night AAR	180	180	Yes	Day or Night AAR	5
FORMATION T/O (+)	Event	60	90	No	Event	3, 10
FORMATION LANDING (+)	Event	60	90	No	Event	3, 10
PRECISION APPROACH (+)	Event	30	45	No	Event	6
INSTRUCTOR	Event	N/A	60	No	Event	13
NVG	NVG Event	120	180	No	Academic review and events listed IAW 4.6.7.	5, 8, 16
NVG DEMANDING MISSION	NVG Event	90	120	No	Events IAW 4.6.7. prior to any NVG demanding events.	
<b>(+) Items do not apply to WSOs.</b>						

**Table 4.1 NOTES:** If not specified, supervisory requirements may be satisfied in the cockpit or flight position that offers effective control of the mission, as determined by SQ/CC [4.6.2.2.]. See [Attachment 2](#) for specific mission, sortie and event definitions.

1. BAQ aircrew will fly supervised (IP/IWSO/SQ supervisor) when a non-demanding sortie is required.
2. Loss of currency for greater than six months results in unqualified status IAW AFI 11-202V1.
3. Recurrency supervision level is IP in aircraft or chase, qualified and current in event. To regain RCP IP landing currency, FCP must be occupied by a BMC/CMR pilot current and qualified in landing.
4. Recurrency supervision for pilots is an IP/IWSO qualified and current in event. Recurrency supervision for WSOs is an experienced pilot, qualified and current in the event.
5. Recurrency supervision for pilots is an IP/IWSO/FL Squadron Supervisor, qualified and current in event (AAR requires an IP or FL Sq Supervisor). Recurrency supervision for WSOs is an experienced pilot, qualified and current in the event.
6. Recurrency supervision is either in aircraft or on the wing/chase. If day VFR, supervision level is a pilot, current and qualified in event; all other times require an IP IAW AFI 11-202V3.
7. Recurrency supervision is in aircraft with a current, experienced crewmate.
8. An instructor taught academic review is required prior to regaining currency.
9. Performance or instruction will update currency. For formal course instructors: CT and exercise participation require currency as listed; formal syllabus training missions require 180 days currency.
10. Flight leaders may update currency from either lead or wing position. Recurrency will be accomplished from wing position. Wingmen will only update currency from wing position.
11. FTU instructors may fly the recurrency event IAW student syllabus guidelines.
12. Currency is required to perform the event at or below 1000 feet AGL in the aircrew's low altitude category (Category I, II, III). Loss of currency requires regression to the next higher category that the event is current. Operations in a lower block category will update the higher block categories. Recurrency requires satisfactory performance in the following events: vertical awareness training, hard turns, tactical formation, and offensive/defensive maneuvering.
13. Instructor currency is 60 days. Non-currency for 61-180 days requires an instructor recurrency flight with another instructor (same element). Over 180 days requires a Stan/Eval flight check. IP rear cockpit landing currency is 45 days. WIC student sorties count as instructor sorties for currency.
14. IPs may accomplish or instruct the event from either cockpit to update currency.
15. Updated by an actual weapons release on a class A/B/C range.
16. No NVG demanding events are allowed during NVG recurrency sortie.
17. ACT (2v2 min) currency required for ACT engagements **greater** than 2v2. ACT 2v2 event satisfies currency. Opposed A-G missions that constitute ACT (2v2 min) will update currency.

#### 4.7. Regression:

4.7.1. **BMC/CMR Regression for Failure to Meet Lookback.** Only RAP training missions and Contingency Operations sorties may be used for lookback. Only one RAP Basic Skills mission (AHC, Inst) may be applied toward lookback per month. If an aircrew does not meet lookback requirements throughout the training cycle, SQ/CC can either: regress the aircrew to Non-CMR/Non-BMC level, as applicable; remove the aircrew from a BMC/CMR manning position; or initiate action to remove the aircrew from active flight status.

4.7.1.1. Failure to meet 1-month RAP mission or Contingency Operations sortie lookback requires a review of the aircrew's 3-month sortie history. If the 3-month lookback has been met, aircrew may, at SQ/CC discretion, remain in CMR/BMC status. Failure to meet the 3-month lookback will result in regression to Non-CMR/Non-BMC as appropriate, or the aircrew may be placed in probation status for 1 month at the SQ/CC's discretion. If probation is chosen, the only way to remove an aircrew from probation and preserve the current status is to reestablish a 1-month lookback at the end of the probation period. (See [Figure 4.1.](#))

4.7.1.2. CMR/BMC aircrew regressed to Non-CMR/Non-BMC for lookback, must complete a SQ/CC approved re-certification program to return the aircrew to CMR/BMC standards. Upon completion of the re-certification program, the CMR/BMC aircrew must also meet the subsequent 1-month lookback requirement prior to reclaiming CMR/BMC status. The missions and events accomplished during the re-certification program may be credited towards their total/type mission and event requirements for the training cycle as well as for their monthly mission requirement.

4.7.1.3. Lookback computations begin following completion of MQT. The aircrew must maintain 1-month lookback until 3-month lookback is established. SQ/CCs may apply probation rules as described in paragraph [4.7.1.1.](#) if a new CMR/BMC aircrew fails to meet 1-month lookback while establishing 3-month lookback. In addition, 1-month lookback will start the first full month of CMR/BMC status.

4.7.2. **Regression for Weapons Qualification.** Failure to maintain RAP tasked weapons qualification at the end of the training cycle will require:

4.7.2.1. **For events tasked as QUAL at CMR/BMC.** Regression to Non-CMR or Non-BMC. To regain CMR/BMC, the aircrew must re-achieve initial qualification in the deficient weapons event (See paragraph [5.2.](#)). Events accomplished for this initial qualification may count toward the cumulative CT event qualification required at the end of the next training cycle.

4.7.2.2. **For events tasked as FAM at CMR/BMC .** Regression to Non-CMR or Non-BMC. To regain CMR/BMC, the aircrew must accomplish at least three of the weapons deliveries under the supervision of a squadron supervisor or instructor. Events accomplished for this initial qualification may count toward the cumulative CT event qualification required at the end of the next training cycle.

4.7.3. **Regression for Failed Evaluations.** Aircrew who fail an aircraft qualification, mission, or instrument evaluation will be handled IAW AFI 11-202V2 and AFI 11-2F-15EV2. Aircrew will regress to Non-CMR/Non-BMC as applicable. These aircrew will remain Non-CMR/Non-BMC until successfully completing required corrective action, a re-evaluation, and are re-certified by the SQ/CC.

**4.8. End of Cycle Requirements.** Aircrew who fail to complete mission or event requirements by the end of training cycle may require additional training depending on the type and magnitude of the defi-

ciency. Refer to paragraph 4.9. to see if some of these requirements can be prorated. In all cases, report training shortfalls IAW RAP Tasking memo instructions.

4.8.1. Aircrew who fail to meet annual RAP Basic Skills, event or minimum total sortie requirements may continue CT at CMR/BMC as determined by lookback. The SQ/CC will determine if additional training is required.

4.8.2. Failure to meet specific BMC and CMR mission type requirements will result in one of the following:

4.8.2.1. Regression to Non-CMR/Non-BMC if the SQ/CC determines the mission type deficiency is significant. To regain CMR/BMC, the aircrew will complete all deficient mission types. These missions may also be counted toward the total requirements for the new training cycle.

4.8.2.2. Continuation at BMC/CMR if total RAP missions and lookback are maintained and the mission type deficiencies are deemed insignificant by the SQ/CC. The SQ/CC will determine if any additional training is required to address shortfall.

4.8.3. Failure to accomplish missions required for Special Capabilities or Qualifications will result in loss of that qualification. The SQ/CC will determine re-qualification requirements.

**4.9. Proration of End-of-Cycle Requirements.** At the end of the training cycle the SQ/CC may prorate any training requirements precluded by the following events: Initial arrival date in squadron, Duties Not Involving Flight (DNIF), emergency leave, COT leave, non-flying TDYs or exercises, or combat/contingency operations. Ordinary annual leave will not be considered as non-availability. Extended bad weather that prevents the unit from flying for more than 15 consecutive days may be considered as non-availability. The following guidelines apply:

4.9.1. Proration will only be used to adjust for genuine circumstances of training non-availability, not to mask training or planning deficiencies.

4.9.2. Proration is based on cumulative days of non-availability for flight in the training cycle. Use **Table 4.2.** to determine the number of months to be prorated based on each period of cumulative non-flying calendar days.

4.9.3. If IQT or MQT is reaccomplished, an aircrew's training cycle will start over at a prorated share following completion of IQT/MQT training.

4.9.4. **Example:** Capt Jones was granted 17 days of emergency leave in January and attended SOS in residence from March through April for 56 consecutive calendar days. His SQ/CC authorized a total of two months proration from his training cycle (two months for the 73 cumulative days of non-availability for flight).

4.9.5. No requirement may be prorated below one. Prorated numbers resulting in fractions of less than 0.5 will be rounded to the next lower whole number (one or greater).

4.9.6. Newly assigned or converted aircrew and aircrew achieving CMR/BMC after the 15th of the month are considered to be in CT on the first day of the following month for proration purposes. A prorated share of RAP missions must be completed in CT.

4.9.7. Night and AAR requirements accomplished during MQT may be credited toward prorated CT requirements if accomplished during the cycle in which the aircrew was declared CMR/BMC, unless specified otherwise by MAJCOM.

4.9.8. An aircrew's last month on station prior to departing Permanent Change of Station (PCS) may be prorated provided 1 month's proration is not exceeded. Individuals departing PCS may be considered CMR for reporting purposes during a period of 60 days from date of last flight, or until loss of CMR currency, port call date, or sign in at new duty station, whichever occurs first.

4.9.9. CMR aircrew who attend USAF Weapons School in TDY-and-return status may be reported throughout the TDY as CMR. Upon return, those aircrew will accomplish a prorated share of mission and event requirements (See [Table 4.2.](#)).

4.9.10. **Contingency Operations.** Contingency operations can have a positive or negative impact on a unit's CT program, as emphasis is on supporting the actual contingency. A potential lack of training opportunities while supporting contingency operations can place a burden on the unit, forcing it to accomplish the majority of its CT program in a reduced period of time or with reduced assets. The following proration procedures are intended to provide flexibility in accomplishing the unit's CT program.

4.9.10.1. Normally, all sorties flown during contingency operations will be logged as contingency operations sorties. These sorties do not count toward annual RAP requirements but will be used for lookback purposes. Except AAR, RAP events logged during contingency operations sorties do not count toward annual RAP requirements. All events may be used to update currencies. Upon relief from contingency operations, units will prorate RAP missions and events for the period of time each individual was tasked. Additionally, proration is authorized for deployment preparation and deployment recovery time where home station flights are reduced by MAJCOM.

4.9.10.2. As the training quality of missions flown at contingency locations may vary considerably, OG/CCs are authorized to allow sorties that provided valid training to be logged as RAP missions. Events accomplished on these sorties count toward RAP event requirements, and these missions and events may not be prorated.

4.9.10.3. Upon release from contingency operations, proration is computed by calculating the missions to be prorated for the entire deployment, and then subtracting the number of valid RAP missions as authorized by the OG/CC. The result is the allowable mission proration. Negative numbers equate to zero. Events will be prorated at SQ/CC discretion based on the events accomplished during valid RAP missions.

**Table 4.2. Proration Allowance.**

CUMULATIVE DAYS OF NONFLYING	MONTHS OF PRORATION ALLOWED	CUMULATIVE DAYS OF NONFLYING	MONTHS OF PRORATION ALLOWED
0 - 15	0	321 - 350	11
16 - 45	1	351 - 381	12
46 - 76	2	382 - 411	13
77 - 106	3	412 - 442	14
107 - 137	4	443 - 472	15
138 - 167	5	473 - 503	16
168 - 198	6	504 - 533	17
199 - 228	7	534 - 564	18
229 - 259	8	565 - 594	19
260 - 289	9	595 and over	20
290 - 320	10		

**4.10. Regaining CMR/BMC Status:**

4.10.1. If CMR/BMC status is lost due to failure to meet the end of cycle weapons qualifications or event requirements, requalification is IAW paragraph 4.7.

4.10.2. If CMR/BMC status is lost due to failure to meet lookback IAW paragraph 4.7., the following applies (timing starts from the date the aircrew came off CMR/BMC status):

4.10.2.1. **Up to 90 Days.** The aircrew must complete Sq/CC directed re-certification program in accordance with paragraph 4.7.1.2. In addition, all RAP event currencies must be regained. The Sq/CC will approve any other additional training prior to re-certification to CMR.

4.10.2.2. **91-180 Days.** Same as above, plus qualification and tactical written examinations.

4.10.2.3. **181 Days and Beyond.** Reaccomplish MQT.

**4.11. Example of the Lookback, Regression, Proration, and Requalification Process:**

4.11.1. Capt Smith is an experienced CMR aircrew with a 1 and 3 month lookback requirement of 8 and 24 RAP missions respectively. On Feb 3, he flew an ACBT mission prior to departing for a non-flying TDY staff tour for two months. He reported back for flight duty on 6 Apr. What is his status throughout his TDY and on his return?

4.11.1.1. The SQ/CC wanted to list Capt Smith as accountable CMR aircrew for reporting purposes throughout the TDY. Therefore, on 1 Mar, his Flt/CC performed the mandatory 1 month lookback (Feb) on Capt Smith. He only flew 1 RAP mission, failing the 1 month lookback. The Flt/CC then performed a 3 month lookback (Dec, Jan, Feb). This showed that he flew only 20 missions for this period. Had he flown four more missions, his SQ/CC could continue Capt Smith at CMR. However, with 20 missions, Capt Smith did not meet the 3 month lookback for a CMR air-

crew. The SQ/CC could regress Capt Smith to Non-CMR, but instead elected to put him on probation, still carrying him as CMR.

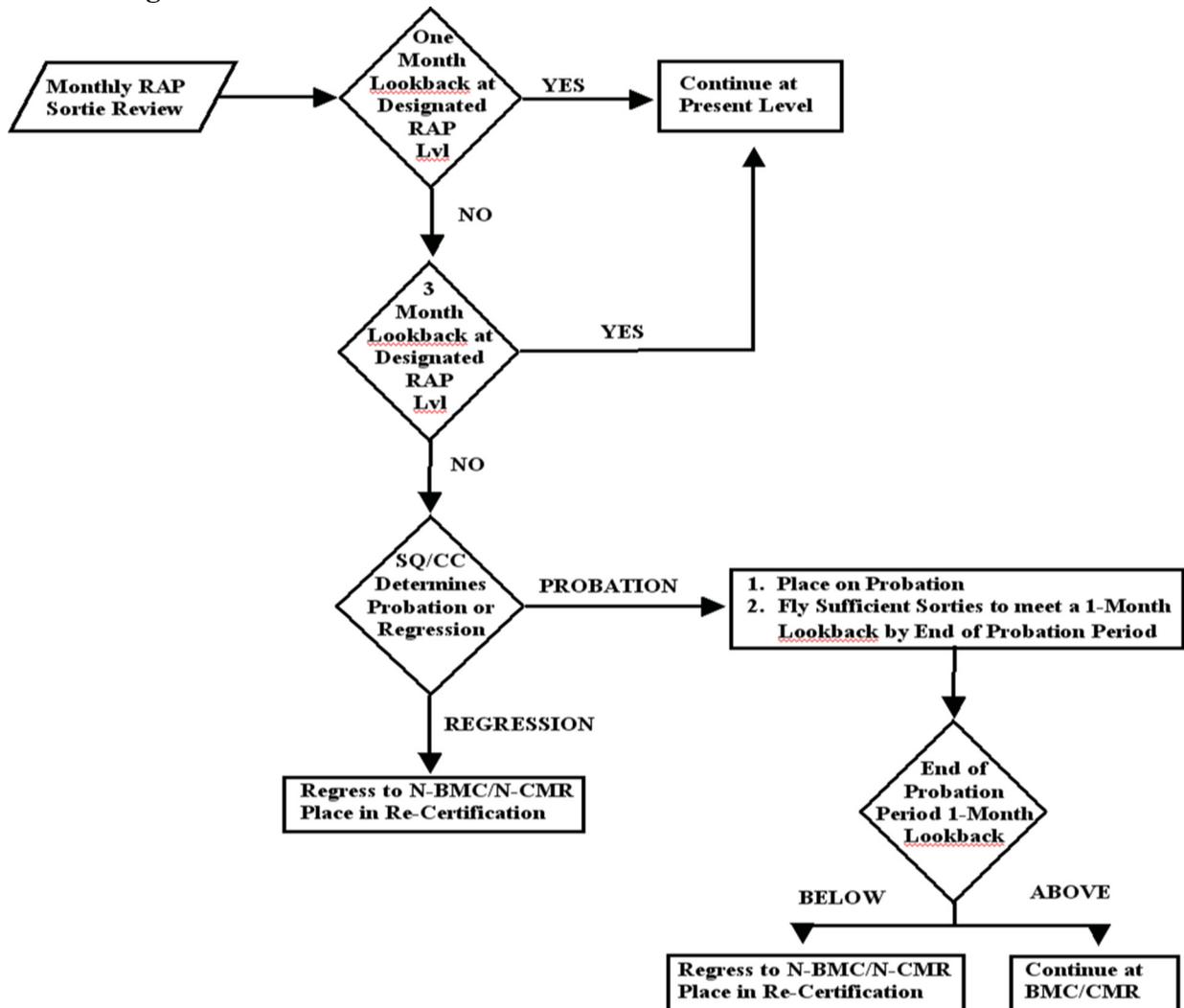
4.11.1.2. The SQ/CC decided to carry Capt Smith on 1 month probation. On 1 Apr, Capt Smith's 1 month lookback (Mar) was 0 missions. The SQ/CC must now regress Capt Smith to Non-CMR. When Capt Smith returns, the SQ/CC will have to place him in a re-certification program. Upon completing this program, Capt Smith will need to re-establish his 1-month lookback by 1 May. Failing to do so would force him to be reported Non-CMR one more month until the next lookback process on 1 June.

4.11.1.3. If he had returned on 22 Mar, and had last landed the jet 48 days ago, he could fly a non-demanding sortie to regain demanding sortie and landing currency. For CMR purposes, Capt Smith would need to fly 8 RAP missions to recapture his 1-month lookback and get off probation.

Although Capt Smith was still CMR in Mar, the SQ/CC flew him with an IP on his first few sorties in order to regain his landing, AAR, LOWAT, and Formation T/O and Landing currencies.

4.11.1.4. At the end of the training cycle on 30 Sep, the SQ/CC prorated two months off of Capt Smith's total requirements. In spite of this proration, Capt Smith was deficient in one RAP mission category. The SQ/CC could regress Capt Smith to Non-CMR if the deficiency was deemed significant. After accomplishing the tailored recertification program (the deficient missions), the SQ/CC would re-certify Capt Smith to CMR. This training also counts for the new training cycle.

Figure 4.1. Regression Flow Chart.



**4.12. Chemical Warfare (CW) Continuation Training (CT).** CW CT flight requirements are IAW MAJCOM supplements (if any). Restrictions include:

- 4.12.1. Aircrew must be fully current and qualified in an event prior to accomplishing that event on a CW sortie.
- 4.12.2. Minimum altitude is 500 feet AGL (day) and 1,000 feet AGL (night) except for takeoffs, approaches, and landings.
- 4.12.3. Night AAR is not authorized. A/A training is restricted to "limited maneuvering" training rules.
- 4.12.4. CT Weather minimums for pilots in CW gear are 700 feet ceiling and 2 miles (3.2km) visibility.
- 4.12.5. Four ship formations may be flown, but only one pilot in an element, and only one aircrew member per aircraft can be in CW gear.
- 4.12.6. CW mask, filter pack, and gloves are required for CW CT flight credit.

4.12.7. A CW CT flight fulfills a CT ACDE SIM requirement.

#### **4.13. Low/Slow Speed EID/VID Procedures:**

4.13.1. For Strategic Defense Units and units specifically tasked to perform the strategic defense mission or counter drug role, comply with current approved guidance.

4.13.2. For all other units, the objective of this low/slow EID/VID training is to expose aircrew to problems associated with intercepting low/slow flying aircraft (rotary and fixed wing) for visual identification practice in a threat environment. Emphasis should be placed on dissimilar adversaries below 5000 feet AGL and 250 KIAS (helicopters are desired). Training will be conducted IAW AFTTP 3-1, AFI 11-2F-15EV3, and AFI 11-214.

4.13.2.1. Unit-developed ground training programs will be designed for unit specific equipment and employment taskings. Academic sessions should be conducted during weapons and tactics training and maximum use of the visual recognition program is encouraged.

4.13.2.2. Flight training missions should, to the maximum extent possible, include helicopter operations and considerations. Creation of a realistic environment to stimulate the aircraft EID/VID suite is essential to the conduct of low/slow VID procedures. Units must make every effort to maximize effective use of limited assets as well as to instill awareness and actions appropriate to this training. SQ/CCs will determine the depth of ground and flight training necessary prior to participating in exercises and contingency operations.

**4.14. G-Awareness Continuation Training.** Units will develop a CT program that provides feedback to aircrew and imprints a proper AGSM so that it becomes an integral part of pulling Gs.

4.14.1. The basis of this program is to give each FL, SQ supervisor, instructor, flight surgeon, and, if available, aerospace physiologist the skills needed to evaluate a flight member's AVTR to ensure a proper AGSM is being performed. This program also makes assessment of the AGSM a normal debrief item after every flight. The assessment should be done as a normal part of AVTR assessment while reviewing other tactical portions of the mission.

4.14.2. Use the following minimum guidance to implement the unit's program:

4.14.2.1. AGSM academics will be an integral part of the squadron FLUG, IPUG, IWUG, and CT programs. Ground training will focus on technique and assessment and will include a discussion of the limitations imposed on aircraft performance as a result of an ineffective AGSM. Emphasis will also be placed on briefing, debriefing, and assessing the proper AGSM using the AVTR in debrief on a daily basis. FLs, instructors, SQ supervisors, aerospace physiologists, and flight surgeons should become adept at assessing and teaching the correct AGSM technique.

4.14.2.2. Units will include "AGSM effectiveness" on MQT and "AGSM assessment" on FLUG and IPUG grade sheets. These areas will be evaluated on upgrade sorties where more than five Gs are pulled.

4.14.2.3. FLs will emphasize G-awareness during appropriate portions of the flight brief.

4.14.2.4. G-awareness exercises will be performed IAW AFI 11-214 and AFTTP 3-3.17., filmed in HUD only and in hot mic.

4.14.2.5. The tactical portion of all basic missions (BFM, SA, ACM, etc.) will be flown in hot mic to enable assessment of the AGSM. Intercom volumes will be set at a level which is comfortable for the aircrew but still allow assessment of breathing and AGSM technique in the debrief. For high task sorties (Dissimilar Air Combat Tactics (DACT), Composite Force Training (CFTR), etc.), it is highly desired for aircrew to fly in hot mic. The purpose of this is to identify breakdowns in the AGSM that commonly occur during high task portions of a mission.

4.14.2.6. Flight Leads and instructors will assess the AGSM effectiveness of flight members during mission debriefs. This assessment should not be limited to the G-awareness exercise. It is imperative to evaluate the AGSM after the aircrew has had the time to fatigue, as this is usually when the AGSM breaks down and GLOC occurs. The intent of this requirement is to get an honest assessment of an aircrew's AGSM during a tactically and G- demanding portion of flight. The same AGSM should be performed anytime G is applied; only the intensity of the maneuver is varied. Therefore, the AGSM should also be evaluated under relatively low intensity G such as A/S sorties.

4.14.3. Aircrew identified as having poor AGSM technique or low G-tolerance will be identified to the Flt/CC or appropriate operations supervisor. The operations officer or appropriate operations supervisor will determine what action is required to improve the aircrew's G-tolerance. The SQ/CC will determine if Commander-Directed Acceleration Training is required IAW AFI 11-404, *Centrifuge Training for High-G Aircrew*.

4.14.4. The involvement of the aerospace medical team is important to the success of this program. All SQ flight surgeons assigned to fighter/attack/Forward Air Controller (Airborne) (FAC(A))/Recce/FTU are required to complete centrifuge training IAW AFI 11-404. During centrifuge training they will receive instruction on AVTR review.

4.14.5. The squadron will develop a program to ensure an A/A mission tape for each aircrew is reviewed each training cycle by the squadron FS or Aerospace Physiologist, and a squadron supervisor.

## Chapter 5

### WEAPONS DELIVERY/EMPLOYMENT QUALIFICATION

**5.1. General.** This chapter outlines requirements for attaining initial qualification and maintaining CT qualification in the delivery of air-to-surface weapons and the employment of air-to-air weapons. Refer to "Glossary of Events" at [Attachment 2](#) for further guidance on weapons events.

#### **5.2. Initial Qualification:**

5.2.1. Aircrew must accomplish initial qualification in any weapons event requiring QUAL at CMR/BMC. Initial qualification achieved in IQT or MQT satisfies requirements for CT initial qualification, but not for CT event requirements. Initial qualification will carry over for consecutive tours in the F-15E.

5.2.2. If not otherwise specified, initial qualification in a weapons event is satisfied when the aircrew has achieved a minimum of 3 hits out of 6 consecutive record deliveries.

5.2.3. **Strafe and Conventional.** Deliveries may be accomplished from basic or tactical deliveries. Prior to initial qualification in strafe, there is no limit to the number of hot passes.

5.2.4. Initial A/A missile employment qualification is achieved by meeting the qualification criteria for weapons employment IAW 11-2F-15EV2. Qualification in one missile category is assumed for other missile categories in such cases where only one type of missile was employed.

5.2.5. Initial A/A gun employment qualification is achieved by scoring an individual (i.e., element or team hit is not applicable for initial qualification) hit during a live fire pass on a Deployable Aerial Reflective Target/Aerial Gunnery Target System (DART/AGTS) target. Any DART pattern defined in AFI 11-214 is authorized. If DART/AGTS are not available, gun qualification may be accomplished via VTR assessment.

#### **5.3. CT Qualification:**

5.3.1. These criteria establish the minimum standards for an aircrew to maintain qualification in the appropriate RAP tasked weapons delivery events and do not necessarily determine evaluation criteria established by other instructions or agencies (e.g., inspection/evaluation teams). These qualifications are valid throughout the subsequent training period.

5.3.2. CT weapons deliveries will be tactical deliveries or intercepts simulating realistic employment of Unit Committed Munitions List (UCML) munitions, considering such factors as fuzing, safe separation/escape, recovery using applicable safe escape maneuver, egress, etc. CT air-to-surface weapons event requirements will be accomplished on scoreable tactical ranges to the maximum extent possible.

5.3.3. Weapons qualification will be maintained by completing a minimum number of record hits, and record deliveries (if required), and also by achieving appropriate qualification percentage during the training period.

5.3.4. Failure to qualify in one event does not invalidate qualification in others. SQ/CCs may declare an aircrew unqualified in an event(s) and invalidate all previous record deliveries for that event at any time during a training cycle without affecting other weapons event qualifications. If qualification is

required at BMC/CMR, failure to qualify will result in regression to Non-BMC/Non-CMR and entered into re-certification until re-qualification is accomplished.

5.3.5. At the end of the training cycle, each aircrew's weapons delivery scores will be reviewed to assess the aircrew's qualification. If qualified, the aircrew's qualification is valid through the following training period.

5.3.6. Each aircrew's air-to-air weapons employment will be assessed for validity IAW AFTTP 3-1 criteria and the results in each tasked weapon (A-A missiles and gun) will be recorded for the current training period. QUAL requires 75 percent valid shots for A-A missiles at pickle and 50 percent hit rate for gun (excluding snap shots). FAM requires ten events, with no hit percentage specified.

5.3.7. Unless otherwise specified, QUAL criteria are 12 record hits and an overall record hit rate of 50 percent. Additional guidance:

5.3.7.1. **Strafe.** Maximum of two passes for record (first two) if planned delivery parameters remain the same. Multiple strafe for the same type event is authorized if cockpit rounds count is declared between events, the appropriate total number of rounds are available from the limiter, and different target arrays are used (i.e. a different range or at least 90 degrees heading change). Aircrew will be charged actual rounds fired or rounds declared per event, whichever is greater, for each event.

5.3.7.2. **DART/AGTS.** Aircrew will use basic or tactical patterns, as defined in AFI 11-214, and must achieve a hit. DART/AGTS qualification criteria (other than initial) using combat/tactical patterns, is one hit on DART/AGTS as sole shooter; or at least one hit during sequential attack tactics when both shooters have fired on DART (N/A for AGTS) and VTR reviews verify that sufficient tracking was accomplished during actual time of fire to warrant crediting a hit to each element member.

**5.4. Weapons Delivery Parameters.** The following event parameters and requirements form the basic framework for aircrew weapons delivery training and all deliveries will conform to limits established for each specific event.

5.4.1. Gunnery Events. Pattern descriptions, procedures, training rules, and foul criteria are contained in AFI 11-F-15EV3 and AFI 11-214.

5.4.1.1. **Low Angle Strafe (LAS).** Dive angle of 15 degrees or less. Foul line is 2,000 feet. Minimum recovery altitude is 75 feet AGL. AFI 11-214 chapter 5 restrictions for night deliveries apply. Aircraft rounds limiter will normally be set to provide at least 100 scoreable rounds per sortie. Hit criteria: 25 percent of actual rounds fired result in hits. Each valid hole or acoustic-score count is a hit. If acoustic-score is not available, adjust the number of hits by percentage of surface area when target size is other than 625 square feet, or independently observed impacts on suitable targets for all record passes (to include AVTR assessment).

5.4.1.2. **High Angle Strafe (HAS).** Dive angle greater than 15 degrees. Minimum recovery altitude is above aircrew LASDT minimums (day) / IAW AFI 11-214 chapter 5 (night). Aircraft rounds limiter will normally be set to provide at least 100 scoreable rounds per sortie. Hit criteria: On any pass, bullet dispersion within 75 feet of point target with independently observed impacts on the target (to include AVTR assessment).

5.4.1.3. **DART.** One bullet impact is required. Also, a hit will be credited to each element member when at least one bullet impact occurs during sequential attack tactics when both shooters have fired on DART and VTR reviews verify that sufficient tracking was accomplished during actual time of fire.

5.4.1.4. **AGTS/Improved AGTS (IAGTS).** 5 sensor scored hits are required.

#### 5.4.2. Free Fall Ordnance Events:

5.4.2.1. **Loft Event.** Loft event is a low altitude climbing delivery using appropriate aircraft systems for target acquisition, tracking, and weapons release while maximizing standoff range or weapons effects. Minimum run-in/recovery altitude is the aircrew's minimum low altitude qualification or range/target area restrictions, whichever is higher. Hit criteria: 345 feet (105m).

#### 5.4.2.2. Level Events:

5.4.2.2.1. **Visual Level Delivery (VLD).** Visual Level is a delivery with less than five degrees of climb or dive at weapons release (non-maneuvering) using any means of delivery with visual target acquisition and designation. Minimum run-in/recovery altitude is safe separation/escape/fuze arm for ordnance being delivered or simulated, aircrew minimum low altitude qualification, or range/target area restrictions, whichever is higher. Hit criteria: 130 feet (40m).

5.4.2.2.2. **Systems Level Delivery (SLD).** Systems Level is a delivery with less than five degrees of climb or dive at weapons release (non-maneuvering) using any means of delivery without visual target acquisition/designation. Minimum run-in/recovery altitude is safe separation/escape/fuze arm for ordnance being delivered or simulated, aircrew minimum low altitude qualification, or range/target area restrictions, whichever is higher. Hit criteria: 195 feet (60m). (Note: an SLD event that meets High Altitude Release Bomb criteria is considered a HARB.)

#### 5.4.2.3. Dive and Toss Events:

5.4.2.3.1. **Low Angle High Drag (LAHD).** Dive angle is less than 30 degrees. Minimum recovery altitude is safe separation/escape/fuze arm for ordnance being simulated/ delivered, or as required to recover above 100 feet AGL (300 feet on a Class B/C range or over water), or one-half the computed altitude loss from bomb release to recovery, whichever is higher. Hit criteria: 80 feet (25m) for computed deliveries.

5.4.2.3.2. **Low Angle Low Drag (LALD).** Dive angle is less than 30 degrees. Minimum recovery altitude is safe separation/escape/fuze arm for ordnance being simulated/delivered or as required to recover above 1,000 feet AGL, whichever is higher. Hit criteria: 100 feet (30m).

5.4.2.3.3. **Dive Bomb (DB).** Dive angle is 30 degrees or greater. Minimum recovery altitude is safe separation/escape/fuze arm for ordnance being simulated/ delivered, or as required to recover above 1,500 feet AGL, whichever is higher. Hit criteria: 85 feet (26m) for computed deliveries.

5.4.2.3.4. **High Altitude Dive Bomb (HADB).** Dive angle is 30 degrees or greater. Minimum recovery altitude is 4,500 feet AGL. Hit criteria: 125 feet (38m) for computed deliveries.

5.4.2.3.5. **High Altitude Release Bomb (HARB).** Any aircraft system may be used for target designation and weapon release. Delivery is level or diving. Minimum recovery altitude is 10,000 feet AGL. Hit criteria: 255 feet (78m) for computed deliveries.

5.4.2.3.6. **Low Altitude Toss (LAT).** A delivery executed from a pop-up or roll-in with less than a 10,000 feet AGL base/apex. Minimum designation range will be computed to ensure safe escape/separation/fuze arm for ordnance simulated/delivered. Minimum recovery altitude is the aircrew's low altitude qualification or range/target area restrictions, whichever is higher. Any system may be used for target designation and weapon release. If this delivery is used for a Laser Guided Bomb (LGB) event, use para 5.4.3.2. Hit criteria is: 175 feet (53m).

#### 5.4.3. Precision Guided Munitions Events:

5.4.3.1. **Enhanced Guided Bomb Unit (EGBU)-15/Air-to-Ground Missile (AGM)-130.** A level or climbing delivery, initiated from a direct or indirect attack, designed to deliver the weapon within parameters to allow target acquisition and data link steering. Hit criteria for an actual EGBU-15/AGM-130 delivery is 33 feet (10m). Hit criteria for simulated release is target locked on at termination of the data link delivery profile (with manual steering, target in field of view at termination of the data link delivery profile). Note: An aircrew delivering (but not guiding) a EGBU-15/AGM-130 does not receive credit for a EGBU-15/AGM-130 delivery. VTR tape in the data link aircraft will be used to evaluate delivery accuracy (target within field of view prior to guidance commands).

5.4.3.2. **Laser Guided Bomb (LGB) Event.** An event using aircraft systems to determine pull-up/release point and simulated/actual laser designation on the target. Delivery of ordnance, actual or training, is not required. Note: An aircrew delivering (but not guiding) a LGB does not receive credit for a LGB delivery. Minimum run-in/recovery altitudes will be based upon delivery profile used and for ordnance being simulated/delivered. Hit criteria for all LGB delivery profiles is 33 feet (10m) for actual ordnance. Simulated deliveries will be scored a hit if the weapon was released within planned allowable parameters and a laser tracking accuracy of 1.8 mils, with valid laser ranging (actual or simulated), is demonstrated during the last 8 seconds of flight.

5.4.3.3. **Inertially Aided Munition (IAM).** Actual or simulated release of an inertially guided or aided weapon, such as Joint Direct Attack Munition (JDAM), Wind Corrected Munitions Dispenser (WCMD), or Small Diameter Bomb (SDB). Delivery of ordnance, actual or training, is not required. Minimum run-in/recovery altitudes will be based upon delivery profile used and for ordnance being simulated/delivered. Hit criteria for actual delivery: IAW AFTTP 3-1. Hit criteria for simulated delivery: effective release within LAR/LP parameters. Determine hit or miss for each weapon released. Initial qualification is a minimum of 50% hits out of 6 consecutive record deliveries.

5.4.4. **Air-to-Air Weapons Event (AIM-7/9/120 and Gun).** A hit is IAW AFTTP 3-1 shot criteria, determined by VTR review or actual delivery.

**5.5. Full Scale/Live Ordnance.** Full Scale and Live ordnance training is essential to establish and maintain aircrew combat capability. As a goal, commanders will attempt to give each aircrew the opportunity to deliver and employ as many types of weapons inventoried on the unit's UCML as possible. As a minimum, all CMR and BMC aircrew will follow FSWD and live ordnance guidance published in the current RAP Tasking memorandum and AFI 36-2217, *Munitions Requirements for Aircrew Training*.

## Chapter 6

### SPECIALIZED TRAINING

**6.1. General Guidance.** This chapter outlines duties and responsibilities for units to upgrade, qualify, and maintain proficiency/currency for special capabilities and special qualifications. These capabilities and qualifications are in addition to core missions for the unit and do not apply to every aircrew member assigned or attached to the unit. Non-effective Student Non-Progression (NE SNP) “X” sorties are limited to 2 per phase and 4 overall; continued progress in an upgrade beyond these limits requires written approval of the SQ/CC.

**6.2. Scope.** Special capabilities and qualifications covered in this chapter include:

- 6.2.1. Flight Lead Upgrade (FLUG).
- 6.2.2. Instructor Pilot Upgrade (IPUG).
- 6.2.3. Instructor Weapons Systems Officer Upgrade (IWUG).
- 6.2.4. Simulator Instructor Upgrade.
- 6.2.5. Mission Commander Upgrade.
- 6.2.6. EGBU-15/AGM-130 Upgrade.
- 6.2.7. Pre-Deployment Spin-up Training
- 6.2.8. Night Vision Goggle Qualification
- 6.2.9. Air Defense Augmentation
- 6.2.10. Combat Search and Rescue

**6.3. Flight Lead Upgrade.** SQ/CCs will select only highly qualified, motivated, and responsible pilots for this program. Initial entry may be as a 2-ship/element FL until experience and proficiency warrant further progression, in which case, responsibilities for employment will not exceed 2 aircraft until certified as a 4-ship FL. The SQ/CC will determine when a 2-ship FL may train toward leading multi-ship (3 or greater) formations.

**6.3.1. Entry Flight Hour Requirements.** The following minimum flight hours are required prior to entering FL upgrade training:

- 6.3.1.1. 300 hours PAI, or
- 6.3.1.2. 200 hours PAI with 400 hours IP/MP/FP in an 11Fxx/11K3C/11K3D AFSC, or
- 6.3.1.3. 50 hours PAI, if previously qualified 11Fxx AFSC flight lead.

**6.3.2. Ground Training.** Ground training will consist of locally developed instruction in the following areas:

- 6.3.2.1. **FL Responsibilities.** FL/wingman relationship, squadron training objectives.
- 6.3.2.2. **Mission Preparation.** Mission objectives, wingman requirements and responsibilities, currencies, capabilities, delegation of mission planning duties, and brief preparation.

6.3.2.3. **Conduct of Flight Briefs and Debriefs.** Objectives, use of briefing guides and audiovisual aids, flight member involvement, briefing techniques, debrief and questioning techniques, tape review responsibilities and procedures.

6.3.2.4. **Conduct of Missions.** Control of flight, flight discipline, emergency procedures, training rules, administration techniques and responsibilities to SQ/CC.

6.3.2.5. **AGSM Techniques.** Brief, debrief, and AVTR assessment. Review the approved instructional video covering AGSM technique.

6.3.2.6. IFEs and Emergency Diverts.

6.3.3. **Flight Training.** Flight training will be conducted IAW a training program approved by the SQ/CC. The following is a recommended baseline program that may be modified by SQ/CCs as necessary to meet unit or upgradee specific needs. Sorties may be flown in any order provided day training precedes respective night training. A certification sortie is required. FLUG 4-ship Certification is the minimum required for 4-ship FL upgrade. Tape review, mission reconstruction and assessment, to include a review of AGSM, will be accomplished on every sortie. All FLUG training will be under the supervision of an IP, flight lead qualified squadron supervisor, WSO SQ/DO or WSO SQ/CC accompanied by a flight lead.

6.3.3.1. **Required Events.** Two formation takeoffs and landings, a trail arrival, and an aerial refueling (as flight lead, day or night) will be accomplished during the program.

6.3.3.2. **Night Missions.** The OG/CC will establish the minimum number of night missions required to be considered a fully qualified 2- or 4-Ship FL. All A-G missions may be completed in the day or night, to include certification. Conduct FLUG NVG training in accordance with paragraph 6.10.

6.3.3.3. **FLUG BFM--Mission Objectives.** Practice leading and controlling 1v1 BFM mission. Mission Tasks: Brief (emphasis on pursuit curves, weapons employment zones, high AOA maneuvers, departure/loss of control prevention/recovery, and GLOC awareness), formation take-off (lead), weapons system checks, tactical formation, offensive and defensive BFM from visual perch setups, weapons employment, recovery, formation landing (lead), debrief.

6.3.3.4. **FLUG ACM--Mission Objectives.** Practice lead and control of a 2v1 ACM mission. Mission Tasks: Brief (emphasis on engaged/support fighter responsibilities, attack options/coordination, radio procedures, and engaged maneuver techniques), weapons system check, tactical formation, FENCE check, radar/visual lookout, element maneuvers against a single adversary, role establishment, mutual support, radio discipline, weapons employment, separations, recovery, debrief.

6.3.3.5. **FLUG 2-ship (D)ACT--Mission Objectives.** Practice lead and control of a 2v2 ACT mission in a counterair scenario. Mission Tasks: Brief, weapons system checks, tactical formation, FENCE check, BVR set-ups for point and area defense scenarios (as appropriate), radar and visual lookout, tactical intercepts, engaged maneuvers as an element, radio discipline, mutual support, weapons employment, separations, recovery, debrief.

6.3.3.6. **FLUG 2-ship BSA--Mission Objectives.** Practice lead and control of a 2-ship conventional weapons delivery mission to a controlled range. Mission Tasks: Brief (emphasis on low altitude awareness, conventional range procedures and training rules, weapons delivery pattern procedures/parameters, delivery modes, recovery maneuvers), weapons system check, tactical for-

mation, low level navigation, controlled range procedures, weapons deliveries (climb/dive/level), strafe, hot gun and hung ordnance recovery, debrief.

6.3.3.7. **FLUG 2-ship BSAN--Mission Objectives.** Practice lead and control of a 2-ship night weapons delivery mission to a controlled range. Mission Tasks: Brief (emphasis on low level TF/NVG operations, night range procedures, and night weapons deliveries), trail departure, weapon system check, TF and NVG procedures, low level navigation (if possible), controlled range procedures, weapons deliveries (level/climb/dive), formation recovery and instrument approach, debrief.

6.3.3.8. **FLUG 2-ship SAT (Preplanned)--Mission Objectives.** Practice lead and control of an element on a tactics mission with preplanned objectives to a tactical range or working area in a medium/high threat scenario. Mission Tasks: Brief, tactical departure, tactical ingress, 2 v X intercepts, medium/high threat target area tactics, tactical egress, ECM and comm jam procedures, tactical recovery, debrief.

6.3.3.9. **FLUG 2-ship SAT (CAS/TST)--Mission Objectives.** Practice lead and control of an element on a tactics mission to a tactical range or working area for dynamic targeting. Mission Tasks: Brief (emphasis on CAS formations, deliveries, JTAC and FAC(A) procedures), tactical departure, tactical ingress, low/medium threat target area tactics, CAS IAW JPUB procedures, TST, tactical egress, ECM and comm jam procedures, tactical recovery, debrief.

6.3.3.10. **FLUG 2-Ship Certification--Mission Objectives.** Assessment by squadron commander (or designated representative) of flight lead abilities in a tactical mission scenario based on unit tasks. Mission Tasks: Brief, mission accomplishment, flight management and control, mission reconstruction, assessment, and critique.

6.3.3.11. **FLUG 4-ship BSA--Mission Objectives.** Practice lead and control of a 4-ship weapons delivery mission to a controlled range. Mission Tasks: Brief, formation takeoff, low level tactical formation and navigation, controlled range procedures, weapons deliveries, rejoin, BD check, hot gun/hung ordnance recovery, debrief.

6.3.3.12. **FLUG 4-ship (D)ACT--Mission Objectives.** Practice lead and control of a 4vX (D)ACT mission in a counterair scenario. Mission Tasks: Brief, tactical formation, BVR set-ups for point and area defense scenario, element/flight control and employment tactics, fuel awareness, radio discipline, weapons employment, rejoin, 4-ship recovery (conditions permitting), debrief.

6.3.3.13. **FLUG 4-ship SAT (Preplanned)--Mission Objectives.** Practice lead and control of a 4-ship surface attack tactics mission with preplanned objectives. Mission Tasks: Brief, tactical departure, tactical ingress, 4 v X intercepts, medium/high threat target area tactics, tactical egress, tactical recovery, debrief.

6.3.3.14. **FLUG 4-ship SAT (Dynamic TGT)--Mission Objectives.** Practice lead and control of a 4-ship (or multiple 2-ship element) surface attack tactics mission(s) with dynamic targets. Mission Tasks: Brief (emphasis on element coordination procedures), tactical departure, tactical ingress, low/medium threat target area tactics, element deconfliction, TST, 2-ship element CAS, tactical egress, tactical recovery, debrief.

6.3.3.15. **FLUG 4-Ship Certification--Mission Objectives.** Assessment (by squadron commander or designated representative) of flight lead abilities in a tactical mission scenario based on

unit tasking. Mission Tasks: Brief, mission accomplishment, flight management and control, mission reconstruction, assessment and critique.

**6.3.4. Flight Lead Certification.** Following successful completion of FLUG 2-ship or 4-ship Certification, the SQ/CC will personally interview all new flight leads and review flight lead responsibilities, scope of duties, authority, and philosophy. Failure to complete scheduled training events (i.e., TF, AAR, etc.) need not delay certification. The SQ/CC will certify new flight lead's status, including any restrictions, in appropriate written format (letter, gradesheets, ARMS, etc.).

**6.4. Instructor Pilot (IP) Upgrade.** This program establishes the minimum guidelines for those pilots identified by the SQ/CC to upgrade to IP. OG/CCs may waive selected missions based on previous experience. FTU instructors will complete a formal syllabus course as defined in AFCAT 36-2223. Upgrade sorties will be supervised by an IP or an OG/CC designated Weapons School Graduate IWSO.

**6.4.1. Entry Flight Hour Requirements.** Pilots selected for IP upgrade must be 4-ship FLs with either:

6.4.1.1. 300 hours PAI with 1,000 hours IP/MP/FP time, or

6.4.1.2. 200 hours PAI with 750 IP/MP/FP hours in a 11Fxx AFSC, or

6.4.1.3. 500 hours PAI.

6.4.1.4. Pilots selected for the FTU Instructor Upgrade Training Course, F15EIN, must be current in the F-15E, have a minimum of three months operational experience as a fully qualified F-15E 4-ship flight lead, and meet the entry flight hour requirements outline above. Waivers are IAW F15EIN course syllabus.

**6.4.2. Ground Training.** Upgrading Instructor Pilots (UIP) must satisfactorily complete the following unit-developed blocks of instruction prior to certification as IPs:

6.4.2.1. **Principles of Instruction.** Learning objectives, instructor responsibilities, IP and upgrade aircrew relationship, training facilities, and publications.

6.4.2.2. **Techniques of Flight Instruction.** Training objectives and environment, maneuver demonstration, performance and review, recognition and analysis of common aircrew errors.

6.4.2.3. **Conduct of Flight Briefs.** Training objectives, order of presentation, use of briefing guides and audiovisual aids, debrief techniques.

6.4.2.4. **Conduct of Phase Briefs.** Briefing techniques, use of visual aids, review of applicable phase briefs.

6.4.2.5. **AGSM Techniques.** Brief, debrief, and AVTR assessment. Review the approved instructional video covering AGSM technique.

6.4.2.6. **Student Evaluations.** Grade systems, preparation and use of gradesheets.

6.4.2.7. **CRM:** Techniques for increasing airmanship, methods to improve mission effectiveness, task/risk management and prioritization, feedback and crosscheck loops.

**6.4.3. Simulator Training.** A minimum of one WST/MTC mission will be accomplished in the rear cockpit to familiarize the upgradee with RCP switchology and avionics.

6.4.4. **Flight Training.** Training will be conducted IAW mission outlines listed below in any order as configuration and scheduling permit. OG/CC may waive selected missions based on previous experience. AAR may be completed on any mission. Failure to complete specific training events (i.e., TF, AAR, etc.) need not delay certification. In such cases, SQ/CC will certify IPs with appropriate limitations to preclude performance of duties in which training is incomplete. All debriefs will emphasize tape review, accurate mission reconstruction and error analysis by UIP.

6.4.4.1. **Required Events.** UIP must fly in the rear cockpit with an IP in the front cockpit on the following sorties: IPUG Day Transition, Night Transition, BSA, and BSAN.

6.4.4.2. **IPUG Day Transition--Mission Objectives.** Introduce UIP to rear cockpit instruction, aircraft handling, instrument approaches, and patterns and landings (normal/no-flap/Simulated Single Engine (SSE)). Mission Tasks: Brief, rear cockpit takeoff, departure, selected aerobatics, confidence maneuvers, advanced handling maneuvers, instrument recovery/approach, normal/no-flap/SSE touch-and-go landings, closed patterns, full stop landing, debrief.

6.4.4.3. **IPUG Night Transition--Mission Objectives.** Brief and instruct night transition, AAR, and intercept procedures. Mission Tasks: Brief, rear cockpit takeoff, trail departure, join-up, tanker rendezvous, NAAR, basic formation, intercepts (straight through/stern conversions/no-locks), night formation approach (lead), debrief.

6.4.4.4. **IPUG BFM--Mission Objectives.** Brief and instruct 1v1 offensive and defensive BFM. Mission Tasks: Brief, formation takeoff (lead), weapons system check, tactical formation, offensive and defensive BFM from visual perch set-ups, weapons employment, formation approach and landing, debrief.

6.4.4.5. **IPUG (D)ACM--Mission Objectives.** Brief and instruct offensive and counter-offensive ACM from visual or radar set-ups. Mission Tasks: Brief (emphasis on positive flight control, radar and visual lookout, radio discipline, engaged and support fighter responsibilities, training rules), departure, weapons system checks, tactical formation, offensive and counter-offensive engagements, descriptive/directive commentary, initial moves, element maneuvers, weapons employment, mutual support, role assignment, rejoin, recovery, debrief.

6.4.4.6. **IPUG (D)ACT--Mission Objectives.** Brief and instruct a 2v2 air combat tactics mission. Mission Tasks: Brief, formation takeoff (lead), departure, weapons system check, tactical formation, GCI/AWACS procedures (if available), CAP procedures, commit criteria, visual and radar lookout, search and sort responsibilities, tactical intercepts, radio discipline, engaged maneuver tactics, weapons employment, mutual support, separations, rejoin, formation recovery and landing, debrief.

6.4.4.7. **IPUG BSA--Mission Objectives.** Brief and instruct a surface attack mission on a controlled range. Mission Tasks: Brief, weapons system check, LASDT, tactical formation, low level navigation, controlled range procedures, weapons deliveries (basic and tactical patterns), simulated hung ordnance recovery, debrief.

6.4.4.8. **IPUG BSAN--Mission Objectives.** Brief and instruct a night surface attack mission on a controlled range. Mission Tasks: Brief, weapons system check, TFR operations including TF confidence check and flyup procedures, NVG operations, night low level navigation, controlled range procedures, weapons deliveries (level/climb/dive), formation recovery/approach, debrief.

6.4.4.9. **IPUG SAT (Low/Med Threat)--Mission Objectives.** Brief and instruct a surface attack tactics mission in a low/medium threat scenario. Mission Tasks: Brief, tactical formation, low level navigation, ingress, target area tactics, weapons deliveries (to include CAS and TST), egress, recovery, debrief.

6.4.4.10. **IPUG SAT (High Threat)--Mission Objectives.** Brief and instruct a surface attack tactics mission in a high threat scenario. Mission Tasks: Brief, weapon system check, tactical formation, low level navigation, EC procedures, high threat target area ingress, threat reactions, target area tactics, weapons deliveries, egress, recovery, debrief.

6.4.4.11. **IPUG Strike (If Applicable)--Mission Objectives.** Brief and instruct strike mission planning and execution to a first run simulated nuclear delivery. Mission Tasks: Strike mission plans, brief, low level navigation, visual and radar loft and laydown deliveries (to include emergency release procedures) to a specific TOT, systems update and timing procedures, Identification Friend or Foe (IFF)/Selective Identification Feature (SIF) procedures, execution message authentication procedures, recovery, debrief.

6.4.4.12. **IPUG Flight Evaluation.** IAW AFI 11-202V2 and unit requirements.

**6.5. Instructor Weapons System Officer (IWSO) Upgrade.** CCs will select only the most qualified WSOs as instructors, considering ability, judgment, technical knowledge, skill and experience. OG/CC may waive selected missions based on previous experience and qualifications. FTU instructors will complete a formal syllabus course as defined in AFCAT 36-2223. Upgrade sorties will be supervised by an IP or IWSO.

6.5.1. **Entry Flight Hour Requirements.** Instructor WSO flight time prerequisites are:

6.5.1.1. 300 hours PAI with 1,000 hours total time, or

6.5.1.2. 200 hours PAI with 750 hours in a 12Fxx AFSC, or

6.5.1.3. 500 hours PAI.

6.5.1.4. WSOs selected for the FTU Instructor Upgrade Training Course, F15EIN, must be current in the F-15E and have successfully completed this IWSO Upgrade program. Waivers are IAW F15EIN course syllabus.

6.5.2. **Ground Training.** Upgradees must satisfactorily complete the following unit developed blocks of instruction prior to certification as an IWSO.

6.5.2.1. **Principles of Instruction.** Learning objectives, instructor responsibilities, instructor/student relationship, training facilities and publications.

6.5.2.2. **Techniques of Flight Instruction.** Training objectives and environment, maneuver demonstration, performance and review, recognition and analysis of common student errors.

6.5.2.3. **Conduct of Flight Briefs.** Training objectives, order of presentation, use of briefing guides and audiovisual aids, debrief techniques.

6.5.2.4. **Conduct of Phase Briefs.** Briefing techniques, use of visual aids, review of applicable phase briefs.

6.5.2.5. **AGSM Techniques.** Brief, debrief, and AVTR assessment. Review the approved instructional video covering AGSM technique.

6.5.2.6. **Student Evaluations.** Grade systems and preparation/use of gradesheets.

6.5.2.7. **CRM:** Techniques for increasing airmanship, methods to improve mission effectiveness, task/risk management and prioritization, feedback and crosscheck loops.

6.5.3. **Simulator Training.** A minimum of one WST/MTC mission will be flown in the front cockpit to familiarize the Upgrading IWSO (UIWSO) with FCP switchology and avionics.

6.5.4. **Flight Training.** Training will be conducted IAW mission outlines listed below in any order as configuration and scheduling permit. OG/CC may waive selected missions based on previous experience. AAR may be completed on any mission. Failure to complete specific training events (i.e., TF, AAR, etc.) need not delay certification. In such cases, SQ/CC will certify IWSOs with appropriate limitations to preclude performance of duties in which training is incomplete. All debriefs will emphasize tape review, accurate mission reconstruction and error analysis by UIWSO. In-flight training should be conducted by an IP in the aircraft with the upgrading IWSO. Minimum supervision, with SQ/CC approval, is an IP or IWSO in the element.

6.5.4.1. **IWUG BFM/ACM--Mission Objectives.** Brief and instruct a BFM or ACM mission. Mission Tasks: Brief, weapons system check, AGSM, administrative set-up, directive/descriptive commentary, debrief.

6.5.4.2. **IWUG (D)ACT--Mission Objectives.** Brief and instruct a 2v2 air combat tactics mission. Mission Tasks: Brief, tactical game plan, weapons system check, AGSM, tactical intercepts (self set-up or GCI directed) to 2v2 engagements, radar procedures, crew coordination, directive/descriptive commentary, separations, debrief.

6.5.4.3. **IWUG BSA--Mission Objectives.** Brief and instruct a surface attack mission on a controlled range. Mission Tasks: Brief (emphasis on crew coordination, range procedures/patterns, training rules, fouls), LASDT, BD check, recovery, debrief.

6.5.4.4. **IWUG BSAN--Mission Objectives.** Brief and instruct night AAR and controlled range operations. Mission Tasks: Brief, trail departure, tanker rendezvous, night AAR, TFR operations including TF confidence check and flyup procedures, NVG operations, night low level navigation, night weapons deliveries on a controlled range, recovery, debrief.

6.5.4.5. **IWUG SAT (Low/Med Threat)--Mission Objectives.** Brief and instruct a surface attack tactics mission in a low/medium threat scenario. Mission Tasks: Brief, tactical formation, low level navigation, ingress, target area tactics, weapons deliveries (to include CAS and TST), egress, recovery, debrief.

6.5.4.6. **IWUG SAT (High Threat)--Mission Objectives.** Brief and instruct a surface attack tactics mission in a high threat scenario. Mission Tasks: Brief, weapon system check, tactical formation, low level navigation, EC procedures, high threat target area ingress, threat reactions, target area tactics, weapons deliveries, egress, recovery, debrief.

6.5.4.7. **IWUG Strike (If Applicable)--Mission Objectives.** Brief and instruct strike mission planning and execution to a first run simulated nuclear attack. Mission Tasks: Strike mission plans, brief (emphasis on crew coordination procedures, route control and timing procedures, weapon enabling procedures, delivery options), departure, weapons system check, low level navigation, visual/radar/system deliveries (level and loft), emergency release procedures, min-risk departure and recovery procedures, IFF/SIF procedures, execution message authentication, recovery, debrief.

6.5.4.8. **IWUG Flight Evaluation.** This mission will be flown IAW AFI 11-202V2 and unit requirements.

**6.6. Simulator Instructor (SI) Upgrade.** The following WST/MTC mission profiles should be used to train and qualify selected simulator instructor upgradees to operate the Instructor Operator Station (IOS). The contractor simulator instructor program will be IAW the appropriate contract. SQ/CCs will determine the number of SIs required to perform unit mission. The required supervision for this upgrade program is an IOS-qualified and current WST/MTC instructor.

6.6.1. **Academic Training.** Prior to the first IOS mission, the Upgrading Simulator Instructor (USI) will complete the following unit developed blocks of instruction:

6.6.1.1. **Principles of Instruction.** Learning objectives, instructor responsibilities, instructor relationship, training facilities, and publications.

6.6.1.2. **Techniques of Flight Instruction.** Training objectives and environment; maneuver demonstration, performance, and review; recognition and analysis of common errors.

6.6.1.3. **Conduct of Flight Briefs.** Training objectives, order of presentation, use of briefing guides and audiovisual aids, debriefing techniques.

6.6.1.4. **Conduct of Phase Briefs.** Briefing techniques, use of visual aids, review of applicable briefs.

6.6.1.5. **Evaluations.** Grade systems, preparation and use of gradesheets.

6.6.2. **Mission Profiles (Based on Simulator Capabilities):**

6.6.2.1. **SIMI-1--IOS Operations.** System logon, mission initialization, console operation, emergency shutdown and evacuation procedures, record/playback, hard copy, performance and procedures monitoring, brief/debrief system operations.

6.6.2.2. **SIMI-2--IOS Operations.** Tactics mission file, console and cockpit operated air intercepts and options, A/A weapons scoring, ground threats and modifications, A/S weapons scoring, surface-to-air engagement scoring, program and simulator freeze, mission parameter modifications.

6.6.2.3. **SIMI-3--Practical Exercise.** The USI will conduct a regularly scheduled simulator mission from the IOS under supervision of an IOS-qualified instructor.

6.6.3. **Simulator Instructor Certification.** Following successful completion of SIMI-3, the SQ/CC will certify the aircrew's SI status in appropriate written format (letter, ARMS, gradesheet, etc.).

**6.7. Mission Commander (MCC) Upgrade.** This program establishes the minimum guidelines for upgrade to MCC.

6.7.1. **MCC Responsibilities.** The MCC is responsible for the plans, coordination, brief, execution, and debrief of joint/composite force employment packages. Mission commanders, once certified, are authorized to lead joint/composite force missions. MCCs may delegate authority and responsibility for a portion of the mission to a secondary MCC. For example, a MCC flying in an A/S weapons system may designate a MCC in an A/A weapons system to be in charge of the A/A portion of the mission.

6.7.2. **MCC Prerequisites.** Squadron commanders will consider ability, judgment, technical expertise, skill, and experience when selecting crewmembers for mission commander upgrade. Minimum qualifications are 4-ship FL or IWSO.

6.7.3. **Ground Training.** Upgrading MCCs must satisfactorily complete the following unit developed blocks of instruction prior to certification as a MCC:

6.7.3.1. **Mission Plan Considerations.** Range space and availability, Air Traffic Control restrictions/considerations/flight plans, AAR operations, inter-unit coordination, air-to-air and air-to-surface force integration, Integrated Air Defense System penetration and avoidance, on-range control agency coordination, GCI coordination.

6.7.3.2. Review appropriate AFTTP 3-1 volumes for specific mission commander checklists and considerations.

6.7.4. **Flight Training.** As a minimum, the upgrading MCC will observe a certified MCC during the planning, brief, flight, and debrief of at least one composite force mission. Prior to certification, the MCC upgradee will then plan, brief, fly, and debrief a minimum of one mission under the supervision of an IP, IWSO, or squadron supervisor who is MCC qualified.

6.7.4.1. Unit tasks should drive force composition, adversaries, and minimum flight size.

6.7.4.2. The supervising MCC will determine overall upgrade mission effectiveness in case of fallout.

6.7.5. **Certification.** Following satisfactory completion of the above requirements, the SQ/CC will certify a new MCC by placing a letter of certification in the training folder and indicating qualifications on letter of X's.

**6.8. EGBU-15/AGM-130.** Units tasked by MAJCOM to perform the EGBU-15/AGM-130 mission will provide, as a minimum, the training program outlined below. As the weapons are very similar the upgrade training may be done simultaneously.

6.8.1. **Ground Training.** Ground training to accomplish initial qualification in this system will include the following material:

6.8.1.1. Principles of EO/IR systems.

6.8.1.2. EO/IR mission planning-sun angle, shadows, weather, terrain, target size, FOV, etc.

6.8.1.3. **EGBU-15/AGM-130.** Guidance and control, capabilities and limitations to include flight, warhead and weaponeering, and release envelope, system power-up procedures and restrictions, target contrast and lock-on for selected contrast, weapon and data link preflight, switchology, and cockpit displays, crew coordination, tracking, and lock-on techniques, and sensor integration and slewing.

6.8.1.4. **Bomb Profiles.** Video time restrictions when using the captive trainer, aircraft limitations with the captive trainer, training airspace limitations, profile and switchology differences from actual EGBU-15/AGM-130 employment, and flying low, medium, and high altitude bomb training profiles.

6.8.2. **Simulator Training.** The simulator training program is designed to expose the upgrading WSO and pilot to the hardware and procedures involved with operation of the EGBU-15 and

AGM-130. This should be done in the WST/MTC, if available and certified for this training. As a minimum, all WSO upgradees will accomplish the appropriate WST/MTC prior to the first flight. Pilots will practice day and simulated night AGM/EGBU profiles in the simulator prior to flight. The EGBU-15 and AGM-130 Systems Orientation/Employment WST/MTC missions may be combined.

6.8.2.1. **WST/MTC EGBU-15 Systems Orientation/Employment.** Designed to familiarize the upgradee with switchology, system power-up, PACS procedures, system data link checks, and high and low altitude employment. Upgradee should experience video break-up problems (if available), reduced target visibility, and limited ceilings.

6.8.2.2. **WST/MTC AGM-130 Employment.** Designed for upgradee to develop proficiency with advanced search and tracking techniques required for AGM-130 medium and low altitude employment. Upgradee should experience video break-up problems (if available), reduced target visibility, and limited ceilings.

### 6.8.3. **Mission Conduct for EGBU-15/AGM-130 Training:**

6.8.3.1. All ground training will be accomplished prior to the first sortie.

6.8.3.2. Only one weapon system (AGM-130 or EGBU-15) will be taught on the first two upgrade sorties; afterwards, sorties may combine the two.

6.8.3.3. Aircrew may be proficiency advanced at the discretion of the SQ/CC or operations officer. Minimum requirement for certification is AGM/EGBU-4.

6.8.3.4. If more than 2 weeks lapse between upgrade sorties, the previous sortie will be reaccomplished. A simulator sortie may be used in lieu of flight for reaccomplishment.

6.8.3.5. If the upgrading pilot is not a FL, the instructor will brief and lead all sorties. On AGM/EGBU-4, the upgrading aircrew will brief all aspects of the system-specific portions of the sortie, and the bomb profile; the instructor will brief ground ops, enroute, and RTB procedures.

### 6.8.4. **Flight Training.**

6.8.4.1. **AGM or EGBU-1, Introduction to Attacks--Mission Objectives.** Using independent DL and captive weapon equipped aircraft, the pilot and WSO will perform high and low altitude indirect and direct attacks. Tasks: DL pod and bomb preflight, ground and airborne checks, bore-sight, low level navigation, EO/IR search, target acquisition, gate slew, DL pod operation, switchology, simulated launch procedures, crew coordination.

6.8.4.2. **AGM or EGBU-2, Introduction to 2-Ship Tactics--Mission Objectives.** Complete system familiarization and introduce low altitude PSA attacks (IP to launch will be flown in line-abreast formation). Hangfire procedures. Introduce min-comm tactics, stabilized climb attacks, and single-ship tactics. Bomb aircraft should fly a route position of the pod aircraft from IP to launch to best simulate an actual weapon launch.

6.8.4.3. **AGM or EGBU-3, Combat Tactics I--Mission Objectives.** Same as AGM/EGBU-2 with the introduction of Low Altitude Pop Indirect Attacks (LAPIA), and stand-off tactics. Tasks: Same as AGM/EGBU-2, fly one IP to launch with a PSA maneuver. Complete one LAPIA on a first look target. A stand-off delivery will be performed if practical. Upgradee will perform mission planning to include line-of-sight and stand-off problems. It is desired but not required that pilots fly AGM/EGBU-3. As a minimum, pilots will participate in the mission planning, brief, and debrief for the sortie.

6.8.4.4. **AGM or EGBU-4, Combat Tactics II--Mission Objectives.** Demonstrate proficiency in combat tactics. Tasks: Mission planning, preflight, ground, airborne, and postflight checks, EO/IR search, target acquisition and lock-on, navigation, platform and gate slew, DL Pod operation, PSA maneuvers, min-comm tactics, and crew coordination. At the completion of this mission the upgrading aircrew will be capable of AGM-130 or EGBU-15 mission performance.

6.8.5. **EGBU-15/AGM-130 Instructor Upgrade.** Only the most qualified EGBU-15/AGM-130 aircrew will upgrade to instructor. They will review all ground training and simulator requirements, paying particular attention to the opposite cockpit switchology (upgrading WSOs should fly at least one WST/MTC in the FCP and upgrading ACs at least one WST/MTC in the RCP). Flight training profiles will follow these guidelines:

6.8.5.1. **EGBU-1, Systems/Tactics Instruction-- Mission Objectives.** Perform and instruct EGBU-15 tactics. Tasks: Demonstrate ability to instruct mission planning, preflight, ground and airborne checks, opposite cockpit switchology, EO/IR search, target acquisition and lock-on, navigation, platform and gate slew, DL Pod operation, PSA maneuvers, level and stabilized climb deliveries, egress maneuver, crew coordination, captive weapon profiles, solving line-of-sight and other standoff problems, and min-comm tactics. Tasks: Same as EGBU-4. If stand-off tactics are not performed they should be discussed in detail in the debrief.

6.8.5.2. **AGM-2, Combat Tactics Instruction--Mission Objectives.** Demonstrate proficiency in systems instruction and tactics for the AGM-130. Emphasis will be on instruction of mission planning and briefs, ground and airborne system checks, crew coordination and pacing, in-flight control of navigation, formation, and tasks, search techniques and target acquisition, lock-on and terminal guidance, abnormal procedures, and low and medium altitude indirect attacks. Upgradees must demonstrate proficiency in mission reconstruction during the debrief.

6.8.6. **EGBU-15/AGM-130 Continuation Training:**

6.8.6.1. **Academics.** EGBU-15/AGM-130 refresher academics are required every 6 months for all EGBU-15 qualified aircrew.

6.8.6.2. **Simulator Training.** If a WST/MTC certified for EGBU-15/AGM-130 training is available, EGBU-15/AGM-130 aircrew will devote at least 1.5 hours of WST/MTC time during each training cycle to gain proficiency in target acquisition, tracking, and operation in a restricted ceiling and visibility environment. Both high and low altitude attack profiles will be accomplished. If a certified WST/MTC is not available, the contractor simulator should be used, if practical.

6.8.6.3. **Continuation Flight Training.** Profiles are at the discretion of the unit CC. The delivery of actual or inert weapons provides the only real validation of the unit training programs and systems reliability. Units should attempt to expend their allocation of EGBU-15/AGM-130 ordnance each training cycle. A squadron designated EGBU-15/AGM-130 officer will set up a squadron training program to ensure training flights are as realistic as possible within the constraints of MAJCOM and airspace restrictions.

**6.9. Pre-Deployment Spin-Up Training.** This training will be conducted prior to deployment in support of contingency operations (if time permits) or exercises. The objective is to ensure aircrew ability to conduct all missions in support of anticipated tasks. For contingency operations, units must contact the appropriate gaining command to determine expected theater mission tasks. For exercises, units must refer to appropriate MAJCOM EXPLANS and contact exercise POCs for the list of mission tasks. OG/CC will

tailor training to the theater, threat, and tactics for the assigned tasks; the SQ/CC will implement this spin-up, prosecute the required missions, and determine requirements necessary to reach the desired level of proficiency. Emphasis will be placed on training needed for missions not accomplished in daily operations. This training will be conducted IAW all applicable instructions.

**6.9.1. Non-Assigned Aircrew.** If an aircrew is not assigned to the deploying squadron, they must receive spin-up training as determined by the deploying SQ/CC. This applies to all attached aircrew (OG/WG/HQ staffs, etc.), and all aircrew augmentees from other squadrons (operational, FTU, weapons school, test, etc.). The objective is to ensure attached and augmentee aircrew are able to perform all missions in support of expected tasks. The deploying SQ/CC will determine the amount of spin-up training required for each attached and augmentee aircrew based on proficiency level, currency, qualification, experience, etc. Once the spin-up training program is determined, the augmentee aircrew's SQ/CC will ensure spin-up training is completed.

**6.9.2. Ground Training.** All applicable aircrew will complete academic training prior to deployment.

**6.9.2.1. Academics.** Units will brief exercise SPINS, ROE, Training Rules, command and control, engagement authority and procedures, and visual identification. MAJCOM/A2 will assist the unit's intelligence functions in the development of threat assessments and visual recognition training materials.

**6.9.2.2. Visual Recognition.** Aircrew must be able to visually identify aircraft (rotary and fixed-wing, including joint and allied assets) they are likely to encounter by name or numerical designator and determine whether the aircraft is a threat or non-threat (training should incorporate all aspects and angles, theater-specific paint schemes and fin flashes, and various configurations), identify ground equipment, and determine major categories of naval vessels.

**6.9.3. Flight Training.** Spin-up training will be tailored to ensure deploying aircrew are proficient, current, and qualified in all expected mission tasks.

**6.9.4. Responsibility.** OG/CCs will ensure participating aircrew are ready to deploy and are able to conduct all missions in support of expected tasks.

**6.10. Night Vision Goggle Qualification Program:** The intent of this program is to produce fully qualified aircrew, flight leads, IPs and IWSOs. Units may combine NVG qualification with MQT upgrade training at the OG/CCs discretion.

**6.10.1. Status upon Completion:** Completion of the qualification training allows the aircrew to perform missions under NVGs IAW AFI 11-214.

**6.10.2. NVG Prerequisites:**

**6.10.2.1. NVG Upgrade.** Must be a current and qualified F-15E Pilot or WSO selected by the squadron commander.

**6.10.2.2. NVG Flight Lead Upgrade.** Must be an F-15E pilot current and qualified in NVG; qualified flight lead or selected for FLUG by SQ/CC.

**6.10.2.3. NVG Instructor Upgrade.** Must be an F-15E crewmember current and qualified in NVG; qualified instructor or selected for instructor upgrade by SQ/CC.

6.10.3. **Ground Training.** Upgrading NVG aircrew must satisfactorily complete the following requirements prior to NVG-1.

6.10.3.1. **Academics.** Academic instruction must include Air Force Research Labs (AFRL) or equivalent NVG academics, F-15E specific academics, and an NVG Phase Brief. Each Operations Group is required to have 1 AFRL/NVG school house certified instructor to teach these academics. This instructor may certify additional instructors within the Operations Group.

6.10.3.2. **Device Training.** Device training will include:

6.10.3.2.1. **NCT (Night Cockpit Trainer-If Available)-1--Mission Objectives.** Introduce NVG Cockpit Set-up, NVG procedures, and emergency situations. Specific Tasks: NVG ground operations, use of interior and exterior aircraft lights, Taxi/Take-off, enroute formations, NVG procedures, and emergency/egress procedures. Special attention should be focused on recognition/prevention of spatial disorientation, unusual attitude recoveries, night and NVG instrument crosscheck that uses NVGs as a secondary means of maintaining SA, task saturation/prioritization, and potential FOD hazards associated with NVG use.

6.10.4. **Special Instructions.**

6.10.4.1. UP/UW will attempt to fly at least one low illumination sortie.

6.10.4.2. NVG sorties will be flown in prescribed order: NVG-1, 2, 3, 4; or, NVG-1, 3, 2, 4.

6.10.4.3. NVG Certification. Following successful completion of required ground and flight training, the squadron commander may certify the individual to perform flight duties as a NVG aircrew.

6.10.4.4. NVG FLUG/IPUG/IWUG sorties can be flown in conjunction with unit FLUG/IPUG/IWUG programs.

6.10.4.5. NVG Flight lead: Qualified NVG pilots who upgrade to Flight Lead need one supervised (IP/IWSO) flight as a Flight Lead on an NVG sortie before performing unsupervised NVG flight lead duties.

6.10.4.6. A NVG Instructor must accomplish the following before being qualified to perform instructor duties on NVG upgrade sorties:

6.10.4.6.1. Fly a total of 10 sorties with NVGs (this includes sorties flown in upgrade and as NVG qualified aircrew).

6.10.4.6.2. Give NVG instruction on at least one sortie after NVG-1.

6.10.4.7. The minimum altitude for all NVG sorties specified by this instruction is IAW AFI 11-214 and MAJCOM directives.

6.10.4.8. NVG time may only be logged while actually using goggles. All NVG flight time will be recorded on Form 781.

6.10.4.9. **Syllabus Changes.** Squadron commanders may tailor NVG qualification to meet specific individual needs. For example, if a crewmember has accomplished NTR-2 or SAN-3 (equivalent to NVG-1 and NVG-3 respectively) during IQT, the corresponding upgrade mission is not required. Or, if an individual was previously NVG qualified in another MDS with a significant number of NVG hours, one sortie must be flown as an orientation, but the SQ/CC may determine the remainders are not required.

6.10.5. **Flight Training.** All NVG syllabus sorties will be under the supervision of a qualified NVG IP/IWSO. Upgrade sorties will be dedicated to use of NVGs IAW the following sorties.

6.10.5.1. **NVG-1, Basic NVG Familiarization. NVG-1 must be flown with an NVG instructor in the aircraft. (NOTE: If NTR-2 was successfully accomplished during IQT with appropriate NVG orientation events, SQ/CC, SQ/DO, or appropriate squadron supervisor may waive NVG-1.) Mission Objectives.** Primary emphasis of NVG 1 is to introduce the capabilities and limitations of NVGs and the night environment to the student. Introduce and practice NVG adjustment procedures, cockpit preparation, confidence maneuvers and basic formation flight skills. Demonstrate proficiency in various administrative and tactical 2-ship formation positions with a mixture of external light options including covert lights, reduced lights and lights out. Emphasize NVG basics with an introduction to baseline intercepts.

6.10.5.2. **NVG-2, Practice NVG aided intercepts. Mission Overview:** Primary focus of this sortie is to introduce and practice 2 v X air-to-air employment with NVGs. Emphasis will be on NVG enhancement of night air-to-air element employment. Additional emphasis will be on single ship and element radar missile defense procedures with NVGs. Focus the brief on NVG tactical formation, employment and air-to-air threat reactions with NVGs.

6.10.5.3. **NVG-3, 2-Ship Basic Surface Attack. (NOTE: If SAN-2 or 3 was successfully accomplished during IQT with appropriate NVG orientation events, SQ/CC, SQ/DO, or appropriate squadron supervisor may waive NVG-3.) Mission Objectives:** Introduce the use of NVGs for low altitude formation position keeping and weapons delivery on a controlled range. Primary emphasis is to practice NVG basic air to ground attacks and 2-ship NVG formations. Focus the brief on weapons employment and threat reactions with NVGs and basic NVG 2-ship employment.

6.10.5.4. **NVG-4, 2/4-Ship Surface Attack Tactics. Mission Objectives:** Practice the use of NVGs for navigation, target identification, weapons deliveries and threat reactions in night tactical employment. Primary focus is to execute unit mission tactics with NVGs.

**6.11. Air Defense Augmentation.** This program applies to all aircrew tasked to augment NORAD/CC in the Air Defense role for Peacetime Alert, NORAD CONPLAN implementation or similar CONUS air defense emergency. The ground training requirements of this section are for planning purposes and may be modified to meet unique unit requirements.

6.11.1. **MQT/Recertification.** The following training requirements will be incorporated into the MQT and Air Defense Certification programs of units identified to augment NORAD CONPLANS or apportioned to NORAD/CC in the unit DOC statement. Units tasked with Air Defense during their normal training cycle (i.e. AEF scheduling) or by "short notice" will use the outline below as minimum criteria to certify aircrew (training not to precede actual tasking by greater than 6 months):

6.11.1.1. **Academics.** NORAD and ACC mission/organization, authentication procedures, applicable plans, facilities locations, call signs, ADA corridor procedures, safe passage procedures, alert procedures, ROE (NORAD Regulation 55-6), AFI 11-214 procedures, and applicable sections of AFTTP 3-1.

6.11.1.2. **Simulator Training.** Two simulator missions dedicated to an Air Defense scenario including a SOCC scramble, handover, voice authentication and controller-directed VID profiles,

low altitude intercepts below 1,000 feet AGL, CAP procedures and employment, ECCM intercepts, and command and control procedures.

6.11.2. **CT.** Air Defense augmentees will accomplish the following annual training requirements:

6.11.2.1. Academic and simulator training covering appropriate areas as listed in paragraph **6.11.1.** above.

6.11.2.2. Aircrew will maintain LOWAT currency IAW **Table 4.1.**

6.11.3. **Air Defense Training Resources.** Necessary material for the training listed in paragraph **6.11.1.1.**, NORAD/CONR/Sector guidance, and Air Defense mission “Smart Packs” is available on the 1 AF/DO Classified Web page.

**6.12. Combat Search and Rescue (CSAR).** CSAR is a special capability used to support the recovery of downed aircrew in a combat environment. This support includes on scene command, electronic and visual search, threat suppression, helicopter escort and protection, and communications relay. Once CSAR qualified, qualification is retained with aircraft qualification. The program below outlines the minimum requirements to upgrade aircrew for CSAR operations. CSAR upgrade training will be accomplished under the supervision of a CSAR qualified IP/IWSO. Search and Rescue (SAR) is the peacetime subset that uses some of the skills of CSAR.

6.12.1. Upon completion of CSAR-1 and CSAR-2, aircrew may fly as a CSAR wingman (formation position 2 or 4). Subsequent completion of CSAR-3 and CSAR-4 allows aircrew to lead CSAR missions from position 1 or 3 (pilots must also be FL qualified). Instructors and instructor upgradees will teach a CSAR-3 or CSAR-4 under the supervision of a qualified CSAR IP/IWSO to achieve instructor CSAR qual.

6.12.2. CSAR upgrade and refresher training will be included as part of the Pre-Deployment Spin-up Training for units tasked for CSAR during contingency operation deployments.

6.12.3. **Academics.**

6.12.3.1. **CSAR Procedures.** Command and control, typical CSAR ordnance, tactics and techniques.

6.12.3.2. **Search Patterns and Procedures.** Electronic and visual.

6.12.3.3. **Helicopter Escort.** Rendezvous, escort, and hover cover.

6.12.3.4. **Air Strike Control (ASC) Procedures.** Target identification, ordnance selection, pre-strike preparation, target marking, strike control procedures, and bomb damage assessment.

6.12.4. **Flight Training.** SQ/CCs may modify mission profiles as necessary to tailor initial and refresher training to unit and theater requirements. On-ground personnel acting as simulated survivor(s) are required on CSAR-1 and either CSAR-3, or CSAR-4. Helicopter support is required on CSAR-3, CSAR-4, and on either CSAR-1 or CSAR-2.

6.12.4.1. **CSAR-1 (Two to Four Aircraft, Survivor Required, Helicopter Required on CSAR-1 or CSAR-2)--Mission Objective.** Introduce search techniques and helicopter escort. Specific Mission Tasks: IP/IWSO introduces search procedures and helicopter escort. Ground personnel will demo ground marking techniques.

6.12.4.2. **CSAR-2 (Two to Four Aircraft, Survivor Optional, Helicopter Required on CSAR-1 or CSAR-2)--Mission Objectives.** Introduce coordination procedures and ASC. Review search techniques and helicopter escort if assets are available. Specific Mission Tasks: IP/IWSO demonstrates on-scene command procedures using Number 2 as the communication focal point. Conduct search and suppression phases of a classic CSAR. Practice helicopter escort.

6.12.4.3. **CSAR-3 (Two to Four Aircraft, Survivor Required on CSAR-3 or CSAR-4, Helicopter Required)--Mission Objective.** Demonstrate procedures and tactics necessary to coordinate and control an unopposed CSAR. Specific Mission Tasks: Lead a CSAR to include search, on-scene command, helicopter escort, and survivor preparation and pick-up.

6.12.4.4. **CSAR-4 (Two to Four Aircraft, Survivor Required on CSAR-3 or CSAR-4, Helicopter Required)--Mission Objective.** Practice procedures and tactics necessary to coordinate and control an opposed CSAR. Specific Mission Tasks: Lead a CSAR to include search, on-scene command, threat suppression, helicopter escort, and survivor preparation and pick-up. The CSAR scenario should include as many outside assets as possible. These may include ground aggressors, strike fighters, FAC(A)s, etc.

CARROL H. CHANDLER, Lt Gen, USAF  
DCS, Air, Space & Information  
Operations, Plans & Requirements

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

- ACCI 11-464, *Training Records and Performance Evaluation in Formal Flying Training Programs*, 4 December 2003
- AD 75-6, *Special Weapons Training for Strike Aircrew*, 17 June 2003
- AFI 10-419, *Dual Capable Aircraft Nuclear Tasking, Planning and Operational Procedures: F-15E/F-16*, 1 September 2003
- AFI 10-704, *Military Deception Program*, 30 August 2005
- AFI 10-2501, *Full Spectrum Threat Response (FSTR) Planning and Operations*, 3 August 2005
- AFPD 11-2, *Aircraft Rules and Procedures*, 14 January 2005
- AFPD 11-4, *Aviation Service*, 1 September 2004
- AFI 11-2F-15EV1, *F-15E--Aircrew Training*, this publication
- AFI 11-2F-15EV2, *F-15E--Aircrew Evaluation Criteria*, 9 December 2005
- AFI 11-2F-15EV3, *F-15E--Operations Procedures*, 25 October 2005
- AFI 11-202V1, *Aircrew Training*, 23 November 2005
- AFI 11-202V2, *Aircrew Standardization/Evaluation Program*, 17 June 2002
- AFI 11-202V3, *General Flight Rules*, 5 April 2006
- AFMAN 11-210, *Instrument Refresher Program (IRP)*, 3 February 2005
- AFI 11-214, *Air Operations Rules and Procedures*, 22 December 2005
- AFI11-215 *USAF Flight Manuals Program (FMP)*, 6 April 2005
- AFMAN 11-217V1, *Instrument Flight Procedures*, 13 June 2005
- AFI 11-218, *Aircraft Operations and Movement on the Ground*, 11 May 2005
- AFI 11-301V1, *Aircrew Life Support (ALS) Program*, 19 July 2002
- AFI 11-401, *Aviation Management*, 15 December 2004
- AFI 11-403, *Aerospace Physiological Training Program*, 20 February 2001
- AFI 11-404, *Centrifuge Training for High-G Aircrew*, 28 October 2005
- AFI 13-212V1, *Range Planning and Operations*, 7 August 2001
- AFI 13-212V2, *Range Construction and Maintenance*, 7 August 2001
- AFI 13-212V3, *Safe-Range Program Methodology*, 7 August 2001
- AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting and Termination*, 1 August 1997

AFPD 32-40, *Disaster Preparedness*, 1 May 1997  
AFI 36-2209, *Survival and Code of Conduct Training*, 28 February 1994  
AFI 36-2217, *Munitions Requirements for Aircrew Training*, 1 November 2002  
AFCAT 36-2223, *USAF Formal Schools*, 1 July 1997  
AFI 36-2226, *Combat Arms Program*, 26 February 2003  
AFMAN 37-123 (will become AFMAN 33-363), *Management of Records*, 31 August 1994  
AFI 37-138, *Records Disposition-Procedures and Responsibilities*, 31 March 1994  
AFI 51-401, *Training and Reporting to Ensure Compliance with the Law of Armed Conflict*, 19 July 1994  
AFI 91-101, *Air Force Nuclear Weapons Surety Program*, 19 December 2005  
AFI 91-202, *The US Air Force Mishap Prevention Program*, 1 August 1998  
AFTTP 3-1, *Mission Employment Tactics* (various dates)  
AFTTP 3-3, *Combat Aircraft Fundamentals* (various dates)  
**NOTE:** List of reference publications is provided only as an initial guide. Publication information may change as requirements change and the list may not include all applicable directives.

### ***Abbreviations and Acronyms***

**A/A**—Air to Air  
**A/G**—Air to Ground  
**A/S**—Air to Surface  
**AAR**—Air to Air Refueling, Air Refueling  
**AAMD**—All Aspect Missile Defense  
**AB**—Afterburner  
**AC**—Administrative Change  
**(D)ACBT**—(Dissimilar) Air Combat Training  
**ACC**—Air Combat Command  
**ACDE**—Aircrew Chemical Defense Ensemble  
**(D)ACM**—(Dissimilar) Air Combat Maneuvers  
**ACMI**—Air Combat Maneuvering Instrumentation  
**(D)ACT**—(Dissimilar) Air Combat Tactics  
**ADA**—Air Defense Alert, Air Defense Asset  
**AEF**—Air & Space Expeditionary Force  
**AF**—Air Force  
**AFRC**—Air Force Reserve Command

**AFSC**—Air Force Specialty Code  
**AGL**—Above Ground Level  
**AGM**—Air-to-Ground Missile  
**AGSM**—Anti G-Straining Maneuver  
**AGTS**—Aerial Gunnery Target System  
**AHC**—Aircraft Handling Characteristics  
**AI**—Air Intercept, Air Interdiction  
**ANG**—Air National Guard  
**AOA**—Angle of Attack  
**AOC**—Air Operations Center  
**AOS**—Air Operations Squadron  
**API**—Aircrew Position Indicator  
**ARC**—Air Reserve Components  
**ARM**—Anti-Radiation Missile  
**ARMS**—Aviation Resource Management System  
**ASC**—Air Strike Control  
**ASD**—Average Sortie Duration  
**ATC**—Air Traffic Control  
**ATD**—Aircrew Training Device  
**ATP**—Advanced Targeting Pod (LITENING AT, SNIPER, and subsequent pods)  
**AVTR**—Aircraft Video Tape Recorder  
**AWACS**—Airborne Warning and Control System  
**BAI**—Backup Aircraft Inventory  
**BAQ**—Basic Aircraft Qualification  
**BD**—Battle Damage  
**BDA**—Battle Damage Assessment  
**(D)BFM**—(Dissimilar) Basic Fighter Maneuvers  
**BMC**—Basic Mission Capable  
**BSA**—Basic Surface Attack  
**BSAN**—Basic Surface Attack Night  
**BVR**—Beyond Visual Range  
**C3I**—Command, Control, Communications, and Intelligence

**CAF**—Combat Air Forces  
**CAP**—Combat Air Patrol, Critical Action Procedures  
**CAS**—Close Air Support  
**CAT**—Category  
**CA-Coded**—Designated Aggressor Aircraft  
**CB-Coded**—Designated Test Aircraft  
**CC**—Commander  
**CC-Coded**—Designated Combat Aircraft  
**CCIP**—Constantly Computed Impact Point  
**CCRP**—Continuously Computed Release Point  
**CD**—Counterdrug  
**CD**—Deputy Commander  
**CDIP**—Continuously Displayed Impact Point  
**CE**—Combat Edge  
**CEP**—Circular Error Probable  
**CFT**—Cockpit Familiarization Trainer, Conformal Fuel Tank  
**CFTR**—Composite Force Training  
**CHUM**—Chart Update Manual  
**CMR**—Combat Mission Ready  
**CMS**—Combat Mission Section  
**COMM-JAM**—Communications Jamming  
**COMSEC**—Communications Security  
**CPT**—Cockpit Procedures Trainer  
**CRM**—Cockpit/Crew Resource Management  
**CSAR**—Combat Search and Rescue  
**CT**—Continuation Training  
**CV**—Vice Commander  
**CW**—Chemical Warfare  
**D**—Dissimilar  
**DART**—Deployable Aerial Reflective Target  
**DB**—Dive Bomb  
**DCA**—Defensive Counter Air

**DCAN**—Defensive Counter Air Night  
**DEAD**—Destruction of Enemy Air Defenses  
**DMPI**—Desired Mean Point of Impact  
**DNIF**—Duty Not Involving Flight  
**DOC**—Designed Operational Capability  
**DR**—Dead Reckoning  
**DRU**—Direct Reporting Unit  
**DTOS**—Dive Toss  
**E&R**—Escape and Recovery  
**EC**—Electronic Combat  
**ECCM**—Electronic Counter Countermeasures  
**ECM**—Electronic Countermeasures  
**ECR**—Electronic Combat Range  
**EI**—Essential Elements of Information  
**EGBU**—Enhanced Guided Bomb Unit  
**EGI**—Embedded INS/GPS  
**EID**—Electronic Identification  
**EO**—Electro-Optical  
**EP**—Emergency Procedure  
**EPE**—Emergency Procedures Evaluation  
**EW**—Electronic Warfare  
**EWO**—Electronic Warfare Officer  
**EWWS**—Electronic Warfare Warning Set  
**EXP**—Experienced  
**FAC**—Forward Air Controller  
**FAC(A)**—Forward Air Controller (Airborne)  
**FAM**—Familiarization  
**FCF**—Functional Check Flight  
**FCP**—Front Cockpit  
**FDL**—Fighter Data Link  
**FE**—Flight Examiner  
**FEB**—Flight Evaluation Board

**FEBA**—Forward edge of the Battle Field

**FEF**—Flight Evaluation Folder

**FENCE**—Firepower, Emitters, Navigation, Communications, and Electronic Countermeasures

**FL**—Flight Lead

**FLIR**—Forward Looking Infrared

**FLUG**—Flight Lead Upgrade

**FMT**—Full Mission Trainer

**FOV**—Field of View

**FP**—First Pilot

**FS**—Fighter Squadron, Flight Surgeon

**FSCL**—Fire Support Coordination Line

**FSWD**—Full Scale Weapons Delivery

**FTR**—Fighter

**FTU**—Formal Training Unit

**FW**—Fighter Wing

**G**—Gravitational Load Factor

**GBU**—Guided Bomb Unit

**GCI**—Ground Controlled Intercept

**GLO**—Ground Liaison Officer

**GLOC**—G-induced Loss of Consciousness

**GP**—General Purpose, Group

**GPS**—Global Positioning System

**GS**—Ground Speed

**HADB**—High Altitude Dive Bomb

**HARB**—High Altitude Release Bomb

**HAS**—High Angle Strafe

**HHQ**—Higher Headquarters

**HUD**—Head Up Display

**HVAA**—High Value Airborne Asset

**IADS**—Integrated Air Defense System

**IAGTS**—Improved AGTS

**IAW**—In Accordance With

**IC**—Interim Change  
**ICWT**—Initial Chemical Warfare Training  
**ID**—Identify, Identification  
**IEWO**—Instructor EWO  
**IFE**—In-flight Emergency  
**IFF**—Identification Friend or Foe  
**IFR**—Instrument Flight Rules  
**IIR**—Imaging Infrared  
**ILS**—Instrument Landing System  
**IMC**—Instrument Meteorological Conditions  
**INFLTREP**—In-flight Report  
**INS**—Inertial Navigation System  
**INTREP**—Intelligence Report  
**IOC**—Initial Operational Capability  
**IOS**—Instructor Operator Station  
**IP**—Instructor Pilot, Initial Point  
**IPUG**—Instructor Pilot Upgrade  
**IQT**—Initial Qualification Training  
**IR**—Infrared  
**IRC**—Instrument Refresher Course  
**IRCM**—Infrared Counter Measures  
**IRMD**—Infrared Missile Defense  
**ISOPREP**—Isolated Personnel Report  
**IWSO**—Instructor WSO  
**IWUG**—Instructor WSO Upgrade  
**JAAT**—Joint Air Attack Team  
**JDAM**—Joint Direct Attack Munition  
**JFT**—Joint Force Training  
**JMO**—Joint Maritime Operations (Air)  
**KCAS**—Knots Calibrated Airspeed  
**KIAS**—Knots Indicated Airspeed  
**KIO**—Knock It Off

**KTAS**—Knots True Airspeed  
**LAD**—Low Altitude Delivery  
**LADD**—Low Angle Drogue Delivery  
**LADT**—Low Altitude Dive Toss  
**LAHD**—Low Angle High Drag  
**LAI**—Low Altitude Intercept  
**LALD**—Low Angle Low Drag  
**LANTIRN**—Low Altitude Navigation and Targeting Infrared for Night  
**LAO**—Local Area Orientation  
**LAR**—Launch Acceptability Region  
**LASDT**—Low Altitude Step Down Training  
**LAT**—Low Altitude Toss  
**LATF**—Low Altitude Tactical Formation  
**LATN**—Low Altitude Tactical Navigation  
**LGB**—Laser Guided Bomb  
**LLLD**—Low Level Low Drag  
**LLS**—Low Level Strike  
**LOC**—Limited Operational Capability, Lines of Communication  
**LOS**—Line of Sight  
**LOW A/A**—Low Altitude Air-to-Air  
**LOW ALT**—Low Altitude  
**LOWAT**—Low Altitude Training  
**LP**—Launch Point  
**LRDT**—Long Range Dive Toss  
**LRS**—Long Range Strafe  
**LSO**—Life Support Officer  
**LTDSS**—Laser Target Designator Scoring System  
**MADT**—Medium Altitude Dive Toss  
**MAJCOM**—Major Command  
**MCC**—Mission Commander  
**MDS**—Mission Design Series  
**MDT**—Mission Directed Training

**MIJI**—Meaconing, Intrusion, Jamming and Interference

**mil**—milliradian

**MIL**—Military Power

**MISREP**—Mission Report

**MOA**—Military Operating Area

**MP**—Mission Pilot

**MQF**—Master Question File

**MQT**—Mission Qualification Training

**MRM**—Medium Range Missile

**MSA**—Minimum Safe Altitude

**MTC**—Mission Training Center

**MTT**—Multi Tactics Trainer

**MW**—Mission WSO

**N/A**—Not Applicable

**NAAR**—Night Air Refueling

**NAF**—Numbered Air Force

**NAV**—Navigation

**NCO**—Noncommissioned Officer

**NE**—Non-effective

**NGB**—National Guard Bureau

**NLT**—Not Later Than

**NT**—Night

**NVG**—Night Vision Goggles

**OCA**—Offensive Counterair

**OCA-A**—Offensive Counterair Air-to-Air

**OCA-S**—Offensive Counterair Air-to-Surface

**OFT**—Operational Flight Trainer

**OG**—Operations Group

**OPR**—Office of Primary Responsibility

**OPS**—Operations

**OPSEC**—Operations Security

**ORI**—Operational Readiness Inspection

**PACAF**—Pacific Air Forces  
**PAI**—Primary Aircraft Inventory  
**PAR**—Precision Approach Radar  
**PC-ATD**—Personal Computer-Based Aviation Training Device  
**PCS**—Permanent Change of Station  
**PDAI**—Primary Development/Test Aircraft Inventory  
**PFT**—Programmed Flight Training  
**PGM**—Precision Guided Munitions  
**PMAI**—Primary Mission Aircraft Inventory  
**POAI**—Primary Other Aircraft Inventory  
**PPG**—Positive Pressure Breathing for G  
**PTAI**—Primary Training Aircraft Inventory  
**PTT**—Partial Task Trainer  
**PUP**—Pull Up Point  
**PW**—Paveway  
**QUAL**—Qualification  
**RAP**—Ready Aircrew Program  
**RBS**—Radar Bomb Scoring  
**RCO**—Range Control Officer  
**RCP**—Rear Cockpit  
**RCS**—Radar Cross Section  
**RECCE**—Reconnaissance  
**RF**—Radio Frequency  
**RFMDS**—Red Flag Mission Debrief System  
**RMD**—Radar Missile Defense  
**ROE**—Rules of Engagement  
**RT**—Radio Terminology  
**RTB**—Return to Base  
**RTRB**—Realistic Training Review Board  
**RTT**—Realistic Target Training  
**RW**—Reconnaissance Wing  
**RWR**—Radar Warning Receiver

**SA**—Situational Awareness, Strategic Attack  
**SAFE**—Selected Area For Evasion  
**SAR**—Search and Rescue  
**SAT**—Surface Attack Tactics  
**SATN**—Surface Attack Tactics Night  
**SCAR**—Strike Control and Reconnaissance  
**SCL**—Standard Conventional Load  
**SCP**—Set Clearance Plane  
**SDB**—Small Diameter Bomb  
**SEAD**—Suppression of Enemy Air Defenses  
**SEFE**—Stan/Eval Flight Examiner  
**SELO**—Stan/Eval Liaison Officer  
**SEPT**—Situational Emergency Procedure Training  
**SI**—Simulator Instructor  
**SIF**—Selective Identification Feature  
**SIM**—Simulator  
**SLD**—Systems Level Delivery  
**SNP**—Student Non-Progression  
**SOCC**—Sector Operations Control Center  
**SOF**—Supervisor of Flying  
**SORTS**—Status of Resources and Training System  
**SQ/CC**—Squadron Commander  
**SRM**—Short Range Missile  
**SSE**—Simulated Single Engine  
**STR**—Strategic Training Range  
**TA**—Terrain Avoidance  
**TAC**—Tactics, tactical  
**TACAN**—Tactical Air Navigation  
**TACS**—Theater Air Control System  
**TAI**—Total Active Inventory  
**TD**—Tactical Deception  
**TDY**—Temporary Duty

**TES**—Tactics Eval Sq/Test & Evaluation Squadron  
**TEWS**—Tactical Early Warning System  
**TF**—Terrain Following  
**TF-Coded**—Designated Training Aircraft  
**TFR**—Terrain Following Radar  
**TGM**—Training Guided Munitions  
**TGP**—Target Pod  
**TGT**—Target  
**TO**—Technical Order  
**TOD**—Time of Detonation, Time of Day  
**TOT**—Time Over Target  
**TR**—Training Rules  
**TST**—Time-sensitive Targeting  
**TTR**—Tactics and Training Range  
**TX**—Transition  
**UCML**—Unit Committed Munitions List  
**UE**—Unit Equipped  
**UIP**—Upgrading Instructor Pilot  
**UIWSO**—Upgrading IWSO  
**UMD**—Unit Manning Document  
**USAF**—United States Air Force  
**USAFAWC**—United States Air Force Air Warfare Center  
**USAFE**—United States Air Forces in Europe  
**USAFWS**—United States Air Force Weapons School  
**USAFWTC**—United States Air Force Weapons Test Center  
**USI**—Upgrading Simulator Instructor  
**UTC**—Unit Type Code  
**UTD**—Unit Training Device  
**UTE**—Utilization Rate  
**VFR**—Visual Flight Rules  
**VID**—Visual Identification  
**VLD**—Visual Level Delivery

**VMC**—Visual Meteorological Conditions  
**VR**—Visual Recognition  
**VRD**—Vision Restricting Device  
**VTR**—Video Tape Recorder  
**WCMD**—Wind Corrected Munitions Dispenser  
**WD**—Weapons Delivery  
**WDL**—Weapon Data Link  
**WG**—Wing  
**WIC**—Weapons Instructor Course  
**WOD**—Word of Day  
**WS**—Weapons School  
**WSEP**—Weapon Systems Evaluation Program  
**WSO**—Weapon Systems Officer  
**WST**—Weapon System Trainer  
**WTT**—Weapons and Tactics Trainer  
**WX**—Weather

### *Terms*

**Air Combat Tactics (ACT)**—Training in the application of BFM, ACM, and tactical intercept skills to achieve a tactical air-to-air objective.

**Air Combat Training (ACBT)**—A general term which includes (D)BFM, (D)ACM, and (D)ACT.

**Basic Mission Capable (BMC)**—Status of aircrew familiarized in all the primary missions tasked to their assigned or attached flying unit and weapons system. See paragraph 1.4.4. for detailed definition. BMC requirements are listed in paragraph 4.1.

**Basic Aircraft Qualification (BAQ)**—Status of aircrew who have satisfactorily completed training prescribed to maintain the skills necessary to fly the unit aircraft. The member must perform at the minimum frequency necessary to meet the most recent sortie and flight standards set for the weapons system. BAQ will only be carried by aircrew until completion of MQT. BAQ is not a permanent qualification except for General Officers above the wing level, and any other crew members specifically authorized by MAJCOM/A3. BAQ aircrew are not authorized to perform RAP-tasked combat missions or events without supervision by instructor aircrew or SQ supervisor. BAQ requirements are listed in paragraph 4.1.

**Certification**—The process of validating and refreshing aircrew tactical employment knowledge in regards to nuclear weapons capabilities, procedures, and rules. See paragraphs 3.2. and 4.2.

**Circular Error (CE)**—Miss distance of a given weapon impact expressed in radial distance from center of target.

**Cockpit Familiarization Trainer (CFT)**—A training device with controls, switches, and instruments that do not have to respond to trainee inputs. Used for checklist use, normal procedures, and emergency procedures.

**Cockpit Procedures Trainer (CPT)**—A training device with instruments and displays that activate to respond to trainee inputs. Used for safety of flight, instrument, normal, and emergency procedures.

**Combat Edge (CE)**—A positive-pressure breathing-for-G (PPG) system which provides pilots/WSOs additional protection against high positive G accelerations experienced during flight. The system consists of aircrew equipment (high-pressure mask, counter-pressure suit, G-suit), and aircraft equipment (oxygen regulator, G-valve, and interfacing sense line). At 5-G and above, regulated air and oxygen are supplied to the system to provide automatic mask tensioning, vest inflation, and positive pressure breathing to the mask.

**Combat Mission Ready (CMR)**—Status of aircrew qualified and proficient in all of the primary missions tasked to their assigned combat unit and weapons system. See paragraph 1.4.4. for detailed definition. CMR requirements are listed in paragraph 4.1.

**Continuation Training (CT)**—Training not included in written syllabi, test plans or evaluations; intended to maintain aircrew proficiency and improve ability to perform unit missions.

**Currency**—The minimum frequency required to maintain proficiency and allow safe performance of an event or mission.

**Delivery Parameters**—Data reflecting current ordnance delivery considerations, to include tactical survivability where appropriate. Aircraft and weapon TOs must be consulted for safe escape, safe separation, fuzing and recovery altitude criteria.

**Dissimilar (D)**—Training in conjunction with another MDS aircraft.

**Dissimilar ACBT (DACBT)**—ACBT in conjunction with another MDS aircraft as adversary. The prefix (D) refers to the type of adversary assets. When the prefix is missing, similar is assumed as flown or required. When the prefix is present in parenthesis, dissimilar is optional. When present without parenthesis, dissimilar is assumed flown or required. This convention corresponds to all facets of ACBT (i.e., BFM, ACM, ACT).

**Emergency Procedures Evaluation (EPE)**—An evaluation of aircrew knowledge and response to critical and non-critical EPs conducted by a SEFE in an OFT, CPT, CFT or aircraft cockpit.

**Experienced Aircrew (EXP)**—Management term describing aircrew who meet the requirements of paragraph 1.6.

**Flight Lead (FL)**—The individual, designated on flight orders, responsible for overall mission conduct from preflight preparation/brief to postflight debrief, regardless of actual position within the formation. A certified 4-ship FL may lead formations and missions in excess of four aircraft, unless restricted by the unit CC. A 2-ship FL is authorized to lead an element in a larger formation.

**Full Mission Trainer (FMT)**—A training device that dynamically simulates flight characteristics--Used for normal, emergency, and instrument procedures, to include safety of flight, warfighting tasks, and skill integration training.

**Initial Qualification Training (IQT)**—Training to qualify aircrew in basic aircraft flight duties without specific regard to the unit's operational mission. The minimum requirement for Basic Qualification status. Refer to paragraph 1.4. and Chapter 2.

**Joint Air Attack Team (JAAT)**—Coordinated CAS with helicopters.

**Killer Scout (KS) Operations**—The employment of armed attack fighters in an Interdiction or Strategic Attack scenario for a specified geographic location flown to validate tasked targets, mark targets, and direct dedicated ground attack fighters against lucrative targets. Killer Scouts are normally used as part of the Command, Control, Communications, and Intelligence (C3I) interface, to coordinate flights, identify or neutralize targets and enemy air defenses, and provide Battle Damage Assessment (BDA).

**Limited-Threat VID**—Visual identification of a bogey in a limited threat environment (i.e., counter-drug operations, NORAD procedures, etc.) IAW AFTTP 3-1.

**LITENING AT**—Improved targeting pod with advanced capabilities such as laser marker, charge couple device (day use camera), laser spot search and track mode, and video data link.

**Low Altitude Navigation and Targeting Infrared for Night (LANTIRN)**— A navigation and targeting system that provides tactical aircraft with a low-altitude, under-the-weather, day and night operational capability.

**Low Altitude Training (LOWAT)**—Operations in a certified low altitude block as defined in Table 3.1. LOWAT includes low altitude navigation, tactical formation, defensive maneuvering to avoid or negate threats, skills necessary to search for and offensively engage an aerial target at low altitude, and air-to surface attacks.

**Low Altitude Intercept (LAI)**—An intercept conducted below 5,000 feet AGL.

**Mission**—a set of tasks that lead to an (airborne) objective, to include associated planning, brief, enroute, execution, recovery, and debrief events.

**Mission Qualification Training (MQT)**—Aircrew training required to achieve a basic level of competence in unit's tasked missions.

**Operational Flight Trainer (OFT)**—A training device which dynamically simulates flight characteristics. Used for normal, emergency, and instrument procedures, to include safety of flight, warfighting tasks, and skill integration training.

**Primary Aircraft Inventory (PAI)**—Aircraft authorized for performance of the operational mission. The PAI forms the basis for allocation of operating resources to include manpower, support equipment, and flight hour funds. The operating command determines the PAI required to meet their assigned missions (see AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting and Termination*).

**Proficiency**—Demonstrated ability to successfully accomplish tasked event safely and effectively. For purposes of this instruction, proficiency also requires currency in the event, if applicable.

**Situational Emergency Procedures Training (SEPT)**—A discussion and review of abnormal/emergency procedures and aircraft systems operations/limitations based on realistic scenarios. See paragraph 4.2.2.

**Sortie**—An operational flight by one aircraft (initial takeoff to final full stop landing).

**Specialized Training**—Aircrew training in specialized tactics, weapons systems, or flight responsibilities. See [Chapter 6](#).

**Squadron Supervisor**—Squadron Commander, Operations Officer, Asst Operations Officers, Flight CCs, and individuals designated by SQ/CC.

**Tactical Deception (TD)**—Any activity designed to mislead the enemy operational commander by manipulating, distorting, or falsifying evidence, thereby inducing the enemy to act in a manner favorable to our interests or desires (see AFI 10-704).

**Tactics and Training Range (TTR)**—Sites capable of Radar Bomb Scoring (RBS), ECR and special training (also called radar bomb scoring).

**Threat VID**—Visual identification of a bogey in a threat environment IAW AFTTP 3-1.

**Time Sensitive Target (TST)**.—An unplanned highly lucrative target or target of opportunity requiring immediate response.

**Verification**—The process of validating and refreshing aircrew tactical employment knowledge as applicable to conventional weapons delivery and unit tasks. See paragraphs [3.2](#) and [4.2](#).

**Visual Identification (VID)**—Positive identification of an aircraft (or other object) by visual means.

**Weapons Delivery**—Simulated or actual expenditure of air-to-ground munitions representing a typical combat configuration or SCL in a tactical scenario.

**Weapons and Tactics Trainer**—A PTT device used primarily for warfighting tasks, and skill integration training.

## Attachment 2

### GLOSSARY OF MISSION, SORTIE AND EVENT DEFINITIONS

#### A2.1. Mission and Sortie Definitions:

A2.1.1. **AGM-130 Mission.** Special Capability. Training designed to achieve proficiency in the employment of the AGM-130. Includes tactical mission planning, execution, and simulated or actual weapons delivery.

A2.1.2. **Air Combat Maneuvers (ACM).** Building block mission. Training (2v1) designed to achieve proficiency in element formation maneuvering and the coordinated application of BFM to achieve a simulated kill or effectively defend against one or more aircraft from a pre-planned starting position.

A2.1.3. **Aircraft Handling Characteristics (AHC).** Basic skills mission. Training for proficiency in use and exploitation of the aircraft flight envelope, consistent with operational and safety constraints, including, but not limited to: high/maximum AOA maneuvering, energy management, minimum time turns, maximum/optimum acceleration and deceleration techniques and confidence maneuvers.

A2.1.4. **Attrition Sortie.** Programming tool used to forecast future flight hour and sortie requirements. Attrition sorties are derived from historical data and used to account for sorties cancelled before flight. Launched sorties cannot be considered attrition (see Non-effective Sortie definition).

A2.1.5. **Basic Fighter Maneuvers (BFM).** Building block mission. Training (1v1) designed to apply aircraft handling skills to gain proficiency in recognizing and solving range, closure, aspect, angle off, and turning room problems in relation to another aircraft to either attain a position from which weapons may be launched, or defeat weapons employed by an adversary.

A2.1.6. **Basic Surface Attack (BSA).** Building block mission. Training designed to achieve proficiency in medium/low altitude tactical navigation and air-to-surface weapons delivery events.

A2.1.7. **Close Air Support (CAS).** Mission flown in support of ground forces under the control of a Forward Air Controller (FAC), either air or ground. Mission elements include: Intel scenario and mission planning, actual or simulated threats, simulated or actual weapons delivery under positive control of an air or ground FAC, and in-flight report.

A2.1.8. **Collateral Sorties.** Sorties not directly related to combat employment or basic skills training but necessary for accomplishment of unit training programs, such as ferry flights, deployments, incentive flights, orientation flights, airshows, etc. MAJCOMs will normally assign collateral sorties in lump sum adjusted for local conditions and circumstances. These sorties are not required for RAP training purposes.

A2.1.9. **Commander Option Mission.** Mission allocated by the unit commander to support individual training requirements and unit training objectives. BMC pilots may log a Commander Option Mission for any type of mission listed in the "Missions required" table of the RAP Tasking Memorandum. CMR pilots may log any A-G mission from the same table or any other A-G mission deemed necessary by unit commander.

A2.1.10. **Contingency Sortie.** A sortie tasked and flown while deployed for a contingency operation in which training is limited. These sorties are logged as Contingency Operations Sortie (SC13) in ARMS. These sorties and events accomplished on these sorties do not count towards annual RAP

requirements, however, the sorties will be used for lookback and the events will be used to update currencies.

**A2.1.11. Defensive Counter Air (DCA).** Mission designed to develop proficiency in Defensive Counter Air mission tactics. Mission elements include: Intel scenario and planning; execution of tactics to detect, engage, and negate aircraft employing adversary tactics and weapons to penetrate protected airspace or target areas, and in-flight report.

**A2.1.12. Demanding Sortie.** Sorties that task the aircrew to the extent that flight frequency and continuity are most critical. Missions and events requiring demanding mission currency are: (D)ACM, (D)ACT, LOWAT (below 1,000 feet AGL), CAS, SAT (except dry level passes at or above 500 feet), CFTR, JFT, night missions, instructor duties, JAAT, aerial demonstrations, etc. SQ/CCs may add missions or events to the demanding list, depending on unit tasking and the individual's capabilities. Also see Non-demanding Sortie.

**A2.1.13. Flight Lead 4-Ship (FL 4-Ship) Sortie.** Special qualification. Sortie where FL leads a flight of 4 or more. May be logged in conjunction with baseline training requirements.

**A2.1.14. Force Protection.** Mission designed to develop proficiency in OCA-A force protection tactics. Mission elements include: Intel scenario and integrated planning to support force package objectives: execution of tactics to detect and negate aircraft employing adversary tactics and weapons to disrupt force package employment; and in-flight report.

**A2.1.15. EGBU-15 Mission.** Special Capability. Training designed to achieve proficiency in the employment of the EGBU-15. Includes tactical mission planning, execution, and simulated or actual weapons delivery.

**A2.1.16. Instructor Sortie.** Special qualification. Sortie where the crewmember acted in an instructional capacity and valid combat training was secondary to execution of instructor duties.

**A2.1.17. Instrument Sortie.** Basic skills sortie. Training designed to ensure instrument proficiency. RAP events may be accomplished on an instrument sortie provided they do not interfere with the primary goal of instrument training.

**A2.1.18. Mission Commander (MCC) Mission.** Special qualification. Mission where aircrew acted as MCC for a joint/composite mission responsible for two or more types of aircraft with four or more total aircraft, or more than four own MDS aircraft versus a minimum of two pre-planned adversary aircraft. May be logged in conjunction with other RAP mission requirements.

**A2.1.19. Night Sortie.** Sortie where either takeoff or landing, and at least 50 percent of flight duration or 1 hour (whichever is less) occur between the end of evening civil twilight and the beginning of morning civil twilight, as published in the American Air Almanac (night definition IAW AFI 11-401 and AFI 11-202V3).

**A2.1.20. Non-demanding Sortie.** A day sortie that provides aircrew with the opportunity to regain basic flight proficiency without excessively tasking those skills that have been underused during a non-flying period. Missions and events authorized on a non-demanding sortie are: Instruments, AHC, low level navigation at or above 500 feet AGL, basic weapons delivery, basic intercepts (to include Red Air flown under Limited training rules), BFM, etc. SQ/CCs may delete missions or events from this non-demanding list, depending on unit tasking and the individual's capabilities.

A2.1.21. **Non-effective Sortie.** A sortie planned and launched as a training mission, test mission, Basic Skills sortie, contingency sortie, or collateral sortie that, due to some circumstance (weather, IFE, maintenance, etc.), fails to accomplish a sufficient number of planned events.

A2.1.22. **Red Air Mission.** A/A mission where tactics, aircraft simulation, weapon systems, or maneuvering are limited to the extent that complete own MDS training is not accomplished. Restrictions that limit aircraft capabilities to some level which might be encountered in combat do not require logging the mission as Red Air. Instead of a minimum number required, Red Air mission allocations in the RAP Tasking memo have a maximum cap to limit degraded training.

A2.1.23. **Surface Attack Tactics (SAT).** Mission designed to develop proficiency in A/G tactics in a combat environment. Mission elements include: mission planning, execution with actual or simulated threats, and weapons delivery IAW unit taskings, simulating UCML munitions, and SCLs against a tactical target during the day. Simulated attacks may be conducted against realistic targets IAW local restrictions. Mission types include: Strategic Attack (SA), Air Interdiction (AI), Offensive Counterair Air-to-Surface (OCA-S), Time-sensitive Targeting (TST), and Suppression of Enemy Air Defenses (SEAD).

A2.1.24. **Sweep Mission.** Mission designed to develop proficiency in OCA-A sweep tactics. Mission elements include: Intel scenario and tactical mission planning, execution of tactics designed to detect, engage, and negate simulated adversary aircraft which are operating within specific commit criteria (i.e., range, airspace corridor, vul time, etc.), and in-flight report. Intercept missions with Limited maneuvering that fulfill the above criteria may be logged as effective RAP training.

**A2.2. Weapons Delivery Events.** A delivery event is defined as a pass at a target on which ordnance is expended or simulated and meets the criteria defining a specific weapon delivery (EGBU-15, LGB, etc.). These delivery events will be used to update weapons qualifications and currencies. Weapon events are defined in [Chapter 5](#). All deliveries will be documented. If not specified in a description, units will determine the necessary parameters for fulfilling or logging weapons delivery events.

#### A2.2.1. Delivery types:

A2.2.1.1. **Basic Delivery.** A delivery using a conventional box pattern. It may be used as a record event only for initial qualification. There is no restriction on the number of dry passes made before or during basic deliveries in a record event for initial qualification; however, only the first two deliveries per event may be made for record.

A2.2.1.2. **Tactical Delivery.** A delivery using patterns and techniques that minimize final flight path predictability, yet allow sufficient time for accurate weapons delivery. When a tactical delivery is flown for record, dry passes in the event are not permitted before or during the event. Wings level time on final will be limited to 5 seconds or less when aircraft will descend below 4,500 feet AGL. Timing will be from completion of roll-out until initiation of recovery. Exceeding 5 seconds will result in gross error. Level, LGB, and climbing deliveries may exceed 5 seconds. All tactical deliveries will normally include recovery to egress parameters.

#### A2.2.2. Documentation:

A2.2.2.1. **Non-Record.** Basic or Tactical weapons delivery accomplishments not credited toward weapons qualification.

A2.2.2.2. **Record.** Conventional or nuclear delivery scored for individual weapons qualification. Scoring shall be accomplished by ground, air or AVTR scoring, as appropriate. A maximum of two record deliveries may be accomplished during a mission from a single run-in heading. Additional record deliveries may be accomplished from headings differing by at least 90 degrees or on different targets. The first two deliveries will be considered record unless otherwise declared prior to the roll-in to final. Record deliveries may not be preceded by non-record deliveries in the same event on the same mission. Scores will be documented by CEP and clock position. Additional guidelines are:

A2.2.2.2.1. **Basic.** Must be scored on a Class A range (IAW AFI 13-212V1, AFI 13-212V2, and AFI 13-212V3).

A2.2.2.2.2. **Tactical.** A minimum of 50% must be accomplished on a ground scored range (except for EGBU-15/AGM-130 events). Remaining record hits may be air scored by reference to known distances from the target.

A2.2.2.2.3. **Strafe.** Aircraft rounds limiter will normally be set to deliver at least 100 rounds per sortie. A minimum of 50 rounds per strafe event must be expended to satisfy RAP strafe requirements.

A2.2.2.2.4. **LGB.** Designator and bomber functions may be accomplished simultaneously by a single aircraft or separately using buddy designation techniques. To record a complete LGB delivery, one simulated or actual weapons release and one designation must be performed. Laser tracker accuracy may be scored by AVTR or Laser Target Designator Scoring System (LTDSS).

A2.2.2.3. **RAP Tasking:**

A2.2.2.3.1. **FAM.** Weapons events tasked at FAM may be basic or tactical record deliveries. Each single pass counts as one delivery. Unless otherwise specified in the RAP Tasking Memorandum or formal course syllabi, FAM tasking requires ten weapons deliveries or seven strafe passes per training cycle.

A2.2.2.3.2. **QUAL.** Weapons tasked at QUAL must be tactical record deliveries. QUAL tasking demonstrates the aircrew's capability to put appropriate ordnance on target. Unless otherwise specified in the RAP Tasking memorandum or formal course syllabi, QUAL criteria is established for each event in [Chapter 5](#).

A2.2.3. **Miscellaneous Weapons Delivery Definitions to be Considered for Event Descriptions:**

A2.2.3.1. **Dry Pass.** Weapons delivery pass during which no ordnance is expended. Such dry passes prior to completion of record deliveries in an event are charged to the aircrew as gross error unless pass was dry because of safety interests, system malfunctions, basic delivery requirements, or directed for flight integrity purposes.

A2.2.3.2. **Foul.** A penalty directed to a specific aircraft and crew for actions inconsistent with established procedures or safety considerations. A foul will result in a gross error for that delivery (except non-acousticscored strafe which will be penalized one-half the event score). Verbal warnings will not be substituted for fouls. A second foul or any dangerous pass will result in mandatory expulsion from any further deliveries during that mission and a gross error score for the event. A foul will be charged IAW flying directive publications.

A2.2.3.3. **Full Scale Weapons Delivery.** Delivery of live or inert ordnance in a combat configuration.

A2.2.3.4. **Gross Error.** A penalty score or miss assigned to an aircrew's records when a weapons delivery attempt results in: munitions impact outside the range scoring capability; a chargeable dry pass; a foul; an unintentional release; or exceeding tactical delivery time on final requirements.

A2.2.3.5. **Hit.** Any munitions impact within the weapons criteria established for that event.

A2.2.3.6. **Multiple Release.** More than one weapon released against the same target on a single pass.

A2.2.3.6.1. **Intentional.** The aircrew must advise the range officer prior to delivery and designate which impact to be scored.

A2.2.3.7. **Inadvertent.** Ordnance which has released without command by the aircrew. Impact will not be scored.

A2.2.3.8. **System Malfunction.** An undeclared multiple release caused by a verified system malfunction. Score is void after system malfunction verification, otherwise, unintentional rules apply.

A2.2.3.9. **Unintentional.** Ordnance released due to aircrew error. Will be scored as gross error regardless of impact point.

A2.2.3.10. **No Spot.** A weapons release during which no impact was observed. No score or error will be assigned.

A2.2.3.11. **Void Delivery.** Weapons delivery not successfully completed due to: a documented and verified weapons system malfunction; a pass aborted for safety; no spot; or circumstances beyond the control of the aircrew.

**A2.3. Tactical Events.** The following is an alphabetical listing of tactical events to be used for fulfilling tasked requirements. In the absence of guidance, units will determine the content of tasked events and how often they may be logged.

A2.3.1. **ACMI Event.** An event which uses ACMI range, facilities, or on-board ACMI for flight and debrief. Only one event may be logged per sortie.

A2.3.2. **Air Refueling (AAR).** An AAR event requires tanker rendezvous, hook-up and transfer of fuel or 2 minutes of dry contact. More than one event may be credited if receivers accomplish another rendezvous, hook-up and fuel transfer or dry hook-up.

A2.3.3. **Basic Intercept.** A single or two-ship intercept performed with the express purpose of practicing fundamental radar acquisition and lock-on techniques, controlling intercept geometry against LIMITED maneuvering targets, recognizing weapons employment zones and taking valid shots, practicing proper switchology and radio commentary. Tasks are performed independent of actual or briefed threat capabilities and weapons, and environmental considerations. These intercepts will not update ACBT currency. One event may be logged per engagement.

A2.3.4. **Chaff Event.** In-flight dispensing of chaff during a tactical mission profile in response to an actual or simulated threat. Event requires actual release and is limited to logging of one event per engagement.

A2.3.5. **Comm Jam Event.** In-flight operations without use of active anti-jam radios in a comm jamming environment that provide realistic intervals and duration (completion of one attack profile desired) to counter jamming or effective chattermark procedures. Limited to logging of one event per sortie.

A2.3.6. **Composite Force Training (CFTR).** Scenarios employing multiple flights of the same or different types of aircraft, each under the direction of its own flight leader, performing the same or different roles. Only one event may be logged per mission (if an AAR separates missions, a maximum of two events may be logged per sortie).

A2.3.7. **Composite Wing Training (CWT).** A mission scenario based on a Composite Wing's CONOPS involving an intelligence scenario and support, an Air Tasking Order (ATO), and a Mission Commander responsible for planning the mission. These missions must include participation from more than 50% of the wing's flying and air control squadrons. The mission will also have opposing forces, such as air-to-air adversaries, EC opposition, or surface-to-air threats. A CWT event may be logged with a CFTR event.

A2.3.8. **Dynamic A/G Targeting.** An air-to-ground attack or engagement against a non-preplanned TST; relayed by an appropriate command and control (C2) asset, another flight or another member of flight. Track information will be data linked if possible, otherwise sent via normal radio communications. Log no more than 3 events per sortie.

A2.3.9. **EA A/A.** An intercept performed against a target using active or passive EP against attacker's radar, causing the attacker to employ EA techniques or tactics. Does not include co-channel interference. Only one event may be logged per target.

A2.3.10. **EP A/A.** The aircrew detects an airborne threat via electronic means and reacts with appropriate maneuvers, pod or internal ECM switch actuation, or expendables. Airborne threat training will be accomplished only with a dedicated adversary attacking from beyond visual range. Only one event may be logged per sortie.

A2.3.11. **EC Event S/A.** The aircrew detects a surface threat via electronic means and reacts with appropriate maneuvers, pod or internal ECM switch actuation, or expendables. Only one event may be logged per sortie.

A2.3.12. **EW Range Event.** In-flight operations conducted on an EW range with fixed or mobile surface-to-air emitters operating and detection/threat reaction emphasized. Normally accomplished in conjunction with other EW-type events. The aircrew detects a surface threat via electronic means and reacts with appropriate maneuvers, pod or internal EP switch actuation, or expendables. Sorties flown against Electronic Warfare (EW) Aggressor or mobile threat emitters placed in a Military Operating Area (MOA), range, or along a low level route are acceptable. Only one EC EW range event may be logged per sortie (active EA must be used).

A2.3.13. **Flare Event.** In-flight release of self-protection flares during a tactical mission profile as a threat response. Event requires actual release and is limited to logging of one event per engagement.

A2.3.14. **Full Scale Weapons Delivery (FSWD)**— Delivery of live or inert ordnance representing a typical combat configuration or SCL in a tactical scenario.

A2.3.15. **HAVE QUICK Event.** The practice of loading the combat or MAJCOM HAVE QUICK training net Word of Day (WOD), and world-wide Time of Day (TOD). Requires proper radio config-

uration for HAVE QUICK operation and successful use during tactical mission accomplishment. Only one event may be logged per sortie.

**A2.3.16. Instructor Event.** An event logged by an instructor when performing instructor duties during the sortie, or a portion thereof. The instructor qualification must be required and used for the mission or a mission element. Examples include upgrade sorties, updating lost currencies, etc. Evaluators will log this event on evaluation sorties.

**A2.3.17. Joint Force Training (JFT).** Scenarios employing integrated aerospace, land or naval forces. Examples include JAAT, CAS with FAC, airdrop escort, etc. Only one event may be logged per mission (if an AAR separates missions, a maximum of two events may be logged per sortie).

**A2.3.18. Joint Maritime Operations (JMO(A)).** Air event that involves flight of a DOC mission (AI, DCA, OCA, SEAD, CAS, etc.) in support of naval objectives. In all cases, units will employ their weapon system IAW established tactics and procedures found in applicable AFTTP 3-1, 3-3, and flight manuals. The JMO(A) training program is intended to expose aircrew to the challenges of employing their weapon system in a joint maritime environment.

A2.3.18.1. A JMO(A) training event may be logged when the mission is flown in a maritime environment and when the mission is flown in conjunction with Navy/Marine forces, or when the mission is under Navy/Marine command and control. The maritime environment includes the airspace above oceans, seas, bays, estuaries, islands, and coastal areas.

A2.3.18.2. DACT against Navy/Marine aircraft will be considered JMO(A) training when flown in a maritime environment and if the Navy is controlling Air Force fighters or if other Navy/Marine aircraft are on the same side as (and communicating with) Air Force fighters and have mission/package commander responsibilities.

A2.3.18.3. A JMO(A) training event may be logged when participating with (not against) Navy/Marine aircraft in Strike University exercises at Fallon NAS.

A2.3.18.4. JMO(A) training should emphasize the inherent differences and peculiar problems associated with combat operations in the maritime environment (i.e., command, control, and communications, target detection, location, and identification, political and territorial considerations, electronic warfare, weaponeering, force requirements, and attack tactics and options).

**A2.3.19. Low Air-to-Air (LOW A/A).** An event defined as performing realistic, mission-oriented air-to-air operations while in a LOWAT certified low altitude block (see [Table 3.1.](#)). The event includes skills necessary to search for and offensively engage an aerial target at low altitude. Only one event may be logged per mission (if an AAR separates missions, a maximum of two events may be logged per sortie).

**A2.3.20. Low Altitude (LOW ALT).** An event defined as performing realistic, mission-oriented low altitude operations while in a certified LOWAT altitude block (see [Table 3.1.](#)). The event includes low altitude navigation, tactical formation, defensive maneuvering to avoid or negate threats, and air-to-surface attacks. Only one event may be logged per mission (if an AAR separates missions, a maximum of two events may be logged per sortie).

**A2.3.21. Low Altitude Intercept (LAI).** An intercept conducted below 5,000 feet AGL. Only one event may be logged per target.

A2.3.22. **Low Altitude Tactical Formation (LATF).** Flight in tactical formation while conducting LATN training. Only two events may be logged per sortie.

A2.3.23. **Low Altitude Tactical Navigation (LATN).** Low altitude training using the fundamental aspects of dead reckoning and point-to-point low altitude navigation, with or without prior route planning. Only two events may be logged per sortie.

A2.3.24. **Low/Slow Speed Threat VID Intercept.** Tactical intercept performed to accomplish the tactical objective (Identify (ID) the bogey, ID and kill the bandit, etc.) on a target below 5000 feet AGL with airspeed less than 250 KIAS. Fighter should counter threat maneuvers and weapons engagement zones, consider environmental factors, attain turning room and energy at end game, practice ID and ROE procedures, and terminate when briefed objectives or training rule stops are reached. These intercepts will not update ACBT currency. Two events may be logged per sortie, but not on the same engagement.

A2.3.25. **Medium Altitude Tactics.** Day or night tactical formation above 5000 feet AGL; ingress-ing to a target area, employing actual or simulated ordnance, and egressing with mutual support (if appropriate for night mission profiles). A maximum of two medium altitude tactics events may be logged on any air-to-surface tactical sortie.

A2.3.26. **Secure Voice.** Requires proper radio configuration for secure voice operation and successful use during tactical mission accomplishment. Only one event may be logged per sortie.

A2.3.27. **Tactical Intercept.** A single-ship or multi-ship intercept performed to accomplish the tactical objective (ID or kill the threat) in a realistic threat scenario. Fighter should counter threat maneuvers and weapons engagement zones, consider environmental factors, attain end game turning room and energy, practice ID/ROE procedures, take valid shots if presented, and terminate when briefed objectives or training rule stops are reached. These intercepts will update ACBT currency. One event may be logged per engagement.

A2.3.28. **Target Mark.** A tactical event used in conjunction with a FAC(A)/CSAR target briefing and final Air Strike Control. A target mark includes actual expenditure of rockets, strafe, or illumination flares, or directing of lasers and IR pointers to mark or illuminate a target. Only one event may be logged per target marked. Multiple marks on the same target should integrate different fighters or a new target briefing to the maximum extent practical.

A2.3.29. **Terrain Following Radar (TFR) Event.** A low level event using integral aircraft TFR equipment or LANTIRN TFR for navigation and terrain clearance. At least two legs of a planned low level route, or 10 minutes at low altitudes (below the Minimum Safe Altitude (MSA)) will be flown. Only two events may be logged per sortie.

A2.3.30. **Visual Reconnaissance.** An event using basic navigational techniques during which reconnaissance of an area or lines of communication is conducted, leading to the timely acquisition of information or enemy activities. It encompasses map reading, recognition of terrain features, pilotage, and Dead Reckoning (DR). Only two events may be logged per sortie.

### Attachment 3

## VERIFICATION GUIDE FOR AIR-TO-SURFACE

**A3.1. Outlines for Briefs.** The following outlines are provided as guidelines for the development of verification briefs:

**A3.2. Overview:**

A3.2.1. Introduction (participants and brief classification).

A3.2.2. Status of friendly forces (ground, air and support).

**A3.3. Area of Operations:**

A3.3.1. Geography (topography, population centers, lines of communications, chokepoints and natural obstacles, major visual and radar significant identification points).

A3.3.2. Climatology (effects on unit operations, ground troop movements, and in-flight operations).

A3.3.3. Operating base (location, facilities, procedural constraints, strengths and limitations).

**A3.4. Status of Enemy Forces:**

A3.4.1. Ground forces and accompanying air defense threats (SAMs, AAA, EC, and MIJI), capabilities, strengths and weaknesses.

A3.4.2. Airborne forces (numbers, locations, capabilities and tactics).

**A3.5. Mission Employment Brief:**

A3.5.1. Ground operations.

A3.5.2. Departure (WX contingencies, options).

A3.5.3. Route of flight (threat analysis, alternatives, fuel requirements, decision points).

A3.5.4. Target ingress (IP-to-target specifics, tactics).

A3.5.5. Weapons employment (target data, DMPI, attack parameters, load, fusing, suitability, delivery modes, backups).

A3.5.6. Sensor management plan.

A3.5.7. Egress plan (route, mutual support agreements).

A3.5.8. Reattack plan, options.

A3.5.9. Downed pilot, wounded bird plan.

A3.5.10. Recovery (safe corridor procedures, IFF procedures, alternate and emergency airfields).

**A3.6. Escape and Evasion:**

A3.6.1. SAFEs.

A3.6.2. SAR procedures.

**A3.7. Essential Elements of Information/Reports:**

A3.7.1. EEIs.

A3.7.2. Required reports and reporting procedures.

## Attachment 4

### VERIFICATION GUIDE FOR AIR-TO-AIR

**A4.1. Outlines for Briefs.** The following outlines are provided as guidelines for the development of verification briefs:

**A4.2. Overview:**

- A4.2.1. Introduction (participants and brief classification).
- A4.2.2. Mission overview.
- A4.2.3. Status of friendly forces (ground, air and support).

**A4.3. Area of Operations:**

- A4.3.1. Geography (topography, population centers, lines of communications, chokepoints and natural obstacles, major visual and radar significant identification points).
- A4.3.2. Climatology (effects on unit operations, ground troop movements, and in-flight operations).
- A4.3.3. Operating base (location, facilities, procedural constraints, strengths and limitations).

**A4.4. Status of Enemy Forces:**

- A4.4.1. Ground forces and accompanying air defense threats (SAMs, AAA, EC, and MIJI), capabilities, strengths and weaknesses.
- A4.4.2. Airborne forces (numbers, locations, capabilities and tactics).

**A4.5. Mission Employment Brief:**

- A4.5.1. Ground operations.
- A4.5.2. Departure (WX contingencies, options).
- A4.5.3. Enroute (Go/No-go considerations, comm procedures, GCI/AWACS/autonomous control procedures, friendly defenses, ROE).
- A4.5.4. Engagement tactics (target data, acquisitions/validations, tactics, weapons parameters, disengagement).
- A4.5.5. Sensor management plan.
- A4.5.6. Egress plan (route, mutual support agreements).
- A4.5.7. Downed pilot/wounded bird plan.
- A4.5.8. Recovery (safe corridor procedures, IFF procedures, alternate and emergency airfields).

**A4.6. Escape and Evasion:**

- A4.6.1. SAFEs.
- A4.6.2. SAR procedures.

**A4.7. Essential Elements of Information/Reports:**

A4.7.1. EEIs.

A4.7.2. Required reports and reporting procedures.