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SECRETARY OF THE AIR FORCE**

**AIR FORCE INSTRUCTION 11-502
VOLUME 1**



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Flying Operations

**SMALL UNMANNED AIRCRAFT SYSTEMS
TRAINING**

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This publication implements AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon Systems* and AFPD 11-5, *Small Unmanned Aircraft Systems (SUAS) Rules, Procedures, and Service*. (**Note:** AFPD 11-4, *Aviation Service* does not apply to non-rated SUAS Operators.) It establishes the USAF Small Unmanned Aircraft System Operator (SUAS-O) training program for Air Force military and civilian personnel, personnel from other services and foreign personnel assigned or attached to USAF units, and for contracted SUAS-Os as stipulated in contracts. This publication applies to the Air Force Reserve Command (AFRC) and the Air National Guard (ANG). This AFI may be supplemented at any level, but all supplements shall be routed through AF/A3OS for coordination prior to certification and approval. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through major command (MAJCOM) headquarters IAW AFI 11-215 *USAF Flight Manuals Program (FMP)*. The authorities to waive wing/unit level requirements in this publication are identified with a tier (“T-0, T-1, T-2, T-3”) number following the compliance statement. See AFI 33-360, *Publications and Forms Management*, for a description of the authorities associated with the tier numbers. Ensure records created as prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). Exceptions in this instruction only apply to AFMC and USAFA Research and Development/flight test activities.

SUMMARY OF CHANGES

Defines Direct Reporting Units and the Air National Guard as major commands for purposes of implementing oversight as required by this AFI. Clarifies the requirement to appoint a Small UAS Instructor as the unit-level SUAS Program Manager. Establishes exceptions to the requirement to track qualifications and training on the Small UAS Manager (SUASMAN) application for flight test operations conducted by AFMC and USAFA. Clarifies requirement for initial and annual SUAS-O medical examinations. Refines SUAS Instructor upgrade minimum entry qualifications and defines criteria for Initial Qualification Training Instructor certification. Completely revises Chapter 7, “Vendor-Provided Training.”

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Chapter 1

POLICY

1.1. General. This instruction prescribes basic guidance for training United States Air Force Small Unmanned Aircraft System Operators (SUAS-O). Small UAS are defined as Unmanned Aircraft Systems (UAS) less than 1320 pounds gross weight (DOD Groups 1, 2, and 3 of Figure A2.1). Air Force Special Operations Command (AFSOC) is designated Lead Command IAW AFPD 10-9 for Groups 1-3 UAS (referred to as SUAS). Coordinating SUAS with other manned and unmanned aircraft and surface maneuver units requires detailed integration and understanding of the tactical environment. All training procedures for Group 1 UAS are consolidated into AFI 11-5GP1-SUAS, Volume 1 as the Group 1 Mission, Design, Series (MDS)-specific AFI. Each Group 2 and 3 UAS shall have an AFI 11-5MDS, Volume 1

1.2. Key Definitions:

- 1.2.1. "Shall" indicates a mandatory requirement.
- 1.2.2. "Should" indicates a recommended procedure that is required, if practical.
- 1.2.3. "May" indicates an acceptable or suggested means of accomplishment.

1.3. Program Objectives. The overall objective of the SUAS training program is to develop and maintain a high state of mission readiness for immediate and effective employment across the range of military operations. The Air Force SUAS Training Program ensures all SUAS-Os obtain and maintain the qualification and proficiency needed to effectively perform their unit's mission. Programs should strive to minimize the amount of retraining necessary when personnel return to duties for SUAS in which they were previously qualified.

1.4. Waivers and Waiver Authority. Unless otherwise specified in this instruction, HAF/A35 is the waiver authority for this instruction.

1.4.1. The fundamental aim of a waiver must be to enhance mission effectiveness, while preserving resources and safeguarding health and welfare. A waiver is a method for a commander to communicate a risk management decision for a specified time period or circumstance IAW AFI 33-360, *Publications and Forms Management*.

1.4.2. Each unit (wing or equivalent, and below, Direct Reporting Unit (DRU), Field Operating Agency (FOA) compliance item is identified with a tier waiver authority number using AFI 33360, *Publications and Forms Management*. Table 1.1. Submit all requests for waivers through the chain of command to the appropriate tier approval authority IAW AFI 33-360 Paragraph 1.9.4.

1.4.3. In this publication, tier designations for any paragraph apply to all subordinate paragraphs, unless specific subordinate paragraphs are individually marked with a different tier designator.

1.5. Responsibilities.

1.5.1. HAF/A3.

1.5.1.1. Develops policy and guides the conduct and execution of the SUAS training program.

1.5.1.2. Delegates Office of Primary Responsibility (OPR) for this instruction to AF/A3OS.

1.5.1.3. Delegates Office of Collateral Responsibility (OCR) for this instruction to AFSOC/A3.

1.5.1.4. Certifies AFI 11-5 Mission, Design, Series (MDS)-Specific instructions Volumes 1 and 2 unless added as Addendum to the basic instruction.

1.5.2. MAJCOMs.

1.5.2.1. General. MAJCOMs (Direct Reporting Units (DRU) and ANG are considered MAJCOMs for the purposes of this instruction) shall:

1.5.2.1.1. Coordinate with the Lead Command/A3 to establish policy and provide guidance for the development of applicable SUAS Mission Qualification Training (MQT) and Continuation Training (CT) programs.

1.5.2.1.2. Identify a MAJCOM SUAS OPR, responsible for the oversight of the MAJCOM's SUAS programs.

1.5.2.1.3. Review and approve the MQT courses and CT requirements for each fielded SUAS; document training requirements in a MAJCOM supplement to the appropriate AFI 115MDS, Volume 1; and forward one copy of each course outline to AFSOC/A3OU.

1.5.2.1.4. Participate in annual training conferences and formal course reviews as necessary.

1.5.2.1.5. Resolve SUAS MQT and CT issues.

1.5.2.1.6. Quantify Formal Training Unit student allocations required for Initial Qualification Training (IQT); manage training allocations received.

1.5.2.1.7. Post unclassified Read File items to the Small UAS Manager (SUASMAN) web application.

1.5.2.1.8. Conduct Staff Assistance Visits (SAV) to subordinate units when requested by the unit commander.

1.5.2.1.9. Determine unit of attachment for attached staff personnel in SUAS-O positions.

1.5.2.1.10. USAFA shall establish equivalent levels of command oversight for SUAS activities.

1.5.2.2. Lead Command, (AFSOC).

1.5.2.2.1. Develop and manage the AFI 11-5MDS, Volume 1, *SUAS Operator Training*, in coordination with using commands. That Volume 1 shall not be less restrictive than this AFI. **Exception:** Air Force Materiel Command (AFMC) shall determine and publish training requirements for flight test operations in AFI 11-5FT, Volume 1.

1.5.2.2.2. Review and approve IQT courses for each fielded SUAS; maintain a copy of each course syllabus. Syllabi shall comply with CJCSI 3255.01, *Joint UAS*

Minimum Training Standards. Perform task and media analysis associated with SUAS qualification training per AFI 36-2201, Volume 1, *Air Force Training Development, Delivery, and Evaluation*; AFI 36-2251, *Management of Air Force Training Systems* and AFMAN 36-2234, *Instructional Systems Development*. AFSOC/A3 is the waiver authority for IQT syllabi.

1.5.2.2.3. Review and approve vendor-provided training course objectives and syllabi. Vendor develops, updates, and maintains courseware and training syllabi; performs task and media analysis associated with SUAS qualification training per AFI 36-2201, AFI 36-2251, and AFMAN 36-2234, consistent with the applicable contract.

1.5.2.2.4. Host annual training conferences.

1.5.2.2.5. Host Formal Course Reviews (FCR) at least biennially.

1.5.2.2.6. Provide higher and lateral headquarters access to inventory and status reporting of all Air Force fielded SUAS via SUASMAN.

1.5.2.2.7. Maintain information copies of MAJCOM-provided SUAS MQT course syllabi.

1.5.2.2.8. Conduct SAV when requested by the unit commander.

1.5.2.2.9. Conduct training assessments.

1.5.2.2.10. Determine training events creditable in any given training device, or simulator.

1.5.2.2.11. Review and coordinate on MAJCOM supplements to this instruction.

1.5.2.2.12. Manage the SUASMAN web application (<https://webapps.hurlburt.af.mil/suasmgr>). SUASMAN is the single source for tracking SUAS-O qualifications, flight logs, currency, training accomplishments and SUAS logistics management and shall be used by all units. Exception: AFMC test operations may maintain training records on forms and automated products currently approved for use in AFMC.

1.5.3. Using Commands. Supplement this instruction, as required.

1.5.4. Group Commanders (Squadron Commanders in the Air National Guard) shall (T-1):

1.5.4.1. Ensure compliance with this instruction by subordinate units. Provide staff support and assist those units in managing the training program to meet unit Designed Operational Capability (DOC) Statement readiness requirements.

1.5.4.2. Designate a group-level SUAS Program Manager (PM) and group-level SUAS-I. The two functions may be performed by the same individual. The Group PM is responsible for the oversight of each subordinate (active duty) unit's SUAS training programs. Certification and designation shall be documented in the individual's training records.

1.5.4.3. Assist in the implementation of subordinate unit SUAS training programs. (T-2)

1.5.4.4. Resolve training issues that arise between subordinate units. (T-2)

1.5.4.5. Track SUAS-O qualifications and currency.

1.5.4.6. Assist subordinate units in obtaining SUAS formal school and training resources. (T2)

1.5.5. Group SUAS-I shall (T-2):

1.5.5.1. Coordinate with the Group SUAS Program Manager (PM) to ensure SUAS training is integrated into the group training plan. Conduct staff assistance visits to subordinate units as required.

1.5.5.2. Maintain core SUAS lesson plans. Develop additional lesson plans to support Area of Responsibility (AOR)-specific group or squadron training requirements.

1.5.5.3. Maintain all group staff SUAS training records.

1.5.5.4. Maintain SUAS-I qualification and currency.

1.5.5.5. Ensure provisions for selecting, training, and evaluating SUAS-I's are incorporated into a supplement to this Instruction.

1.5.5.6. Conduct a monthly review to manage group staff currencies and identify training shortfalls.

1.5.5.7. Post information on an unclassified SUAS read file and transfer any pertinent information into a squadron SUAS read file.

1.5.6. Squadron/Unit Commanders (Flight Commanders in the ANG/AFRC) shall (T-1):

1.5.6.1. Develop and maintain a unit SUAS training program. The training program shall be tailored to meet the unit's Designed Operational Capability (DOC) Statement requirements and should be conducted in conjunction with unilateral and joint field training exercises.

1.5.6.2. Develop theater indoctrination training and ensure SUAS operators are trained for assigned theater flight operations. As a minimum, training shall include a review of theater unique procedures, theater weather conditions, local area procedures, and host nation agreements.

1.5.6.3. Coordinate, direct, and control the unit's training events and processes to include commander/staff reviews of data products and operational reports that assess unit and individual SUAS training and operational status.

1.5.6.4. Ensure adequate number of instructors/evaluators to meet unit training needs for assigned/attached SUAS-Os.

1.5.6.5. Identify unit SUAS training deficiencies to the Group/next level of command and implement corrective actions.

1.5.6.6. Approve individuals for entry into SUAS IQT.

1.5.6.7. Designate, in writing, a squadron/unit-level SUAS Program Manager (PM). The SUAS PM must be a SUAS-I and is responsible for oversight of the unit's SUAS training program.

1.5.6.8. Develop unit guidance governing the SUAS MQT and CT program.

- 1.5.6.9. Report training and equipment deficiencies to higher headquarters.
- 1.5.7. Squadron/unit SUAS Program Manager (includes ANG/AFRC units) shall (T-2):
- 1.5.7.1. Develop and incorporate unit-specific SUAS MQT, CT, and SUAS-I upgrade training programs and program management. (T-1)
 - 1.5.7.2. Nominate and submit via SUASMAN candidates to fill training quotas. (T-3)
 - 1.5.7.3. Submit all unit-developed SUAS-O training programs through channels to MAJCOM for review and approval. (T-3)
 - 1.5.7.4. Submit waiver requests through chain of command to MAJCOM/A3. (T-2)
 - 1.5.7.5. Schedule and coordinate ranges and airspace for SUAS operations. (T-2)
 - 1.5.7.6. Prepare AF Form 797, *Job Qualification Standard (JQS)* and AF Form 1098, *Special Task Certification, and Recurring Training* (or approved automated products) for unit-specific SUAS training and qualification requirements. These are source documents for data entry into an individual's SUASMAN records. **Exception:** AFMC and USAFA flight test personnel may maintain training records on forms and approved automated products currently approved for use in AFMC. These forms shall be maintained in individual training folders.
 - 1.5.7.7. Maintain SUAS training records for each assigned SUAS-O in SUASMAN. **Exception:** AFMC and USAFA flight test personnel may maintain training records on forms and automated products currently approved for use in AFMC.
 - 1.5.7.8. Conduct an annual records review on all SUAS-Os.
 - 1.5.7.9. Ensure in-processing for SUAS-Os includes a review of their records as specified by the applicable AFI 11-5MDS, Volume 1. In-processing shall include completion of at least one SUAS local area familiarization flight under the supervision of a SUAS-I.
 - 1.5.7.10. Document all SUAS training in SUASMAN.
 - 1.5.7.11. Maintain SUAS qualification and meet currency and CT requirements for the tasks they are instructing.
 - 1.5.7.12. Conduct a monthly review to manage currencies, identify SUAS operators whose training currency will expire within the upcoming month and identify training shortfalls.
 - 1.5.7.13. Report training and equipment deficiencies to the commander.
 - 1.5.7.14. Track each individual's SUASMAN training status and Unit Read File currency. Develop procedures to insure that SUAS-Os not having ready access to SUASMAN receive updates.
- 1.5.8. Squadron/unit SUAS-I Responsibilities:
- 1.5.8.1. Be knowledgeable of the contents of AFI 11-502, AFI 11-5MDS, unit MQT plans, range and flying procedures, unit OIs, and SUAS operating manuals. (T-2)
 - 1.5.8.2. Review each SUAS-O's training records prior to performing each flight or training session. (T-3)

1.5.8.3. Conduct or supervise preflight briefings and post flight critiques. (T-3)

1.5.8.4. Ensure each SUAS-O demonstrates the required level of knowledge and proficiency before recommending the SUAS-O for an evaluation. (T-3)

1.5.9. Individual SUAS operators (SUAS-Os) shall (T-1):

1.5.9.1. Be responsible for safety of flight during all SUAS operations.

1.5.9.2. Maintain assigned status IAW **Paragraph 5.2** and unit commander guidance. Member is responsible for monitoring and completing all training requirements.

1.5.9.3. Read and remain familiar with the squadron SUAS read file. Review prior to conducting SUAS operations.

1.5.9.4. Fly only those UAS which they are qualified and current. Do not conduct training events for which they are not qualified and current unless under the supervision of a SUAS-I. (T-3)

1.5.9.5. Complete training events and maintain currency as required by this instruction and supplements. (T-2)

1.5.9.6. Complete SUAS-O's flight log after each flight (to include simulator flights) or as soon as possible in contingency operations. Every operator is required to record his/her flight and transfer the information to the SUASMAN web application as soon as practical. Flight logs shall be used to track flight hours for each SUAS MDS, which shall be used to determine currency and provide data for trend analysis.

1.5.9.7. The requirement for a contractor performing SUAS-O duties to comply with Air Force UAS guidance shall be stipulated in contracts.

1.6. In-Unit Training Time Limitations. Members entered into an in-unit training program leading to requalification should be dedicated to that program; i.e., training requirements should take priority over non-training related duties. Time limitations for requalification are contained in applicable AFI 11-5MDS.

1.7. Recurrency Training. (T-2) Loss of Currency up to 6 Months. An operator shall demonstrate proficiency in all delinquent items to a SUAS Instructor (SUAS-I). The unit commander or designated representative shall make an entry in the individual's AF Form 623, *On-the-Job Training Record* or training records in SUASMAN stating that the individual has regained his currency. For the purposes of this instruction, training folder refers to the training records maintained in SUASMAN. Units may keep physical copies of training folders at their discretion. **Exception:** AFMC and USAFA flight test personnel may maintain training records on forms and automated products currently approved for use.

1.8. Requalification Training. (T-2) A SUAS-O is unqualified upon: (1) expiration of his/her qualification evaluation or, (2) loss of currency exceeding 6 months. The duration of unqualified time is from the date the SUAS-O became unqualified until the specific retraining start date. SUAS-O requalification requirements are as follows: (MAJCOMs may adjust requirement as necessary to allow for operator experience level and similarity of UAS types. Provide specific guidance in command supplements to AFI 11-5MDS Volume 1.)

1.8.1. Unqualified up to 24 months. Complete unit-level training under the instruction of a SUAS-I, in all delinquent items and additional training as directed by the unit commander. A

Qualification Flight Evaluation is required. At a minimum, additional training shall consist of the following: Review of approved academic courseware and practice of all SUAS tasks and procedures specified in the appropriate AFI 11-5MDS, Volume 1. The unit commander shall determine the requirement to recertify on mission qualification events.

1.8.2. Unqualified exceeding 24 months requires re-accomplishment of IQT and MQT.

1.9. Familiarization (FAM) Training. Training conducted under the direct supervision of a SUAS-I for the purpose of allowing individuals to gain an understanding of SUAS operations and capabilities. Familiarization training does not result in SUAS-O qualification. Refer to the appropriate AFI 11-5MDS, Volume 1 for SUAS-specific procedures.

1.10. Formal Course Review. The Formal Course Review (FCR) shall review formal training programs and syllabi for currency, applicability, compliance and effectiveness. Attendees should include program managers and training representatives from Lead and Using commands, curriculum developers, formal schools, Numbered Air Force training and standardization offices (if applicable), selected unit representatives, and Vendor-provided training contractors.

Chapter 2

TRAINING AND QUALIFICATION STANDARDS

2.1. General. SUAS-Os are trained, qualified and authorized to plan and conduct SUAS operations in approved airspace. Unit SUAS Instructors (SUAS-I) are qualified to conduct SUAS recurrency and MAJCOM-approved differences training. They are selected by their unit commander based on performance recommendations from the SUAS Evaluators (SUAS-E). SUAS-Es are SUAS-Is selected and designated by the unit commander to conduct flight evaluations.

2.2. Unit SUAS Program. Units should design their SUAS program to achieve a high degree of individual SUAS-O proficiency and assure that SUAS effectively support the unit mission. Training shall include Crew Resource Management (CRM) techniques. See AFI 11-290, *Cockpit/Crew Resource Management Training Program*. (T-0)

2.2.1. Unit SUAS training requirements incorporated in the unit supplement to AFI 115MDS, Volume 1 shall be forwarded to the Group SUAS Program Manager (PM) for review. MAJCOMs shall assist subordinate units to ensure all required areas of training and qualification are addressed. The unit supplement shall, at a minimum, address the following items (T-2):

2.2.1.1. SUAS PM, SUAS-I, Supervisor, and SUAS-O duties and responsibilities.

2.2.1.2. Training progression from IQT through Mission Ready (MR) status.

2.2.1.3. Method of training documentation.

2.2.1.4. SUAS MQT and CT requirements unique to the unit. **Note:** MAJCOM/A3 is the approval authority for MQT and CT. Requirements shall not be less restrictive than this instruction.

2.2.1.5. Training outline covering mission requirements as determined by the unit commander.

2.2.1.6. SUAS-I selection criteria. Individuals who held SUAS-I qualification prior to publication of this AFI retain current qualification at the discretion of the unit commander.

2.2.2. SUAS Training Missions. SUAS training mission scenarios should be based upon the unit's DOC Statement and theater-specific operations plans and orders (OPLANs/OPORDs),

2.2.2.1. Prior to each training mission, the SUAS-I shall ensure all trainees are current on Read File requirements, medically qualified for control, and all relevant task certification requirements have been accomplished. (T-1)

2.2.3. Training Records. Units shall maintain records for individual training and evaluation IAW AFI 36-2201, *Air Force Training Program* and this AFI. Individual training records shall be entered, maintained, and accessed through the SUASMAN web-enabled database. Use of supplemental paper-based records is at the discretion of the unit commander. SUAS Instructors should coordinate inputs to an individual's training record with supervisors and the unit's SUAS Program Manager to ensure training documentation is completed.

Exception: AFMC and USAFA flight test personnel may maintain training records on forms and automated products currently approved for use in AFMC test operations. (T-1)

2.3. Certification & Documentation. SUAS-O/Is shall be certified. This training and certification shall be documented on an AF Form 797 or a suitable product and shall be maintained in SUASMAN. **Exception:** For test operations, AFMC and USAFA may maintain training records on forms and automated products currently approved for use. (T-1)

2.4. SUAS Training Process. Training requirements addressed in this instruction are designed to outline basic requirements for a SUAS-O's progression from IQT through MQT to MR status. (T-1)

2.4.1. IQT qualifies an individual in basic aircraft qualified (BAQ) operator duties of assigned SUAS without regard to a unit-specific mission.

2.4.2. MQT qualifies or re-qualifies an operator in those specific duties required to perform SUAS missions assigned to a specific unit. Completion of MQT is a prerequisite for MR status.

2.4.3. MR status is attained when an individual is fully qualified on all tasks listed on AF Forms 797 and 1098. These requirements are developed by the unit SUAS Program Manager in coordination with unit Stan/Eval section and shall have the unit commander's approval. **Exception:** AFMC and USAFA may maintain training records for flight test SUAS-Os on forms and automated products currently approved for use in AFMC.

2.4.4. SUAS-Os that fail to maintain MR status shall accomplish a tailored program under the supervision of the SUAS Program Manager to regain MR status IAW **Paragraph 1.7**, Recurrency Training.

Chapter 3

INITIAL QUALIFICATION TRAINING (IQT)

3.1. General. Initial Qualification Training (IQT) focuses on knowledge and skills required to plan and fly a specific UAS. All elements of the appropriate level of Basic UAS Qualification (BUQ) training, equipment assembly, preflight inspection, launch, aircraft maneuvering and sensor operation in flight, recovery and landing, post recovery procedures and operator-level maintenance are taught. IQT includes operation of all baseline mission equipment, but does not emphasize tactical employment, nor does it address the operation of specialized equipment, software, or sensors uniquely employed by specific units. This section specifies the minimum training requirements for initial qualification training.

3.2. Requirements. The primary method of initial qualification is to attend and complete the appropriate formal training course approved by the Lead Command. Only Lead Command-designated Initial Qualification Training Instructors (IQT-I) and/or vendor equivalent may conduct IQT. (**Exception:** AFMC and USAFA research and development may conduct training at their discretion for test systems.) CJCSI 3255.01, *Joint UAS Minimum Training Standards* sets the minimum standards for a Lead Command-approved program of instruction. SUAS-Os shall complete comprehensive ground and flight training to enable the operator to demonstrate mission planning, preflight inspection, and control of a SUAS throughout its performance envelope and potential operating conditions, including dealing correctly with emergencies and system malfunctions during any phase of the mission. (T-1)

3.3. Initial Qualification Training Prerequisites. Before entering qualification training, each member shall have approval of the unit commander. Candidates shall complete physical examinations according to AFI 48-123, *Medical Examinations and Standards*. (Refer to AFI 11-502, Volume 3, Paragraph 1.13) (T-1)

3.4. Student to Instructor Ratios. The student to instructor ratio is defined in AFI 11-5MDS, Volume 1. (T-2)

3.5. Ground Training Requirements. (T-2)

3.5.1. Academic Training. Accomplish academic training requirements as directed in the applicable Lead Command-approved syllabus. Syllabi shall include material to fulfill the appropriate Basic UAS Qualification (BUQ) level general aviation knowledge and UAS knowledge-based skills to operate UAS safely as required by crew duties or position per CJCSI 3255.01 (T-0)

3.5.2. Written Examinations. Satisfy requirements of AFI 11-502, Volume 2, *Small Unmanned Aircraft System Standardization/Evaluation Program* and applicable AFI 11-5MDS Volume 2.

3.5.3. Ground Training. Use actual dates of accomplishment to establish ground training currency dates. Applicable ground training accomplished at the formal school (i.e., simulators, aircraft systems, etc.) establishes due dates for subsequent continuation training. If completion dates are unknown, use the date on the formal school-generated Certificate of Qualification.

3.6. Flying Training Requirements. (T-2)

3.6.1. Complete qualification training requirements within the prescribed time period with no significant break in training.

3.6.2. An instructor shall be present any time a trainee is controlling a UA. He shall be physically located with the trainee and able to assume direct control of the UA, if required.

3.7. Documentation. All SUAS missions conducted by trainees shall be documented on a SUAS mission grade sheet. Grade sheets shall be filed in the training record. (T-2)

3.8. Basic Aircraft Qualification (BAQ). Status of an individual who has completed initial qualification training with a satisfactory Initial Qualification Flight Evaluation and is qualified to perform SUAS-O duties. Air Force SUAS-Os shall be trained to a minimum of BUQ Level 2 IAW CJCSI 3255.01. The member shall accomplish training events at no less than the quantity and frequency set for that SUAS in the applicable AFI 11-5MDS, Volume 1. BAQ SUAS-Os may perform duties on any non-mission sortie for currency training, demonstrations, or on missions when receiving instruction from a qualified instructor. BAQ SUAS-Os are authorized to perform unsupervised flights in approved and coordinated airspace. A BAQ SUAS-O is authorized to operate outside of restricted airspace and warning areas but shall comply with AFI 11-502, Volume 3, **Paragraph 3.4.** (T-1)

3.9. Requalification. Requalification training requirements shall be established in AFI 115MDS Volume 1 and be in accordance with **Paragraph 1.8** of this instruction. (T-2)

3.10. Difference and Conversion Training. Difference Training is instruction on improved or added equipment to an existing UAS. The SUAS-O in training shall be qualified and current on the UAS. When the difference between UAS variants is significant (as determined by Lead Command), the training shall be classified as Conversion Training and shall require IQT, less common items already accomplished. Difference and conversion qualification training requirements shall be specified by the Lead Command. **Exception:** AFMC and USAFA research and development department may authorize its own syllabus for UAS used for test operations. (T-2)

3.11. Multiple Qualification. MAJCOMs may supplement this publication to provide guidance for SUAS-O qualification on multiple SUAS. (T-2)

3.12. Visual Observer Training. Visual observers are frequently required to insure safety as well as to comply with operations under an FAA Certificate of Waiver or Authorization (COA). Visual observers, not qualified as SUAS-O, shall train to at least BUQ Level 1. (T-1)

Chapter 4

MISSION QUALIFICATION TRAINING (MQT)

4.1. General. Mission qualification training is required to qualify a SUAS-O to employ SUAS in support of the unit mission. It is the process to transition a BAQ SUAS-O to Mission Ready (MR) status. AFI 11-5MDS Volume 1 prescribes minimum training requirements to qualify individuals in unit missions. (T-2)

4.1.1. MQT begins after IQT is completed. MQT is a unit-level program that qualifies SUAS-Os on unit-specific equipment and procedures to prepare them to employ SUAS in support of the unit's DOC mission. MQT programs are normally developed by each unit, capture and incorporate tactical "Lessons Learned" from multiple sources, and are approved by MAJCOM. MQT builds upon the training received in IQT and consists of academics coupled with supervised and graded SUAS missions under varying conditions. **Note:** This chapter does not apply to USAFA/ROTC/OTS cadets.

4.1.2. Units are allowed to tailor their programs to individual operators. This is based on the individual's current qualification, experience, currency, documented performance, available training assets, and formal training. Applicable portions of MQT may be used to create a requalification program for operators who have regressed from MR to specifically address the deficiencies that caused the regression. Newly-assigned SUAS-Os shall complete at least one SUAS flight under the supervision of a SUAS-I.

4.1.3. With group commander (ANG squadron commander) approval, upgrade training requirements may be completed during operational missions. Comply with restrictions in appropriate AFI 11-5MDS instructions, MAJCOM directives, and the applicable operations order.

4.2. Administration. MQT shall be accomplished within the time frame specified in the AFI 11-5MDS, Volume 1. (T-2)

4.2.1. Individuals failing to satisfactorily complete MQT in the allotted time shall obtain the unit commander's approval to continue in training. Breaks in training shall be documented in the individual's training record.

4.2.2. Training shall be outlined and documented on AF Form 797 or approved automated products and maintained in the individual's AF Form 623 or training record.

4.2.3. Upon completion of MQT, the upgrading SUAS-O shall receive a Mission Qualification flight Evaluation from a SUAS-E. Refer to AFI 11-502, Volume 2.

Chapter 5

CONTINUATION TRAINING (CT)

5.1. General. The continuation training program provides SUAS-Os with the quantity, frequency, and mix of training necessary to maintain proficiency in the assigned qualification level. AFI 11-5MDS, Volume 1 shall prescribe CT requirements to maintain currency and mission status. Unit commanders shall document any additional CT tasks required to accomplish the unit's mission in a unit supplement to AFI 11-5MDS instructions. (T-2)

5.2. Training Periods and Events. Continuation Training shall be measured over the semiannual periods defined by MAJCOMs. Training events shall be specified by quantity within the semiannual training periods and by currency intervals for selected events. This insures that a sufficient repetition of training events is accomplished, as well as requiring recency of training so that a specified degree of proficiency is maintained. Specific training events, quantities, and currency requirements shall be specified in the AFI 115MDS, Volume 1.

5.3. Status. A member may be assigned Basic Aircraft Qualified, , or Mission Ready status.

5.3.1. Basic Aircraft Qualified (BAQ). (T-1) The minimum standard that all SUAS-Os shall maintain. A BAQ SUAS-O has satisfactorily completed IQT and an Initial Qualification flight evaluation in each assigned UAS. Each training period, the SUAS-O shall accomplish the minimum quantity and frequency of training events specified in the applicable AFI 11-5MDS, Volume 1. In addition, each SUAS-O shall accomplish:

5.3.1.1. IAW AFI 48-123 and AFI 11-502, Vol 2; all SUAS-O require an annual medical exam. This requirement can only be met through a valid FAA Second Class medical certificate or through the completion of an annual medical exam by a provider in a Military Treatment Facility using standards found in AFI 48-123. Failure to accomplish the physical is a grounding event and the SUAS-O shall not fly until medically cleared.

5.3.1.2. Periodic Flight Evaluation IAW AFI 11-502, Volume 2, *Small Unmanned Aircraft Systems Standardization/Evaluation Program*.

5.3.1.3. Annual Crew Resource Management (CRM) training.

5.3.2. Mission Ready (MR). A BAQ SUAS-O who has satisfactorily completed MQT, successfully completed a Mission Qualification Flight Examination, and has received certification from the unit commander, may be designated as Mission Ready. MR SUAS-Os shall continue to accomplish the required quantity and frequency of events as specified in the AFI 11-5MDS, Volume 1. (T-3)

5.4. Documenting Training Events. Accomplishment of CT shall be documented in SUASMAN. **Exception:** For flight test operations AFMC and USAFA may incorporate a SUAS information management system into its own command-wide data manager.

5.5. Failure to Complete Continuation Training Requirements. The unit SUAS Program Manager shall advise the commander on the training status of all assigned SUAS-Os. When requirements are not met, the commander shall:

5.5.1. Downgrade SUAS-Os from MR to BAQ if they fail to accomplish the required quantities and frequency of mission training events. (T-3) See **Paragraph 1.7.** (T-2)

5.5.2. Non-current SUAS-Os are not authorized to operate SUAS unless under supervision of a SUAS-I. (T-1)

5.6. Removal from Training. A Commander may remove individuals from SUAS training at his/her discretion. Other reasons for removal are: (T-2)

5.6.1. Unable to complete training due to Uniform Code of Military Justice (UCMJ) actions (Consult the servicing Staff Judge Advocate.)

5.6.2. Claims conscientious objector status (refer to AFI 36-3204, *Procedures for Applying as a Conscientious Objector.*)

5.6.3. Identified to be a hazard to flight safety or fails to make satisfactory progress.

5.7. Reentry into Training. Commanders may approve, and shall document, a disqualified individual's reentry into SUAS training. This documentation becomes a permanent part of the individual's training folder. Unit commanders shall closely monitor training of previously removed individuals. (T-2)

Chapter 6

INSTRUCTOR UPGRADE TRAINING

6.1. Unit Small UAS Instructor (SUAS-I). Unit commanders shall select the best-qualified individuals to perform SUAS-I duties based on the following criteria (AFI 11-5MDS, Volume 1 may specify additional requirements): (T-3)

6.1.1. Unit Lead SUAS-E shall recommend SUAS-I candidates to the commander.

6.1.2. Instructor candidate selection shall be based on demonstrated SUAS-O knowledge, experience, maturity, judgment, and ability to effectively mitigate risk.

6.1.3. Minimum flight hours required for SUAS-I selection are listed in **Table 6.1**. No more than 20 percent of required hours may be credited through simulation. Commanders may credit prior experience in other UAS Groups.

Table 6.1. Minimum Flight Hours Required for Selection.

Group	Minimum Hours
1	25
2	50
3	50

6.1.4. Successfully complete the instructor upgrade training program specified in AFI 11-5MDS, Volume 1.

6.1.5. Successfully complete an Initial Instructor evaluation, using the criteria specified in the AFI 11-5MDS, Volume 2.

6.1.6. SUAS-Is shall be designated in writing by the unit commander. The commander's designation letter shall be entered into the individual's STR.

6.1.7. Unit SUAS-I are not authorized to instruct IQT. (T-1)

6.2. Initial Qualification Training Instructor (IQT-I). The Lead Command shall use the following criteria for IQT-I training and certification. (T-1)

6.2.1. The IQT-I candidate shall be a current and qualified SUAS-I.

6.2.2. Candidate shall have completed an approved formal instructor training course, i.e. Joint Special Operations Air Warfare Center Methods of Instruction Course, Air Force Basic Instruction Course, Classroom Instruction Course, etc.

6.2.3. Candidate shall observe instruction of a lead-command approved Course of Instruction (COI).

6.2.4. Candidate shall satisfactorily teach each lead command approved Plan of Instruction (POI) under the direct supervision of a current and qualified IQT-I and demonstrate subject matter expertise and instructor effectiveness.

6.2.5. Candidate shall satisfactorily complete an IQT-I evaluation.

6.2.6. Candidates seeking IQT-I qualification on multiple systems require satisfactorily teaching each system-specific COI and passing the associated IQT-I evaluation.

6.2.7. IQT-Is shall be designated in writing and approved by AFSOC/A3 or designated representative. This designation letter shall be entered into the individual's STR.

Chapter 7

VENDOR-PROVIDED TRAINING

7.1. General. Vendor-provided training is authorized when no formal course is available. The Lead Command shall review and approve all vendor-provided POIs. Vendors and other contracted sources of training may conduct any training approved by the Lead Command. (T1)

7.2. Review Criteria. The Lead Command shall use MIL-HDBK-1221, DOD Handbook for Evaluation of Commercial Off-the-Shelf Manuals, as a guide for evaluation of manuals and checklists. (T-2)

7.2.1. The preferred method of organization and format for an Operator's Flight Manual and checklists are contained in MIL-DTL-7700G:

7.2.1.1. Syllabus areas for evaluation.

7.2.1.2. System description and operation.

7.2.1.3. System transport and assembly/disassembly.

7.2.1.4. Normal procedures.

7.2.1.5. Emergency procedures and abnormal operations.

7.2.1.6. Mission crew duties and procedures.

7.2.1.7. Operating limitations.

7.2.1.8. Flight characteristics.

7.2.1.9. Operator maintenance and periodic inspections.

7.2.1.10. Flight missions.

7.2.1.11. BUQ Level appropriate to the specific UAS, if not previously accomplished.

7.3. Accomplishment of Course Prerequisites. Commanders are responsible to ensure students complete course prerequisites prior to commencing training. (T-2)

7.4. Student Progress. (T-2)

7.4.1. If a student's progress is unsatisfactory, the contractor shall notify the appropriate government representative. Following review of the student's record, the government representative shall determine whether to continue or terminate training.

7.4.2. The vendor shall provide written feedback to the unit commander or training office for students who display substandard performance.

7.5. Courseware Changes. Submit proposed courseware changes to the Lead Command through appropriate military or contracting channels.

TOD D. WOLTERS, Lt Gen, USAF
Deputy Chief of Staff, Operations

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

- AFI 11-202, Volume 1, Aircrew Training**, 22 November 2010
- AFI 11-215, USAF Flight Manuals Programs (FMP)**, 22 December 2008
- AFI 11-290, Cockpit/Crew Resource Management Program**, 15 October 2012
- AFI 11-502, Volume 2, Small Unmanned Aircraft System Standardization/Evaluation Program**, 26 April 2012
- AFI 13-201, Air Force Airspace Management**, 21 August 2012
- AFI 33-360, Publications and Forms Management**, 25 September 2013
- AFI 36-2201, Air Force Training Programs**, 15 September 2010
- AFI 36-2251, Management of Air Force Training Systems**, 5 June 2009
- AFI 48-123, Medical Examinations and Standards**, 5 November 2013
- AFI 33-360, Publications and Forms Management**, 25 September 2013
- AFMAN 33-363, Management of Records**, 1 March 2008
- AFMAN 36-2234, Instructional System Development**, 1 November 1993
- AFPD 10-9, Lead Operating Command Weapon Systems Management**, 8 March 2007
- AFPD 11-5, Small Unmanned Aircraft Systems (SUAS) Rules, Procedures, and Service**, 17 August 2009
- CJCSI 3255.01, Joint Unmanned Aircraft Systems Minimum Training Standards**, 4 September 2012
- MIL-DTL-7700G, Flight Manuals, Air Refueling Procedures, and Abbreviated Checklists**, 13 May 2002
- MIL-HDBK-1221, DOD Handbook for Evaluation of Commercial Off-the-Shelf Manuals**, 28 August 1995
- Small Unmanned Aircraft Systems Manager (SUASMAN)
<https://webapps.hurlburt.af.mil/suasmgr>

Forms Prescribed

None

Forms Adopted

- AF Form 623, Individual Training Record Folder**
- AF Form 797, Job Qualification Standard Continuation/Command JQS**
- AF Form 847, Recommendation for Change of Publication**
- AF Form 1098, Special Task Certification and Recurring Training**

Abbreviations and Acronyms

AFI—Air Force Instruction

AFMC—Air Force Materiel Command

AFRC—Air Force Reserve Command

AFSC—Air Force Specialty Code

AFSOC—Air Force Special Operations Command

ANG—Air National Guard

ATC—Air Traffic Control

BAQ—Basic Aircraft Qualification

BUQ—Basic Unmanned Aircraft Systems Qualification (Level 1-4)

BDA—Battle Damage Assessment

CCIR—Commanders Critical Information Requirements

COA—Certificate of Authorization

CRM—Crew Resource Management

CT—Continuation Training

DOC—Designed Operational Capability

DoD—Department of Defense

DRU—Direct Reporting Unit

FAA—Federal Aviation Administration

FAR—Federal Aviation Regulation

FCR—Formal Course Reviews

FOA—Field Operating Agency

IAW—In Accordance With

ICAO—International Civil Aviation Organization

IQT—Initial Qualification Training

IQT-I—Initial Qualification Training – Instructor

JQS—Job Qualification Standard

MAJCOM—Major Command

MDS—Mission Design Series (Aircraft designation system)

MQT—Mission Qualification Training

MR—Mission Ready

NGB—National Guard Bureau

OCR—Office of Collateral Responsibility
OPR—Office of Primary Responsibility
ORM—Operational Risk Management
OTS—Officer Training School
PM—Program Manager
ROTC—Reserve Officer Training Corps
SAV—Staff Assistance Visit
Stan/Eval—Standardization and Evaluation
STR—SUAS Training Record
SUAS—Small Unmanned Aircraft System
SUAS-E—Small Unmanned Aircraft System Evaluator
SUAS-I—Small Unmanned Aircraft System Instructor
SUAS-O—Small Unmanned Aircraft System Operator
TM—Training Manager
TTP—Tactics, Techniques and Procedures
UA—Unmanned Aircraft
UAS—Unmanned Aircraft Systems
UCMJ—Uniform Code of Military Justice
USAF—United States Air Force
USAFA—United States Air Force Academy

Terms

Basic Aircraft Qualification—A crew member who has satisfactorily completed training prescribed to maintain the skills necessary to perform duties in the unit aircraft.

Initial Qualification Training-Instructor (IQT-I)—A SUAS crewmember who has been designated by the Lead Command and is authorized to conduct initial qualification training.

Maintenance—The inspection, overhauls, repairs, preservation, and/or the replacement of parts, but excludes preventive maintenance.

Mission Qualification Training—Training needed to qualify crew in an assigned crew position for a specific aircraft to perform the command or unit mission.

Mission Ready (MR)—A crew member who has satisfactorily completed mission qualification training and maintains qualification and proficiency in the command or unit operational mission.

Proficiency—A measure of how well a task is completed. An aircrew member is considered proficient when they can perform tasks at the minimum acceptable levels of speed, accuracy, and safety.

SUAS Evaluator (SUAS-E)—A SUAS crewmember who conducts Standardization and Evaluation flight evaluations in designated SUAS. Evaluations include aircraft operation, qualification, unit employment, visual flight, and crew performance.

SUAS Instructor (SUAS-I)—A SUAS crewmember who conducts training and assessments of SUAS-Os and SUAS unit trainers in designated SUAS and promotes safety among aircrew members. Training and assessments include air vehicle operation, qualification, unit employment, visual flight, and crew performance.

SUAS-O—An individual who has completed IQT in a specific UAS.

SUAS Manager (SUASMAN) Web Applications—The electronic Web based form to log operator currency and training; system availability and status, and trends analysis.

SUAS Program Manager—The individual (normally an experienced SUAS-I) designated by a unit commander to oversee all aspects of SUAS training and equipment management.

Training mission—Missions flown for flight qualification, refresher, or proficiency/currency training; ATP requirements, and authorized training exercises.

Unmanned Aircraft (UA)—An aircraft or balloon that does not carry a human operator and is capable of flight under remote control or autonomous programming. A UA may be expendable or recoverable, carries a payload, is not operated for sport or hobby, and does not transport passengers or crew. For purposes of compliance with 14 CFR 1, subchapter A, part 1.1., UAs are to be considered —aircraft, typically either an —airplane or —rotorcraft, as defined in 14 CFR 1, subchapter A, part 1.1. (FAA refers to these aircraft as remotely operated aircraft).

Unmanned Aircraft Systems (UAS)—That system whose components include the necessary equipment, network, and personnel to control an unmanned aircraft.

Attachment 2
 UAS GROUPS

Figure A2.1. DoD UAS Groups.

UAS Category	Maximum Gross Takeoff Weight (lbs)	Normal Operating Altitude (ft)	Speed (KIAS)
Group 1	0-20	<1200 AGL	<100
Group 2	21-55	<3,500 AGL	<250
Group 3	<1320	<18,000 MSL	
Group 4	>1320	>18,000 MSL	Any Speed
Group 5			