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

**DEPARTMENT OF THE AIR FORCE MANUAL 11-501** 

10 JANUARY 2025

Flying Operations

SMALL UNMANNED AIRCRAFT SYSTEMS MANAGEMENT

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OPR: AF/A3S

Supersedes: AFMAN11-502, 29 July 2019 Certified by: AF/A3S Pages: 68

This publication implements Department of the Air Force Policy Directive (DAFPD) 10-9, Lead Command/Lead Agent Designation and Responsibilities for United States Air Force Weapon Systems; and Air Force Policy Directive (AFPD) 11-5, Small Unmanned Aircraft Systems. It provides guidance and procedures on sUAS operations throughout the Department of the Air Force (DAF). This publication applies to all DAF civilian employees, uniformed members of the Regular Air Force, the Air Force Reserve, the Air National Guard (ANG), the United States Space Force (USSF), Civil Air Patrol (CAP), when the services of CAP are used by any department or agency in any branch of the Federal Government, employing or testing Small Unmanned Aircraft Systems (sUAS) Groups 1 and 2, and those with a contractual obligation to abide by the terms of DAF publications to include contractors who are also governed by Air Force Instruction (AFI) 10-220, Contractor's Flight and Ground Operations, employing or testing Groups 1, 2, and 3 UAS. DAFPD 11-4, Aviation Service, does not apply to sUAS operators. This manual requires the collection and or maintenance of information protected by the Privacy Act of 1974 authorized by Title 10 United States Code, Section 8013, Secretary of the Air Force, IAW 5 USC § 552a. Ensure all records generated as a result of processes prescribed in this publication adhere to AFI 33-322, Records Management and Information Governance Program, and are disposed in accordance with (IAW) the Air Force Records Disposition Schedule, which is located in Air Force Records Information Management System Refer recommended changes and questions about this publication to the office of primary responsibility (OPR) using the DAF Form 847, Recommendation for Change of Publication; route DAF Forms 847 from the field through the appropriate functional chain of command. This publication may be supplemented at any level, but all supplements must be routed to the OPR of this publication prior to certification and approval. Send supplements to AF.A3S.Workflow@us.af.mil. The authorities to waive wing/Space Force



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#### SUMMARY OF CHANGES

This is a new manual and must be completely reviewed. It contains common Small Unmanned Aircraft Systems (sUAS) management requirements and processes for Groups 1-3 sUAS that were previously contained in Air Force Manual (AFMAN) 11-502, *Small Unmanned Aircraft Systems*.

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#### Chapter 1

#### **OVERVIEW**

1.1. Overview. See Attachment 2, Department of Defense (DoD) UAS Categories. sUAS owned or operated by (or on behalf of) DoD and DAF normally are "public aircraft." See AFI 10-220, Section 9.2. Title14, Code of Federal Regulations, Part 107, Small Unmanned Aircraft Systems, only applies to civil UAS and not "public aircraft." The DoD Office of the General Counsel Memorandum, Applicability of 14 C.F.R. Part 107 to the Department of Defense, dated 16 May 2019, has determined that regulations set forth in 14 CFR Part 107 do not apply to sUAS operations carried out by the DoD, including sUAS operations conducted by the Military Departments and Defense Agencies. Per Department of the Air Force Instructions (DAFI) 10-2701, Organization and Function of the Civil Air Patrol, dated 17 June 2021, Civil Air Patrol-United States Air Force (CAP-USAF) is the USAF program office for the Cooperative Agreement and the Civil Air Patrol (CAP). CAP-USAF institutes programmatic requirements for CAP and will establish equivalent levels of command oversight for SUAS activities. (See Attachment 10 for CAP requirements.) To provide guidance for the use of DoD UAS in the U.S. and to ensure that such use is IAW U.S. laws and DoD Policy, the Secretary of Defense issued a policy memorandum, Guidance for the Use of Unmanned Aircraft Systems in U.S. National Airspace, dated 31 Oct 2023. The policy memorandum requires, consistent with Department of Defense Instruction (DoDI) 5400.11, DoD Privacy and Civil Liberties Programs, dated 29 January 2019, that Military Department implementation guidance address the compliance with laws, regulations, and other guidance that protects privacy and civil liberties to ensure the appropriate collection, retention, and dissemination of personal information. Refer to AFI 14-404, Intelligence Oversight, paragraph 4.3.1 for additional guidance on privacy and civil liberties protections. Finally, the SecDef guidance designates approval authorities and delegates approval authority for certain UAS operations in the national airspace system. See Attachment 9 to reference the Authorities Matrix. Note: sUAS are classified into two basic categories: Commercial-Off-The-Shelf (COTS) and Government-Off-The-Shelf (GOTS) or commonly also referred to as non-COTS. GOTS, Mission Design Series (MDS) or non-MDS sUAS not available to the public and COTS purchased with government funds are all referred to as sUAS.

#### 1.2. Key Definitions.

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

**1.3. Waiver Authority.** When complying with official policy, guidance, and/or procedures, a unit may request a waiver under the guidance listed in DAFI 90-160, *Publications and Forms Management*. For waivers where authority is not already identified in this publication, the OPR is the approval authority. Route those requests through MAJCOM Director of Operations (MAJCOM/A3s) (any reference to MAJCOM/A3 in this publication similarly refers to equivalent offices if MAJCOM operations/training is not named A3 for consideration). Use the DAF Form 679, *Department of the Air Force Publication Compliance Item Waiver Request/Approval*, for waiver requests.

**1.4. Terminology.** All references to United States Air Force (USAF) terminology, units, grades, and positions will also apply to the equivalent in the USSF, as appropriate.

#### Chapter 2

#### **ROLES AND RESPONSIBILITIES**

**2.1.** Air Force Deputy Chief of Staff, Operations (AF/A3). Delegates OPR for this manual to the Air Force Special Warfare Directorate, Deputy Chief of Staff for Operations (AF/A3S).

#### 2.2. Air Force Special Warfare Directorate, Deputy Chief of Staff for Operations (AF/A3S).

2.2.1. Reviews and maintains this manual.

2.2.2. Reviews major command (MAJCOM) supplements to ensure MAJCOMs adhere to the basic guidance in this manual.

2.2.3. Coordinates with Headquarters Air Force (HAF) organizations and MAJCOM Stan/Eval functions to ensure guidance in separate publications conforms to, and complies with, basic AF guidance contained in this manual.

**2.3. Lead Command(s).** Air Force Special Operations Command (AFSOC) is designated the Lead Command for sUAS. See DAFPD 10-9. Lead Command(s) will:

2.3.1. Work with MAJCOMs to develop guidance for the management and execution of operations and training.

2.3.2. Convene conferences and working groups, as necessary, to review policies and procedures.

2.3.3. Support staff assistance visit and training assessments when requested by a MAJCOM.

2.3.4. Process all unit Federal Aviation Administration (FAA) Certificate of Waiver or Authorization (COA)/AFSOC issued Airspace Access Authorization (AAA) applications.

2.3.5. Support the cyber exemption process IAW paragraph 3.5.

2.3.6. Develop and manage, in coordination with MAJCOMs, DAF Standard sUAS Task Identifiers.

2.3.7. Review and maintain the appointment letter for Special Mission Units and Research Development Test and Evaluation (RDT&E) unit designations.

2.3.8. Manage airworthiness approval process IAW paragraph 3.7.

2.3.9. Manage the Small Unmanned Aircraft Systems Manager (SUASMAN) web application.

2.3.10. Manage the Basic Unmanned Aircraft Systems Qualification (BUQ) Course located in SUASMAN.

2.3.11. Maintain a current list of approved Family of Systems in SUASMAN (https://suasman.josce.mil).

**2.4. MAJCOM. Note:** Direct Reporting Units, Field Operating Agencies, and ANG are considered MAJCOMs for the purposes of this manual. MAJCOMs will:

2.4.1. Designate a MAJCOM Operations and/or Logistics, Engineering and Force Protection (A3/A4) level sUAS Program Manager (sUAS PM) responsible for program(s) oversight. PM

should have previous Small Unmanned Aircraft System Instructor (sUAS-I) experience, if possible.

2.4.2. Ensure the MAJCOM sUAS PM is identified as a point of contact to all vendors/manufacturers that units purchase systems through to ensure any vender system updates or alerts are reported to appropriately.

2.4.3. Ensure the MAJCOM sUAS PM informs AFSOC, Operations Unmanned Systems (AFSOC/A3OU) via **AFSOC.A3OU.WF@us.af.mil** of any required updates to the MAJCOM sUAS PM List located in the Read Files on SUASMAN.

2.4.4. Develop MAJCOM supplemental publications that are consistent with this manual or more restrictive, if required.

2.4.5. Develop theater indoctrination training, if applicable, and ensure operators are trained for specific theater flight operations as assigned. At a minimum, this training will include:

2.4.5.1. Theater unique requirements and procedures (i.e., Joint Mission Qualification A/B).

2.4.5.2. Host nation law, international agreements, and local area procedures and hazards.

2.4.6. Ensure unit reporting, and training programs are maintained IAW this manual.

2.4.7. Develop guidance to centralize the procurement and accountability of sUAS.

2.4.8. Annually review equipment inventory inspections of all units to ensure all systems are accounted for in Defense Property Accountability System (DPAS).

2.4.9. Post unclassified Read File items to the SUASMAN web application.

2.4.10. Conduct staff assistance visits, as requested.

2.4.11. Review/validate unit airspace, airworthiness, cyber Exemption to Policy (ETP) waiver requests prior to forwarding or submitting to Lead Command, DAF COTS sUAS Waiver Board, or host nation for approval, as required.

2.4.12. Ensure written agreements are established between users for inter-fly operations.

# **2.5.** DAF Installation Commander(s) or Commander(s) with overall authority for flight operations (or delegated representative) will:

2.5.1. Provide staff support and assist those units in managing their operational program.

2.5.2. Determine the need to designate an installation level sUAS PM.

2.5.3. Approve operations on and off an installation IAW the Secretary of Defense issued policy memorandum, *Guidance for the Use of Unmanned Aircraft Systems in U.S. National Airspace*, dated 31 Oct 2023. For questions concerning the law, policy, or privacy and civil liberties protections, Commanders should consult with their servicing legal office.

2.5.4. Ensure that DoD and DAF intelligence oversite policies, to include AFI 14-404, are followed, where applicable.

# **2.6.** Squadron Commander(s) with responsibility for the oversight and execution of sUAS operations, will:

2.6.1. Establish and approve unit program requirements.

2.6.2. Ensure program(s) meet Management Internal Control Toolset requirements.

2.6.3. Designate a sUAS PM in writing (unless a Wing Commander has designated a winglevel PM to manage the sUAS program).

2.6.4. Develop and maintain sUAS Flight Safety Program IAW DAFI 91-202, *The Department of the Air Force Mishap Prevention Program.* 

2.6.5. Designate a flight approval authority in writing to authorize flights.

2.6.6. Establish a unit Flight Crew Information File (FCIF) program.

2.6.7. Designate an inventory manager in writing.

2.6.8. Ensure annual inspection of unit(s) sUAS inventory is conducted and recorded in DPAS. Compiled report(s) will be given to MAJCOM sUAS PM.

2.6.9. Ensure unit obtains spectrum approval. See paragraph 3.8.

2.6.10. Approve use of sUAS as applicable. See paragraph 3.11.

#### 2.7. Squadron/unit sUAS Program Manager (sUAS PM) will:

2.7.1. Oversees training/proficiency requirements IAW local directives.

2.7.2. Monitor and maintain unit FCIF library.

2.7.3. Ensure Small Unmanned Aircraft System Operators (sUAS-Os) and all required personnel have a SUASMAN account. Requests for SUASMAN access can be made at <u>https://suasman.josce.mil</u> or by email: **AFSOC.A3OU.SUASMAN@us.af.mil**.

2.7.4. Use SUASMAN to maintain sUAS-O records. Use of supplemental paper-based records is at the discretion of the unit commander.

2.7.5. Ensure spectrum management, scheduling, and coordination for ranges and airspace are being accomplished for all operation(s).

2.7.6. Conduct an annual records review.

#### **Chapter 3**

#### MANAGEMENT

**3.1. General.** This manual provides broad guidance for sUAS operations. It is consolidated to help operators identify applicable standards and procedures and understand their application. General guidance cannot address every situation; therefore, MAJCOMs and Wing Commander(s) should provide additional guidance further supporting safe operations. In the absence of specific guidance, operators will seek clarification and use sound judgment.

**3.2.** sUAS-O and Visual Observer Medical Requirements. Refer to Section U, USAF Medical Standards Directory, for specific medical requirements IAW DAFMAN 48-123, Medical Examinations and Standards. Note: Adding an additional payload or hardware to any existing sUAS may move it to the next higher group and require additional medical standards.

**3.3. Scheduling Limitations/Alcohol Consumption.** Operators will not consume alcoholic beverages within 12 hours of flight operations. (**T-1**) Commanders will be responsible for understanding the risk associated with the work/rest cycle. Failure to observe the mandatory provisions of this manual by Regular Air Force military members, Air Force Reserve military members on active duty or inactive duty for training, and ANG members in Title 10 status is a violation of Article 92 of the Uniform Code of Military Justice. ANG members in Title 32 status performing full-time National Guard duty or inactive duty for training, who violate the mandatory provisions of this manual, may be held accountable through similar provisions of their respective State Military Codes. Civilian employees are subject to administrative and/or disciplinary action for violations of the mandatory provisions of this manual IAW DAFI 36-148, *Discipline and Adverse Actions of Civilian Employees*, as applicable. All contracts should include language mandating compliance with this manual. Do not schedule sUAS-O(s) for flight duties when the sUAS-O has any medical, mental health, or medication issue which could negatively impact the sUAS-O(s) ability to safely operate.

3.4. Procurement/Acquisition. Before purchasing/acquiring sUAS, units must ensure:

3.4.1. System is National Defense Authorization Act (NDAA) compliant. (T-0)

3.4.2. System has an approved MAJCOM requirement. (T-2)

3.4.3. Government Purchase Cards will not be used in connection with or to procure a covered unmanned aircraft system that is manufactured or assembled by a covered foreign entity IAW the Fiscal Year (FY) 2024 NDAA, *American Security Drone Act of 2023*. (**T-0**)

3.4.4. Aircraft Command and Control falls within the allocated spectrum for the intended areas of operations. (**T-2**)

3.4.5. System has a current cyber ETP or an Authority to Operate (ATO). (**T-0**) See **paragraph 3.5**. Exception: Systems being tested or operated under an approved RDT&E incentive or test plan.

3.4.6. All sUAS purchases are IAW AFI 17-101\_DAFGM2024-01, *Risk Management Framework (RMF) For Department of the Air Force Information Technology.* 

3.4.7. MAJCOMs have considered including software updates, license agreements and maintenance package stipulations in purchase agreements.

3.4.8. All weapons, weapon systems, and relevant cyber capabilities must receive a legal review by the Air Force Operations and International Law Directorate, (AF/JAO), to ensure compliance with the law of war, domestic law, and international law prior to acquisition or employment. AF/JAO performs weapons review IAW AFI 51-401, *The Law of War*, prior to employment. (**T-0**)

**3.5.** DoD sUAS Cyber Exemption to Policy (ETP). sUAS operations, primarily operations employing Commercial off-the-shelf and Non-Programs of Record platforms, pose a cyber security risk for the Department of Defense. Therefore, they require an exemption to the Secretary of Defense Memorandum, *Guidance for Procedures for the Operation and Procurement of Unmanned Aircraft Systems to Implement Section 848 of the National Defense Authorization Act for Fiscal Year 2020;* and Section 817 of the NDAA for FY 2023, known as an ETP. Prior to the purchase or use of these sUAS, approval is required by the Air Force Acquisition, Technology and Logistics (SAF/AQ) and Department of the Air Force Chief Information Officer (SAF/CN).

3.5.1. A SharePoint®<sup>TM</sup> site was created to automate the implementation of the latest DAF guidance. The site enables the unit requester to submit an ETP request that will auto-route to their MAJCOM for review and approval. The SharePoint®<sup>TM</sup> site link is <u>https://usaf.dps.mil/sites/A3/SitePages/COTS%20UAS%20Exemption%20Requests.asp</u> <u>x</u>.

3.5.1.1. The unit will attach the Risk Management Framework (RMF) information to the ETP request on SharePoint site. Once submitted by the unit, the request will be forwarded to the designated MAJCOM PM for concurrence. (**T-0**)

3.5.1.2. MAJCOM or requesting unit representative will be responsible for briefing their respective ETP(s) to the review board and tracking their progress through the approval process. (**T-0**)

3.5.1.3. ETP renewals should be initiated before expiration to ensure uninterrupted use.

3.5.1.4. After MAJCOM approval, the request will be placed on a temporary hold until the next DAF COTS sUAS Waiver Board. MAJCOMs should keep the requestor informed and invite them to the meeting to assist in answering any questions the board might have. (**T-0**) After the board's assessment, the request will route to SAF/CNZR, AF/A3S, SAF/AQ, and SAF/CN for approval. (**T-0**) See Figure A5.1 for ETP workflow chart contained in the Sample ETP Request Form.

3.5.2. Any software, hardware, or configuration changes to an aircraft with an approved ETP requires an ETP change /modification request approval prior to continued operation.

3.5.3. For Uncontrolled Environments – The ETP must be approved at the Service 3-Star or Tier 3 SES level. (**T-0**)

3.5.4. For Benign and Controlled Environments – The ETP must be approved at the Service 1-Star or Tier 1 SES level. (**T-0**) See Attachment 5 for MAJCOM ETP Roles/Responsibilities, ETP Request Form, and the sample MAJCOM sUAS Cyber ETP Checklist.

3.5.5. Operations conducted for Combat or Non-Combat operations require an ETP issued by the Office of the Under Secretary of Defense (OUSD). An ETP is required regardless of any other ETP or ATO that has been previously approved. See **Figure A5.3**. Combat and Non-Combat Operations are defined IAW NDAA for FY 2020, Section 848 as:

3.5.5.1. Non-Combat Operations: C-UAS or UAS flights over any area (within or outside the United States) in support of missions not covered by research (basic or applied), development, test and evaluation, demonstration, training, installation operations support, or combat operations. Examples would include search and rescue operations conducted outside of DoD installations IAW relevant statute and DoD policy, Defense Support of Civil Authorities (DSCA), and support provided through foreign humanitarian assistance (FHA) and disaster relief.

3.5.5.2. Combat Operations: sUAS combat operations are flights over an objective area, critical area of a combat zone, or in an air defense area for the purpose of detecting or collecting hostile or adversary movements to inform the commander's offensive or defensive decisions.

| Operating<br>Environment | Missions/<br>Operations                          | Mitigations  | Delegation of Approval Authority |                              |                                  |  |
|--------------------------|--|--------------|----------------------------------|------------------------------|----------------------------------|--|
|                          |  |              | OSD                              | Service 3-Star/Tier<br>3 SES | Service PEO 1-Star/Tier<br>1 SES |  |
|                          | Research,<br>Development, Test<br>and Evaluation |              |                                  |                              | х                                |  |
| Benign<br>Environment    | Demonstration                                    |              |                                  |                              | x                                |  |
|                          | Training   |              |                                  |                              | X                                |  |
|                          | Installation<br>Operations Support               |              |                                  |                              | х                                |  |
|                          | Non-Combat                                       |              | X                                |                              |                                  |  |
|                          | Research,<br>Development, Test<br>and Evaluation |              |                                  |                              | х                                |  |
| Controlled               | Demonstration                                    |              |                                  |                              | х                                |  |
| Environment              | Training   | See Encl (1) |                                  |                              | x                                |  |
|                          | Installation<br>Operations Support               |              |                                  |                              | х                                |  |
|                          | Non-Combat                                       |              | X                                |                              |                                  |  |
|                          | Combat   |              | X                                |                              |                                  |  |
|                          | Research,<br>Development, Test<br>and Evaluation |              |                                  | х                            |                                  |  |
| Uncontrolled             | Demonstration                                    |              |                                  | x                            |                                  |  |
| Environment              | Training   |              |                                  | X                            |                                  |  |
|                          | Installation<br>Operations Support               |              |                                  | х                            |                                  |  |
|                          | Non-Combat                                       |              | Х                                |                              |                                  |  |
|                          | Combat   |              | X                                |                              |                                  |  |

Figure 3.1. ETP Matrix.

**3.6. ATO** (**Authority to Operate**) **Process.** The ATO process encompasses life cycle risk management to determine and manage the residual cybersecurity risk created by the vulnerabilities and threats associated with objectives in military, intelligence, and business operations. Privacy and security controls are implemented based on the assessed and mitigated residual risk. The controls align with AFI 17-101\_DAFGM2024-01 and are documented in the RMF security authorization package for DAF Initial Training (IT). All units seeking a sUAS ATO will contact their MAJCOM PM.

**3.7.** Airworthiness. Air Force Material Command (AFMC) Air Force Life Cycle Management Center Director, Engineering and Technical Management (AFLCMC/EN-EZ) is the USAF Technical Airworthiness Authority (TAA). The TAA independently assesses airworthiness and issues airworthiness approvals, if appropriate, for all air systems the Air Force owns, contracts, leases, operates, uses, designs, or modifies. The TAA may delegate Airworthiness Authority to specific certified personnel, known as the Delegated Technical Authority (DTA).

3.7.1. The TAA has granted Delegated Technical Authority (DTA) to specific AFSOC/A3OU personnel to issue airworthiness approvals for DAF Groups 1, 2 and 3 UAS. Contact the AFSOC/A3OU DTA to obtain a statement of airworthiness: **AFSOC.A3OU.WF@us.af.mil**.

3.7.2. Units must have a current approved Airworthiness Safety Release (ASR) for each sUAS platform operated. If the sUAS has been modified beyond authorized payload and firmware changes, a new ASR will be obtained. (**T-1**)

**3.8. Spectrum Approval.** All organizations employing sUAS including but not limited to acquisition, program, operational, test, and tenant units will:

3.8.1. Obtain spectrum certification prior to purchasing a spectrum-dependent system or entering into any contractual obligations for the use of spectrum-dependent device(s) IAW the National Telecommunications and Information Administration (NTIA), *Manual of Regulations and Procedures for Federal Radio Frequency Management*.

3.8.2. Obtain a frequency assignment through the installation spectrum manager prior to operation of any spectrum-dependent device(s) that radiates radio frequency energy and complies with parameters identified in the frequency assignment notification IAW NTIA Manual, Chapter 8.

3.8.3. Maintain a copy of current frequency authorization(s) received throughout the duration of any event. (**T-3**)

**3.9. Unit Level Flight Approval Authority.** An individual who has been delegated authority in writing by the unit commander (or equivalent) to approve flights. The unit flight approval authority must designate a Lead sUAS-O for every sUAS operation. (**T-2**) Flight approval authorities must consider mission validity per the approved operating procedures and domestic use approval as defined in **paragraph 3.11**, sUAS-O certifications, training status, and risk mitigation before issuing flight authorization. (**T-3**)

3.9.1. An authorized DAF Risk Management (RM) worksheet must be accomplished prior to conducting flight operations. (**T-3**) For an example, see **Attachment 6**.

3.9.2. Flight authorization may be granted for a single event, a period of time that covers a specific exercise, or mission/test.

3.9.3. Preflight 'only' activities or missions that do not include flight do not require flight authorization.

3.9.4. Non-airborne preflight activities or mission(s) using frequencies require approval through the nearest spectrum management office prior to turning the system on.

**3.10.** Airspace Coordination and Approval. sUAS operations are conducted only in authorized airspace. Units must comply with approved FAA COA, operating procedures, or Special Use Airspace rules, as applicable. (**T-0**) Without a certified "Sense and Avoid" capability, separation

from other aircraft is accomplished by using visual observers. Operations conducted within restricted or warning areas (or within a theater of operations under combat airspace control measures) require coordination between responsible organizations. sUAS-O(s) will be appropriately certified or directly supervised by an instructor to conduct operations within the class of airspace authorized for operations. (**T-3**)

3.10.1. sUAS-O will not place the aircraft, people, other aircraft, or real property in jeopardy or create a hazard by flying over populated/residential areas, assemblies of people, or along heavily trafficked roads, unless operationally required and authorized by an approved ASR to support an FAA COA, concept of employment or test plan. (**T-0**)

3.10.2. Continental United States (CONUS) Operations. Operations outside of restricted and warning areas require FAA coordination IAW FAA/DoD guidance/agreements. Units requesting to operate outside restricted and warning areas will:

3.10.2.1. Complete DAF sUAS COA application request checklist, see **Attachment 4** and email to MAJCOM PM for coordination. MAJCOMs will forward to AFSOC/A3OU workflow (**AFSOC.A3OU.WF@us.af.mil**) for processing.

3.10.2.2. AFSOC/A3OU will review the FAA COA application to ensure the request meets all FAA and DoD requirements. (**T-0**) **Note:** The FAA normally takes approximately 60 business days to process a new COA application. Times vary depending on the classification of the involved airspace and the complexity of the request.

3.10.3. For operations within restricted or warning airspace, weapons delivery or release of stores will be IAW AFMAN 13-212, Volume 1, *Range Operations and Planning*; MAJCOM supplemental publications; and local range rules.

3.10.4. RDT&E air-air/air-to-surface testing will be conducted IAW test and safety review board guidance. (**T-2**)

3.10.5. Outside the Continental United States (OCONUS) Operations. Refer to specific host nation agreements and International Civil Aviation Organization standards and recommended practices to accomplish coordination. sUAS operations in Alaska, Hawaii, U.S. territories and possessions, will follow the CONUS guidance in paragraph 3.10.2. (T-0)

3.10.6. Combat/Contingency Operations. Refer to Joint Publication (JP) 3-52, *Joint Airspace Control*; and Air Force Doctrine Publication 3-52, *Airspace Control*; and theater air operations directives.

**3.11. Domestic Use Guidance.** To provide guidance for the use of DoD UAS in the U.S. and to ensure that such use is IAW U.S. laws and DoD Policy, the Secretary of Defense issued a policy memorandum, *Guidance for the Use of Unmanned Aircraft Systems in U.S. National Airspace*, dated 31 Oct 2023. The policy memorandum requires compliance with laws, regulations, and other guidance that protects privacy and civil liberties while ensuring the appropriate collection, retention, and dissemination of personal information. Operators should refer to AFI 14-404; DoDI 5400.11; DoDM 5240.01, *Procedures Governing the Conduct of DoD Intelligence Activities*; and DoDD 5200.27, *Acquisition of Information Concerning Persons and Organizations not Affiliated with the DoD*, for additional guidance on privacy and civil liberties protections. (**T-0**) Operators should consult with the servicing legal office to ensure compliance with all relevant laws, regulations, and other guidance.

3.11.1. All USAF units will report all domestic sUAS operations (excluding repositioning and training, exercises, research, development, testing, and evaluation as long as the UAS does not capture, acquire, collect, and retain information pertaining to the identification of specific individuals) using the sUAS Domestic Operational Use Report template located in **Attachment 8**. Reports will be sent via e-mail to AFSOC/A3OU workflow (**AFSOC.A3OU.WF@us.af.mil**) for the preceding fiscal year no later than 15 October. (**T-0**)

3.11.2. Each flight will be recorded by the sUAS-O using the system's data recorder to capture both telemetry and video data. (**T-3**) If a system is incapable or limited by payload to record both telemetry and video data, then one or the other is sufficient. Data from all mishaps will be provided to the Wing Safety office by the unit commander or designated representative. Dispose of recordings as directed by mishap convening authority. (**T-3**)

**3.12. Operating Procedures.** All organizations employing sUAS must have either a Concept of Employment (CONEMP), local operating procedures, Operating Instruction, or test plan when operating on or off military installations. (**T-3**) See Sample CONEMP, located under CONEMP Generator folder in SUASMAN, for assistance in developing your CONEMP.

3.12.1. Installation commanders or designated representative will approve CONEMPs, Operating Instructions, local operating procedures, or test plans when operations are conducted on Air Force installations. (**T-2**) MAJCOMs will ensure cross-coordination is accomplished for sUAS operations on joint installations, and/or for tenant units.

3.12.2. Operations conducted off military installations will be approved IAW paragraph **2.5.3**. (**T-0**)

3.12.3. Operations conducted in Restricted/Warning Airspace as outlined in AP/1A DoD Flight Publication Area Planning Special Use Airspace, AP/1A North and South America, AP/2A Europe, and AP/3A Pacific will be approved by the unit commander. (**T-2**)

3.12.4. Procedures must address, at a minimum: statement of mission and objectives; training and certification requirements; currency requirements; personal protective equipment; cyber security; domestic privacy concerns; electromagnetic and radio frequency emission spectrum approval; coordination requirements with all applicable agencies to include the Base Defense Operations Center where applicable; operational area description; flight approval procedures; night operations; dropping of objects (if applicable); risk management; emergency procedures; communications; deconfliction; contingencies; and statement of compliance with applicable federal law and policy, applicable state and local law, applicable host nation law, and international agreements. (**T-3**)

**3.13. Defense Property Accountability System (DPAS).** All inventory purchased, transferred, disposed, or gifted must be tracked within DPAS. All sUAS equipment will be entered into the DPAS IAW DoDI 5000.64, *Accountability and Management of DoD Equipment and Other Accountable Property*; and AFI 23-111, *Management of Government Property in Possession of the Air Force.* (T-1) DPAS is the approved Accountable Property System of Record and authorized to maintain DAF accountable property records. This system will serve as the authoritative data source for DAF-owned property records and area utilized to perform financial reporting and accountability of DAF property.

**3.14. Small Unmanned Aircraft Systems Manager (SUASMAN).** A single source webenabled database for tracking sUAS-O certifications/qualifications, flight logs, currency, training accomplishments, and sUAS logistics management. SUASMAN will be used by all units for sUAS-O accountability, maintaining records, and logging flights. (**T-1**) Link is https://suasman.josce.mil.

3.14.1. sUAS Inventory Manager. Assigned sUAS Inventory Manager(s) will work closely with Equipment Custodian(s) to ensure information is accounted for in the DPAS IAW **paragraph 3.13**. (**T-2**) Inventory managers may utilize SUASMAN, in addition to DPAS, to inventory systems and show up-to-date operational status. sUAS inventory is not required to be tracked in SUASMAN, however all units, including AFMC RDT&E, DTRA, United States Air Force Academy RDT&E, and any other approved organizations inventory managers, should consider keeping inventory and maintenance status updated and current in SUASMAN, if commanders intend to pull accurate status reports on assigned systems. Mission capable status will be determined by the complementary readiness of the following selected major subcomponents: Air Vehicle, Ground Control Station, Remote Video Terminal, and payloads. (**T-2**)

3.14.2. Logging Flights.

3.14.2.1. The SUASMAN flight log will only be used for logging actual flights (live or approved simulator) and flight-related events. (**T-2**) Do not use the flight log to record non-flight related activities (i.e., system or aircraft maintenance, software updates, inspections, inventories, non-Lead Command approved simulated flights, etc.).

3.14.2.2. sUAS-O(s) will log operator time only on the platforms and crew positions for which they are certified. (**T-2**)

3.14.2.3. Students in an IT course will only log their flight hours acquired during the course into SUASMAN with a current sUAS-I or sUAS Evaluator (sUAS-E). These flights will be logged as a 'Student' and not for "Currency/Proficiency" purposes. (**T-2**)

3.14.2.4. Student hours will not be counted for sUAS-O currency; however, they will be counted towards total hours for that particular platform. The successful completion of the culmination/evaluation flight entered in SUASMAN will start the currency timeframe as a sUAS-O. (**T-2**)

3.14.2.5. Do not conduct training events for which sUAS-O(s) is/are not certified nor current unless under the supervision of a sUAS-I. (**T-2**)

3.14.2.6. sUAS-Os will not log flight time using a crew position that is not applicable to the system being operated or a system they are not certified/qualified on. (**T-2**)

3.14.2.7. sUAS-Os will not approve their own training events. (T-2)

3.14.2.8. Operators must log flight-related damage and all mishaps in the flight log. (T-2)

**3.15. Basic Unmanned Aircraft Systems Qualification (BUQ).** sUAS-O(s) must complete the BUQ training course, located in SUASMAN, prior to starting any initial sUAS training and conducting flight operations in approved airspace. (T-1) Requests for SUASMAN access can be made at <u>https://suasman.josce.mil</u> or by email: AFSOC.A3OU.SUASMAN@us.af.mil. Personnel who possess an FAA Private/Commercial Pilot Certificate or military pilot equivalency will receive credit for BUQ Level II. Exception: sUAS-O(s) that have attended an AFSOC approved BUQ course prior to 8 March 2022 and have a training certificate are not required to

repeat this training requirement. Those individuals will have to manually enter their completion dates into SUASMAN to record completion date.

**3.16. Electronic Flight Bag (EFB).** MAJCOMs may authorize the use of EFBs. MAJCOMs should reference FAA AC 120-76D, *Authorization for Use of Electronic Flight Bags*, when developing programs.

**3.17.** sUAS-O(s) Flying Non-US Air Force sUAS or with Non-US Air Force Units. The first O-6 in an individual's chain of command may authorize flights of non-USAF sUAS by individuals who are otherwise eligible to fly U.S. government sUAS.

3.17.1. sUAS-O(s) authorized to perform duties using non-US Air Force sUAS or assigned or attached to non-US Air Force units for sUAS operations must comply with host service or host country guidance, except for the requirement to maintain a current physical. (**T-2**) Upon return to home station, they must complete any expired training and evaluation requirements. (**T-3**)

3.17.2. MAJCOMs will address operations and accountability of DAF sUAS by other Services in their supplemental publications. (**T-2**)

3.17.3. Units will address the operations of DAF sUAS operations by other Services or non-U.S. users and the financial accountability in the event of damage/loss in a written authorization agreement. (T-2)

**3.18.** Air Force Exchange Personnel. See AFI 16-107, *Military Personnel Exchange Program,* for guidance regarding Air Force exchange personnel operating with foreign air forces.

**3.19.** Air Force Air Advisors. MAJCOM may authorize flights for qualified aviation advisors to accomplish partner nation aviation enterprise development or training. This authority may be delegated, but not lower than the wing commander or equivalent level. Prior to authorizing such flights, approving authorities will ensure a valid requirement exists. (T-1)

**3.20. Inter-Fly Agreements.** Agreements involving the exchange and/or substitution of aircrew members and/or aircraft between MAJCOMs to accomplish flying support of contingencies, exercises or designated missions according to the appropriate operational plan/concept of operations. These types of operations promote and support mutual cooperation and interoperability between unit(s). MAJCOMs must ensure written agreements are being established between user(s) to ensure liability and roles and responsibilities are understood and established to protect all assets being utilized. (T-2) Inter-fly for currency purposes is at the discretion of the commander that owns the aircraft.

**3.21. Flight Crew Information File (FCIF).** Unit(s) must establish and maintain a library consisting of current read files and publications in SUASMAN. (**T-2**)

3.21.1. This library in SUASMAN will consist of a minimum of four volumes as listed in **Table 3.1**. (**T-2**)

3.21.1.1. If a unit establishes an electronic FCIF, the location will be readily accessible by unit sUAS-O(s). (**T-2**)

3.21.1.2. Documents in the FCIF will be made available for deployments via either electronic (SUASMAN) or hardcopy means. (**T-3**)

3.21.2. Required Volumes. Volume I consists of current read file items, Volumes II through IV are made up of publications and flight manuals, and Volume V (optional) is reserved for

safety information. If units choose hardcopy format and the contents of any volume exceed the capacity of its binder, use an additional binder, and identify the first and subsequent binders by a letter of sequence (e.g., IIIA, IIIB). Label binders on the spine indicating Volume and Title as follows:

| VOLUME              | TITLE  |
|---------------------|--|
| Volume I            | Current Read File/FCIF   |
| Volume II           | Publications—Air Force Directives, MAJCOM Supplements/Directives |
| Volume III          | Publications—MAJCOM/NAF/Local Directives                         |
| Volume IV           | sUAS Flight Manuals/Checklists/Crew Aids/Technical Orders        |
| Volume V (Optional) | Flight Safety Information  |

#### Table 3.1. Required Volumes.

3.21.3. Volume I: Current Read File. Consists of a minimum of two parts to include an Index (Part A) and Current Read Files (Parts B and C) **Note:** Part C is optional.

3.21.3.1. Part A is an index listing all material contained in FCIF Volumes I through V.

3.21.3.2. Part B is the Current Read File of FCIF messages. Messages contain information temporary in nature, directly pertinent to the safe conduct of flight, and must be read before flight.

3.21.3.2.1. FCIF messages may be issued/rescinded from the MAJCOM, delta, garrison, group, or unit level. Only the office who originally issued the FCIF can rescind it.

3.21.3.2.2. All publications in the library must be current and complete. (T-2)

3.21.3.3. Part C is the Current Read File that contains temporary information not related to the safe conduct of flight and not required to be read before flight.

3.21.4. The sUAS PM or Chief of Standardization & Evaluation (Stan/Eval) is responsible for ensuring pertinent items from SUASMAN are filed in the FCIF.

3.21.5. Volumes II through IV must consist of a FCIF Functional Publications Library. See **Attachment 3** for a template that MAJCOMs may use when drafting an FCIF item on AFSOC Form 12, *Flight Crew Information File*, or MAJCOM equivalent. (**T-2**)

3.21.6. Volume V (optional): Safety information. Volume V, when used, is exempt from the controls applicable to Volumes I through IV. Unit will specify Volume V review and certification procedures/requirements in unit supplemental publications. Items for this volume will be submitted to unit/squadron safety officer.

3.21.7. Procedures for maintaining, updating, and creating a backup to prevent loss or corruption of the electronic data must be outlined in the unit supplemental publications.

**3.22. Flight-Related Special Interest Item (SII).** Flight-related SII(s) are items of emphasis of existing procedure(s) designed to mitigate or eliminate specific risks or trends. SII(s) do not add to or amend established procedures. SII(s) must be based on analysis of risks and trends from a variety of sources to include Safety Investigation Board findings/recommendations, safety related

incidences, trend analysis, deployed area of operations and potential problems with equipment/procedures.

3.22.1. SII(s) should normally be of limited duration (i.e., not to exceed 90 days) so as to maintain the focus. If the situation for which the SII was issued remains, consideration should be given to amending current procedures and issuing corrective action via a command message or FCIF.

3.22.2. SII(s) may be issued/rescinded from HAF, MAJCOM, delta, garrison, group, or unit level. Only the office approving the SII may rescind it.

3.22.3. SII(s) are issued through the same process used to release FCIF messages with the following element: subject/title, unique DTG, UAS group-specific applicability, references (document, Safety Investigation Board, etc.) risk and trend details, specific emphasis actions to reduce/eliminate the risk or trend that is the SII topic, effective date of recession, and SME/POC for further information.

3.22.4. Units must place all HAF/MAJCOM issued SIIs into the FCIF, Current Read File, Part B until rescinded. (**T-2**)

3.22.5. All current flight-related MDS-specific and Crew Resource Management (CRM)/Risk Management (RM) related SII(s) must be briefed during flight briefings for the duration of the SII(s). (**T-2**) Flight-related SII(s) need only be briefed on those missions for which the SII is relevant.

**3.23. Mishap Reporting.** All mishaps and unintentional non-determined loss of link will be reported to unit safety representatives so the underlying cause can be determined, and future mishaps prevented. Mishaps and loss of link events will be recorded on flight log in SUASMAN and Air Force Safety Automated System, as applicable, to capture significant flight data and for trend analysis efforts. (T-1) Unit Safety Representative(s) must contact the Wing Safety Office and determine the appropriate guidance IAW DAFI 91-202, *The Department of the Air Force (DAF) Mishap Prevention Program;* DAFI 91-204, *Safety Investigation and Reports*; and DAFMAN 91-223, *Aviation Safety Investigations and Reports.* (T-1)

3.23.1. Damage greater than consumable or normal wear and tear parts, emergency procedures, system malfunctions, or anomalies (unexpected/unexplained flight behavior) that result in loss of control or damage will be reported through the unit safety office to the Wing Safety Office. Reportable events are further described within the DAFMAN 91-223. (**T-1**)

3.23.2. To report the mishap the crew will provide a completed AFSOC Form 97, *Aircraft Incident Worksheet*, (see **Attachment 7**) or MAJCOM equivalent form to the unit safety representative, as soon as possible. Upon receipt, the unit safety representative will forward all mishap information to the Wing Safety Office within 24 hours of the mishap occurrence. (**T-1**) Personnel involved in the mishap will preserve all flight data, video, all event supporting documents (i.e., sUAS brief, RM worksheet and Flight Authorization document, flight logs, etc.), and quarantine the event associated equipment until released by the safety investigation convening authority. (**T-1**)

3.23.3. Mishaps resulting in fatal or serious injury, property damage (other than the unmanned aircraft), deviation from COA/AAA or Air Traffic Control (ATC) clearance, any non-determined system malfunction causing damage to sUAS from uncontrolled flight, or safety

of flight issues requires a mishap report prior to conducting any additional flights, unless additional flights are critical to on-going contingency or Force Protection response requirements. Flights may resume with the approval from Wing/CC or designated representative. These mishaps will be immediately reported to the Wing Safety Office. (T-1) Additionally, report mishaps to Air Force Special Operations Command, Standardization & Evaluation RPA and sUAS (AFSOC/A3VU) via email (AFSOC.A3V@us.af.mil) or commercial phone ((850) 884-4610) for mishap reports and trend analysis reporting. (T-1)

3.23.4. Combat losses will be reported to MAJCOMs for submittal to Lead Command for system accountability. (**T-3**)

3.23.5. Use standard security markings and classified handling procedures for classified reports. Do not enter classified information into Air Force Safety Automated System or SUASMAN.

3.23.6. Refer all public inquiries about sUAS mishaps to the appropriate Public Affairs office.

**3.24. Communication with ATC.** sUAS-O(s) will establish and maintain two-way radio communications with the proper ATC facility or Flight Service Station IAW the procedures defined within the approved FAA COA/AAA. (T-0) Note: ATC can deny operations if it is perceived to be a risk to other aircraft operations.

3.24.1. For operations in controlled airspace, two-way radio may be the primary means of communications between the sUAS-O and ATC. Alternate means (i.e., cell phone) may be requested/authorized via local procedures between unit and controlling agency, or as defined in FAA COA/AAA.

3.24.1.1. Upon clearance into controlled airspace, sUAS-O should maintain contact with the range or airspace controlling agency IAW local guidance or COA/AAA.

3.24.1.2. Unless otherwise specified IAW local guidance or COA/AAA, sUAS-O(s) should notify the controlling agency operations when operations are complete.

**3.25.** Aircraft Lighting. No sUAS-O may, during the period from sunset to sunrise (or, in Alaska, during the period a prominent unlighted object cannot be seen from a distance of three statute miles, or the sun is more than six degrees below the horizon) operate an aircraft unless it has lighted position lights IAW Title 14, Code of Federal Regulations, Part 91.209, *Aircraft lights*. **(T-0)** 

3.25.1. sUAS-O should not park or move an aircraft in, or in dangerous proximity to, a night flight operations area of an airport unless the aircraft is clearly illuminated, has lighted position lights or is in an area that is marked by obstruction lights.

3.25.2. sUAS-O should not anchor an aircraft unless the aircraft has lighted anchor lights or is in an area where anchor lights are not required on vessels.

3.25.3. sUAS-O(s) must have anti-collision lights turned on when operating an aircraft that is equipped with them. (**T-0**) However, the anti-collision lights need not be lighted when the pilot-in-command determines that because of operating conditions, it would be in the interest of safety to turn the lights off.

3.25.4. Reduced Lighting or Lights-out. Range authority may authorize operations with reduced lighting or lights out in restricted areas or warning areas.

**3.26. Geospatial Airborne Collection.** Organizations utilizing sUAS for the purpose of gathering geospatial data must adhere to the guidelines outlined in DAFI 32-10112, *Installation Geospatial Information and Services (IGI&S).* (**T-1**) Additionally, they must follow the standardized geospatial airborne collection processes and procedures playbooks provided by the Air Force Civil Engineer Center Geospatial Engineering Office and/or the Installation/Wing Geospatial Integration Office. (**T-1**) These guidelines cover all aspects of data collection and processing, ensuring the required level of data quality. (**T-2**)

**3.27. Weather.** sUAS-O(s) will obtain sufficient weather information to safely conduct the flight and adhere to any operator's manual restrictions. (**T-2**) sUAS-O(s) must have reasonable cause to believe the local weather conditions will permit successful employment and operations will comply with applicable range directives, operations orders, FAA, or other governing directives. (**T-2**)

3.27.1. Use the following prioritized list of authorized weather sources: (T-1)

3.27.1.1. MAJCOM-approved weather source (e.g., home, or local installation Weather Flight, MAJCOM-designated centralized briefing facility (or equivalent), commercial websites, flight planning services).

3.27.1.2. 557<sup>th</sup> Weather Wing (557 WW).

3.27.1.3. Other DoD Military Weather Sources (e.g., US Navy/US Marine Corp weather facilities).

3.27.1.4. Other US Government Weather Facilities/Services (i.e., National Weather Service, FAA).

3.27.1.5. Foreign Civil Weather Service (Use only when DOD military resources or US Government services are unavailable in OCONUS locations).

3.27.1.6. ForeFlight and flight planning software weather sources to support operations if no other DoD or US Government sources are available.

3.27.2. MAJCOMs will provide guidance on use of non-DoD weather sources.

**3.28.** See and Avoid. sUAS-O(s) operating in Visual Meteorological Conditions, whether or not under radar control, are responsible to see and avoid other traffic, terrain, obstacles and maintain Visual Flight Rules (VFR) cloud clearance. For operations to comply with see and avoid requirements, the sUAS-O must have the capability to see traffic and clouds in sufficient time to perform an avoidance maneuver in a timely manner. (**T-0**) This can be done using dedicated surface or airborne visual observers (chase vehicle/aircraft) in direct communication with operators. If not capable of see and avoid, sUAS may only be operated in approved segregated airspace (restricted or warning areas, combat restricted operating zones, etc.). In this case, VFR weather minimums may not apply. sUAS-O(s) must not allow the aircraft to be flown so close to another that it creates a collision hazard. (**T-0**)

3.28.1. Beyond Visual Line of Sight (BVLOS). A specific Beyond Visual Line of Sight (BVLOS) MAJCOM/CC (or first General Officer) authorization is required if the intent of the flight requires operations beyond the visual acuity of the sUAS-O and visual observer (if utilized) while operating under a COA within the National Airspace System (NAS).

3.28.1.1. Request to operate BVLOS will be included in the DAF sUAS COA application checklist (see **paragraph 3.10.2.1**) and emailed to the MAJCOM PM for coordination. MAJCOM then forwards to AFSOC/A3OU workflow (**AFSOC.A3OU.WF@us.af.mil**) for review and tentative approval for MAJCOMs to proceed with the official DAF Form 679, AFSOC/A3OU should be at the earliest coordination of the DAF Form 679 to signal to approving officials that the request will meet all FAA and DoD requirements for BVLOS.

3.28.1.2. Submit clearly defined operating procedures with the DAF sUAS COA checklist. Include these additional items to the procedures: a detailed description, the specific technology system being used (e.g., radar), assumptions, hazards, risks, mitigation plans (how to avoid building, personnel and other aircraft), safety/contingency procedures, accident/incident reporting procedures and operations after-action report.

3.28.2. Tactical Beyond Visual Line of Sight (T-BVLOS). Beyond visual line of sight operations conducted by sUAS-Os who are first responders acting in an active first responder capacity. Commander(s) may approve these operations under a contingency situation when T-BVLOS has been addressed in the local airspace authorization and approved by MAJCOM via the procedures listed in **paragraph 3.28.1**.

3.29. Safety/Risk Management. Commanders utilizing sUAS assets should understand the potential hazard these vehicles pose and the importance of developing a unit program that proficient operators can employ to mitigate these factors. sUAS can cause injury, death and/or substantial monetary damage to property or other air operations when used improperly or with loss of control. Commanders will ensure appropriate safety programs are implemented for both the systems being employed and the capable payloads (e.g., laser, munitions, hazardous materials, etc.). (T-3) Military specific lasers used on sUAS that employ coherent radiation are lasers and laser systems used for combat, combat training, or classified in the interest of national security, and require AF Laser System Safety Review Board approval prior to acquisition and/or employment. See AFI 48-139, Laser and Optical Radiation Protection Program, for guidance regarding Air Force safe use of lasers and laser systems. Laser eye protection must be worn by all crew members and support personnel when a potential laser hazard exists during any sUAS operations. (T-2) Commanders will integrate a RM and mishap prevention program into mission planning and flight operations. (T-2) See Attachment 6 for an example RM worksheet and flight authorization. The RM worksheet may be disposed of at the completion of the mission if no mishap has occurred. In the event of a mishap, the RM worksheet will be turned in to the unit safety representative who will forward it and the AFSOC Form 97 or MAJCOM equivalent to the Wing Safety Office. (T-3)

**3.30.** Use of External/Internal Beacon or Tracking Devices. Units operating sUAS should use a tracker/beacon on all training missions. This may not be possible on the smaller aircraft. Using a tracker/beacon will aid in aircraft tracking and recovery of the aircraft should there be an unintentional landing. Unit commander(s) must consider, and accept, the risks associated with not using a tracker/beacon. (T-2) Reminder, when attaching any device to a sUAS, units must ensure it does not affect or change the approved airworthiness, ETP, or ATO of the aircraft. Any tracker/beacon used must not be manufactured in, or originate from, a covered country. (T-1) Reference the most current OUSD Cyber Policy for guidance.

3.31. Pre-Mission Planning. sUAS-O(s) will accomplish preflight planning. (T-3)

3.31.1. sUAS-O(s) will acquaint themselves with all information, procedures, and rules appropriate to the sUAS and the mission. (**T-3**)

3.31.2. Weather. sUAS-O(s) will obtain weather information IAW paragraph 3.27. (T-3)

3.31.3. Fuel/Battery Charge Requirements. sUAS-O(s) will ensure sufficient fuel/battery charge is available to safely conduct the flight and return to the intended landing location. (**T-3**)

3.31.4. sUAS-O(s) must attend a pre-mission/safety brief before flight operations. (**T-2**)

**3.32. Briefings.** The Lead sUAS-O will ensure each crewmember is briefed on items affecting safety or mission completion. (**T-3**) These briefings will include, but need not be limited to:

3.32.1. Emergency procedures. (T-3)

3.32.2. Airspace/operating area, approved frequencies, and method of complying with restrictions. (**T-3**)

3.32.3. Safety precautions and restrictions, including use of electronic devices that may cause interference. (**T-3**)

3.32.4. Special procedures and instructions for use during training or operational missions. **(T-3)** 

**3.33.** Autonomy/Artificial Intelligence (AI). Semi-autonomous flight operations assumes that the operator performs some tasks to accomplish specific mission sets. Fully autonomous flight operations refer to a state in which the sUAS can perform programmed flight operations or entire mission sets, under defined conditions without human input or guidance.

3.33.1. Requests to operate systems that use autonomy or artificial intelligence as the primary means of control (no direct input from operator) will be included in the DAF sUAS COA application checklist (see **paragraph 3.10.2.1**) and emailed to the MAJCOM PM for coordination. (**T-0**)

3.33.2. MAJCOM will forward the FAA COA application to AFSOC/A3OU workflow (AFSOC.A3OU.WF@us.af.mil) for processing. AFSOC/A3OU will review the FAA COA application to ensure the request meets all FAA and DoD requirements. (T-0)

3.33.3. Regardless of the autonomy level of the sUAS, operators must complete IT on the specific system being utilized IAW DAFMAN 11-502, *Group 1 and 2 Small Unmanned Aircraft Systems*, paragraph 3.2.. (T-1)

**3.34.** Tethered sUAS. A tethered sUAS is defined as an aircraft that is physically attached to a ground station with a taut, appropriately load-rated tether that provides continuous power to the unmanned aircraft and is controlled and retrieved by such ground station through physical or mechanical manipulation of the tether.

3.34.1. Types of tethered sUAS:

3.34.1.1. Actively tethered: Aircraft attached to a tether in such a way it cannot be commanded to disengage from the tether, therefore relying on the tether for flight.

3.34.1.2. Break away tethered: Aircraft can be utilized attached to the tether or can be commanded to disengage from the tether to operate as an independent aircraft to conduct normal operations.

3.34.2. When operating actively tethered systems sUAS-O(s) will comply with:

3.34.2.1. DoD sUAS Cyber ETP procedures IAW paragraph 3.5. (T-2)

3.34.2.2. Spectrum Approval IAW paragraph 3.8. (T-0)

3.34.2.3. Airspace requirements IAW paragraph 3.10. (T-0)

3.34.2.4. Appropriate sUAS group medical guidance IAW paragraph 3.2. (T-2)

3.34.2.5. Unit CC training requirement(s) for currency, Mission Training (MT), Continuation Training (CT), Stan/Eval, or additional training requirements discussed in DAFMAN 11-502 Chapter(s) 3 and 4. (**T-2**)

3.34.3. When operating break away tethered systems sUAS-O(s) will:

3.34.3.1. Follow the specific guidance IAW the sUAS weight. (T-2)

3.34.3.2. Not exceed the approved altitude in the COA/AAA. (T-2)

3.34.3.3. Obtain approval from Airfield Management and ATC prior to launch, when operating on an airfield. (**T-2**)

3.34.3.4. Not place the tethered sUAS in any manned flight critical area unless approved by Air Traffic Control. (**T-1**)

3.34.3.5. Ensure a Notice to Air Missions is active. (**T-2**)

3.34.3.6. Ensure the tethered sUAS is located away from independent buildings/structures, vehicles, and personnel in the event power is lost to the tethered system. (**T-3**)

3.34.3.7. Ensure operating lighting IAW paragraph 3.25. (T-3)

#### 3.35. Indoor Only Use of sUAS.

3.35.1. sUAS being utilized for test, training aids, or for demonstration that are flown in a completely enclosed facility and never operated outside of those constraints are exempt from the guidance in this manual apart from:

3.35.1.1. DoD sUAS Cyber ETP procedures IAW paragraph 3.5.

3.35.1.2. Spectrum Approval IAW paragraph 3.8.

3.35.1.3. Following established unit safety requirements.

3.35.2. MAJCOM must approve the use of sUAS as applicable. (T-3)

**3.36.** Go/No-Go Procedures. Units will establish a positive control system that ensures sUAS-O(s) have completed all required items prior to flight. (T-2) As a minimum, the Go/No-Go process will cover:

3.36.1. Ground and flight currency items required for flight for specific platform grouping IAW DAFMAN 11-502 or DAFMAN 11-503, Volume 1, *Group 3 Small Unmanned Aircraft Systems Training*. (**T-2**)

3.36.2. sUAS-O medical requirements. For specific medical requirements, reference USAF Medical Standards Directory Section U, IAW DAFMAN 48-123, Medical Examinations and Standards.

3.36.3. Currency on all FCIF (FCIF Volume 1, Part B) library items. (T-2)

3.36.4. Accomplishment of all training requirements. (T-2)

3.36.5. Risk Assessment/Risk review. (T-2)

3.36.6. Operational parameters as measured against the approved airspace waiver, ETPs, Airworthiness assessments, and the operator's manual for the specific platform being utilized. **(T-2)** 

3.36.7. Ensure operational parameters protect privacy and civil liberties of individuals present in the U.S. and U.S. territories. (**T-0**)

ADRIAN L. SPAIN, Lt Gen, USAF Deputy Chief of Staff, Operations

#### Attachment 1

#### **GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION**

#### References

5 USC § 552a, Records maintained on individuals, Privacy Act of 1974

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AFI 51-401, The Law of War, 3 August 2018

DAFI 91-202, *The Department of the Air Force (DAF)Mishap Prevention Program*, 20 March 2020

DAFI 91-204, Safety Investigations and Reports, 10 March 2021

DAFMAN 11-502, Group 1 and 2 Small Unmanned Aircraft Systems, 8 January 2025

DAFMAN 11-503, Volume 1, Group 3 Small Unmanned Aircraft Systems Training, To Be Published

AFMAN 13-212, Volume 1, Range Planning and Operations, 14 Mar 2023

DAFMAN 48-123, Medical Examinations and Standards, 8 December 2020

DAFMAN 90-161, Publishing Processes and Procedures, 18 October 2023

DAFMAN 91-223, Aviation Safety Investigations and Reports, 20 September 2022

FAA AC 120-76D, Authorization for Use of Electronic Flight Bags, 27 October 2017

FY24 NDAA, American Security Drone Act of 2023, 22 December 2023

Guidance for Procedures for the Operation and Procurement of Unmanned Aircraft Systems to Implement Section 848 of the National Defense Authorization Act for Fiscal Year 2020, 8 September 2021

NTIA, Manual of Regulations and Procedures for Federal Radio Frequency Management, Revision (Rev), 1 January 2023

#### Adopted Forms

AFSOC Form 97, Aircraft Incident Worksheet

AFSOC Form 12, Flight Crew Information File

DAF Form 679, Department of the Air Force Publication Compliance Item Waiver Request/Approval

DAF Form 847, Recommendation for Change of Publication

#### Abbreviations and Acronyms

AAA—Airspace Access Authorization

AF—Air Force

AFI—Air Force Instruction

- AFLCMC—Air Force Life Cycle Management Center
- AFMAN—Air Force Manual
- AFMC—Air Force Materiel Command
- AFPD—Air Force Policy Directive
- AFSOC—Air Force Special Operations Command
- ANG—Air National Guard
- ASR—Airworthiness Safety Release
- ATC—Air Traffic Control
- ATO—Authority to Operate
- BUQ-Basic Unmanned Aircraft Systems Qualification
- BVLOS—Beyond Visual Line of Sight
- CFR—Code of Federal Regulations
- COA—Certificate of Waiver or Authorization
- CONEMP—Concept of Employment
- **CONUS**—Continental United States
- COTS—Commercial off-the-shelf
- CRM—Crew Resource Management
- C-UAS—Counter Unmanned Aircraft System
- DAF—Department of the Air Force
- DAFI—Department of the Air Force Instruction
- DAFMAN—Department of the Air Force Manual
- DAFPD—Department of the Air Force Policy Directive
- DoD—Department of Defense
- DoDD—Department of Defense Directive
- DoDI—Department of Defense Instruction
- DPAS—Defense Property Accountability System
- DSCA—Defense Support of Civil Authorities
- DTA—Delegated Airworthiness Authority
- EFB—Electronic Flight Bag
- **ETP**—Exemption to Policy
- FAA—Federal Aviation Administration
- FCIF—Flight Crew Information File

FHA—Foreign Humanitarian Assistance

FY—Fiscal Year

GOTS—Government off-the-shelf or commonly referred to as a non-COTS

HAF—Headquarters Air Force

IAW-In Accordance With

**IT**—Initial Training

JP—Joint Publication

MAJCOM—Major Command

MDS—Mission Design Series

NDAA—National Defense Authorization Act

NTIA—National Telecommunications and Information Administration

**OCONUS**—Outside the Continental United States

**OPR**—Office of Primary Responsibility

**PM**—Program Manager

RDT&E—Research Development Test and Evaluation

**RM**—Risk Management

SII—Special Interest Item

STAN/EVAL—Standardization & Evaluation

sUAS—Small Unmanned Aircraft System

sUAS-E—Small Unmanned Aircraft System Examiner

sUAS-I—Small Unmanned Aircraft System Instructor

sUAS-O-Small Unmanned Aircraft System Operator

SUASMAN—Small Unmanned Aircraft System Manager

T-BVLOS—Tactical Beyond Visual Line of Sight

TAA—Technical Airworthiness Authority

UAS—Unmanned Aircraft System

**USAF**—United States Air Force

**USSF**—United States Space Force

**VFR**—Visual Flight Rules

**Office** Symbols

AF/A3—Air Force Deputy Chief of Staff, Operations

AF/A6—Air Force Deputy Chief of Staff, Communications

AF/A3S—Air Force Special Warfare Directorate, Deputy Chief of Staff for Operations

AF/JAO—Operations and International Law Directorate, Office of the Judge Advocate General

AFLCMC/EN-EZ—Air Force Life Cycle Management Center, Engineering and Technical Management

AFSOC/A3OU—Air Force Special Operations Command, Operations Unmanned Systems

AFSOC/A3VU—Air Force Special Operations Command, Standardization & Evaluation RPA and sUAS

MAJCOM/A3—Major Command Director of Operations

MAJCOM/A4—Major Command Logistics, Engineering and Force Protection

SAF/AQ—Air Force Acquisition

SAF/AQR—Deputy Assistant Secretary of the Air Force for Science, Technology and Engineering

SAF/CN—Air Force Chief Information Officer

SAF/CNZR—Secretary of the Air Force, Cyber Security Risk Management

#### Terms

**Benign Environment**—The event location is a public venue that will not expose any sensitive facilities, equipment, or activities before, during, or after the event and all data collected during the event is approved and appropriate for public release.

**Beyond Visual Line of Sight (BVLOS)**—The operation of an unmanned aircraft beyond a distance where the remote pilot is able to respond to or avoid other airspace users by direct visual means.

**Combat Operations**—sUAS combat operations are C-UAS or sUAS flights over an objective area, over the critical area of a combat zone, or in an air defense area for the purpose of detecting or collecting hostile or adversary movements to inform the commander's offensive or defensive decisions.

**Commercial off-the-shelf (COTS)**—All UAS systems sold in substantial quantity in the marketplace and offered to the Government in the same form in which it is sold to non-government consumers.

**Concept of Employment (CONEMP)**—Document used to define the applied Concept of Employment for a sUAS capability within a range of operations/scenarios.

**Controlled Environment**—An indoor or outdoor environment in which the DoD has control over or equities in. The DoD or the entity executing the event has physically restricted access to the location. The location of the event has appropriate stand-off such that data links to the COTS UAS are contained within the controlled environment and cannot be detected or collected by an unauthorized sensor outside the controlled area. There should not be any "open network access points" such as Wi-Fi or cellular, etc. Some examples include, DoD facilities, DoD Bases, DIB locations, Defense Critical Infrastructure associated with Defense Critical Assets.

**Covered Country**—Specified countries deemed a threat with regards to cyber vulnerabilities and sUAS. IAW 08 Sept 21 UAS COTS ETP Process Authorization Act, the term "covered foreign country" means the People's Republic of China, Russian Federation, Islamic Republic of Iran, and Democratic People's Republic of Korea.

**Currency**—A recurring event/task that must be repeated within specified timeframe. Failure to complete the event in allowed timeframe may require instructor supervision, additional training or recertification before unsupervised duty may resume.

**Field Command**—A major subdivision of the USSF which is assigned a key part of the USSF mission. A field command is directly subordinate to the Space Staff Headquarters Air Force. All USSF field commands report to the CSO.

Government off-the-shelf (GOTS)—sUAS not available to the public.

**Intelligence Activities**—Refers to all activities that DoD intelligence components are authorized to undertake pursuant to Executive Order 12333. It includes counterintelligence, foreign intelligence and intelligence-related activities.

**Intelligence—Related Activities**—Those activities outside the consolidated defense intelligence program (i.e., funded by intelligence) that: respond to operational commanders' tasking for timesensitive information on foreign entities; respond to national intelligence community tasking of systems whose primary mission is support to operating forces; train personnel for intelligence duties; provide an intelligence reserve; or are devoted to research and development of intelligence or related capabilities. (Specifically excluded from this definition are Research and Development outside the consolidated defense intelligence program and programs that are so closely integrated with a weapon system that their primary function is to provide immediate use targeting data).

**Inter-Fly Agreements**—Agreements involving the exchange and/or substitution of aircrew members and/or aircraft between organizations to accomplish flying support of contingencies, exercises or designated missions according to the appropriate operational plan/concept of operations.

Joint Base or Installation—A US military base or installation utilized by multiple military

services. One service hosts one or more other services as tenants on the base or installation. In most cases, joint bases and installations have interservice support agreements to govern how the host provides services to the tenants.

**National Airspace System (NAS)**—The network of airspace (controlled and uncontrolled), air navigation facilities, services, airports, regulations, procedures, technical information, human resources, and material shared jointly between the Federal Aviation Administration (FAA) and the military.

**Non-Combat Operations**—Flights over any area (within or outside the United States) in support of missions not covered by research (basic or applied), development, test and evaluation, demonstration, training, installation operations support, or combat operations. Examples would include search and rescue operations conducted outside of DoD installations IAW relevant statute and DoD policy, Defense Support of Civil Authorities (DSCA), and support provided through foreign humanitarian assistance (FHA) and disaster relief. **Program Manager (PM)**—The individual (normally an experienced sUAS-I) designated by the Unit Commander to oversee all aspects of training and equipment management.

**Restricted Area**—Restricted areas are Special Use Airspace identified by an area on the surface of the earth within which the flight of aircraft, while not wholly prohibited, is subject to restrictions. Restricted areas are depicted on aeronautical charts with an R followed by numbers, e.g., R5104.

**Small Unmanned Aircraft Systems (sUAS)**—A Group 1, 2, or 3 unmanned aircraft and its supporting ground control elements, that does not carry a human operator, can be operated autonomously or remotely, can be expendable or recoverable, and can carry a lethal or nonlethal payload.

**Small Unmanned Aircraft System Manager (SUASMAN)**—A single source web-enabled database for tracking sUAS-O certifications, flight logs, currency, training accomplishments and sUAS logistics management.

**Special Use Airspace (SUA)**—Consists of that airspace wherein activities must be confined because of their nature, or wherein limitations are imposed upon aircraft operations that are not a part of those activities, or both. SUA includes restricted airspace, prohibited airspace, military operations areas (MOA), warning areas, alert areas, temporary flight restriction (TFR), national security areas, and controlled firing areas, typically up to FL180 or 18,000 ft above sea level. In addition, there is often an Air Traffic Control Assigned Airspace (ATCAA) from FL180 through FL600 in which ATC plans for military operations.

**Small Unmanned Aircraft System Examiner (sUAS-E)**—Conduct/administers ground or flight evaluations and must be a current sUAS-I. A unit sUAS-E is only required for Group 3 operations.

**Tactical Beyond Visual Line of Sight (T-BVLOS)**—Beyond line-of-sight operations conducted by UAS operators who are first responders acting in an active first responder capacity.

**Uncontrolled Environment**—All environments with the potential to expose force location, tactical or strategic information, TTPs, critical infrastructure, sensitive equipment, or RF exposure is unknown and there is risk of losing the sUAS to an adversary. Anything not otherwise included in the definitions for benign or controlled environments. This environment also poses a risk of losing the "platform" in a foreign adversary location. The radio frequency spectrum is unknown and/or cannot be controlled.

**Visual Flight Rules**—A set of regulations established by aviation authorities that permit pilots to operate an aircraft by observing the terrain.

**Visual Meteorological Conditions**—Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling equal to or better than specified minima.

**Visual Observer**—An individual assigned to assist the sUAS-O in duties associated with maintaining visual line of sight of the sUAS, maintaining safe terrain/obstacle clearance or avoidance, and monitoring the assigned airspace for safe air traffic separation.

**Warning Area**—Warning areas are Special Use Airspace with defined dimensions, extending from three nautical miles outward from the coast of the U.S. that contains activity that may be hazardous to nonparticipating aircraft. Warning areas are depicted on aeronautical charts with a W followed by numbers, e.g., W151.

## Attachment 2

## **DOD UAS CATEGORIES**

## Figure A2.1. DoD UAS Categories (Ref: JP 3-30, Joint Air Operations, 25 July 2019).

| manned         | Aircraft Syste                           | ems Categor                          | ization Ch      | art   |
|----------------|--|--------------------------------------|-----------------|---|
| UA<br>Category | Maximum<br>Gross Takeoff<br>Weight (Ibs) | Normal<br>Operating<br>Altitude (ft) | Speed<br>(KIAS) | Representative<br>UAS   |
| Group 1        | 0-20                                     | < 1200 AGL                           | 100 kts         | WASP III, TACMAV<br>RQ-14A/B, Buster,<br>Nighthawk, RQ-11B,<br>FPASS, RQ16A,<br>Pointer, Aqua/Terra<br>Puma |
| Group 2        | 21-55                                    | < 3500 AGL                           | < 250           | ScanEagle, Silver Fox,<br>Aerosonde   |
| Group 3        | < 1320                                   |                                      | < 250           | RQ-7B Shadow, RQ-15<br>Neptune, XPV-1 Tern,<br>XPV-2 Mako   |
| Group 4        | > 1320                                   | < 18,000 MSL                         | Any<br>Airspeed | MQ-5B Hunter, MQ-8B<br>Fire Scout, MQ-1C<br>Gray Eagle, MQ-1A/B/C<br>Predator                               |
| Group 5        | > 1320                                   | > 18,000 MSL                         | Any<br>Airspeed | MQ-9 Reaper, RQ-4<br>Global Hawk, RQ-4N<br>Triton   |

## Attachment 3

## FLIGHT CREW INFORMATION FILE (FCIF) TEMPLATE

## **Figure A3.1. Flight Crew Information File Template.**

|        |        |           |            |       |            | (When    | Filled In) |          |            |          |                |        |
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(When Filled In)

## Figure A3.2. Flight Crew Information File Template.

|  | UNCLASSIFIED<br>(When Filled In)   |   |
|--|--|---|
| AMPLIFYING INFORMATION:  | 1  |   |
| 1. This FCIF rescinds FCIF 19-014 and applies all units information only.  | operating Small Unman  | ned Aircraft Systems (SUAS). Others take for  |
| 2. SUAS Operators will attach an external Falcon Track<br>Falcon Tracker gun prior to each flight conducted on tra   | ter transmitter to each air<br>aining missions, whether                              | craft and verify its operational status with the<br>CONUS or OCONUS.  |
| 3. Units operating SUAS that have a built-in transmitter<br>commander's approval. Experience has shown that the e<br>as it will transmit far longer on its battery than the inter<br>the internal transmitter. | r (i.e. RQ-11B) may use i<br>external transmitter provi<br>nal transmitter. Unit com | t in lieu of the external transmitter with the unit<br>des a better capability in locating a downed aircraft<br>manders must assume the increased risk when using |
| 4. This FCIF will remain in effect until rescinded and c<br>cs2.eis.af.mil/sites/13850/FormServerTemplates/SUAS  | an be downloaded from ti<br>.aspx  | he AFSOC/A3V SharePoint site at https://  |
| 5. Post this message in the unit read file.  |  |   |
| 6. HQ AFSOC/A3V POC is Mr. Trent Smith, DSN 579  | -4610, trent.smith.2@us.   | af mil.   |
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#### Attachment 4

#### DAF SUAS COA REQUEST CHECKLIST

#### Figure A4.1. DAF sUAS COA Request Checklist.

#### Department of the Air Force sUAS COA/AAA Checklist

The FAA and DoD representatives have signed a Memorandum of Understanding concerning the approval of DoD Unmanned Aircraft Systems (UAS) in the National Airspace System (NAS). Prior to approving such operations certain criteria must be met. In order to receive an FAA COA or Airspace Access Authorization (AAA) to operate sUAS, all Air Force units must complete this Checklist and return to AFSOC/A3OU. Note: Not required for operations within restricted and warning airspace.

| YES<br> □ |   | Have you coordinated this request with your MAJCOM? If yes, identify who and their contact info in the operations section.  |
|-----------|---|---|
|           | þ | Have you obtained a cyber ETP approval if applicable? See DAFMAN 11-501,<br>paragraph 3.5.<br>Note: DJI systems may ONLY be utilized for C-sUAS operations unless explicit<br>approval has been received. |
|           |   | If operations will be conducted on a military installation, have you coordinated or obtained approval from installation officials? If yes, state who and their contact info in the operations section.    |
|           |   | Does this include a request for T-BVLOS for First Responders? If yes, please see T-BVLOS section below.   |
|           |   | Are sUAS-O(s) trained and certified IAW DAFMAN 11-502?  |
|           |   | Have you done any coordination with any air traffic control agencies? If yes, state who and their contact info in the operations section.   |
|           |   | Do you have a statement of airworthiness? If yes, state who granted the airworthiness in the operations section and attach a copy. See DAFMAN 11-501, paragraph 3.7.                                      |
|           |   | Confirm you understand the aircraft must remain within clear visual range of the pilot or observer in ready contact with the pilot, to ensure separation from other aircraft.                             |
|           |   | Confirm you have ground permission to launch and recover at each location.  |
|           |   | Confirm you are aware you must ensure frequencies have been coordinated<br>and approved with the unit or component Spectrum Manager prior to operations.  |
|           |   | Confirm that you have approved operating procedures. See DAFMAN 11-501, paragraph 3.11.   |

#### Figure A4.2. DAF sUAS COA Request Checklist (Continued).

- Confirm that you have approved operating procedures. See DAFMAN 11-501, paragraph 3.11.
- Are all of your systems listed in your system inventory DPAS? (AFSOC/A3OU will not issue a COA or AAA unless the systems are listed in DPAS).
- Confirm all coordination required by DoDI 1322.28 for Realistic Military Training (RMT) Off Federal Property has been completed.

| UAS        |  |
|------------|--|
| Platforms: |  |

#### Unit's Point of Contact:

| Name:         | Phone: | [ |
|---------------|--------|---|
| Unit/Address: | Email: |   |

#### Unit's Commander/approving official:

| Name:             | Phone:     |
|-------------------|------------|
| Unit/Address:     | Email:     |
| Start Date:       | Stop Date: |
| Latitude Latitude | ngitude    |

#### Attach the following documents:

- Detailed map of operations area.
- Detailed Lost Link/Lost Comm./Emergency Procedures.

#### OPERATIONS SECTION:

Description of Operating Area (Include type airspace, requested altitudes, general description of the area, including Lat/Long, radius, boundaries, and any prior coordination information), and purpose, i.e., training, surveying, etc.:

#### Figure A4.3. DAF sUAS COA Request Checklist (Continued).

#### T-BVLOS Section:

This section is only applicable to Air Force First Responder Units (Security Forces, Fire Department, and EOD). All requests for First Responders to operate using T-BVLOS require specific FAA approval prior to submission of the FAA COA request. AFSOC/A3OU will conduct all coordination with the FAA on behalf of the requesting Unit. Units can expect up to 120 days for T-BVLOS coordination and FAA COA approval.

A waiver from the requirements of 14 Code of Federal Regulations 91.113(b) may be approved for T-BVLOS operations as follows:

In extreme emergency situations, and to safeguard human life, the sUAS-O and VO may temporarily lose sight of the UAS and operate T-BVLOS with these restrictions:

1. The operator must not operate any higher than 50 feet above or greater than 400 feet laterally of the nearest obstacle. Combination of 50ft above obstacle must not exceed 400ft AGL or depicted UAS FM value.

2. The UAS must remain within 1500 feet from the sUAS-O.

PIC will return to Visual Line of Sight (VLOS) operations as soon as practical or upon termination of the threat.

 Please provide a narrative explaining your planned application of T-BVLOS which meets the criteria above.

#### Attachment 5

#### MAJCOM CYBER EXEMPTION TO POLICY (ETP) PROCESS AND PROCEDURES

#### A5.1. MAJCOM Cyber Processing ETP Roles and Responsibilities:

A5.1.1. Assign appropriate and relevant personnel to review the components and details of the submitted sUAS Cyber ETP. This includes, but is not limited to A3, A4, A6, sUAS-PMs, and Cyber centric AFSCs when considered applicable.

A5.1.2. Reviewers assigned will ensure the following critical components, as defined by the "Guidance for Procedures for the Operation and Procurement of Unmanned Aircraft Systems to Implement Section 848 of the National Defense Authorization Act for the Fiscal Year 2020", dated 08 September 2021, are not manufactured (country of origin) within a covered country as defined by the aforementioned publications. (**T-1**)

- A5.1.2.1. Flight Controller.
- A5.1.2.2. Radio.
- A5.1.2.3. Data Transmission Device.
- A5.1.2.4. Camera.
- A5.1.2.5. Gimbal.
- A5.1.2.6. Ground Control System.
- A5.1.2.7. Operating Software.
- A5.1.2.8. Network Connectivity.

A5.1.3. Further definitions of these critical components are found in the referenced publication above.

A5.1.4. AFSOC assigned representatives will conduct board and ETP reviews at the discretion of the OPR. (**T-2**)

A5.1.5. All reviewers should utilize the sUAS Cyber ETP Reviewer Checklist located on SharePoint®<sup>TM</sup> and under the Resources Tab on SUASMAN, see **paragraph 3.5.1**. The checklist provides Reviewer(s) and Approving Authorities with a list of documentation that must be examined, validated, and exploited prior to issuing an approval letter. Further instructions and details are provided within the instruction sheet. Under the Resources Tab on SUASMAN, reviewers can find an additional sUAS Cyber ETP Reviewer Checklist in Microsoft Excel format, for streamlined accountability.

|                                  |  |   | Tracking Number           | AFSOC A3OU-550       |         | (      |
|----------------------------------|--|---|---------------------------|----------------------|---------|--------|
| MAJCOM                           | SAF/C  | NZR   | AF/A3S                    | SAF/AQ               |         | SAF/C  |
|                                  |  |   | ***                       | ••••                 |         | ••••   |
| Approved<br>13 May 2022          | Wait   | ing   | Waiting                   | Waiting              |         | Waitin |
| Requestor Name:                  |  | NI .  |                           |                      | \$, III |        |
| Requestor Phone:                 | (123) 456-7891   | ,0  |                           |                      |         |        |
| MAJCOM: AFSOC<br>Mark which exem | 0<br>option applies or   | rganization: A300<br>specify other act                      | )<br>tivity that describe | 6<br>s your program: |         |        |
| b) Counter-U/                    | rations with no alt<br>15 surrogate testing<br>1 and information v | ernative solution<br>g or training<br>varfare testing, anal | ysis, and training        |                      |         |        |
| 🗌 d) Renewal<br>👰 e) Other       |  |   |                           |                      |         |        |
| 🗌 d) Renewal                     |  |   | 9                         | 9.1                  |         |        |

Figure A5.1. Sample ETP Request Form.



Figure A5.2. Sample ETP Request Form (Continue).

| **NO CLASSIFIED WO   | K IS TO BE PERFORMED**  |              |
|--|---|--------------|
| Does the system conn   | ect to a network(s)? 🔘 Yes 🌘 No                                   |              |
| Does this program or   | ctivity support an Urgent Need? 🔿 Yes 🍵 No                        |              |
| COTS Type: () Modif  | ed 🌒 Unmodified   |              |
| For unmodified C   | TS UAS (using factory firmware, datalinks, and controllers), plea | ase provide: |
| a) UAS Make:   | USDRONES  |              |
| b) UAS Model:  | Merica 6  |              |
| c) Quantity:   | 1   |              |
| d) Total Cost:   | \$1,000,000   |              |
| e) Country of Orig   | n: United States  |              |
| f) Ground Contro<br>Software (to inclu   | Station and USDRONES/OEM V2.5 de version):                        |              |
| g) Payload Make:   | USDRONES  |              |
| h) Payload Mode  | Merica IRP  |              |
| i) Quantity:   | 1   |              |
| j) Total Cost:   |   |              |
| k) Country of Orig   | in: United States   |              |
| <ol> <li>Any other appli<br/>and version number</li> </ol>   | able software N/A<br>ers:   |              |
| For all programs (unn  | odified or modified COTS) please provide:                         |              |
| a) Location of Use:  | USAF Base, USA  |              |
| b) Storage Location  | Storage facility on USAF Base                                     |              |
| <li>c) Is the location a san<br/>location (areas where<br/>data/video was high )<br/>operations/infrastruct</li> | fized Yes ONO<br>f your<br>cked,<br>ure critical to               |              |

## Figure A5.3. Sample ETP Request Form (Continue).

| oj Mispace.  | Class D  |                        |
|--|--|------------------------|
| e) Operators:  | BUQ Level II sUAS-O's  |                        |
| f) Operator Type:  | Military   |                        |
| g) FAA Certificate of aut <u>h</u> orizatio<br>(if applicable):            | n Class D  |                        |
| h) Cybersecurity Risk  | 💽 Low 💭 Medium 💭 High  |                        |
| Please make sure to include all re<br>and attach the form to this reque    | elated information from the RMF Mitigation Matrix document in the s<br>est. RMF MITIGATION MATRIX DOWNLOAD | pace below or download |
| ) is the onboard embedded • Ye   | es () No If yes, type of encryption:   |                        |
| cz link encrypted.   |  | * <b>v</b>             |
| () Is there a camera 📀 Ye  | es 🔿 No 🛛 If yes, what data link does it use:  |                        |
| vorva a.   | Hannosted transformation:  | ۰.                     |
|  | ir encrypted, type of encryption.  | **                     |
| k) Additional Payload(s): O Ye   | es 🖲 No  |                        |
| Please describe all mitigation solu  | itions being employed to include hardware  |                        |
| and software, software patches, c  | yber security vulnerability verification and   |                        |
| validation, and the results of a risi                                      | k management decision by an authorizing  |                        |
| official if one exists: (Note: Solutio                                     | ons should be in compliance with   |                        |
| and DoDI S-4660.01. Encryption of  | f Imagery Transmitted by Airborne Systems and  |                        |
| Unmanned Aircraft Control Comm   | nunications])  |                        |
| Beneide mitimties informaties such   | as no video capture equipment will be used and no connection<br>rate in authorized locations etc.          |                        |
| to a DoD Network. UA will only oper  |  |                        |
| to a DoD Network. UA will only oper<br>mpact if activity/event is not cond | ducted as planned/scheduled:   |                        |

Figure A5.4. Sample ETP Request Form (Continued).

## Figure A5.5. Sample ETP Request Form (continue).

| 28 | MAJCOM Approval                |                             |                       |        |  |  |  |
|----|--------------------------------|-----------------------------|-----------------------|--------|--|--|--|
|    |                                |                             |                       |        |  |  |  |
|    |                                |                             |                       |        |  |  |  |
|    |                                |                             |                       |        |  |  |  |
|    |                                | Approve                     | Hold                  | Reject |  |  |  |
|    |                                |                             |                       |        |  |  |  |
|    |                                |                             |                       |        |  |  |  |
| 29 |                                |                             | SAF/CNZR Assessment   |        |  |  |  |
|    | Risk Level:                    |                             | Mitigation            | n:     |  |  |  |
|    |                                |                             | Recommendation        |        |  |  |  |
|    |                                |                             |                       |        |  |  |  |
| 20 |                                |                             | HAF/A3S Approval      |        |  |  |  |
| 50 |                                |                             |                       |        |  |  |  |
|    |                                |                             |                       |        |  |  |  |
|    |                                |                             |                       |        |  |  |  |
|    |                                | Approve                     | Hold                  | Reject |  |  |  |
|    |                                |                             |                       |        |  |  |  |
|    |                                |                             |                       |        |  |  |  |
| 31 |                                |                             | SAF/AO and SAF/CN     |        |  |  |  |
|    |                                |                             | are processes are per |        |  |  |  |
|    |                                |                             |                       |        |  |  |  |
|    |                                |                             |                       |        |  |  |  |
|    |                                |                             |                       |        |  |  |  |
|    |                                | Approve                     | Hold                  | Reject |  |  |  |
|    |                                |                             |                       |        |  |  |  |
| _  |                                |                             |                       |        |  |  |  |
| 32 | Attach Additional Information: | Click here to attach a file |                       |        |  |  |  |
|    |                                |                             | futuria               |        |  |  |  |
|    |                                |                             | Submit                |        |  |  |  |
|    |                                |                             |                       |        |  |  |  |

## Figure A5.6. Sample MAJCOM sUAS Cyber ETP Checklist. MAJCOM sUAS Cyber ETP Reviewer Checklist

| Image<br>Reference<br># | Title                          | Description  | Verification  | Feedback    | Completed |
|-------------------------|--------------------------------|--|---|-------------|-----------|
| 1                       | Tracking Number                | Auto-populated<br>tracking number<br>that's unique to the<br>submitter's request.<br>Utilized to track the<br>ETP through the<br>approval process. | Annotate for<br>tracking<br>purposes. Data is<br>administrative<br>and doesn't<br>require<br>examination.                   | >           |           |
| 2                       | Approval Gate Status<br>Window | Provides user<br>where ETP<br>currently resides<br>pending approval.   | Annotate for<br>tracking<br>purposes. Data is<br>administrative<br>and doesn't<br>require<br>examination.                   | <b>&gt;</b> |           |
| 3                       | Requestor Name                 | Submitter inputs<br>"mil/gov" email<br>address. Populates<br>the requestor's<br>name and the unit<br>automatically.                                | Ensure the<br>requestor is<br>within the<br>appropriate<br>position and<br>responsibilities<br>to submit an<br>ETP request. | >           |           |
| 4                       | Requestor Phone                | Submitters' phone<br>numbers for contact<br>during the<br>processing of ETP.   | Verify the phone<br>number is valid<br>and that the<br>submitter can be<br>reached if<br>necessary.                         | >           |           |
| 5                       | MAJCOM                         | Designates which<br>MAJCOM the<br>application and<br>submitter fall<br>within.   | Ensure requestor<br>has selected<br>appropriate<br>MAJCOM.  | *           |           |
| 6                       | Organization                   | Identifies<br>organization in<br>which application<br>and submitter are<br>assigned.   | Ensure requestor<br>has input correct<br>organizational<br>title data.  | >           |           |

| 7   | Program Overview<br>Category  | Denotes the<br>category of<br>mission/<br>application  | Verify proper<br>mission<br>overview is<br>selected.  | > |  |
|-----|-------------------------------|--|---|---|--|
| 8   | Request Type                  | Displays if the<br>request is<br>designated as<br>"Purchase", "Use",<br>or "Purchase and<br>Use".  | Validate proper<br>selection. Ensure<br>ETP is<br>completed prior<br>to procurement.  | > |  |
| 9   | Use Start Date                | Date in which the<br>ETP is requested to<br>begin.   | Ensure the start<br>date isn't prior<br>to submission of<br>ETP. If so, edit<br>to a projected<br>data. Requests<br>are valid for up<br>to 12-months.     | > |  |
| 9.1 | Use End Date                  | Date in which the<br>ETP is requested to<br>expire.  | ETPs are valid<br>for up to 12-<br>months, ensure<br>the end date isn't<br>outside of this<br>window.   | × |  |
| 10  | Request Type                  | Designates type of<br>approval based on<br>operating<br>environment. Also<br>displays if ETP is a<br>renewal with<br>modifications or a<br>renewal with no<br>changes. | Ensure the<br>request only<br>displays either<br>Tier 1, 2, 3, or 4.<br>Type 1 requires.<br>(3-Star or<br>equivalent) for<br>Uncontrolled<br>environment. | > |  |
| 11  | NDAA Section 848<br>Compliant | Attests if the<br>proposed Platform<br>is IAW NDAA<br>Section 848/817<br>executive order.  | Ensure "Yes" is<br>selected. If<br>"No", seek an<br>explanation to<br>non-compliance  | * |  |
| 12  | Type of Environment           | Designates which<br>environment the<br>operations will<br>occur in.  | Validate<br>environment<br>selection based<br>on Environment<br>Designation<br>signed MFR.  | * |  |

## Figure A5.7. Sample MAJCOM sUAS Cyber ETP Checklist (Continued).

| 13 | Program Description                   | Provide an<br>overview of the<br>sUAS program   | Determine if the<br>description is<br>valid,<br>acceptable, and<br>supported   | > |  |
|----|---------------------------------------|---|--|---|--|
| 14 | Security Classification<br>of mission | States security<br>classification of<br>work being<br>performed.  | Ensure<br>appropriate<br>classification is<br>accurate and<br>valid  | > |  |
| 15 | Network Connection                    | Designates if sUAS<br>will be connected<br>to any commercial<br>or govt. network                        | Assess<br>vulnerability if<br>the platform is to<br>be connected to<br>a network.  | * |  |
| 16 | Urgent Need                           | Determines if ETP<br>is supported and/or<br>an urgent need for<br>approval.                             | Validate if<br>urgent need is<br>supported by<br>JUONS or ONS<br>and not a<br>scenario of late<br>work or other<br>reasons.  | * |  |
| 17 | Urgent Explanation                    | Narrative<br>justification of why<br>the ETP is labeled<br>as Urgent.                                   | Verify<br>explanation is<br>valid and<br>justified. Should<br>be used to<br>approve ETPs<br>where a "non-<br>urgent" mission<br>would not be<br>typically<br>approved. | * |  |
| 18 | COTS Type                             | Attests if the sUAS<br>has been modified<br>or not modified<br>from the<br>manufacturer.                | Confirm if the<br>platform has or<br>has not been<br>modified as<br>received from a<br>vendor.   | > |  |
| 19 | sUAS Platform<br>Information          | Defines key<br>information of<br>components and<br>systems required<br>for vulnerability<br>assessment. | Validate that<br>non-critical and<br>critical<br>component are<br>NDAA<br>compliant  | > |  |

## Figure A5.8. Sample MAJCOM sUAS Cyber ETP Checklist (Continued).

| 20 | Operational Area and<br>Location Security | Lists key<br>information to<br>include operation<br>location, airspace,<br>and sUAS-O<br>identification.         | Review and<br>assess<br>operational risk<br>based on input<br>data for all<br>questions.  | > |  |
|----|---|--|---|---|--|
| 21 | Cybersecurity Risk<br>Assessment          | Designates overall<br>and residual risks<br>associated with the<br>sUAS, application,<br>and the<br>environment. | Ensure risk level<br>has been<br>assessed<br>effectively and<br>properly, and the<br>reviewer concurs<br>with the selected<br>level.  | > |  |
| 22 | RMF Mitigation                            | Risk Mitigation<br>Framework   | Hyperlink<br>allows form to<br>be downloaded.<br>Select<br>environment<br>type and answer<br>or comment on<br>all associated<br>codes in the<br>columns. These<br>codes are<br>referenced on<br>the right side of<br>the page in the<br>index. It is best<br>to do this on a<br>word document<br>and attach to the<br>ETP | > |  |
| 23 | C2 Link Encryption                        | Provides if the<br>onboard Command<br>and Control (C2)<br>link has encryption<br>or not.                         | Assess risk if C2<br>doesn't have<br>encryption, or if<br>it does,<br>mitigations are<br>emplaced<br>appropriately.   | > |  |
| 24 | Payload Presence                          | Defines if the<br>sUAS has a camera<br>or recording device<br>on the platform.                                   | Review input,<br>and assess risk<br>based on<br>integrated<br>encryption and<br>sensors utilized.   | > |  |

## Figure A5.9. Sample MAJCOM sUAS Cyber ETP Checklist (Continued).

| 25    | Additional Payload                    | Inquires if the<br>sUAS has<br>additional payloads<br>outside of pre-<br>determined<br>information.             | Review if<br>additional<br>payloads will be<br>implemented.<br>Assess risk<br>based on<br>provided or not<br>provided<br>encryption. | > |  |
|-------|---------------------------------------|---|--|---|--|
| 26    | Risk Mitigation                       | Narrative of<br>controls<br>implemented to<br>mitigate cyber<br>vulnerabilities risk<br>associated with<br>ETP. | Review to<br>determine if the<br>risks<br>implemented are<br>appropriate,<br>feasible, and<br>acceptable.                            | > |  |
| 27    | Operational Impact                    | Explanation of risk<br>to operations due to<br>delays or rejections.  | Review impact<br>to operations<br>statement<br>written by the<br>requestor.  | > |  |
| 28    | MAJCOM Approval                       | Text Box for<br>MAJCOM<br>approvals to<br>provide further<br>guidance and/or<br>recommendations.                | Reviewer may<br>input any<br>comments<br>deemed<br>appropriate to<br>the submitter.  | > |  |
| 29-31 | DAF ETP Approval<br>Gates Action Menu | Radio Action<br>buttons for ETP<br>SMEs within the<br>DAF ETP board.  | No requirement<br>for modification<br>for MAJCOMS  | > |  |
| 32    | Attachment Menu                       | Location for<br>applicable<br>attachments for<br>sUAS ETP review.   |  | > |  |

## Figure A5.10. Sample MAJCOM sUAS Cyber ETP Checklist (Continued).

UNIT NOTIFIES MAJCOM (DON'T USE ETP PORTAL)



-



MAJCOM NOTIFIES THE ETP BOARD BY EMAIL.

UNIT AND MAJCOM IS PROVIDED POC INFO

FOR OUSD

OUSD PROVIDES ETP

PACKET AND GUIDANCE TO UNIT/MAJCOM

#### Attachment 6

#### SAMPLE RM WORKSHEET AND FLIGHT AUTHORIZATION

#### Figure A6.1. Sample RM Worksheet and Flight Authorization.

RM Worksheet and Flight Authorization

Introduction 1. Obtain "Authorized by" initials before flight. Any changes to sUAS crew members, systems or date of flight requires FA approval. 2. The Lead sUAS-O will initial "Go-No go" after all members comply with medical, currency, and read file as applicable. 3. File this form with the Unit prior to flight. Verbally update risk with your as circumstances change during flight. The Lead sUAS-O will determine the overall risk level with inputs from crew, but risk will be if an asterisks item annotated.
 Overall ORM approval levels MODERATE = Site Lead or Higher: HIGH = unit/DO or higher. Asterisk = Unit/ CC or Higher. sUAS Crew (list last Names) Date of Flight Go/No-Authorized by/ Date System Lead sUAS-O Go (Initials) Purpose (Reward) Guest/VIP's flight authorized (Yes or No) SPECIFIC CONSIDERATIONS (Circle Applicable Items) Risk Mission MODERATE MH LOW HIGH L Type/Complexity Single Ship/Proficiency Multi Ship/Simple Test Mission/ Complex Sortie/ Day Exercise/Night Exercise No shared airspace with Shared Airspace with No formal Deconfliction Deconfliction positive communication with multiple controlling agencies or direct communications controlling agency with a controlling agency Ground Maneuvers None Mobile OPS W/Troops Convert Mobile OPS: Live Fire Overall MISSION is rated: Low Moderate High Equipment L M H Equipment and Spare Parts No degraded equipment Limited spare parts/ Minor Significant system degradation degradation Configuration Hand control/RSTA Two hand controllers Configuration Overall Equipment is rated: Terrain (Environment) MH Moderate High L Low **RF** Environment No Interference Loss of link Moderate Interference Small High Interference High Interference not likely chance of loss of link likelihood of loss of link Launch and Recovery No obstacles within 500m or Increased risk for AV Damage likely or no CLS reportable damage not likely damage Not in Visual LOS Within Visual Line of Sight Airspace Compliance Airspace is confined, (Restricted A/S, sufficient moderate chance to violate airspace is available airspace Winds: > 75% of max limits Winds: 51-75% of max limits Weather Winds: 0-50% of max limits VFR:500(B)/1000(A)/2000(H) VFR:500(B)/1000(A)/2000(H) VFR:500(B)/1000(A)/2000(H) Visibility: >3SM Visibility: > or = to 3SM Visibility: > or = to 3SM Light Precipitation No additional hazards Mod-Heavy Precipitation Temps(F): <40 / >90 Temps(F): > 50° / < 85° Temps(F): 40"- 50" Heat/ Cold stress 85\*- 90\* Overall Terrain is rated: M H See Back for Individual Assessments Troops Ī. Overall Troops are rated: MH Low Moderate High Time Normal (3+ days' notice) One or Multiple sites outside Scheduled 24 hours prior Planning / Preparation Last Minute Execution Multiple sites inside 1km / Multiple sites inside 1km/ of 1km separation/ pre-No pre-coordinated pre-coordinated coordinated Deconfliction Deconfliction Deconfliction Overall Time is rated: M H Overall Mission Risk TOP RISK FOR THIS MISSION RISK MITIGATION FACTORS 1 Additional Signature (as required) Lead sUAS-O Signature

| Figure A6.2. | Sample RM | Worksheet and Flight Authorization. |
|--------------|-----------|-------------------------------------|
| 0            | <b>.</b>  | 0                                   |

| Lead sUAS-O:   | Total Score:    | Total Score:                         | Total Score:                          |
|--|-----------------|--------------------------------------|---------------------------------------|
| Work Stress Level                                      | 0-4 = Low       | 5-9 = Moderate                       | >10 = High                            |
| Quality of gray rest: Chronic/ A cute Fatigue          | Low = +0        | Fair = +1                            | Red = +3                              |
| Additional Parannal Distractions                       | 000d = +0       | $ran = \pm 1$                        | Dad = +5                              |
| Actual events: flights/sime in calendar weak (Mon Sun) | None = +0       | $12 = \pm 1$                         | Major = +5                            |
| Circadian Phythm Shift (last 4 days)                   | $y_{3} = \pm 0$ | $1-2 = \pm 1$                        | $0 = \pm 3$<br>Night to Day = $\pm 3$ |
| Proficiency level for operational tasks                | None = +0       | Day to Nights = +1                   | Night to Day = +3                     |
| Total OPM Sagra for Load aTIAS O                       | Very = +0       | Moderately = +1                      | Nonproncient = +5                     |
| allas.O:   | Total Score:    | Total Score:                         | Total Score:                          |
| 50A5-0.  | 0.4 = Low       | 5-9 = Moderate                       | >10 = High                            |
| Work Stress Level                                      | Low = +0        | Moderate = +1                        | High = +3                             |
| Ouality of crew rest: Chronic/ Acute Fatigue           | Good = +0       | Fair = +1                            | Bad = +3                              |
| Additional Personnel Distractions                      | None = +0       | Minor = +1                           | Major = +3                            |
| Actual events: flights/sims in calendar week (Mon-Sun) | >3 = +0         | 1-2 = +1                             | 0 = +3                                |
| Circadian Rhythm Shift (last 4 days)                   | None = +0       | Dav to Nights = +1                   | Night to Day = +3                     |
| Proficiency for events Planned                         | Very = +0       | Moderately = +1                      | Nonproficient = +3                    |
| Total ORM Score for sUAS-O                             | Total Score:    | > 4 total score requir               | es CC/DD Approval                     |
| sUAS-O:  | Total Score:    | Total Score:                         | Total Score:                          |
|  | 0-4 = Low       | 5-9 = Moderate                       | >10 = High                            |
| Work Stress Level                                      | Low = +0        | Moderate = +1                        | High = +3                             |
| Quality of crew rest: Chronic/ Acute Fatigue           | Good = +0       | Fair = +1                            | Bad = +3                              |
| Additional Personnel Distractions                      | None = +0       | Minor = +1                           | Major = +3                            |
| Actual events: flights/sims in calendar week (Mon-Sun) | >3 = +0         | 1-2 = +1                             | 0 = +3                                |
| Circadian Rhythm Shift (last 4 days)                   | None = +0       | Day to Nights = +1                   | Night to Day = +3                     |
| Proficiency for events Planned                         | Proficient = 0  | Moderately = +1                      | Nonproficient = +3                    |
| Total ORM Score for sUAS-O                             | Total Score:    | > 4 total score requir               | es CC/DD Approval                     |
| sUAS-O:  | Total Score:    | Total Score:                         | Total Score:                          |
|  | 0-4 = Low       | 5-9 = Moderate                       | >10 = High                            |
| Work Stress Level                                      | Low = +0        | Moderate = +1                        | High = +3                             |
| Quality of crew rest: Chronic/ Acute Fatigue           | Good = +0       | Fair = +1                            | Bad = +3                              |
| Additional Personnel Distractions                      | None = +0       | Minor = +1                           | Major = +3                            |
| Actual events: flights/sims in calendar week (Mon-Sun) | >3 = +0         | 1-2 = +1                             | 0 = +3                                |
| Circadian Rhythm Shift (last 4 days)                   | None = +0       | Day to Nights = +1                   | Night to Day = +3                     |
| Proficiency for events Planned                         | Proficient = 0  | Moderately = +1                      | Nonproficient = +3                    |
| Total ORM Score for sUAS-O                             | Total Score:    | > 4 total score requir               | es CC/DD Approval                     |
| sUAS-O:  | Total Score:    | Total Score:                         | Total Score:                          |
| Work Stress Level                                      | Low = +0        | Moderate = +1                        | High = $+3$                           |
| Quality of crew rest: Chronic/ Acute Fatigue           | Good = +0       | Fair = +1                            | Bad = +3                              |
| Additional Personnel Distractions                      | None = +0       | Minor = +1                           | Major = +3                            |
| Actual events: flights/sims in calendar week (Mon-Sun) | >3 = +0         | 1-2 = +1                             | 0 = +3                                |
| Circadian Rhythm Shift (last 4 days)                   | None = +0       | Day to Nights = +1                   | Night to Day = +3                     |
| Proficiency for events Planned                         | Proficient = 0  | Moderately = +1                      | Nonproficient = +3                    |
| Total ORM Score for sUAS-O                             | Total Score:    | >4 total score requires CC/DD Approv |                                       |

## Attachment 7

## SAMPLE AFSOC FORM 97

## Figure A7.1. Sample AFSOC Form 97.

| CUI WHEN FILLED IN  |                        |          |                       |          |                  |                  |
|---|------------------------|----------|-----------------------|----------|------------------|------------------|
|   | AFSOC #                | AIRCRAFT | INCIDENT REPORT       | r        |                  |                  |
| Information provided is oblicated under the provisions of AFI 91-204 solely for the purpose of mishap prevention within the United States Air Force and to<br>determine all factors relating to the incident in order to prevent recurrence. All statements contained herein are not protected under the promise of<br>confidentiality. Destroy in accordance with Air Force Records Disposition Schedule when no longer needed for mishap prevention purposes. Contact an<br>appropriate Air Force safety officer If you have any questions concerning military safety privilege.  |                        |          |                       |          |                  |                  |
| SECTION I: FOR CREW USE   |                        |          |                       |          |                  |                  |
| 1. DATE   | 2. TIME (ZULU)         |          | 3. LOCATION           |          | 4. EXERCISE/OPE  | RATION CODE NAME |
| 20220112  | 1830Z                  |          | Ft. Bragg, NC         |          | N/A              |                  |
| 5. TYPE AIRCRAFT  | 6. TAIL NO.            |          | 7. ORGANIZATION POSSE | SSING AC | 8. ALTITUDE (MSL | )                |
| RQ-20B  | 9513                   |          | 23 SFS                |          | 500              |                  |
| 9. WEATHER (VFR, IFR, THUNDERSTORMS, HAIL, LIGHTNING, TURBULENCE, RAIN, ICING, ETC.) DAWN X DAY DUBK NIGHT<br>Clear skies, winds 095/8 kts., 46 degrees   |                        |          |                       |          |                  |                  |
| 10. PHASE OF FLIGHT   | TAKEO                  | FF       | CLIMB                 | CRUISE   |                  | MISSION AREA     |
| AIR REFUELING LOW LET   | VEL DESCE              | INT      | FINAL APPROACH        |          | a 🗌              | UNKNOWN          |
| 12. AIRCRAFT SYSTEM(8) INVOVLED   | 11. TAKEOFF TIME (ZULU | Ŋ        | 13. ENGINE SHUTDOWN   | NO       |                  | rea              |
| RQ-20B - Sys042   | 1632Z                  |          | POSITION NUMBER       | 1        | 2                | 3 4              |
| 4. STATEMENT: A CONSCISE CHRONOLOGIAL DESCRIPTION OF THE FACTS AND CIRCUMSTANCES LEADING TO THE OCCURRENCE, ACTIONS TAKEN,<br>AND RESULTS. ATTACH ADDITIONAL SHEETS IF REQUIRED)<br>Alticraft preligibat and launch were normal. Alticraft climbed to 500° AGL en-route to the target location. At 10 minutes into the flight<br>the VO received a Propulsion Fail message. He executed the emergency procedure and regained control of the aircraft. At 14<br>minutes flight time the VO received another Propulsion Fail message. He again executed the emergency procedure at which time he<br>noticed the sitters at sittinde was decreasing. After executing the procedure the VO had control of the aircraft control straft cost but had<br>no throttle response. During descent the VO steered the aircraft to a safe spot for landing. Upon recovery of the aircraft the crew<br>noticed the entire propeller assembly was gone and separated in flight. This would account for the lack of throttle response. There<br>was no other damage to the aircraft. The propeller assembly was not found. Prior to flight the propeller nut was checked for tightness<br>IAW local directives.<br>Aircraft's information at launch:<br>True Heading: 125 degrees<br>MSL: 23 ft<br>GPS: 44<br>Link: 100%<br>Aircraft's information at 14 minutes:<br>True heading: 185 degrees<br>Bearing: 66 degrees<br>MSL: 481 ft<br>GPS: 44<br>Link: 100% |                        |          |                       |          |                  |                  |

Prescribed by: DAFI91-204 AFSOCSUP

CUI (WHEN FILLED IN)

## Figure A7.2. Sample AFSOC Form 97.

| CUI WHEN FILLED IN   |             |                  |           |                  |              |             |                    |                             |
|--|-------------|------------------|-----------|------------------|--------------|-------------|--------------------|-----------------------------|
|  |             | AFSOC AIRC       | RAFTI     | NCIDENT R        | EPORT        |             |                    |                             |
| 15. PERSONNEL INVOLVED (INCLUDE N<br>AIRCREWS ATTACH CREW ORDERS W/  | AME, GRAD   | E, ASSIGNED DUT  | Y, PHONE  | NUMBER, AND /    | DESCRIPT     | TON OF ANY  | INJURY OR ILLNESS. |                             |
| Provide personnel information 1  | AW with     | DAFMAN 11-3      | 502 and 1 | ocal procedur    | es.          |             |                    |                             |
| SECTION II: FOR INVESTIGATOR U   | \$E         |                  |           |                  |              |             | ~                  |                             |
| 16. MISHAP CONTROL NUMBER  | 17. MISH    | HAP COST         |           |                  |              |             | 18. MISHAP CATEGO  | DRY                         |
|  | AIR FOR     | RCE \$4,200.00   | OTHER     |                  | TOTAL        | \$4,200.00  | E                  |                             |
| 19, INVESTIGATOR NOTES (ATTACH AD  | DITIONAL S  | HEETS IF REQUIRE | ED)       |                  |              |             |                    |                             |
|  |             |                  |           |                  |              |             |                    |                             |
| 20. MATERIAL INFORMATION   |             | 21. WORK UNIT C  | ODE (WU   | 5)               |              | 23. MAINTER | NANCE ACTION       |                             |
|  |             | 22. HOW MALFUN   | CTION CO  | OE               |              | 1           |                    |                             |
|  |             | 24. PART NUMBE   | R         |                  |              | 25. MAINTER | NANCE ACTION       |                             |
| 26. ENGINE INFORMATION (TYPE AND 8   | ERIES) 27   | SERIAL NUMBER    | 2         | 28. TIME SINC    | E NEW (TB    | N) 29. T    | IME SINCE OVERHAUL | (067)                       |
| 30. OVERHAUL FACILITY  | 31. TIME BI | NCE INSTALLED (7 | r\$I)     | 32. SOAP READ    | 01NGS (JF SI | GNIFICANT)  |                    |                             |
| 33. DISPOSITION OF WRECKAGE 34. OTHER REPORTS<br>(CAT 1, AFTO 22, AF FORM 847) 35. OTHER AGENCIES NOTIFIED 36. NEWS RELEASE VE<br>(FAA, NTSB, AAC, ETC.) 36. NEWS RELEASE VE<br>(IF YES, GIVE DATE) VE |             |                  |           | NO<br>YES        |              |             |                    |                             |
| 37. CLASSIFIED MATERIAL INVOLVED   |             |                  | 3         | 8. AFI 51-503 IN | VESTIGATIO   | ON INFORMAT | TION               |                             |
| 39. COGNIZANT OFFICIAL AND TELEPH  | ONE NUMBE   | R                |           |                  |              |             |                    |                             |
| AFSOC Form 97 20220523   |             | PREVIOUS         | EDITION   | S ARE OBSOL      | ETE          |             | CUI (WHE           | Page 2 of 2<br>IN FILLED IN |

#### Attachment 8

#### SAMPLE SUAS DOMESTIC OPERATIONAL USE REPORT

#### Figure A8.1. Sample sUAS Domestic Operational Use Report.

SUAS DOMESTIC OPERATIONAL USE REPORT

**Note:** Reports are due for the preceding fiscal year NLT 15 October. Refer to DAFMAN 11-501, Paragraph 3.11.1. for specific due dates and mailing instructions.

- 1. Unit Name:
- 2. Unit Point of Contact (Name, rank/grade, phone number, and email address):
- 3. Inclusive dates of report:
- 4. Brief description of the types or categories of missions flown:
- 5. Summaries of sensors employed:
- 6. Information acquired, and whether any information was collected, retained, or disseminated:

7. Number of times assistance was provided to other Federal departments and agencies, or to State, local, tribal, or territorial governments, and under what authority such assistance was provided:

#### Attachment 9

#### **USE OF DOD UAS IN THE UNITED STATES AUTHORITIES MATRIX**

#### Figure A9.1. Use of DoD UAS in the United States Authorities Matrix.

| UAS   | UAS                 | Approval   | Delegation <sup>45</sup> | Applicable   | Amplification of  |
|---|---------------------|--|--------------------------|--|---|
| Operation   | Groups <sup>2</sup> | Authority <sup>3</sup>   |                          | Guidance <sup>6</sup>  | Guidance  |
| Counter-<br>intelligence<br>(CI), Foreign<br>Intelligence<br>(FI), or<br>Intelligence-<br>Related<br>Activity | ΔΙΙ                 | As determined<br>by the Head of<br>the DoD<br>Intelligence<br>Component<br>concerned | No                       | For FI, CI, or<br>intelligence-<br>related<br>activities:<br>E.O. 12333;<br>DoDD 5240.01;<br>DoDD 5240.01;<br>DoDD 5240.02;<br>DoD 5240.1-R;<br>DoDD 5148.13;<br>& DoDD<br>5148.11 | -Only Defense<br>Intelligence<br>Components<br>are authorized to<br>conduct<br>CI/FI activities.<br>-Intelligence<br>Oversight<br>(IO) rules apply. |

Attachment 2 - Use of DoD UAS in the United States Authorities Matrix

<sup>&</sup>lt;sup>2</sup> Joint Publication (JP) 3-30, "Command and Control of Joint Air Operations," July 25, 2019, as validated September 2021, provides definitions for UA categories (Groups 1 -5) based on weight and performance characteristics. With the exception of the column for representative UAS, the Unmanned Aircraft Systems Categorization Chart from Figure III-14, Chapter III, JP 3-30, is reproduced below:

| UAS Category                           | Maximum Gross<br>Takeoff Weight (lbs) | Normal<br>Operating<br>Altitude (ft) | Speed (KIAS) |  |
|--|---------------------------------------|--------------------------------------|--------------|--|
| Group 1                                | 0-20                                  | <1,200 AGL                           | < 100 kts    |  |
| Group 2                                | 21-55                                 | < 3,500 AGL                          | < 250 kts    |  |
| Group 3                                | < 1,320                               | < 18,000 MSL                         | < 250 kts    |  |
| Group 4                                | > 1,320                               | < 18,000 MSL                         | Any Airspeed |  |
| Group 5                                | > 1,320                               | > 18,000 MSL                         | Any Airspeed |  |
| Legend<br>AGL – above gro<br>ft – feet | und level                             | lbs – pounds<br>MSL – mean sea le    | vel          |  |
| KIAS - knots ind<br>kts - knots        | icated airspeed                       | UAS - unmanned aircraft system       |              |  |

<sup>&</sup>lt;sup>3</sup> The "Approval Authority" is the designated official who authorizes units or organizations under his or her control to schedule and conduct the domestic UAS operation as specified in this table.

6 DoDI 5400.11 is applicable to all domestic use of DoD UAS.

<sup>&</sup>lt;sup>1</sup> Always consult DoD directives, instructions, and regulations and DoD Component-and mission-specific guidance and with your servicing legal office.

<sup>\* &</sup>quot;Delegation" specifies whether the "Approval Authority" is authorized to delegate his or her authority, and to what level he or she is authorized to delegate that authority. Delegations made by approval authorities must be in writing, and should limit further re-delegation, as appropriate.

<sup>&</sup>lt;sup>5</sup> Implementing guidance by the applicable Secretary of the Military Department is required to be in place before any further delegation of authority is authorized.

| UAS<br>Operation   | UAS<br>Groups | Approval<br>Authority  | Delegation  | Applicable<br>Guidance  | Amplification of<br>Guidance   |
|--|---------------|--|---|---|--|
| Defense<br>Support of<br>Civil<br>Authorities<br>(DSCA) -<br>General   | All           | Secretary of<br>Defense  | No  | DoDD<br>3025.18 <sup>7</sup> ;<br>Standing<br>DSCA Execute<br>Order<br>(EXORD)  | For SAR and<br>IAA, see separate<br>entries below.   |
| DSCA –<br>Support of<br>Civilian Law<br>Enforcement<br>Agencies<br>(LEAs)  | All           | Secretary of<br>Defense  | No  | 18 U.S.C. §<br>1385; 10<br>U.S.C. Chapter<br>15; DoDD<br>3025.18; DoDI<br>3025.21 <sup>8</sup> ; &<br>DoDI 5505.17 <sup>9</sup> |  |
| DSCA – SAR<br>involving<br>distress or<br>potential loss<br>of life,<br>including<br>support of<br>U.S. Coast<br>Guard<br>Maritime<br>Search and<br>Rescue | All           | Commander, U.S.<br>Indo-Pacific<br>Command<br>(USINDOPACOM),<br>and Commander,<br>U.S. Northern<br>Command<br>(USNORTHCOM),<br>within their<br>respective areas of<br>responsibility<br>(AORs) | Yes; to<br>Commander,<br>Pacific Air<br>Forces,<br>Commander,<br>1st Air Force,<br>or<br>Commander,<br>11th Air<br>Force, within<br>their<br>respective<br>areas of<br>responsibility;<br>no further<br>delegation or<br>re-delegation<br>is authorized | DoDD<br>3025.18; DoDI<br>3003.01; <sup>10</sup><br>Standing<br>DSCA<br>EXORD;<br>National<br>Search and<br>Rescue Plan          | Combatant<br>Commanders may<br>approve use of<br>DoD UAS in the<br>United States on<br>an Air Force<br>Rescue<br>Coordination<br>Center (AFRCC),<br>Alaska Rescue<br>Coordination<br>Center (AKRCC),<br>Joint Rescue<br>Coordination<br>Center (JRCC), or<br>U.S. Coast Guard-<br>coordinated<br>mission with a<br>properly issued<br>SAR mission<br>number. |
| DSCA –<br>Incident<br>Awareness<br>and<br>Assessment<br>(IAA)  | All           | Commander,<br>USINDOPACOM,<br>and Commander,<br>USNORTHCOM,<br>within their<br>respective AORs   | Yes, to<br>Service<br>Component<br>Commander;<br>no further<br>delegation or<br>re-delegation<br>is authorized  | DoDD<br>3025.18;<br>Standing<br>DSCA<br>EXORD   |  |

Figure A9.2. Use of DoD UAS in the United States Authorities Matrix (Continued).

<sup>7</sup> DoDD 3025.18, "Defense Support of Civil Authorities (DSCA)," with Change 2, March 19, 2018.

<sup>&</sup>lt;sup>8</sup> DoDI 3025.21, "Defense Support of Civilian Law Enforcement Agencies," with Change 1, February 8, 2019.
<sup>9</sup> DoDI 5505.17, "Collection, Maintenance, Use, and Dissemination of Personally Identifiable Information and Law Enforcement Information by DoD Law Enforcement Activities," with Change 1, November 29, 2016.

<sup>10</sup> DoDI 3003.01, "DoD Support to Civil Search and Rescue (SAR)," with Change 1, May 12, 2017.

| UAS<br>Operation                                   | UAS<br>Groups         | Approval<br>Authority                           | Delegation  | Applicable<br>Guidance                        | Amplification of<br>Guidance   |
|--|-----------------------|---|---|---|--|
| Civil Air<br>Patrol<br>DSCA-SAR<br>and DSCA<br>IAA | Groups 1,<br>2, and 3 | Secretary of<br>the Air Force                   | Yes, to<br>Commander,<br>Pacific Air<br>Forces;<br>Commander, 1st<br>Air Force; or<br>Commander, 11th<br>Air Force within<br>their respective<br>AORs. No<br>further delegation<br>or re-delegation<br>is authorized. | DoDD<br>3025.18;<br>Standing<br>DSCA<br>EXORD | Must have<br>concurrence of<br>Commander,<br>USNORTHCOM, or<br>Commander,<br>USINDOPACOM,<br>within their<br>respective AORs   |
| State Use for<br>SAR or IAA                        | All                   | The State<br>Governor or<br>Adjutant<br>General | No  | 32 U.S.C. §710                                | Must meet the<br>requirements<br>established in<br>Attachment 1 of this<br>Guidance, including<br>-Requested by the<br>State Governor and<br>not allocated for<br>DoD purposes as<br>determined by the<br>Secretary of the<br>Military Department<br>concerned.<br>-UAS intelligence<br>component<br>capability sensors<br>are not used to targe<br>specific U.S.<br>persons without<br>consent (e.g., the use<br>of a UAS to monitor<br>protestors would not<br>be an appropriate<br>use) Use will be<br>conducted in<br>accordance with<br>(IAW) FAA policies<br>and DoD-FAA<br>MOAs.<br>-National Guard<br>personnel using or<br>supporting the UAS<br>operations are<br>serving in a State<br>active-duty status |

Figure A9.3. Use of DoD UAS in the United States Authorities Matrix (Continued).

|   |     |   |   |                | -3tates inform the<br>NGB within 24<br>hours of initial use.  |
|---|-----|---|---|----------------|---|
| Training,<br>Exercises,<br>and<br>Repositioning<br>Operations<br>Within<br>Airspace<br>Delegated by<br>the FAA for<br>DoD Use <sup>11</sup> | All | Unit<br>commander<br>IAW Service-<br>specific<br>directives | Yes, as<br>determined by the<br>Secretary of the<br>Military<br>Department<br>concerned | DoD-FAA<br>MOU | -Includes<br>repositioning<br>operations and direct<br>transit to and from<br>the training and<br>exercise airspace<br>delegated by the<br>FAA for DoD use. |
| Training and<br>Exercises<br>Exception:<br>Training and<br>Exercises<br>with Armed<br>UAS outside<br>Restricted<br>and Warning<br>Areas     | All | Secretary of<br>Defense                                     | No  |                | -DoD Component<br>heads will submit<br>appropriate requests<br>to the<br>ASD(HD&HA) at<br>least 30 days prior to<br>projected use.                          |

Figure A9.4. Use of DoD UAS in the United States Authorities Matrix (Continued).

<sup>&</sup>lt;sup>11</sup> "Airspace delegated by the FAA for DoD use" includes: Special Use Airspace delegated by the FAA for DoD use; temporary Air Traffic Control Assigned Airspace Areas (ATCAA); airspace above land with express permission of the landowner or government-owned or -leased land as permitted by DoD-FAA MOU; U.S. National Airspace delegated by the FAA for DoD use to provide air traffic services, U.S. National Airspace under an approved FAA Certificate of Waiver or Authorization (COA); and airspace delegated by the FAA and coordinated with DoD for permanent, long-term, and short-term requirements. See also the DoD-FAA MOU referenced in footnote 4.

| UAS<br>Operation  | UAS<br>Groups | Approval<br>Authority  | Delegation | Applicable<br>Guidance                        | Amplification of<br>Guidance  |
|---|---------------|--|------------|---|---|
| Training and<br>Exercises<br>Exception:<br>Planned<br>Training and<br>Exercises with<br>civilian LEAs | All           | -Secretaries of the<br>Military<br>Departments for<br>Active and non-<br>National Guard<br>Reserve training<br>and exercises<br>-The State<br>Governor or<br>Adjutant General<br>for National<br>Guard training and<br>exercises | No         | DoDD<br>1322.18 <sup>12</sup><br>DoDI 3025.21 | -DoD training<br>only.<br>-DoD training for<br>IAA or SAR only.<br>- Training may not<br>be approved for<br>the purpose of<br>providing real-<br>world assistance.<br>-Training that<br>would violate 18<br>U.S.C. § 1385 (the<br>Posse Comitatus<br>Act), 10 U.S.C. §<br>275, or would<br>otherwise involve<br>direct participation<br>in law<br>enforcement<br>activities is<br>prohibited.<br>- Training<br>involving civil<br>disturbances<br>requires Secretary<br>of Defense<br>approval. |
| Counter-Drug<br>(CD)<br>Operational<br>Support  | All           | Commander,<br>USINDOPACOM,<br>and Commander,<br>USNORTHCOM,<br>within their<br>respective AORs   | No         | CJCSI 3710.0IB                                | If delegated for<br>CD Operational<br>Support in DoDI<br>3000.14. <sup>13</sup>   |

Figure A9.5. Use of DoD UAS in the United States Authorities Matrix (Continued).

 <sup>&</sup>lt;sup>12</sup> DoDD 1322.18, "Military Training," October 3, 2019.
 <sup>13</sup> DoDI 3000.14, "DoD Counterdrug and Counter-Transnational Organized Crime Policy," August 28, 2020.

| UAS   | UAS               | Approval  | Delegation   | Applicable  | Amplification of   |
|---|-------------------|---|--|---|--|
| Operation   | Groups            | Authority   |  | Guidance  | Guidance   |
| Force<br>Protection<br>(FP) and<br>Maritime<br>Force<br>Protection<br>Unit Escort<br>Operations | Groups 1,<br>2, 3 | Commander,<br>USINDOPACOM,<br>Commander,<br>USNORTHCOM,<br>Commander, U.S.<br>Strategic<br>Command, or<br>Secretaries of the<br>Military<br>Departments for<br>their respective FP<br>responsibilities.<br>No further<br>delegation or re-<br>delegation or re-<br>delegation is<br>authorized below<br>unit or installation<br>commanders, ship<br>commanding<br>officers, and<br>submarine<br>commanding<br>officers. | Yes, to unit<br>or<br>installation<br>commanders,<br>ship<br>commanding<br>officers, and<br>submarine<br>commanding<br>officers IAW<br>Service-<br>specific<br>directives<br>and in<br>consultation<br>with the<br>Military<br>Departments<br>-U.S.<br>Strategic<br>Command<br>also consults<br>with the<br>appropriate<br>Combatant<br>Commander. | DoDD 5200.27;<br>DoDI O-<br>2000.16-V2;<br>CJCSI<br>3121.0IB;<br>Military<br>Department<br>Guidance; U.S.<br>Navy-U.S. Coast<br>Guard MOA on<br>In-Transit Escort | -Local<br>commanders are<br>responsible for FP<br>within DoD<br>installations and<br>are authorized to<br>use assets under<br>their control<br>within installation<br>boundaries when<br>DoDD 5200.27<br>criteria are met.<br>-Includes U.S.<br>Navy and U.S.<br>Coast Guard<br>requests for UAS<br>support in<br>connection with<br>Maritime Force<br>Protection Unit<br>escort operations<br>when airspace is<br>delegated by the<br>FAA for DoD<br>use, including<br>airspace with the<br>approval of the<br>landowner when<br>required by the<br>DoD-FAA MOU.<br>-For FP, follow<br>USD(P)-issued<br>policy for<br>domestic use of<br>UAS for force<br>protection. |

Figure A9.6. Use of DoD UAS in the United States Authorities Matrix (Continued).

| UA8<br>Operation  | UAS<br>Groups     | Approval<br>Authority                                       | Delegation   | Applicable<br>Guidance     | Amplification of<br>Guidance   |
|---|-------------------|---|--|----------------------------|--|
| Research,<br>Development,<br>Test, and<br>Evaluation<br>(RDT&E)<br>Within<br>Airspace<br>Delegated by<br>the FAA for<br>DoD Use | All               | Unit<br>commander<br>IAW Service-<br>specific<br>directives | Yes, as<br>determined<br>by<br>Secretaries of<br>the Military<br>Departments   | DoDI 3200.18 <sup>14</sup> | Includes direct<br>transits to and<br>from the RDT &E<br>airspace delegated<br>by the FAA for<br>DoD use.  |
| Public Affairs<br>Support<br>Within<br>Airspace<br>Delegated by<br>the FAA for<br>DoD Use                                       | Groups 1,<br>2, 3 | Secretaries of<br>the Military<br>Departments               | Yes; down to<br>a unit or<br>installation<br>commander.<br>No further<br>delegation or<br>re-delegation<br>is authorized |                            |  |
| DoD<br>Installation<br>Support<br>Within<br>Airspace<br>Delegated by<br>the FAA for<br>DoD Use                                  | Groups 1,<br>2, 3 | Secretaries of<br>the Military<br>Departments               | Yes; down to<br>installation<br>commander.<br>No further<br>delegation or<br>re-delegation<br>is authorized.             |                            | Includes surveys,<br>inspections,<br>repositioning<br>operations, DCIO<br>crime scene<br>surveillance<br>(consistent with<br>DoD IG guidance),<br>and capability<br>demonstrations in<br>restricted airspace;<br>and other<br>installation support<br>as specified in the<br>implementation<br>guidance by the<br>Secretaries of the<br>Military<br>Departments. |

Figure A9.7. Use of DoD UAS in the United States Authorities Matrix. (Continued)

<sup>&</sup>lt;sup>14</sup> DoDI 3200.18, "Management and Operation of the Major Range and Test Facility Base (MRTFB)," with Change 2, October 15, 2018.

| UAS   | UAS               | Approval                                      | Delegation   | Applicable | Amplification of   |
|---|-------------------|---|--|------------|--|
| Operation   | Groups            | Authority                                     |  | Guidance   | Guidance   |
| Other<br>Authorized<br>Missions<br>Within<br>Airspace<br>Delegated by<br>the FAA for<br>DoD Use | Groups 1,<br>2, 3 | Secretaries of<br>the Military<br>Departments | Yes; down to<br>O-6-level<br>unit or<br>installation<br>commander.<br>No further<br>delegation or<br>re-delegation<br>is authorized. |            | -Includes missions<br>executed under<br>Immediate<br>Response Authority<br>(IRA) IAW DoDD<br>3025.18.<br>-Includes surveys,<br>inspections, map<br>generation,<br>construction and<br>environmental site<br>monitoring; and<br>research and other<br>mission support as<br>specified in the<br>implementation<br>guidance by the<br>Secretaries of the<br>Military<br>Departments.<br>-Includes DoD<br>UAS use for DoD-<br>approved DSCA<br>missions (e.g., U.S.<br>Army Corps of<br>Engineers DoD<br>UAS use in<br>hurricane response<br>and recovery<br>operations). |

Figure A9.8. Use of DoD UAS in the United States Authorities Matrix (Continued).

#### Attachment 10

#### **CIVIL AIR PATROL (CAP) REQUIREMENTS**

**A10.1.** Civil Air Patrol as the Auxiliary of the Department of the Air Force. 10 U.S.C. § 9492, *Status as volunteer civilian auxiliary of the Air Force*, identifies CAP as the Auxiliary of the DAF when its services are used by any department or agency in any branch of the federal government. The SecAF, or designee, places participating CAP members and assets in auxiliary status for the respective activity. All missions and programs, to include sUAS, conducted in auxiliary status, once authorized and assigned to CAP by the SecAF, or designee, are deemed to be Air Force Assigned Missions (AFAM). CAP conducts activities in corporate status when not assigned auxiliary status.

A10.1.1. CAP-USAF is the USAF program office for the Cooperative Agreement and ensures CAP complies with federal, state and local laws and directives and oversees the implementation of CAP when in their AFAM status. CAP-USAF monitors, supports, and oversees CAP's sUAS program and verifies CAP complies with tenets of this manual.

A10.1.2. CAP maintains a robust sUAS program. It is scaled and adapted to all of CAP's unique missions, activities, and volunteer members. Per the Cooperative Agreement, to fly AFAMs, CAP is required to establish and implement a sUAS program patterned after Air Force unmanned aviation programs. CAP only operates Groups 1 and 2 platforms.

**A10.2. Airworthiness.** CAP owns and maintains FAA-designated private use aircraft in all of its aviation programs. sUAS airworthiness is declared by the manufacturer or user under 14 CFR Part 107. CAP accepts airworthiness from its vendors for all sUAS platforms. CAP and CAP-USAF will provide aircraft airworthiness to AFSOC/A3OU upon request.

**A10.3. Flight Approval Authority/Flight Release.** Every CAP sUAS AFAM is approved by CAP-USAF and 1AF and released to the CAP National Operations Center (NOC), which reviews all mission approval and flight release requirements within CAP regulations and the CAP Mission Approval database which reside in the Web Mission Information and Reporting System (WMIRS).

A10.3.1. Risk Management (RM): CAP sUAS operators are required, per CAP regulations, to complete a RM worksheet prior to flight authorization.

A10.3.2. 1AF authorizes CAP missions for a specific period of time. Additional approvals must be done on a sortie-by-sortie basis by both 1AF and the CAP NOC.

A10.3.3. sUAS frequencies: When CAP operates in civilian airspace. sUAS pilots use FCC approved spectrums and under 14 CFR Part 107. When operating in DoD airspace, CAP coordinates with the installation spectrum office, ACC Spectrum Office, and AFSMO as needed.

**A10.4.** Airspace Coordination and Approval. The Federal Aviation Administration (FAA) considers all CAP aircraft and operations as "private use." CAP sUAS operate in accordance with 14 CFR Part 107. Any waivers to 14 CFR Part 107 are routed through the CAP National Headquarters (CAPNHQ)l. These waivers require an Operations Plan (OPLAN) specific to that operation and any special instructions (SPINS) specific to that mission.

**A10.5. Commercial Off the Shelf (COTS) Waivers.** Any platform cyber exemptions for AFAMs are staffed through the CAP-USAF Special Programs office for coordination through the A3S SharePoint.

**A10.6. 1AF AFAM Approval Process.** When CAP is executing AFAMs, they are beholden to DoD and federal directives. CAP's sUAS AFAMs include missions such as Federal Installation support, DSCA/IAA, FEMA imagery, Research and Design, Force Protection, Search and Rescue and off federal installation training and support. Each CAP mission is scrutinized and approved by CAP-USAF and 1AF after ensuring the mission details include: an OPLAN, Memorandum of Agreement (MOA), specified platforms, SecAF approval (as required), and a legal review.

**A10.7. CONEMP vs OPLAN.** Due to the unique nature of CAP sUAS operations across the entire United States, a Concept of Employment (CONEMP) for each location for unmanned flights is impractical. For operations involving regular exercises/sorties on DoD installations or distinct mission sets, a MOA is coordinated and signed between the installation commander, CAP-USAF/CC, and CAP's Chief Operating Officer. For missions involving operations off installation airspace, an OPLAN is required for 1AF approval and is attached to the mission file in WMIRS.

**A10.8. Equipment Custodian.** CAP has no access to any USAF systems. CAPNHQ/LG is responsible for tracking sUAS equipment issued to individual units. The availability reporting is the responsibility of the CAP Wing sUAS Officer within the CAP Operations Directorate. This information can be provided to AFSOC/A3OU upon request.

**A10.9. Multiple Certification.** CAP sUAS pilots can maintain multiple certifications per CAP regulations. This information is maintained in the CAPNHQ Operational Qualifications (OPSQUALS) database. This information can be provided to AFSOC/A3OU upon request.

**A10.10. Flight Crew Information File (FCIF).** CAP-USAF is the liaison between CAP and DoD and other federal entities. To ensure the flow of critical information from HAF, AFSOC, etc. impacting CAP's sUAS operations, the CAP-USAF Special Programs office shall maintain a SUASMAN account. CAP-USAF shall forward FCIFs to CAP in a timely manner. Because CAPNHQ does not have a traditional FCIF program, it will disseminate and sUAS FCIFs information in a CAP Critical Read File (CRF). Review of the CAPNHQ CRF is required by CAP regulations prior to mission execution.

A10.11. Special Interest Items (SII). See paragraph A10.10.

**A10.12. Go/No-Go Procedures.** CAP maintains a positive control system that ensures CAP sUAS operators complete all required items prior to flight. CAP's Go/No-Go system uses 14 CFR Part 107 for foundational preflight requirements (medical status, alcohol consumption, etc.). All others are mandated by CAP regulations (Critical Read File view, Operational Risk Management, etc.).

A10.13. Compliance. CAP operates IAW 49 CFR Part 107, DoD, USAF and MAJCOM directives for AFAMs.

**A10.14. Mishap Reporting.** CAP sUAS mishaps and mishap reporting do not fall under USAF 91-series regulations. Per the Cooperative Agreement, as the "Owner/Operator" of Civil Air Patrol sUAS, CAP National Headquarters (CAPNHQ) shall comply with the mishap notification procedures described in 14 CFR, Chapter I, Part 107.9, as applicable, the Cooperative Agreement and CAP regulations.

**A10.15.** Communication with ATC. CAP shall comply with FAA communications requirements. Operations on or about a federal installation require coordination with any and all air traffic controlling agencies and approval from the installation commander. When operations are conducted off installation and within FAA controlled airspace, communication requirements will be in accordance with 14 CFR Part 107 or an associated waiver to a specific portion of 14 CFR Part 107. sUAS operations in FAA uncontrolled airspace will comply with 14 CFR Part 107 and CAP regulations. This includes complying with the Title 14, Code of Federal Regulations, **Part 89**, *Remote Identification of Unmanned Aircraft*, dated 15 January 2021, requirement for remote identification of all sUAS.

A10.16. Aircraft Lighting. CAP shall comply with 14 CFR Part 107 as required.

A10.17. Flight Data Capture. CAP meets the requirements of Flight Data Capture.

A10.18. Adverse Weather. CAP shall comply with 14 CFR Part 107 and applicable CAP regulations.

**A10.19. Stores and Weapons.** CAP does not have any weapons for their sUAS platforms. Dropping of stores is governed by 14 CFR 107 and requires FAA waivers to do so. Dropping of stores must be approved by CAPNHQ and airworthiness of stores must be certified by the CAP Nation Technology Center. This information can be provided to AFSOC/A3OU upon request.

A10.20. See and Avoid. CAP shall comply with 14 CFR Part 107 and applicable CAP regulations.

**A10.21. Safety/Risk Management.** Per the Cooperative Agreement, CAP-USAF requires CAP to maintain vigorous safety and risk management program. With respect to sUAS operations, CAP mandates safety/RM program in CAP regulations.

**A10.22.** CAP sUAS Pilot Medical Requirements. CAP shall comply with 14 CFR Part 107 and applicable CAP regulations.

**A10.23.** Scheduling Limitations/Alcohol Consumption. CAP shall comply with 14 CFR Part 107 and applicable CAP regulations.

**A10.24. Pre-Mission Planning.** CAP sUAS pilots will accomplish pre-flight planning as mandated in CAP regulations.

A10.24.1. All CAP Operations pilots are required to be FAA certificated Remote Pilots to conduct commercial operations. They are required, by law, to comply with 14 CFR Part 107.

A10.24.2. Weather: CAP sUAS pilots will obtain sufficient weather information to safely conduct the flight and adhere to operator's manual restrictions, 14 CFR Part 107, and applicable CAP regulations.

**A10.25. Briefings.** CAP pilots will ensure each crewmember is briefed on items affecting safety or mission completion. These briefings will include, but need not be limited to:

A10.25.1. Emergency procedures IAW in 14 CFR Part 107 and applicable CAP regulations.

A10.25.2. Airspace/operating area, approved frequencies, and method of complying with restrictions IAW 14 CFR Part 107 and applicable CAP regulations.

A10.25.3. Safety precautions and restrictions, including use of electronic devices that may cause interference IAW 14 CFR Part 107 and applicable CAP regulations.

A10.25.4. Special procedures and instructions for use during training or operational missions IAW CAP checklists and CAP regulations.

**A10.26. Fuel/Battery Charge Requirements.** CAP sUAS pilots will ensure sufficient fuel/battery charge is available to safely conduct or continue the flight IAW CAP checklists and CAP regulations. CAP requires landing with 20% battery/fuel reserve.

**A10.27. Training.** CAP sUAS pilots are trained, certified, and authorized to plan and conduct sUAS operations in approved airspace. CAP requires all pilots to possess an FAA certificate as a remote pilot in accordance with 14 CFR Part 107. All pilots undergo an annual check ride from an authorized check pilot. Mission qualified pilots undergo two separate annual flight checks in the various aircraft they are qualified in. CAP flight training requirements are laid out in 14 CFR Part 107 and applicable CAP regulations.

A10.28. Continuation Training (CT). CAP pilots conduct CT to maintain and develop proficiency in sUAS to support unit mission IAW 14 CFR part 107 and applicable CAP regulations.

**A10.29. Standardization and Evaluation Program.** CAP maintains a strong standardization and evaluation program. All CAP remote pilots are evaluated annually. All evaluation records are maintained in CAP's OPSQUALS database. Guidance for their standardization and evaluation program is outlined in CAP regulations.