BY ORDER OF THE
SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 11-502,
VOLUME 1

26 APRIL 2012

Flying Operations

SMALL UNMANNED AIRCRAFT SYSTEMS
TRAINING

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available on the e-Publishing website at.
www.e-Publishing.af.mil for downloading or ordering

RELEASABILITY: There are no releasability restrictions on this publication

OPR: HAF/A3O-AS

Certified by: AF/A3/5
(Col Gregg D. Vanderley)
Pages: 26

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-O's 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 must be routed through AF/A3O-AS 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 Form 847s from the field through major command (MAJCOM) headquarters IAW AFI 11-215 *USAF Flight Manuals Program (FMP)*. Ensure that all records created as a result of processes 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) located at **https://www.my.af.mil/afrims/afrims/afrims/rims.cfm**.

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 UAS less than 1320 lbs gross weight (Groups 1-3 of Figure A2.1). Air Force Special Operations Command (AFSOC) is designated Lead Command for Groups 1-3 UAS (generally 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. This instruction provides program and training guidance. AFI 11-502, *Small Unmanned Aircraft Systems Training,* volumes 1, 2, & 3 draw from the respective AFI 11-202, *General Flight Rules,* volumes 1, 2, & 3, with modifications tailored to Small Unmanned Aircraft Systems; knowledge of the AFI 11-202 series is highly encouraged in order to fully understand the parallels and differences between systems and their supporting instructions.

1.2. Key Definitions:

1.2.1. "Will" and "Shall" indicate a mandatory requirement.

1.2.2. "Should" indicates a preferred, but not mandatory, method of accomplishment.

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. Waiver Authority. Unless otherwise specified in this instruction, HAF/A3O-AS is the waiver authority for this instruction. Waivers to the basic guidance in this instruction will be requested through applicable training channels to MAJCOM/A3, or equivalent level. MAJCOM/A3s will forward request in message or memo format to HAF/A3O-AS. Waivers to supplemental guidance will be handled by the MAJCOM agency that generated the supplement. Unless otherwise specified in AFI 11-5 Group-specific, Volume 1, MAJCOM/A3s are the waiver authority for specific individual SUAS crewmember training requirements. Waivers to this instruction will be valid for a maximum period of 12 months from approval date. Units assigned, attached, or under operational control of a geographic combatant commander will request waivers through the Commander Air Force Forces (COMAFFOR) who may approve, disapprove, or forward to HAF/A3O-AS for resolution, with a copy to HQ AFSOC/A3OU (Exception: AFMC is not required to send a copy to HQ AFSOC/A3OU.) HAF/A3O-AS will authorize waivers to this directive only for essential MAJCOM requirements.

1.5. Responsibilities.

1.5.1. HAF/A3.

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

1.5.1.2. Delegate office of primary responsibility (OPR) for this instruction to HAF/A3O-AS.

1.5.1.3. Delegate office of collateral responsibility (OCR) for this instruction to HQ AFSOC/A3.

1.5.1.4. Approve SUAS Group-Specific instructions Volumes 1 and 2.

1.5.2. MAJCOMs.

1.5.2.1. General. MAJCOMs will:

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 11-5 Group-specific, Volume 1; forward one copy of each course outline to HQ AFSOC/A3OU.

1.5.2.1.4. Resolve SUAS MQT and CT issues.

1.5.2.1.5. Quantify Formal Training Unit student allocations required; manage training allocations received.

1.5.2.1.6. Submit unclassified Read File items to the Small UAS Manager (SUASMAN) web application.

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

1.5.2.1.8. Determine unit of attachment for attached staff personnel in SUAS-O positions. NOTE: AETC maintains administrative oversight of USAF Academy 306th Flying Training Group UAS training program.

1.5.2.2. Lead Command, (HQ AFSOC/A3).

1.5.2.2.1. In coordination with using commands, develop and manage the UAS Group-Specific, Volume 1, *SUAS Operator Training.* The UAS Group-Specific, Volume 1 will not be less restrictive than this AFI. Exception: AFMC will publish training requirements for flight test operations in AFI 11-5FT, Vol 1.

1.5.2.2.2. Approve formal school courses and syllabi. These courses and syllabi should be developed to support the Air Force Mission Essential Task List. Send proposals for amending existing course prerequisites and syllabi or deleting obsolete courses through the appropriate headquarters to AFSOC/A3 for approval.

1.5.2.2.2.1. Review and approve Initial Qualification Training (IQT) courses for each fielded SUAS; maintain a copy of each course syllabus. 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 System Development*.

1.5.2.2.2.2. Review and approve Operator Training System (OTS) course objectives and syllabi. Contractor 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 OTS contract.

1.5.2.2.3. Host annual training conferences.

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

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

1.5.2.2.6. Provide HAF/A3O with a monthly status report of all Air Force fielded SUAS via SUASMAN.

1.5.2.2.7. Maintain information copies of MAJCOM SUAS Mission Qualification Training (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.

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

1.5.4. Group Commanders (Squadron Commanders in the Air National Guard) will:

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

1.5.4.2. Certify and designate a group-level SUAS-I. The Group SUAS-I is responsible for the oversight of each subordinate (active duty) unit's SUAS training programs. Certification and designation will be documented in the individual's training records.

1.5.4.3. Assist in the implementation of group and squadron SUAS training programs.

1.5.4.4. Resolve training issues that arise between subordinate units.

1.5.4.5. Maintain a list of all assigned SUAS-Os with qualifications and currency.

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

1.5.4.7. Approve Group supplements to this and applicable AFI 11-5 Group-specific Volumes 1.

1.5.4.8. Review subordinate squadron MQT and CT programs.

1.5.5. Group SUAS-I/E will:

1.5.5.1. Coordinate with the Group SUAS-I Training Manager (TM) 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-Is are incorporated into a supplement to this Instruction.

1.5.5.6. Conduct a 30/60/90 day review at the end of each month to manage group staff currencies and identify training shortfalls.

1.5.5.7. Establish and maintain a MAJCOM-approved unclassified SUAS read file.

1.5.5.8. Log on the Air Force SUAS Web Application ESURF at the beginning of each month and transfer any pertinent information into a squadron SUAS read file.

1.5.6. Squadron/Unit Commanders (Flight Commanders in the ANG/AFRC) will:

1.5.6.1. Develop and maintain a unit SUAS training program. The training program will be tailored to meet the unit's DOC Statement requirements and should be conducted in conjunction with joint training exercises to the maximum extent possible.

1.5.6.2. Develop theater indoctrination training and ensure SUAS operators are trained for assigned theater flight operations. As a minimum, training will include a thorough 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. Conduct a 30/60/90 day review at the end of each month to manage currencies and identify training shortfalls.

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. Certify and designate a unit-level SUAS-I. The SUAS-I is responsible for the oversight of the unit's SUAS training program. Certification and designation will be documented in the individual's training records.

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.

1.5.6.10. Develop Commanders Critical Information Requirements (CCIR).

1.5.7. Squadron SUAS-I/TM (includes ANG/AFRC units) will:

1.5.7.1. Ensure the intent and guidance of this instruction is implemented. Develop and incorporate unit-specific SUAS training requirements and program management procedures into the unit's supplement to this instruction.

1.5.7.2. 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. Exception: AFMC will maintain training records on forms and automated products currently approved for use in AFMC. These forms will be maintained in individual training folders.

1.5.7.3. Create and maintain an electronic SUAS training folder (STF) for each SUAS-O in SUASMAN. Maintain all SUAS training documentation in this electronic training folder. Exception: AFMC test operations will maintain training records on forms and automated products currently approved for use in AFMC.

1.5.7.4. Conduct an annual records review on all SUAS-Os.

1.5.7.5. Ensure in-processing for SUAS-Os includes a review of their STF as specified by the applicable AFI 11-5 Group-specific, Volume 1. In-processing must include completion of at least one SUAS local area familiarization flight under the supervision of a SUAS-I.

1.5.7.6. Maintain and utilize SUAS lesson plans and develop additional lesson plans as needed.

1.5.7.7. Document all SUAS training.

1.5.7.8. Maintain SUAS qualification and meet currency and CT requirements for the tasks they are instructing.

1.5.7.9. Conduct a review at the end of each month to identify SUAS operators who have not controlled a SUAS mission within the last 90 days and identify individuals whose 90 days will expire within the upcoming month. Non-current SUAS-Os must fly with an instructor until currency requirements are met.

1.5.7.10. Report training and equipment deficiencies to the commander.

1.5.7.11. Track each individual's SUASMAN and Unit Read File currency and brief deployed personnel to update their read file currency.

1.5.8. Individual SUAS operators will:

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

1.5.8.2. Maintain assigned status IAW paragraph 5.2. and unit commander guidance. Member is responsible for monitoring and completing all training requirements.

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

1.5.8.4. Forward/hand-carry their individual SUAS training records during Permanent Change of Station (PCS)/Permanent Change of Assignment (PCA) to assist gaining unit assessment of qualifications and training requirements.

1.5.8.5. Complete SUAS-O's flight log after each flight (to include simulator flights) or as soon as possible in contingency operations. Flight logs will be started during IQT and be maintained throughout a SUAS-O's career. Every operator is required to record his/her flight in the flight log and transfer the information to the SUASMAN web application as soon as possible. Flight logs will be used to track flight hours for each specific SUAS, which will be used to determine currency and provide critical trend analysis.

1.5.8.6. A contracted SUAS-O requirement to comply with Air Force UAS guidance must be stipulated in contracts.

1.5.8.7. UAS leased or loaned to Air Force organizations will be operated in compliance with Air Force guidance.

1.6. In-Unit Training Time Limitations. Members entered in an in-unit training program leading to requalification will be dedicated to that program; i.e., give training requirements priority over non-training related duties. Exception**:** Supervisory personnel may continue their normal duties as training time permits. Time limitations for requalification are contained in applicable Group-Specific instructions.

1.7. Recurrency Training.

1.7.1. Loss of Currency up to 6 Months. An operator must demonstrate proficiency with a SUAS Instructor (SUAS-I) in all delinquent items. The unit commander/designated representative will make an entry in the individual's AF Form 623, *On-the-Job Training Record* or SUAS-O folder in SUASMAN stating individual has regained his currency. For the purposes of this instruction, training folder refers to the training folder in SUASMAN. Exception: AFMC will maintain training records on forms and automated products currently approved for use in AFMC. Units may keep physical copies of training folders at their discretion.

1.7.2. Loss of Currency Exceeding 6 Months. Group-Specific instructions will establish which currency items result in unqualified status requiring requalification according to paragraph 1.7. and which currency items do not result in unqualified status allowing currency to be regained according to paragraph 1.7.

1.8. Requalification Training. A SUAS-O is unqualified upon: (1) expiration of his or her qualification evaluation or, (2) loss of currency exceeding 6 months (for currency items specified in applicable Group-Specific instructions, according to paragraph 1.7.2). The duration of unqualified time is from the date the aircrew member 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 or Group-Specific instructions):

1.8.1. Unqualified up to 39 months. Complete training in all delinquent items (as applicable), additional training as directed by the squadron commander, and a flight evaluation. At a minimum, additional training will consist of the following: review of

approved academic courseware, practice of all SUAS tasks and procedures IAW CJCSI 3255.01, *Joint Unmanned Aircraft Systems Minimum Training Standards*, review and practice of emergency procedures, review of airspace & frequency deconfliction procedures, set up/tear down of the system (if applicable) and at least one flight supervised by a SUAS-I.

1.8.2. Unqualified exceeding 39 months. Completion of Initial Qualification Training (IQT), MQT and applicable flight evaluations satisfies this requalification requirement.

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 11-5 Group-specific, Volume 1 for SUAS-specific procedures.

1.10. Formal Course Review. The FCR will 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, NAF training and standardization offices (if applicable), selected unit representatives, and Operator Training System (OTS) contractors.

Chapter 2

TRAINING AND QUALIFICATIONS STANDARDS

2.1. General. SUAS-Os are trained, qualified and authorized to plan and conduct SUAS operations (SUAS-OPS) in approved airspace. SUAS Instructors (SUAS-I) are qualified to conduct SUAS training and are selected by their unit commander based on performance recommendations from the SUAS Evaluators (SUAS-E). SUAS-Es are the best-qualified SUAS-Is to conduct SUAS evaluations. SUAS-Es are selected by the unit commander based on recommendations from the lead SUAS-E. Standardized training for SUAS-Os is essential to safe and effective employment of SUAS. SUAS training standards established in this instruction ensure SUAS-Os are properly qualified to safely control Air Force SUAS. These standards also provide commanders with quantitative mission performance indicators for assessing SUAS-Os and determining individual mission readiness. This instruction provides guidance for conducting a SUAS training program that will complement AFI 36-2201, *Air Force Training Program.*

2.2. Unit SUAS Training Program. Units will design their SUAS training programs to achieve the highest degree of individual . Training objectives must balance the need for realism against expected risk when executing SUAS mission essential tasks. Air Force standards that govern safety of flight, as well as the safety of surface forces, apply during the administration of the overall training program. Training criteria should include Crew Resource Management (CRM) techniques. See AFI 11-290, *Cockpit/Crew Resource Management Training Program*, and MAJCOM supplements (as applicable).

2.2.1. Unit SUAS training requirements incorporated in the unit supplement will be forwarded to the Group SUAS-I/TM for review. MAJCOM-designated SUAS Training POC and/or SUAS-E will assist subordinate units to ensure all required areas of training and qualification are addressed. The unit supplement will, at a minimum, address the following items:

2.2.1.1. Unit TM, SUAS-E/I, Supervisor, and SUAS-O duties and responsibilities.

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

2.2.1.3. TM, SUAS-I, and SUAS-O training responsibilities.

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

2.2.1.5. Method of training documentation.

2.2.1.6. 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.

2.2.1.7. Training outline covering mission requirements as determined by 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), preferably using experiences in recent contingencies. Units will design

SUAS training missions that will achieve capability in mission tasks and enhance mission accomplishment. Training missions must comply with all range safety procedures, applicable Air Traffic Control (ATC) regulations, Federal Aviation Administration (FAA)/International Civil Aviation Organization (ICAO) regulations/directives, and SUAS system safety standards. Mission scenarios will include appropriate use of code words, authentication procedures, combat tactics, tactical deception and concealment, threat reactions, intelligence briefings/debriefings, and Battle Damage Assessment (BDA) reports. SUAS-Os will use tactics, techniques, and procedures (TTP) appropriate to the scenario.

2.2.2.1. Prior to each training mission, the SUAS-I/E will ensure all trainees are current on Read File requirements, medically qualified for control, and all AF Form 1098, *Special Task Certification and Recurring Training*, requirements have been accomplished.

2.2.3. **Maintaining Training Records.** Units will maintain records for individual training and evaluation IAW AFI 36-2201, *Air Force Training Program* and all applicable directives. Individual training records will be entered, maintained, and accessed through the Small UAS Manager (SUASMAN) web-enabled database. Use of supplemental paper-based records is at the discretion of the unit commander. SUAS Instructors will coordinate inputs to an individual's training record with supervisors and the unit's TM as appropriate to ensure SUAS training documentation is completed as required. The use of automated products is authorized. If automated products are used, they will be included in an individual's training folder upon PCA, PCS, or when TDY in support of exercises and contingencies. Exception: AFMC will maintain training records on forms and automated products currently approved for use in AFMC test operations.

2.3. Certification & Documentation. All SUAS-O/I/Es will be certified. This training and certification will be documented on an AF Form 797, *Job Qualification Standard Continuation/Command JQS* or a suitable computer product and will be maintained in the individual's training folder. Exception: AFMC will maintain training records on forms and automated products currently approved for use in AFMC for test operations.

2.3.1. Training/Certification Routing/Signing Procedures: The proper routing procedures are: SUAS-I**,** trainee's supervisor, unit commander, and trainee**.** After all individuals in the routing chain sign the training/certification form, it will be returned to the Training and/or Stan/Eval Section and placed in the trainee's training folder.

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.

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

2.4.2. SUAS-O 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. SUAS-O 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-I/TM in coordination with unit Stan/Eval section and have unit commander's approval. Exception:

AFMC will maintain training records on forms and automated products currently approved for use in AFMC.

2.4.4. SUAS-Os that regress to Non-Mission Ready (N-MR) status will accomplish a tailored program under the supervision of the SUAS-I/TM to regain MR status as approved by the unit commander IAW paragraph 1.6, Recurrency Training.

Chapter 3

INITIAL QUALIFICATION TRAINING (IQT)

3.1. Overview. Initial Qualification Training is training needed to qualify for basic operator duties for a specific UAS, without regard for the unit's operational mission. This section specifies the minimum training requirements for initial qualification training.

3.2. Requirements. Unless specified in applicable UAS Group-Specific instruction, the primary method of initial qualification is to attend and complete the appropriate formal training course approved by AFSOC (Exception: AFMC may conduct training at its discretion for test systems) Only Lead Command-designated Initial Qualification Training – Instructors (IQT-I) may conduct IQT. Completing the appropriate formal course satisfies all basic qualification training requirements that meets or exceeds the requirements designated in CJCSI 3255.01, *Joint UAS Minimum Training Standards*. SUAS-Os must complete thorough flight training to enable the operator to demonstrate control of a SUAS throughout its performance parameters and potential operating conditions, including dealing correctly with emergencies and system malfunctions during any phase of the mission.

3.3. Initial Qualification Training Prerequisites. Before entering qualification training, each member must have approval of the unit commander, designated representative, first O-5 or equivalent in the operator's chain of command. Candidates will complete physical examinations according to AFI 48-123, *Medical Examinations and Standards*. Members who fail to successfully complete the physical may not perform SUAS operations until they successfully complete the examination.

3.4. Ground Training Requirements.

3.4.1. **Academic Training.** Accomplish academic training requirements as directed in the applicable AFSOC-approved syllabus.

3.4.2. **Written Examinations.** Satisfy requirements of AFI 11-502, Volume 2, *Small Unmanned Aircraft System Standardization/ Evaluation Program* and applicable UAS Group-Specific instructions.

3.4.3. **Ground Training.** 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.

3.5. Flying Training Requirements.

3.5.1. Every effort will be made to complete qualification training requirements within the prescribed time period with no significant break in training.

3.5.2. With group commander (ANG squadron commander) approval, upgrade and special qualification training requirements may be completed during operational missions under the supervision of an instructor. Comply with restrictions in appropriate UAS Group-Specific instructions, MAJCOM directives, and applicable OPORD.

3.5.3. An IQT-I will be a safety observer any time a trainee is controlling a SUAS. The IQT-I will be physically located with the trainee and will be able to assume direct control of the UA if required.

3.6. Documentation. All SUAS missions conducted by trainees will be documented on a SUAS mission grade sheet; AF Form 4144, *Positional Evaluation Checklist* or MAJCOM-approved substitute. The grade sheets will be filed in the training record. **Note:** MAJCOMs/Unit Commanders will identify the tasks deemed as "critical" IAW their local training program.

3.7. Basic Aircraft Qualification (BAQ). Status of an individual who has satisfactorily completed initial qualification training and is qualified to perform SUAS-O duties. The member must perform at the minimum frequency necessary to meet the most recent standards set for that SUAS in the applicable UAS Group-Specific instruction. Upon completion of IQT, SUAS-Os may perform duties on any non-mission sortie for currency training, demonstrations or on missions when receiving instruction or supervision by a qualified instructor or examiner. 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.

3.8. Requalification. Requalification training requirements will be established in UAS Group-Specific instructions and be in accordance with paragraph 1.7 of this instruction.

3.9. Difference and Conversion Training. Difference training is an abbreviated IQT course designed to qualify a SUAS-O on a new variant or substantially similar UAS. The SUAS-O in training must be qualified and current on the foregoing UAS. If the difference between UAS variants is significant, the training will be classified as conversion training and will require completion of the long course IQT. Difference and conversion qualification training requirements will be specified by the Lead MAJCOM in AFI 11-5GP(1,2, or 3)-SUAS volumes 1.

3.10. Multiple Qualification. MAJCOMs will supplement this publication to designate approval of multiple SUAS qualifications.

Chapter 4

MISSION QUALIFICATION TRAINING (MQT)

4.1. Overview. Mission qualification training is required to qualify an operator to perform the command or unit mission. UAS Group-Specific instructions prescribe minimum training requirements to qualify individuals in unit missions. 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 for MR status. MQT programs will be developed by the unit and approved by the MAJCOM/A3. 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.

  4.1.1. 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 must complete at least one SUAS flight under the supervision of a SUAS-I.

4.2. Administration. MQT will be accomplished within the time frame specified in the AFI 11-5 Group-specific Volumes.

  4.2.1. Individuals failing to satisfactorily complete MQT in the allotted time must have commander approval to continue in training. Breaks in training will be documented in the individual's training record.

  4.2.2. Training will 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 SUAS-I will request a formal performance evaluation from a SUAS-E. Formal evaluation will be documented and maintained in the SUAS web application and the individual's AF Form 623. A copy will be maintained in the SUAS training record when applicable.

4.3. Mission Ready (MR). An MR SUAS-O has satisfactorily completed mission qualification training and maintains qualification and proficiency in the command or unit operational mission and has received certification from the unit commander, designated representative, first O-5 or equivalent in the operator's chain of command. An MR SUAS-O is authorized to perform unsupervised flights in approved and coordinated airspace as defined in AFI 11-502, Volume 3, paragraph 3.4.

Chapter 5

CONTINUATION TRAINING (CT)

5.1. General. The continuation training program provides SUAS-Os with the volume, frequency, and mix of training necessary to maintain proficiency in the assigned qualification level. SUAS continuation training includes recurring equipment and unit-specific training required to maintain an individual's MR status and ability to accomplish the unit's assigned missions. UAS Group-Specific instructions prescribe minimum CT requirements to maintain system proficiency. Unit commanders will document additional CT tasks deemed critical and required for recurring training in the unit supplement to the appropriate UAS Group-Specific instructions.

5.2. Status. A member may be assigned Mission Ready or Basic Aircraft Qualification status.

5.2.1. **Mission Ready (MR).** See paragraph 4.3.

5.2.2. **Basic Aircraft Qualification (BAQ).** A BAQ SUAS-O has satisfactorily completed IQT. The SUAS-O must perform at the minimum frequency necessary to meet the most recent standards set for that SUAS in the applicable UAS Group-Specific instruction.

5.2.3. **Minimum Requirements.** In addition to the above, MR and BAQ members must have accomplished and/or maintain the following minimum requirements (*NOTE:* an asterisk [*] indicates requirement is a go/no-go item):

5.2.3.1. *Annual physical according to AFI 48-123.

5.2.3.2. Flight evaluation IAW AFI11-502, Volume 2, *Small Unmanned Aircraft Systems Standardization/Evaluation Program.*

5.2.3.3. Flight currency events, except special mission qualifications that do not affect the wartime mission.

5.2.3.4. Annual CRM training.

5.3. Documenting Training Events/Profiles. SUAS continuation training will be documented in the SUAS Web Application (SUASMAN) **https://webapps.hurlburt.af.mil/suasmgr**. Exception: AFMC will incorporate a SUAS information management system into its own command-wide data manager.

5.4. Failure to Complete Continuation Training Requirements. The unit SUAS-I/TM will advise the commander on the currency status of all assigned SUAS-O/I/Es. If an individual has lost his or her currency in a task, the unit SUAS-I/TM will make an entry in the individual's SUASMAN record. When requirements are not met, the commander will investigate the failure.

5.4.1. Declare individuals Non-Mission Ready (N-MR) or non-basic aircraft qualified (N-BAQ) if they fail to complete periodic continuation training requirements as defined above and in UAS Group-Specific training requirements. The individual will be declared non-current by the unit commander in that task and may not perform that task unsupervised until re-current in that task. A detailed explanation must be annotated in SUASMAN along with the recurrency training strategy. See paragraph **1.6**.

5.4.2. Failure to accomplish a recurring physical results in immediate NMR status until the physical is accomplished.

5.4.3. Suspend members assigned to active SUAS-O positions who fail to attain and maintain qualification when such action is within the member's control.

5.4.4. Non-current SUAS-Os are not authorized to operate SUAS without the supervision of a SUAS-I.

5.5. Removal from training. Do not continue in training any individual unable to pass the SUAS-O physical exam (refer to AFI 48-123, paragraph 6.48.11.) A Commander may also remove individuals from SUAS training at his discretion. : Other reasons for removal are:

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

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

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

5.6. Reentry into training. Commanders must approve, and document, a disqualified individual's reentry into SUAS training. This documentation becomes a permanent part of the individual's training folder. Unit commanders will closely monitor training of previously-removed individuals.

Chapter 6

UPGRADE TRAINING

6.1. SUAS-I. Unit commanders shall select the best-qualified individuals to perform SUAS-I duties based on the following criteria: See applicable AFI 11-5 Group-specific, Volume 1 for additional requirements.

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

6.1.2. Instructor candidate selection will 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 depicted below. These minimums assume that there is no prior experience. Credit prior experience in other UAS Groups.

Table 6.1. Minimum Hours Required for Instructor Upgrade.

Group	Minimum Hours
1	25
2	50
3	50

6.1.4. Successfully complete a SUAS-I evaluation, administered by a SUAS-E, using the criteria specified in the AFI 11-5 Group-specific Volume 2.

6.1.5. SUAS-Is shall be designated in writing by the unit commander. The commander's designation letter will be entered into the individual's training record.

6.1.6. Unit SUAS-Is are not authorized to instruct IQT.

Chapter 7

OPERATOR TRAINING SYSTEM (OTS)

7.1. General. The OTS is a system wherein an approved contractor conducts Lead Command-approved academic, simulator, and/or other designated operator training. It is only authorized when no formal course is available.

7.2. Applicability. Guidance applies to all SUAS-Os attending formal schools using OTS courseware and/or OTS refresher/phase training or units conducting in-unit training.

7.3. Students. Students will train on a full-time basis to ensure their training is completed in a timely, uninterrupted manner. Students will be relieved of duties not directly related to training. Exceptions: 1. USAFA cadets. 2. When training is conducted at home station, supervisory personnel may continue their normal duties as instruction permits.

7.4. Course Prerequisites. Commanders are responsible to ensure OTS students complete OTS course prerequisites prior to commencing training.

7.5. Objectives. Lesson objective descriptions, remediation procedures, specific training evaluation criteria, administration procedures and scheduling guidelines/procedures are found in the applicable course syllabus.

7.6. Unsatisfactory Student Progress.

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

7.6.2. The OTS contractor will provide written feedback to the unit commander or training office for students who display substandard performance.

7.7. Courseware Changes. Submit formal school courseware changes through appropriate MAJCOM channels via the SUAS training POC to HQ AFSOC/A3OU. Submit all other courseware changes to the MAJCOM responsible for overseeing the OTS contract.

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DCS, Air, Space and Information Operations, Plans
& Requirements

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

Education and Training Course Announcements (ETCA)
https://etca.randolph.af.mil/default1.asp

AFH 11-203, *Weather for Aircrews, Volume 2*

AFI 11-202, Vol 1, *Flying Operations: AIRCREW TRAINING*

AFI 11-208(I), D*epartment of Defense Notice to Airmen (NOTAM) System*

AFI 11-214, *Air Operations Rules and Procedures*

AFI 11-215, *USAF Flight Manuals Programs (FMP)*

AFI 11-218, *Aircraft Operation and Movement on the Ground*

AFI 11-403, *Aerospace Physiological Training Program*

AFI 13-201, *Air Force Airspace Management*

AFI 13-204, Vol. 3, *Airfield Operations Procedures and Programs*

AFI 33-360, *Publications and Forms Management*

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AFI 36-2251, *Management of Air Force Training Systems*

AFI 48-123, *Medical Examinations and Standards*

AFI 90-901, *Operational Risk Management*

AFI 91-202, *The US Air Force Mishap Prevention Program*

AFI 91-204, *Safety Investigations and Reports*

AFMAN 10-206, *Operational Reporting*

AFMAN 33-363, *Management of Records*

AFPAM 11-216, *Air Navigation*

AFPD 10-9, *Lead Operating Command Weapon Systems Management*

AFPD 13-2, *Air Traffic Control, Airspace, Airfield, and Range Management*

CJCSI 3255.01, *Joint Unmanned Aircraft Systems Minimum Training Standards*

FAA Advisory Circular 20-130A, *Airworthiness Approval of Navigation or Flight Management Systems Integrating Multiple Navigation Sensors*

FAA Advisory Circular 90-45A, *Approval of Area Navigation Systems for Use in the US National Airspace System*

FAA Advisory Circular 91-57, *Model Aircraft Operating Standards*

FAA Advisory Circular 97-1A, *Runway Visual Range (RVR)*

FAA Advisory Circular 120-33, *Operational Approval of Airborne Long Range Navigation Systems for Flight within the North Atlantic Minimum Navigation Performance*

FAA Handbook 7110.65, *Air Traffic Control*

FAA Handbook 7400.2, *Procedures for Handling Airspace Matters*

FAA Handbook 7610.4, *Special Military Operations*

FAA Handbook 8260.19, *Flight Procedures and Airspace*

FAA TSO-115B, *Airborne Area Navigation Equipment Using Multi-Sensor Inputs*

FAA TSO-129a, *Airborne Supplemental Navigation Equipment Using the Global Positioning System (GPS)*

FAR Part 91, *General Operating and Flight Rules*

T.O. 00-20-1, *Preventive Maintenance Program, General Policy Requirements and Procedures*

T.O. 00-20-5, *Aerospace Vehicle/Equipment Inspection and Documentation*

T.O. 1-1-300, *Acceptance/Functional Check Flight and Maintenance Operational Checks*

Forms Adopted

AF Form 8, *Certificate of Aircrew Qualification*

AF Form 623, *Individual Training Record Folder*

AF Form 847, *Recommendation for Change of Publication*

AF Form 942, *Record of Evaluation*

AF Form 1381, *USAF Certification of Air Crew 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

AOR—Area of Responsibility

BAQ—Basic Aircraft Qualification

COA—Certificate of Authorization

COMAFFOR—Commander, Air Force Forces

CONUS—Continental United States

CRM—Crew Resource Management

CT—Continuation Training

DoD—Department of Defense

FAA—Federal Aviation Administration

FAR—Federal Aviation Regulation

GCS—Ground Control Station

IAW—In Accordance With

ICAO—International Civil Aviation Organization

IFR—Instrument Flight Rules

IQT—Initial Qualification Training

IQT-I—Initial Qualification Training - Instructor

ISR—Intelligence, Surveillance, and Reconnaissance

JQS—Job Qualification Standard

MAJCOM—Major Command

MDS—Mission Design Series (Aircraft designation system)

MOU—Memorandum of Understanding

MQT—Mission Qualification Training

MR—Mission Ready

NAS—National Airspace System

NGB—National Guard Bureau

N-MR—Non-Mission Ready

OCONUS—Outside Continental United States

OI—Operating Instruction

OPLAN—Operations Plan

OPORD—Operations Order

ORM—Operational Risk Management

OTS—Operator Training System

PCA—Permanent Change of Assignment

PCS—Permanent Change of Station

RVT—Remote Video Terminal

Stan/Eval—Standardization and Evaluation

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—Technical Manual

TM—Training Manager

TTP—Tactics, Techniques and Procedures

UA—Unmanned Aircraft

UAS—Unmanned Aircraft System

UCMJ—Uniform Code of Military Justice

USAF—United States Air Force

Terms

Air traffic—Aircraft operating in the air or on an airport surface, exclusive of loading ramps and parking areas.

Catastrophic failure—Any failure that leads to the loss or destruction of the UA.

Controlled airspace—A generic term that covers the different classification of airspace (Class A, Class B, Class C, Class D, and Class E airspace) and defined dimensions within which air traffic control service is provided to Instrumented Flight Rules (IFR) flights and to Visual Flight Rules (VFR) flights in accordance with the airspace classification (see the Aeronautical Information Manual).

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

Lead SUAS-O—The SUAS-O specifically identified by responsible authority and tasked with the overall responsibility for the operation and safety of the SUAS mission. Equivalent to the Pilot-in-Command of a manned aircraft.

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

National Airspace System (NAS)—All of the airspace above the surface of the earth over the United States and its possessions.

Night—The time between the end of evening nautical twilight and the beginning of morning nautical twilight converted to local time.

Restricted area—Airspace designated in Part 1 of the Federal Aviation Regulations within which the flight of aircraft, while not prohibited, is subject to restriction(s).

SUAS Evaluator (SUAS-E)—A SUAS crewmember who conducts evaluation of SUAS-Os, SUAS-I and other evaluators in designated SUAS and promotes safety among SUAS crew members. Evaluations include air vehicle operation, qualification, unit employment, visual flight, and crew performance.

SUAS Instructor (SUAS-I)—A SUAS crewmember who conducts training and evaluation of SUAS-Os and SUAS unit trainers in designated SUAS and promotes safety among aircrew members. Training and evaluation 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.

Traffic pattern—The traffic flow that is prescribed for aircraft landing at, taxiing on, or taking off from an airport or airfield.

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. Also called **UA.** (Joint Publication 3-52) 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 System (UAS)—That system whose components include the necessary equipment, network, and personnel to control an unmanned aircraft. Also called **UAS.** (Joint Publication 3-52)

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	<250
Group 4	>1320	<18,000 MSL	Any Speed
Group 5	>1320	>18,000 MSL	Any Speed