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Requirements and Guidance for Access to and Operations Within United States Civil Airspace by Department of the Navy Unmanned Aircraft Systems



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This document serves as record of requirements, processes and procedures for all Department of the Navy UAS in order to obtain airspace access authorization for operations within U.S. airspace outside Prohibited, Restricted or Warning Area airspace. This document is managed and approved by the Director, NAATSEA

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Section 1: General

1.1 Purpose. This document establishes Department of the Navy (DON) requirements for Unmanned Aircraft System (UAS) access to and integration within U.S. National Airspace outside of active Prohibited, Restricted and Warning Area airspace (referred to in this document as U.S. Civil Airspace). This document also standardizes procedures across the U.S. Navy (USN) and U.S. Marine Corps (USMC) to provide a common set of regulations among UAS operators, UAS planners, air traffic controllers, and airspace managers in order to ensure the safe and effective execution of UAS operations within airspace that is shared by both military and civil users.

1.2 Scope and Audience. This document outlines policies and procedures associated with UAS airspace access and integration activities that fall within three basic areas. The first area, which is contained in sections (2) and (3), provides guidance to planners, operators, and leadership involved in conducting DON Public UAS operations in U.S. Civil Airspace. DON UAS operations include operations conducted using Program of Record (POR) and non-POR UAS that are flown in support of a USN or USMC event regardless of its size, weight, complexity, or ownership. The second area, which is contained in section (4), provides guidance to air traffic controllers, managers, and leadership involved in supporting military and civil UAS activities conducted within DON Air Traffic Control (ATC) airspace. DON ATC airspace includes airspace delegated to the DON by the FAA for ATC service provision purposes and may encompass controlled airspace, uncontrolled airspace, and Special Activity Airspace. The third area, which is contained in section (5), provides guidance to individuals who are designated by OPNAV N98 or Headquarters Marine Corps (HQMC) Aviation to review/approve DON Airspace Access Authorization (AAA) requests and review/endorse Federal Aviation Administration (FAA) Form 7711 Certificate of Waiver or Authorization (COA) requests. This document does not address UAS operations conducted within Prohibited Areas, Restricted Areas, Warning Areas, combat zones, international airspace, or foreign national airspace.

1.3 Responsibilities

1.3.1 DON UAS Proponent. The DON UAS Proponent is the O-5 level or above Commanding Officer (or civilian equivalent) overseeing the organization that is conducting or sponsoring the UAS operation. The Proponent maintains overall responsibility for ensuring all UAS operations conducted in U.S. Civil Airspace are executed safely and in compliance with this document, the issued DON AAA or FAA COA, and all applicable DoD, FAA, and local government requirements. The Proponent is also responsible for ensuring:

- (1) The AAA/COA application accurately reflects the intended operation,
- (2) The appropriate DON Representatives to the FAA (NAVREPs) are notified immediately if any information provided in the application is no longer accurate prior to AAA/COA approval,
- (3) UAS operations are ceased immediately if any information provided in the application is no longer accurate after AAA/COA approval,
- (4) Any reports required by this document or the AAA/COA are submitted accurately and on time, and
- (5) A copy of the applicable AAA/COA is immediately available to UAS crew

members at the control station location whenever UAS flight operations are conducted in U.S. Civil Airspace.

Additionally, the proponent shall ensure that an Aircraft Controlling Custodian or Designated Approval Authority (ACC/DAA) and an Aircraft Reporting Custodian (ARC) are designated as directed by references (b), (c), and (d). ACC/DAA and ARC designation letters shall be made available to the NAVREP upon request.

1.3.2 DON UAS Airspace Access Applicant. The UAS Airspace Access Applicant is the individual who submits the DON AAA or FAA COA application for flight operations within U.S. Civil Airspace as well as any reports required by this document or the approved AAA/COA. Applicants will work directly with the NAVREP throughout the application process and at times may be required to coordinate with DoD or FAA ATC facilities via the NAVREP. Applicants shall be familiar with sections (1), (2), (3), and appendix C of this document. If an Applicant has a UAS airspace access or integration related question that is not appropriately addressed in this document they should contact the NAVREP assigned to the applicable FAA Service Area by emailing UAS- DON@faa.gov. Applicants shall maintain access to each active AAA/COA assigned to the Proponent for which they represent. It is recommended that Proponents maintain at least two Applicants at any given time. DON UAS Applicants shall be designated in writing by the Proponent using the designation letter template provided in Appendix D. Applicant designation letters shall be maintained by the Proponent and made available to the NAVREP upon request. The NAVREP shall be notified if a new Applicant is assigned any time between application submission and AAA/COA issuance. Applicants should be DoD military personnel, civilians, or contractors who have both a DoD Common Access Card (CAC) and DoD email account. If the Proponent is sponsoring a contractor who is requesting to operate under Part 91, as described in paragraph 1.5, and does not have a DoD CAC and DoD email address, then either:

- (1) The Proponent shall assign an individual from within the command to serve as Applicant or,
- (2) OPNAV N980A (for USN units) or HQMC Aviation APX-1 (for USMC units) shall positively endorse the Proponent's designation letter authorizing the contractor to submit AAA/COA applications on behalf of the DON.

Note that DON UAS Applicants are not responsible for airspace access coordination that involves civil Part 107 UAS operations in support of a DON effort, as described in paragraph 1.5. In these cases, coordination will be conducted directly between the civil entity conducting the Part 107 operation and the FAA.

1.3.3 DON UAS Crewmember. All personnel performing the duties of Air Vehicle Operator (AVO), Visual Observer (VO), or other UAS crewmember positions that are conducting DON UAS operations within U.S. Civil Airspace (to include DON military crewmembers, DON civilian crewmembers, DON contracted crewmembers, and contractor crewmembers performing contracted DON Public Aircraft Operations) shall understand and comply with:

- (1) Sections (1), (2), and (3) of this document;
- (2) The DON AAA or FAA COA;

- (3) UAS specific ATC facility procedures established by Letter of Agreement
- (4) (LOA), Standard Operating Procedure (SOP), or other Local directive; and
- (5) All applicable local government and installation requirements.

All personnel associated with operations conducted under an AAA/COA are responsible for halting and reporting to the Proponent any activities that have the potential to threaten the safety of any personnel or property in the air or on the surface.

1.3.4 DON UAS Airspace Access Coordinator (AAC). Each DON ATC facility shall have a Primary and Secondary AAC to develop and manage the facility's UAS Airspace Access Program (AAP). The UAS AACs shall serve as the facility's focal point for all local UAS airspace access and integration related activities and shall be familiar with sections (1), (2), (3), and (4) of this document. If an AAC has a UAS airspace access or integration related question that is not appropriately addressed in this document they should contact the NAVREP assigned to the applicable FAA Service Area by emailing UAS-DON@faa.gov. AAC responsibilities include:

- (1) Serve as ATC facility lead for UAS airspace access and integration procedures, coordination, and reporting;
- (2) Serve as ATC facility subject matter expert on UAS regulations and procedures;
- (3) Serve as primary point of contact for all facility UAS coordination, working closely with the NAVREP as required;
- (4) Develop and manage the UAS AAP, UAS Facility Map (UASFM), and UAS Special Provisions; and
- (5) Ensure facility SOPs and LOAs are in accordance with this document and its associated references.

The Primary and Secondary UAS AAC shall be designated in writing by the Commanding Officer in charge of the ATC facility using the designation letter template provided in Appendix D. A copy of the Primary and Secondary UAS AAC designation letter shall be maintained at the ATC facility and made available to the NAVREP upon request. Notification of changes to the facility's Primary or Secondary UAS AAC personnel shall be provided in writing to the NAVREP.

1.3.5 DON ATC Personnel. DON ATC personnel conducting Local, Approach, and Arrival Control in U.S. Civil Airspace shall be familiar with sections (3) and (4) of this document, as well as any directives, LOAs, SOPs, and course rules associated with local UAS flight operations. The ATC facility's Tower and Radar Chiefs shall ensure that a copy of all DON AAAs and FAACOAs approved for operations within the ATC facility's airspace as well as any associated LOA and SOP documents are immediately available to all Local, Approach, and Arrival Controllers while on position. Additional controller requirements may be added as directed by the ATC Facility Officer.

1.3.6 DON UAS Level One Airspace Access Processor (L1P). The DON L1P is the first DON individual in the DON AAA and FAA COA review and approval processing chain. The NAVREP shall perform the duties of L1P, as described in section (5), for all DON UAS

operations requested within U.S. Civil Airspace that falls under their Area of Responsibility (AOR). The AOR of each NAVREP is the FAA Service Area for which they are assigned. Navy NAVREPs will serve as Primary L1P for all USN UAS applications and may perform L1P duties on USMC UAS applications when the Marine Corps Processor is not available. Likewise, Marine Corps NAVREPs will serve as Primary L1P for all USMC UAS applications and may perform L1P duties on USN UAS applications when the Navy Processor is not available. To perform these duties, a L1P account shall be created and maintained within the FAA/DoD Processing System. The L1P shall be familiar with this document and its associated references. The DON UAS L1P shall be designated in writing by OPNAV N98 (for USN) or HQMC Aviation (for USMC) using the designation letter template provided in Appendix D.

1.3.7 DON UAS Level Two Airspace Access Processor (L2P). The DON L2P, when applicable, is the second individual in the DON AAA and FAA COA review and approval processing chain. The DON FAA Headquarters Liaisons shall perform the duties of the Primary DON UAS L2P, as described in section (5), for DON UAS operations within U.S. Civil Airspace requested by their Service that cannot be approved by the DON L1P. The Navy FAA Headquarters Liaison will serve as Primary L2P for USN UAS applications. OPNAV N98 shall designate an individual to serve as Secondary L2P for USN UAS applications when the Primary Processor is not available. Likewise, the Marine Corps FAA Headquarters Liaison will serve as Primary L2P for USMC UAS applications. HQMC Aviation shall designate an individual to serve as Secondary L2P for USMC UAS applications when the Primary Processor is not available. To perform these duties, an L2P account shall be created and maintained within the FAA/DoD Processing System. The L2P shall be familiar with this document and its associated references. The Primary and Secondary DON UAS L2P shall be designated in writing by OPNAV N98 (for USN) or HQMC Aviation (for USMC) using the designation letter template provided in Appendix D.

1.4 Unmanned Aircraft Definitions and Weight Considerations. Reference (b) defines an Unmanned Aircraft (UA) as an aircraft, which is capable of flight without an on-board crew and is the primary component of the UAS. Reference (b) defines UAS as the system, whose components include the necessary equipment, data communication links, and personnel to control and employ a UA. For the purposes of airspace access and integration policy, the FAA makes a significant distinction between a UA with a total weight of less than 55 pounds, which FAA refers to as a Small UAS, and a UA with a total weight 55 pounds and more, which is integrated into U.S. Civil Airspace similarly to manned aircraft. The FAA considers the total UA weight to include the weight of anything attached to or carried by the UA. The DoD separates military UAS into five groups based on the weight and performance characteristics of the UA as established by reference (e). For the purposes of UAS access and integration within U.S. Civil Airspace, DoD Group 1 and 2 UAS are considered Small UAS. Note that due to the variation in the way DoD and FAA categorize UAS weights, a DON UAS with a total weight of exactly 55 pounds is not considered a Small UAS under reference (a).

1.5 Flight Regulations for UAS Operating within U.S. Civil Airspace

1.5.1 Title 14 CFR Part 91 UAS Operations. Title 14 Code of Federal Regulations (CFR) Part 91 flight rules were originally created to regulate manned aircraft operations. However, Part 91 flight rules may also be used to conduct UAS operations by the following Proponents:

- (1) Private individuals or organizations operating a UA with a total weight, of 55 pounds or more;
- (2) Local, state, or federal government agencies; and
- (3) Public universities.

All DON public UAS operations in U.S. Civil Airspace must be conducted in accordance with Part 91. Since UAS are unable to comply with all aspects of Part 91, an Alternate Means of Compliance (AMOC) must be authorized in the DoD AAA or FAA COA for any portion of the rule that the UAS cannot follow. Any deviations from Part 91 rules must be authorized in the DON AAA or the FAA COA.

1.5.2 Title 14 CFR Part 107 UAS Operations. Title 14 CFR Part 107 flight rules may be used by private individuals, companies, and non-DoD government agencies or organizations operating a Small UAS within U.S. Civil Airspace. Individuals operating under Part 107 must hold an FAA “Remote Pilot Certificate” with a Small UAS rating or be under the direct supervision of a “Remote Pilot in Command”. DON personnel are not authorized to conduct public UAS operations under Part 107 Flight Rules. However, under certain specific circumstances, UAS operations supporting the DON may be conducted as civil aircraft operations under Part 107 if the activity is determined by NAVAIR 4.0P to be a civil UAS operation. These civil UAS operations must be performed by contractors or other civil entities that are supporting or collaborating with organizations within the DON, and the UAs must not be DON public aircraft. When operating under the Part 107 rule, the Remote Pilot shall ensure that the UA:

- (1) Remains within Visual Line of Sight (VLOS) of the AVO or VO, close enough to be observed with vision unaided by any device other than corrective lenses;
- (2) Is not operated if the visibility is below three statute miles from the control station;
- (3) Does not interfere with, and gives way to, manned aircraft;
- (4) Does not operate over any persons not directly participating in the operation;
- (5) Remains outside of ATC controlled airspace, unless authorized by the controlling ATC facility;
- (6) Remains at or below 400 feet Above Ground Level (AGL) or, if higher than 400 feet AGL, remains within 400 feet of a structure;
- (7) Remains at or below a maximum groundspeed of 87 knots (100 mph);
- (8) Only operates during daylight hours;
- (9) Complies with all airspace restrictions and prohibitions; and
- (10) Is registered and marked per FAA policy.

For a complete list of Part 107 requirements; refer to the Code of Federal Regulations. Part 107 requirements may be waived by FAA under certain circumstances and with concurrence from the controlling ATC Facility as applicable.

Note: The FAA currently allows waivers to the following Part 107 subparts: operation from a moving vehicle or aircraft (Section 107.25), daylight operation (Section 107.29), visual line of sight operation (Section 107.31), visual observer (Section 107.33), operation of multiple aircraft (Section 107.35), yielding the right of way (Section 107.37a), operation over people

(Section 107.39), operation in certain airspace (Section 107.41), and operating limitations for aircraft (Section 107.51).

1.5.3 Recreational UAS Operations. Under a federal legal exception to FAA flight regulations, civil operators who are flying non-DON owned Small UAS strictly for recreational purposes are not required to operate under Title 14 CFR Parts 91 or 107. However, per 49 USC Section 44809, recreational UAS operators shall possess proof that they have passed the FAA aeronautical knowledge and safety test, and shall ensure that the UA:

- (1) Is operated in accordance with the safety guidelines established by an FAA approved community based organization;
- (2) Is flown within VLOS of the recreational UAS operator or a VO co-located with an in direct communication with the recreational UAS operator;
- (3) Does not interfere with, and gives way to, manned aircraft;
- (4) Remains within uncontrolled airspace at or below 400 feet AGL unless otherwise authorized by the FAA;
- (5) Complies with all airspace restrictions and prohibitions; and
- (6) Is registered and marked per FAA policy.

Recreational UAS operations within DON controlled airspace may be authorized by FAA under certain circumstances and after concurrence is received from the controlling ATC facility via the appropriate NAVREP. The DON shall not conduct or influence others to conduct (through contract, sponsorship, or partnership) UAS activities under rules associated with Recreational Operations.

1.6 Waivers. Requests to waive any provisions identified within this document shall be submitted by the Proponent to N980A (for USN units) or APX-1 (for USMC units) for approval. Any requests involving provision associated with the safety of property or personnel in the air or on the surface will require appropriate mitigation that maintains a level of safety that meets or exceeds the pre-waiver level. Waiver requests shall be submitted by emailing UAS-DON@faa.gov and shall include the following:

- (1) Proponent organization and point of contact,
- (2) The specific policy that the Proponent is requesting to waive,
- (3) A description of the intended mitigation, and
- (4) Any additional pertinent information that supports the request.

Allow up to 30 business days for waiver requests to be processed.

Section 2: DON UAS Access to U.S. Civil Airspace

2.1 Purpose. This section prescribes policies and procedures associated with requesting DON UAS access to U.S. Civil Airspace. This section applies to USN and USMC:

- (1) UAS Proponent Commands that are requesting,
- (2) ATC facilities that are coordinating, and
- (3) NAVREPs/DON Liaisons to FAA Headquarters that are processing DON UAS Operations within U.S. Civil Airspace.

2.2 Airspace Access Overview. UAS airspace access authorization is permission for a UAS to enter and operate within a particular volume of airspace that is granted by the agency with authority over that airspace. The specific authority and access requirements for DON UAS operations within U.S. Civil Airspace are established by reference (a). Depending on the requested operating location and the UA weight, access to U.S. Civil Airspace will be granted either by the DON in the form of a AAA certificate or by the FAA in the form of a COA certificate. Since U.S. Civil Airspace is shared by both military and civil manned aircraft, the same level of safety standards shall be maintained regardless of what agency authorizes access. The FAA will continue to monitor DoD airspace access procedures to ensure appropriate safety standards are maintained. Due to these requirements, operations within U.S. Civil Airspace are typically more restrictive than operations in non-U.S. Civil Airspace. As a result, DON UAS Proponents are encouraged to train in active Restricted or Warning Areas to the maximum extent possible. It is important to note that although the DON AAA and FAA COA grant permission to enter and operate in the airspace, airspace access is only one of multiple independent requirements necessary to operate a DON UAS. These requirements may include aircrew training and medical certifications, airworthiness certifications, spectrum approvals, command oversight designations, DoD domestic use approvals, and exemptions to operate non-program of record systems. It is the responsibility of the UAS Proponent to ensure that all DON UAS requirements are understood and followed. Proponents should refer to references (b), (c), (d), and (f) for additional information on DON UAS operational requirements.

2.3 U.S. Civil Airspace. U.S. Civil Airspace is defined as U.S. territorial airspace, excluding active Restricted and Warning Areas used by civil and government aircraft primarily for navigational purposes. For UAS airspace access and integration purposes, U.S. Civil Airspace is divided into FAA Service Areas, Classes, and UAS airspace access jurisdictions.

2.3.1 FAA Service Areas. The FAA has divided U.S. Civil Airspace into Eastern, Central, and Western Service Areas. Service Area boundaries are depicted in Figure 2-1. Each FAA Service Area is managed by an FAA Service Center, which is directly subordinate to FAA Headquarters. All coordination related to DON UAS operating in U.S. Civil Airspace shall be conducted through the NAVREP assigned to the applicable FAA Service Area. If the operation involves multiple Service Areas, then coordination shall be led by the NAVREP assigned to the area from which the flight originates. Note that the Western Service Area includes U.S. territories in the Pacific Ocean while the Eastern Service Area includes U.S. territories in the Atlantic Ocean.

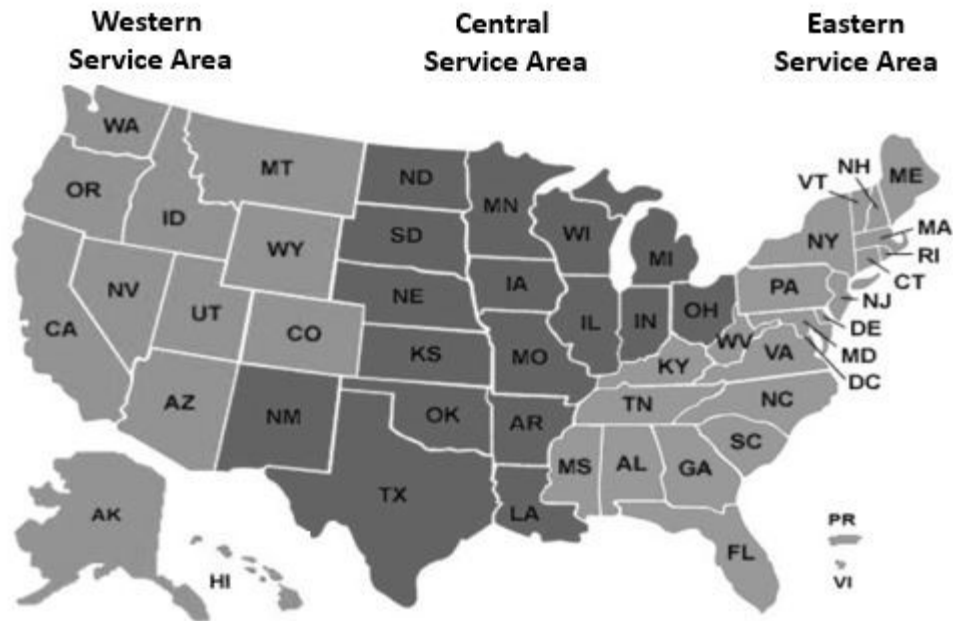


Figure 2-1: FAA Service Areas

2.3.2 Airspace Classes. U.S. Civil Airspace is divided into six classes, as depicted in Figure 2-2. Class A airspace is controlled airspace used by aircraft operating above 18,000 feet Mean Sea Level (MSL). Class E airspace is controlled airspace used by aircraft operating below 18,000 feet MSL. Class B, C, and D airspace and Class E surface area airspace is controlled airspace used to establish different levels of ATC safety standards around airports. Class G airspace is any portion of U.S. Civil Airspace that is not controlled airspace. Class G airspace, depending on the location, will typically go from the surface up to 700 or 1,200 feet AGL, but occasionally can go as high as 14,500 feet MSL. The class of airspace for a specified location is depicted on FAA sectional aeronautical charts.

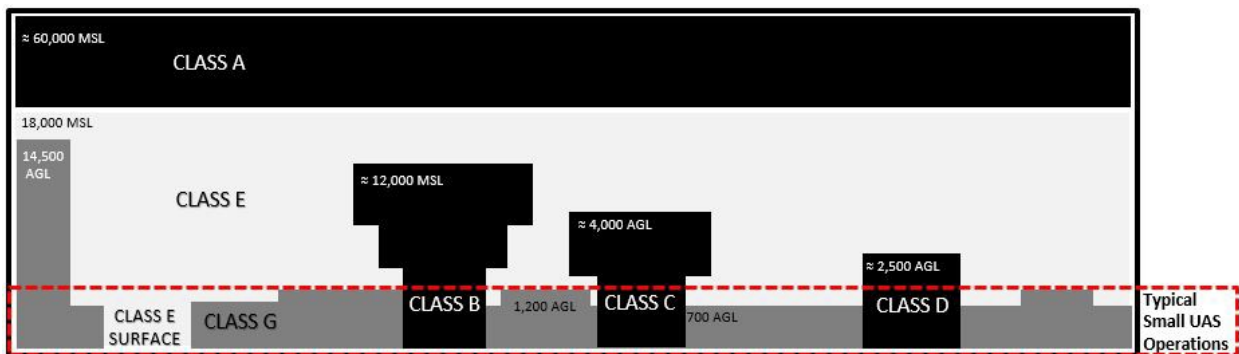


Figure 2-2: Classes of U.S. Civil Airspace

2.3.3 UAS Airspace Access Jurisdictions. In terms of UAS airspace access, U.S. Civil Airspace is divided into the following jurisdictions:

- (1) FAA controlled, which is Class A, B, C, D, or E airspace assigned to an FAA ATC facility;
- (2) DoD controlled, which is Class A, B, C, D, or E airspace assigned to a DoD ATC facility;
- (3) FAA uncontrolled, which is Class G airspace assigned to an FAA ATC facility; and
- (4) DoD uncontrolled, which is Class G airspace assigned to a DoD ATC facility.

The UAS airspace access jurisdiction for a specified location is not always identifiable on FAA sectional aeronautical charts. For Class C and D airspace and Class E surface area airspace, DoD will typically be assigned jurisdiction of airspace established around a DoD airfield. For Class A and B airspace and Class E enroute and transition area airspace, DoD jurisdiction is established through an FAA-DoD LOA and DoD assigned airspace boundaries are not normally published. If Applicants are unsure of the UAS airspace access jurisdiction for a specific location, they may request assistance from the NAVREP.

2.4 DON UAS Access Authority for U.S. Civil Airspace. All airspace within the territorial United States falls under FAA authority. However, in certain cases UAS airspace access and management authorities have been delegated to the DoD based on UAS airspace access jurisdictional assignments. Authorities for each UAS airspace access jurisdiction are identified in the subparagraphs below.

2.4.1 Access Authority for DoD Controlled and DoD Uncontrolled Airspace Jurisdictions. In the case of DoD assigned U.S. Civil Airspace, per reference (a), the FAA has delegated DoD UAS access authority to the DoD. This includes all classes of airspace assigned to a DoD ATC facility through a DoD-FAA LOA. Within the DON, airspace access authority for DON UAS operating within DoD assigned U.S. Civil Airspace is granted to OPNAV N98 and HQMC Aviation. For USN Proponents requesting UAS airspace access within DoD assigned U.S. Civil Airspace, OPNAV N98 is the final approval authority and requests are processed within N980A. For USMC Proponents requesting UAS airspace access within DoD assigned U.S. Civil Airspace, HQMC Aviation is the final approval authority and requests are processed within Aviation Programs Expeditionary Enablers (APX). This authority includes the ability to approve, deny, limit, suspend, or revoke DON UAS airspace access and to enforce all applicable requirements that are outlined within this document and reference (a). DON UAS access to DoD controlled and uncontrolled airspace access jurisdictions is granted by issuing an AAA Certificate. For DON Group 1-2 UAS that are:

- (1) Compliant with the uncontrolled airspace parameters described in paragraph 2.4.3
- Or
- (2) Compliant with the UASFM parameters described in paragraph 2.7.1

Approval authority is delegated to the L1P assigned to the FAA Service Area in which the UAS flight originates. For all other DON UAS operations conducted within DOD controlled and uncontrolled jurisdictions, approval authority is delegated to the L2P. Authorization for DON UAS to operate in non-DON controlled DoD airspace shall be coordinated by the NAVREP with the service that manages the airspace; however, final approval will be granted and the AAA certificate will be issued by OPNAV N98 (for USN units) or HQMC Aviation (for USMC units).

2.4.2 Access Authority for FAA Controlled Airspace Jurisdictions. In the case of FAA controlled U.S. Civil Airspace, the authority to grant UAS airspace access is retained by the FAA. In accordance with reference (a), an FAA COA is required for all DoD UAS operations conducted within FAA controlled U.S. Civil Class A, B, C, D, and E airspace. OPNAV N98 (for USN units) or HQMC Aviation (for USMC units) shall review and endorse all COA applications before they are submitted to the FAA.

2.4.3 Access Authority for FAA Uncontrolled Airspace Jurisdictions. For DON Group 1-2 UAS, per reference (a), the FAA has delegated approval authority to the DoD for granting DoD UAS access to Class G U.S. Civil Airspace that is not assigned to the DoD, under the following conditions:

- (1) The total UA weight is less than 55 pounds,
- (2) The UA remains within VLOS of the AVO or VO, and
- (3) Operations are conducted under weather conditions that allow for visual collision avoidance (known as Visual Meteorological Conditions or VMC).

For USN Groups 1-2 UAS requesting airspace access within uncontrolled U.S. Civil Airspace, OPNAV N98 is the final approval authority and requests are processed by N980A. For USMC Groups 1-2 UAS requesting airspace access within uncontrolled U.S. Civil Airspace, HQMC Aviation is the final approval authority and requests are processed by APX. This authority includes the ability to approve, deny, limit, or suspend DoD UAS airspace access and to enforce all applicable requirements that are outlined within this document and reference (a). The authority to process and approve DON Group 1-2 UAS access to uncontrolled U.S. Civil Airspace is delegated to the NAVREP assigned to the FAA Service Area from which the UAS flight originates. For DON Group 1-2 UAS that do not meet the requirements outlined in reference (a) and for all DON Group 3-5 UAS, the FAA has retained the authority to approve airspace access within uncontrolled airspace and an FAA COA is required.

2.5 Special Activity Airspace. U.S. National Airspace includes areas and routes, known as Special Activity Airspace, including Special Use Airspace, that are specifically designated to limit aircraft operations near certain training activities or national security sites. As depicted in Figure 2-3, this airspace includes Restricted Areas, Warning Areas, Prohibited Areas, Temporary Flight Restriction Areas (TFRs), the Washington DC Flight Restricted Zone (DC FRZ), Military Operating Areas (MOAs), Military Training Routes (MTRs), Alert Areas, National Defense Airspace (NDA), Air Traffic Control Assigned Airspace (ATCAAs), and Controlled Firing Areas (CFAs). Since ATCAAs and CFAs do not require any additional access coordination on behalf of the Proponent, they will not be specifically addressed in this document. For information on an ATCAA or CFA, contact the NAVREP assigned to the applicable FAA Service Area by emailing UAS-DON@faa.gov.

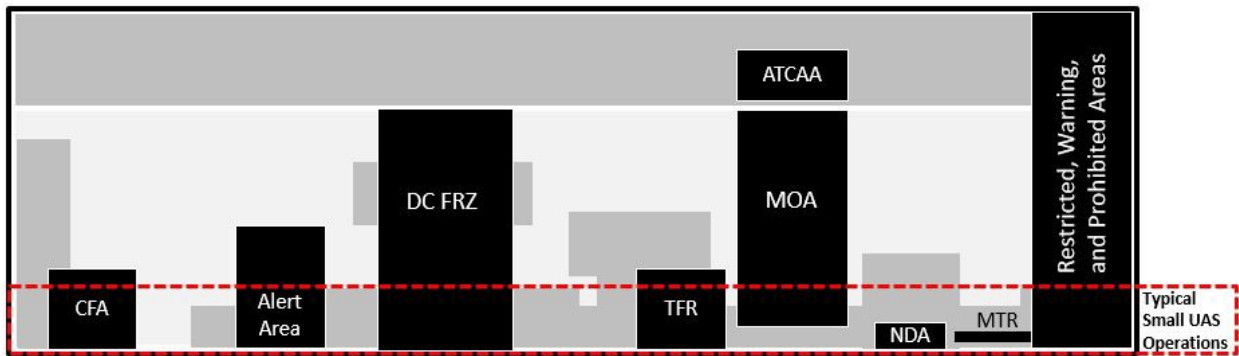


Figure 2-3: Special Activity Airspace

Note: Although active Prohibited, Restricted and Warning Areas are considered Special Activity/Special Use Airspace, they are not a part of U.S. Civil Airspace and are therefore beyond the scope of this document. A DON AAA or FAA COA is not required for DON UAS operating within active Restricted and Warning Areas. Conducting UAS operations within these areas will require permission from the assigned Using Agency, as identified in reference (g). UAS Proponents shall follow the procedures for airspace access and integration established for the requested Restricted or Warning Area and shall comply with DON regulations established in references (b), (c), and (d).

2.5.1 Temporary Flight Restriction (TFR) Areas. TFRs are established to control access to airspace over a particular site or event on the surface due to safety or security concerns. In order to operate a UA in a TFR, Proponents will typically need to be conducting an activity directly associated with the event or site for which the airspace was established. Since TFRs are temporary, they are not identified on FAA sectional aeronautical charts. Active TFRs can be viewed in both text and graphic formats at the FAA website <https://tfr.faa.gov>. To operate within a TFR, DON UAS Proponents will require permission from the organization assigned by the FAA to oversee the area. Requests for permission to enter a TFR shall be coordinated through the NAVREP assigned to the applicable FAA Service Area by emailing UAS- DON@faa.gov. UAS Proponents will also require a DON AAA, FAA COA, Emergency AAA, or Emergency COA to operate within a TFR, depending on the situation.

2.5.2 Washington DC Flight Restricted Zone (DC FRZ). The DC FRZ is established to control access to airspace over the Washington DC area. The DC FRZ includes airspace from the surface to 18,000 feet MSL within a 15-mile radius of Ronald Reagan Washington National Airport. This airspace is identified on FAA sectional aeronautical charts with the label 'FLIGHT RESTRICTED ZONE'. Additional details associated with the DC FRZ can be found in the current FAA Notice to Airmen (NOTAM) on UAS Operations within the Special Flight Rules Area (SFRA). Within the DC FRZ, UA flight operations are prohibited. A waiver to operate a UAS within the DC FRZ may be obtained if the Proponent can provide appropriate justification as determined by each agency that holds jurisdiction within the National Capitol Region (Secret Service, Capitol Police, etc.). All waiver requests for a DON UAS to operate within the DC FRZ shall be coordinated through the Eastern Service Area NAVREP by emailing UAS-

DON@faa.gov. In addition to a waiver, DON UAS Proponents will also require a DON AAA, FAA COA, Emergency AAA, or Emergency COA to operate within the DC FRZ, depending on the situation.

2.5.3 Military Operations Areas (MOA) and Alert Areas. MOAs and Alert Areas are established to notify nonparticipating aircraft of dynamic or high volume flight training. MOAs are labeled on FAA sectional aeronautical charts with a unique name followed by the acronym 'MOA' (e.g. CORE MOA). Alert Areas are labeled on an FAA sectional aeronautical chart with the letter prefix 'A' followed by a two or three digit number (e.g. A-530). Additional details associated with each MOA and Alert Area can be found in reference (g). Prior to operating within these areas, DON UAS Proponents shall coordinate with the Using Agency assigned to the MOA or Alert Area as identified in reference (g) to ensure deconfliction with any scheduled training activities. Coordinating the UAS operation with the Using Agency does not grant the Proponent permission to access the coinciding U.S. Civil Airspace. Obtaining a DoD AAA or FAA COA and complying with appropriate DoD and FAA regulations is required, even if the flight is contained within a MOA or Alert Area.

2.5.4 Military Training Routes (MTR). MTRs are established to notify nonparticipating aircraft of high-speed low altitude military flight operations. MTRs are labeled on FAA sectional aeronautical charts with a prefix of either 'VR' or 'IR' followed by a three or four digit number (e.g. VR1043). Additional details associated with each MTR can be found in reference (h). Prior to operating within these routes DON UAS Proponents shall coordinate with the Scheduling Agency assigned to the MTR as identified in reference (h) to ensure deconfliction with any scheduled training activities. Coordinating the UAS operation with the Scheduling Agency does not grant the Proponent permission to access the coinciding U.S. Civil Airspace. Obtaining a DoD AAA or FAA COA and complying with appropriate DoD and FAA regulations is required, even if the flight is contained within an MTR.

2.5.5 Prohibited Areas. Prohibited Areas are established to prevent access to airspace over designated sites for national security or public safety reasons. Prohibited Areas are labeled on FAA sectional aeronautical charts with the letter prefix 'P' followed by a two digit number (e.g. A-50). Additional details associated with each Prohibited Area can be found in reference (g). Prior to operating within these areas, DON UAS Proponents shall coordinate access requests through the NAVREP assigned to the applicable FAA Service Area by emailing UAS-DON@faa.gov. An FAA COA or Emergency COA issued by the Operations Security Section (AJR-2) of FAA Headquarters is required to operate within a Prohibited Area.

2.6 National Defense Airspace (NDA)

2.6.1 NDA Purpose and Description. In coordination with the DoD and other federal agencies, the FAA has established airspace over certain locations within the U.S. that restricts UA entry in order to protect national security related sites from unauthorized overflight. UAS-specific NDAs include airspace from the surface up to 400 feet AGL over designated federal property, including most DON installations, and are continuously active 24 hours a day, 7 days a week. The NDA is not intended to prohibit authorized UAS operations; however, operating a public or civil UA in this airspace without proper authorization is a violation of Title 49 U.S. Code (USC) Section 46307, punishable by law. NDA locations are identified on the interactive map provided at the

following FAA UAS Data Map website: <http://uas-faa.opendata.arcgis.com>. Note that NDAs are also referred to as UAS Special Security Instructions (SSI) Areas.

2.6.2 NDA Access Authority. The authority for the FAA to create UAS specific flight restricted airspace is granted under Title 49 USC Section 40103(B)(3) and executed through Title 14 CFR Section 99.7. Per reference (i), the authority for granting, limiting, or denying UAS access to each NDA has been delegated by the FAA to individuals designated by the services. Within the DON, these designees are determined by the Commander, Navy Installations Command (CNIC) for USN installations and Marine Corps Installation Command (MCICOM) for USMC installations. Typically, access authority is delegated to the installation commander associated with the NDA location and may be further delegated if authorized by CNIC (for USN installations) or MCICOM (for USMC installations). Requests to conduct UAS operations within the NDA may be limited or denied by the NDA access authority based on safety or security concerns. If a request is limited or denied, a general reason should be provided to the requester (e.g. access is restricted over the installation due to national security concerns); however, providing specific details regarding the nature of the security or safety concern is not required. The NDA access authority shall track all requests made by both DoD and non-DoD UAS proponents in accordance with reference (i) and report this data to the FAA via the DON Liaisons at FAA Headquarters upon request.

2.6.3 NDA Access Procedures. Proponents shall request permission through the NDA Point of Contact (POC) associated with the requested airspace. The NDA POC is established by CNIC (for USN installations) or MCICOM (for USMC installations) and can be found by selecting the NDA shape depicted on the FAA UAS Data Map website identified in paragraph 2.6.1. Specific procedures and timelines associated with requesting NDA access are unique to each service, region, and/or installation. Receiving approval to operate within an NDA does not grant the Proponent permission to access the coinciding U.S. Civil Airspace. Obtaining a DoD AAA or FAA COA and complying with appropriate DoD and FAA regulations is required, even if the flight is contained within an NDA. Note that the UAS specific NDAs located over DON installations do not restrict manned aircraft operations.

2.6.4 NDA Modification Procedures. Any NDA modification requests will be sent by the NDA access authority to the appropriate NAVREP for submission to the FAA. Once reviewed, the NAVREP will forward the NDA change request to the appropriate DON FAA Headquarters Liaison for final submission to the FAA. Allow up to 30 business days for the request to be processed; although expedited processing may be considered with sufficient justification.

2.7 UAS Facility Map (UASFM)

2.7.1 UASFM Purpose. The UASFM is a tool used to streamline DON AAA and FAA COA application processing by identifying locations and altitudes within each ATC facility's Class B, C, and D airspace and Class E surface area airspace where Small UAS can operate without interfering with local air traffic operations. UASFMs are created and maintained by ATC facility staff and are tailored to the facility's unique airspace and air traffic requirements. These maps may be used by the LIP or FAA Processor to approve requests for UAs that: (1) weigh less than 55 pounds (2) do not exceed 87 knots (100 mph) ground speed, and (3) remain within VLOS of the AVO or VO.

2.7.2 UASFM Description. The UASFM provides a visual depiction of the Class B, C, and D airspace and Class E surface area airspace around an airport. The UASFM is divided into segments that are defined by latitudinal and longitudinal coordinates. Each segment is identified along the edge of the map horizontally by a letter and vertically by a number. Numbers depicted inside of each segment identifies the maximum altitude, between 0 and 400 feet AGL in 50-foot increments, which the ATC facility has deemed Small UAS operations may be conducted without special safety mitigation procedures. Complete UASFMs, as depicted in Figure 2-4, are maintained by the ATC Facility and can be made available to Proponents via the NAVREP by sending a request to UAS-DON@faa.gov. A summarized version of each UASFM is available on an interactive map provided at the FAA UASFM website <http://uas-faa.opendata.arcgis.com>. However, this version does not depict grid labels or coordinates.

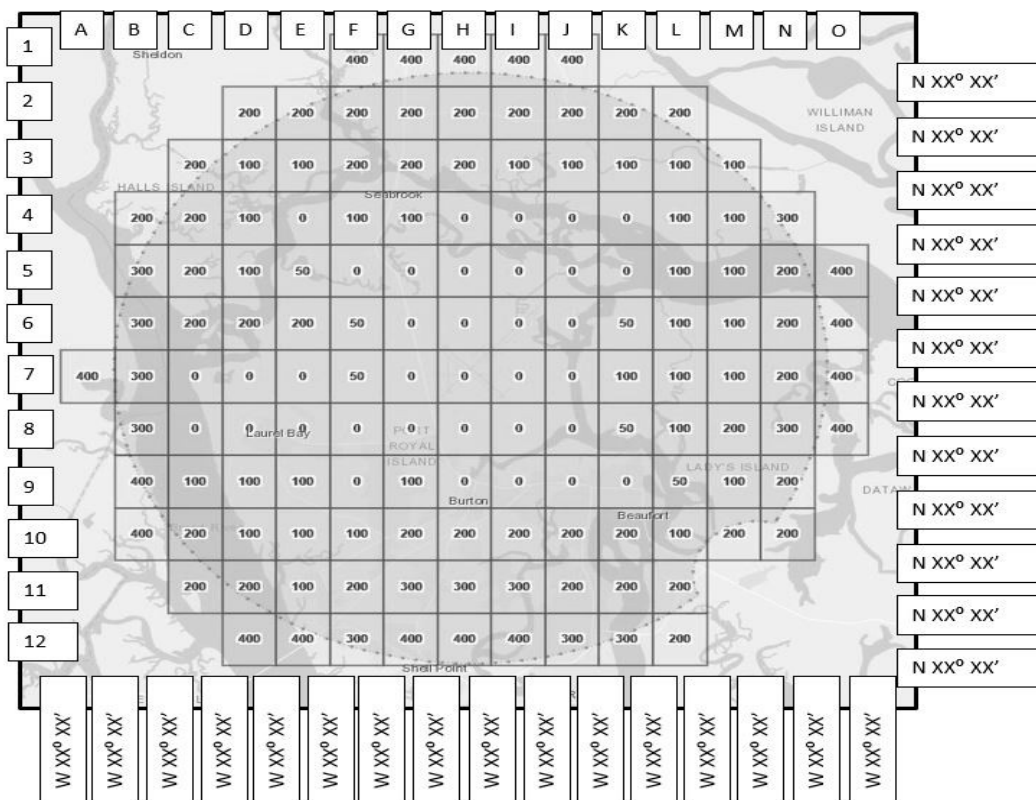


Figure 2-4: Example UAS Facility Map

2.7.3 UASFM Planning for DON UAS Operations. When requesting to operate a DON Group 1-2 UAS within airspace that contains a UASFM, Proponents are encouraged to conduct operations within the parameters of the map whenever possible. This will expedite processing time and maximize safe separation from manned aircraft. Operating within the parameters of a UASFM does not remove the requirement for a Proponent to obtain a DON AAA or FAA COA and comply with the requirements of this document. When an AAA/COA is granted using a UASFM, AVOs are still required to maintain visual line of sight with the UA, yield right of way

to manned aircraft, and comply with all ATC instructions. If an AAA/COA is approved using the UASFM, the AVO shall check the FAA UASFM website prior to each flight to ensure the operation is in compliance with the latest version of the map.

2.8 Airspace Access Requests

2.8.1 Applicant Account. DON UAS Airspace Access Applicants will require an account within the FAA/DoD Processing System in order to submit airspace access requests. To obtain an account, Applicants will send an email to UAS-DON@faa.gov providing the following information:

- (1) Applicant's full name, billet title, DoD email address, and phone number;
- (2) Unit name and location;
- (3) A brief description of the desired UAS operation including mission summary, UAS type, operating location, any other pertinent data; and
- (4) A copy of the DON UAS Applicant designation letter described in paragraph 1.3.2. When this information is received, the Applicant will be contacted and given further instructions by the NAVREP assigned to their area of operation.

2.8.2 Standard AAA/COA Requests. Applicants shall initiate new requests for access to U.S. Civil Airspace by completing and submitting an application within the FAA/DoD Processing System. Applications shall only be submitted after the requested operation has been approved by the Proponent. Applicants shall use the guide provided in Appendix C to assist in properly filling out the application. Once submitted within the processing system, the application will be automatically forwarded directly to the NAVREP assigned to the FAA Service Area from which the UAS flight originates. Standard DON AAA and FAA COA request timelines are identified in paragraph 2.8.6. Once an AAA/COA is issued, access is valid for two years unless a shorter period is requested, the authorization is cancelled by the Proponent, or the authorization is revoked by the FAA, OPNAV N98, or HQMC Aviation. DON sponsored AAAs or COAs shall only be used to conduct UAS activities that are in direct support of the DoD.

2.8.3 AAA/COA Modification Requests. Requests to modify an active DON AAA or FAA COA are authorized on a case-by-case basis by the appropriate AAA/COA approval authority. To request an AAA/COA modification, send an email request to UAS-DON@faa.gov or contact the NAVREP assigned to the FAA Service Area from which the UAS flight originates. When submitting the request, Applicants should identify the AAA/COA that the Proponent desires to modify and provide a complete description of the modification. If the requested change is significant, the appropriate AAA/COA approval authority may require that the Proponent submit the change as a new AAA/COA. Note that the FAA refers to an airspace authorization modification as a "pen and ink" change. DON AAA and FAA COA modification request timelines are identified in paragraph 2.8.6.

2.8.4 AAA/COA Renewal Requests. Requests to renew an active DON AAA or FAA COA can be authorized one time by the appropriate approval authority. The updated expiration date of a renewed AAA/COA will not exceed 24 months from the expiration date of the original authorization. Before a renewal will be processed, any modifications to the original request shall first be completed in accordance with paragraph 2.8.3. To request an AAA/COA renewal, send

an email request to UAS-DON@faa.gov or contact the NAVREP assigned to the FAA Service Area from which the UAS flight originates. When submitting the request, Applicants should identify the AAA/COA that the Proponent desires to renew. DON AAA and FAA COA renewal request timelines are identified in paragraph 2.8.6.

2.8.5 AAA/COA Extension Requests. A DON AAA or FAA COA may be temporarily extended if additional time is needed to process its renewal. In this case, the final expiration date of the renewed AAA/COA will not be affected by the extension. Temporary extensions for other reasons will be addressed on a case-by-case basis by the appropriate approval authority. Extensions may be granted for up to 45 business days past the expiration date of the original authorization. To request a DON AAA or FAA COA extension, send an email request to UAS-DON@faa.gov or contact the NAVREP assigned to the FAA Service Area from which the UAS flight originates. When submitting the request, Applicants should identify the AAA/COA that the Proponent desires to extend and reason for the extension. DON AAA and FAA COA extension request timelines are identified in paragraph 2.8.6.

2.8.6 Processing Timelines. To ensure adequate processing time, Standard, Modification, Renewal, and Extension requests should be submitted to the NAVREP no later than the total number of business days identified in Figure 2-5. For L1P approvable AAA requests, which are airspace access requests for DON Group 1-2 UAS operations that are:

- (1) Compliant with the uncontrolled airspace parameters described in paragraph 2.4.3 and
- (2) Compliant with the UASFM parameters described in paragraph 2.7.1,

Expect up to five business days for all processing request types. For L2P approvable requests, which are airspace access requests for DON UAS operations conducted in DoD controlled and uncontrolled jurisdictions that are not approvable by the L1P, processing time will vary between 10 and 20 business days depending on the processing request type and UA weight. For DON UAS operations requested within FAA controlled jurisdictions and/or FAA uncontrolled jurisdictions requiring FAA approval, expect up to 70 business days for standard requests, 55 business days for modification and renewal requests, and 15 business days for extension requests. For DON UAS operations requested within Non-DON DoD airspace, expect the overall processing times to increase by an additional 30 business days for standard requests, 15 business days for modification and renewal requests, and 10 business days for extension requests. The exact processing time for a DON AAA or FAA COA will vary depending on request complexity, number of agencies affected, and Processor workload. Processing time will pause if the request is returned for corrections. In cases where multiple timelines apply, the one representing the longest total time should be used for planning purposes. Processing time for the L1P, L2P, and FAA will start when the application is submitted or forwarded in the FAA/DoD Processing System. Processing time for the AAC and MILREP will start when the application information is emailed and receipt is confirmed. L1Ps should actively pursue receipt confirmation once the request is sent to the ACC or MILREP in order to avoid delays in the processing timeline. In the event that a processing timeline cannot be met, a reason for the delay and the estimated completion date should be provided to the Applicant via the NAVREP (for DON Proponents) or the MILREP (for non-DON DoD Proponents).

	UAS	Airspace	L1P	AAC	MILREP	L2P	FAA	TOTAL
Standard	Group 1-2 UAS	L1P Approvable AAA Request	5					5
	Group 1-2 UAS	L2P Approvable AAA Request	5	5		5		15
	Group 3-5 UAS	L2P Approvable AAA Request	5	10		5		20
	Group 1-5 UAS	FAA Approvable COA Request	5			5	60	70
	Group 1-5 UAS	Non-DON DOD Coordination			Add 30			Add 30
Modification	Group 1-2 UAS	L1P Approvable AAA Request	5					5
	Group 1-2 UAS	L2P Approvable AAA Request	5	5		5		15
	Group 3-5 UAS	L2P Approvable AAA Request	5	10		5		20
	Group 1-5 UAS	FAA Approvable COA Request	5			5	45	55
	Group 1-5 UAS	Non-DON DOD Coordination			Add 15			Add 15
Extension	Group 1-5 UAS	L1P Approvable AAA Request	5					5
	Group 1-5 UAS	L2P Approvable AAA Request	5	5				10
	Group 1-5 UAS	FAA Approvable COA Request	5				10	15
	Group 1-5 UAS	Non-DON DOD Coordination			Add 10			Add 10

Figure 2-5: DON AAA and FAA COA Processing Timeline in Business Days

2.8.7 Priority COA Requests. Under extreme circumstances, when a critical mission is identified inside of the standard timeline for an FAA COA, a priority request may be submitted to the FAA. A priority request would allow a USN or USMC request to be processed ahead of any other COA requests submitted by Proponents from other DoD Services within the same FAA Service Area. This requires concurrence from each of the DoD Services via the Policy Board on Federal Aviation (PBFA) UAS Subgroup. Priority requests will be coordinated with the PBFA by OPNAV N98 or HQMC Aviation as appropriate. In order to request priority processing, the Proponent shall submit details justifying the request to OPNAV N98 (for USN units) or HQMC Aviation (for USMC units) via the NAVREP assigned to the FAA Service Area in which the UAS flight originates. The justification should include an explanation of why the request could not be submitted within the required timeline and a description of the impacts associated with not conducting the operation as requested.

2.8.8 Emergency AAA/COA Requests. In the event that, due to the exigent nature of the requested activity, a DON AAA or FAA COA request cannot be appropriately supported under the standard process, the Proponent may submit an emergency request. Emergency requests are granted for UAS supporting humanitarian aid, disaster relief, and force protection activities where there is an imminent threat to life, property, or national security. AAA/COA requests will be processed and approved under an abbreviated timeline that is dependent on the urgency of the emergency. Submitting the AAA/COA request through the FAA/DoD Processing System is preferred; however, the request can be processed manually if circumstances associated with the emergency make access to the processing system impractical. COA requests will be coordinated by the DON Liaisons at FAA Headquarters and processed by the System Operations Security Section (AJR-2) of FAA Headquarters. For additional information on emergency airspace access requests, contact the FAA Headquarters Liaisons by

emailing UAS-DON@faa.gov. Note that the FAA refers to an Emergency COA as a “Special Governmental Interest (SGI) Addendum”.

2.8.9 Classified AAA/COA Requests. Requests involving a DON UAS operation Conducted under a security classification of confidential, secret, or top secret shall not be submitted within a FAA/DoD Processing System. These requests will be coordinated by the DON Liaisons at FAA Headquarters and processed manually by the Systems Operations Security Section (AJR-2) of FAA headquarters. For more information on classified airspace access requests, contact the FAA Headquarters Liaisons by emailing UAS-DON@faa.gov.

2.8.10 Freedom of Information Act (FOIA) Releases. All information submitted within the FAA/DoD Processing System is subject to public release under the FOIA. If a Proponent believes that the information required by the airspace access application is of a sensitive nature and needs to be protected from FOIA release, contact the NAVREP assigned to the FAA Service Area from which the UAS flight originates before entering any potentially sensitive data into the system.

2.8.11 Additional Airspace Access Coordination Requirements. The DON AAA or FAA COA does not waive any local laws or installation regulations. Should the proposed flight operation conflict with local restrictions, laws, or regulations, it is the responsibility of the UAS Proponent to resolve any conflicts prior to conducting the operation. Should the proposed flight operation require permission from local authorities or property owners, it is the responsibility of the UAS Proponent to obtain this permission prior to conducting the operation. Written landowner permission will be required if the UA is taking off or landing on private property. Written landowner permission will also be required if the UA is operating below 400 feet AGL within the lateral boundaries of the private property. Documentation of landowner permission shall be made available to the NAVREP upon request. Under certain circumstances, the requirements to obtain landowner permission when operating below 400 feet AGL over private land may be waived by OPNAV N98 (for USN units) and HQMC Aviation APX (for USMC units). Additionally, as described in paragraphs 2.5 and 2.6 the DON AAA or FAA COA does not authorize entry into TFRs or NDAs and does not deconflict activities within MOAs, MTRs, or Alert Areas. Access to these areas will require an AAA/COA as well as coordination and/or permission from the using agency or other appropriately appointed authority.

2.8.12 Low Altitude Authorization and Notification Capability (LAANC). LAANC is an FAA program developed to streamline the airspace authorization process. The program supports airspace access by instantly comparing a smartphone-based request to the applicable UASFM. If the request is within UASFM parameters, then the authorization is automatically granted. LAANC airspace integration support capabilities, depending on the UAS Service Suppliers (USS) being used, could range from automated ATC notification prior to launch to real-time tracking of the UAS position and altitude during flight. Currently LAANC is not being used as a standard processing method for DON UAS or DON airspace approvals; however, DON personnel may be involved in initial program testing at certain locations. For more information on the LAANC program, contact the FAA Headquarters Liaison by emailing UAS-DON@faa.gov.

2.9 FAA UAS Crewmember and System Requirements for U.S. Civil Airspace. The DON

is primarily responsible for UAS crewmember and system requirements. However, the FAA has identified the items listed in the below subparagraphs as minimum UAS crewmember and system related requirements necessary for the safe operation of UAS within U.S. Civil Airspace. As a result, these items may be subject to OPNAV N98 (for USN units) and HQMC Aviation (for USMC units) review prior to final DON AAA approval or DON COA endorsement. For DON sponsored UAS operations conducted under Title 14 CFR Part 107 as described in paragraph 1.5, sponsors should ensure that UAS crewmembers and systems comply with the requirements established in Part 107. However, the OPNAV N98 or HQMC Aviation review will not be conducted for requests submitted under Part 107.

2.9.1 FAA UAS Training and Medical Requirements. Per reference (a), the FAA requires that UAS crewmembers be trained and certified in accordance with DoD Service policy. For DON UAS operations conducted under 14 CFR Part 91, Proponents are responsible for ensuring that their DoD military personnel, civilians, and contractors conducting UAS operations within U.S. Civil Airspace are trained in accordance with references (b), (c), (d), and (j) as applicable and medically qualified in accordance with reference (j) or (k) as applicable. Note that training requirements will vary depending on the type of UA and the airspace class in which it will be operating. UAS Crewmember training and medical documentation shall be made available to the NAVREP upon request.

2.9.2 FAA UAS Airworthiness Requirements. Per reference (a), the FAA requires that DoD Public UAS or UAS conducting DoD Public Aircraft Operations be certified as airworthy in accordance with DoD Service policy. This certification shall remain current during all flight operations conducted within U.S. Civil Airspace. For the DON, Proponents are responsible for ensuring UAS systems are certified as airworthy. For each DON AAA or FAA COA Request, a statement of airworthiness in the form of an Interim Flight Clearance (IFC) or memorandum issued by NAVAIRSYSCOM AIR-4.0P is required. For those UAS that have an approved Naval Air Training and Operating Procedures Standardization (NATOPS) Flight Manual, the NAVAIR Airworthiness Office will determine if the NATOPS Manual, with an accompanying statement of airworthiness memorandum, can be used as the statement of airworthiness. To obtain an IFC or statement of airworthiness, Proponents should contact the NAVAIR SYSCOM Airworthiness Office, AIR 4.0P at 301-757-0187 or by email at airworthiness@navy.mil. Airworthiness documentation shall be uploaded as part of the application within the FAA/DoD Processing System. Ensure that the IFC or NATOPS Manual allows for all aspects of the requested operation (e.g., operations involving IFR, night, reduced lighting, lights-out at night, control station to control station handoff, multiple-UA/single AVO, autonomous navigation, flight over populated areas, etc.) and that it is current, addressed to the correct command, includes all requested UAs, and includes all applicable operating locations and airspace classes. If prior coordination is conducted with the LIP, the FAA/DoD Processing System application may be submitted by the Applicant without an IFC as long as the IFC has been requested from NAVAIR. However, a completed IFC shall be uploaded into the FAA/DoD Processing System and reviewed by the NAVREP prior to final DON approval or submission to FAA. During operations in U.S. Civil Airspace, the UAS must be maintained and operated in strict compliance with all provisions and conditions contained within the airworthiness certificate and references (b), (c), and (d) as applicable.

2.9.3 FAA UAS Spectrum Requirements. Per reference (a), the FAA requires that appropriate

spectrum approval be obtained and remain current during all flight operations conducted within U.S. Civil Airspace. Proponents are responsible for knowing what spectrum certifications and frequency authorizations are required for their Service, UAS type, and operating location. Proponents shall ensure equipment certification and frequency assignments are obtained as required by reference (I). For assistance in the spectrum approval process, proponents should direct questions to navyspectrum.fct@navy.mil or coordinate with local Installation Spectrum Mangers. Spectrum documentation shall be made available to the NAVREP upon request.

2.9.4 FAA UAS Communication Requirements. When conducting UAS operations within ATC controlled U.S. Civil Airspace, the AVO shall have the ability to communicate with ATC reliably using a method acceptable to the controlling ATC agency as described in paragraph 3.2.3. ATC communication systems may be inherent to the control station or stand-alone.

2.9.5 FAA UAS Tracking and Identification Requirements. Electronic means of UAS identification (i.e. transponder, ADS-B transceiver, or UAS remote identification) may be required by the FAA in certain cases to assist in airspace deconfliction or to enforce security requirements. For DON Group 1-2 UAS, the FAA has not yet established standards for tracking and identifying UAs; however, the lack of an electronic means of identification may limit access to certain areas within U.S. Civil Airspace or require additional mitigation. For DON Group 3-5 UAS, electronic means of identification shall be operated as required in Title 14 CFR Sections 91.215 and 91.225 unless an FAA waiver or exemption has been obtained and identified in the DON AAA or FAA COA.

2.9.6 FAA UAS Marking and Lighting Requirements. For DON Group 1-2 UAS operating during daytime hours, UAS lighting is not required. For DON Group 1-2 UAS operating during nighttime hours, as defined in paragraph 3.2.16, the UA must be equipped with anti-collision lighting visible from a distance of no less than 3 statute miles. A reduction of the anti-collision light intensity may be authorized by NAVAIR if, because of operating conditions, it would be in the interest of safety to do so. Additionally, the UA must have position lighting that enables determination of location, altitude, attitude, and direction of flight. For DON Group 3-5 UAS, lights shall be operated as required in Title 14 CFR Section 91.209 unless an FAA waiver has been obtained and identified in the DON AAA or FAA COA. DoD UAS marking requirements are not regulated by FAA.

2.9.7 FAA Marking and Lighting Requirements for Tethered UAS. During tethered operations in U.S. Civil Airspace, the UAS must adhere to the requirements of FAA Advisory Circular 70/7460-1L for marking and lighting obstructions that are a hazard to navigable airspace. Note that all DON UAS operating within U.S. Civil Airspace require a DON AAA or FAA COA even if tethered.

2.9.8 FAA UAS Unit Assessment Requirements. Per reference (a), the FAA requires that each DoD Service conduct regular assessments of all units that operate or support UAS flights within U.S. Civil Airspace. The assessments shall ensure that the requirements established in the instruction are properly understood and followed. For the DON Proponents, the ACC/DAA established by references (b), (c), and (d) is responsible for ensuring these assessments are conducted. For DON Contracted Public Aircraft Operations, the contracting entity is responsible for oversight of contractor flight operations. For DON ATC facilities, OPNAV N98 (for USN

units) and HQMC Aviation (for USMC units) are responsible for ensuring that assessments of procedures and documentation associated with UAS access to and integration within U.S. Civil Airspace are conducted. Any safety issues identified during an assessment will result in appropriate corrective actions, which may include the suspension of all associated UAS activities until the identified issues are resolved.

Section 3: DON UAS Integration within U.S. Civil Airspace

3.1 Purpose. This section prescribes policies and procedures associated with safely operating DON UAS in U.S. Civil Airspace after airspace access has been granted. This section applies to USN and USMC:

- (1) UAS Proponent Commands that are conducting,
- (2) ATC facilities that are controlling, and
- (3) NAVREPS/DON Liaisons to FAA Headquarters that are overseeing DON UAS operations within U.S. Civil Airspace.

3.2 Airspace Integration Procedures

3.2.1 ATC Letter of Agreement (LOA). LOAs may be used to establish coordination requirements and airspace deconfliction procedures between UAS Proponents and ATC facilities. If an LOA is required by the ATC facility, the UAS Proponent requesting the DON AAA or FAA COA will ensure appropriate agreements are coordinated and signed. A copy of the completed LOA will be forwarded to the NAVREP for review prior to final DON AAA approval or DONCOA endorsement. LOA coordination timelines are not included in the AAA/COA processing times established by this document. Therefore, planners should be aware that the time required to coordinate an LOA could result in a delay in the overall AAA/COA approval timeline. The LOA must remain current during flight operations conducted under the associated AAA/COA. If changes are made to the LOA, the updated version shall be provided to the NAVREP before UAS flight operations are conducted under the new agreement. NAVREPs will forward LOAs to the FAA as necessary.

3.2.2 Notice to Airmen (NOTAM). A NOTAM shall be published prior to any DON UAS flight operation being conducted within U.S. Civil Airspace. The NOTAM is used to alert nonparticipating aircraft of the UAS activity. The UAS Proponent is responsible for ensuring that the NOTAM is published and remains in effect during the duration of the UAS operation. The NOTAM shall be published not more than 72 hours and not less than 24 hours prior to the proposed operation. NOTAMs can be requested through the local Base Operations office or by contacting the NOTAM Flight Service Station (FSS) at 1-877-487- 6867. In order to request a NOTAM, the issuing agency will require:

- (1) Name and contact information of the Applicant,
- (2) Location and dimensions of the operating area,
- (3) Date and time of the flight operation, and
- (4) Nature of the activity (which in most cases will be training or exercise).

NOTAMs will be set to cancel automatically at the end of the UAS operation; however, if the operation ends early, the Proponent shall manually cancel the NOTAM by contacting Base Operations or the NOTAM FSS. The area of operation defined in the NOTAM shall reflect the actual area to be flown for the individual mission (as defined by the route of flight or radius around a point). NOTAMs should not include the entire area approved in the DON AAA or FAA COA unless the full area will be used.

3.2.3 ATC Communications. When operating in controlled airspace, ATC communication procedures shall be conducted in accordance with the ATC LOA, local ATC SOP, and/or the UAS Special Provisions section of the DON AAA or FAA COA as appropriate. The specific communication requirements will depend on ATC local policy; however, the UAS Proponents may be required to:

- (1) Contact Base Operations or the ATC facility several days prior to the scheduled operation to coordinate flight details (AAA/COA Number, flight time/duration, flight location/altitude, communication procedures, etc.);
- (2) Contact ATC immediately prior to starting the flight operation (to obtain ATC launch permission, confirm flight details, receive instructions based on current airfield conditions, etc.);
- (3) Contact ATC immediately after ending the flight operation;
- (4) Establish primary and secondary two-way communications using UHF radio, VHF Radio, cellular phone, and/or landline telephone and be immediately reachable by ATC at all times during the flight operation; and
- (5) Contact ATC immediately in the event of any emergency that could affect other air traffic activities.

When operating in Class G airspace, notifying or maintaining direct communications with ATC is not required unless specifically stated in the DON AAA or FAA COA. However, if operating near an uncontrolled airfield, the AVO or a crewmember in direct communication with the AVO should monitor the applicable Common Traffic Advisory Frequency (CTAF) in order to maintain awareness of any aircraft activity in the area.

3.2.4 ATC Compliance. AVOs operating in controlled U.S. Civil Airspace shall comply with all ATC instructions. This includes verbal or electronic commands from controllers as well as any established agreements or ATC SOPs. Verbal or electronic commands shall immediately be acknowledged and followed. If the AVO is uncertain of the ATC instruction, clarification shall be requested immediately. If the AVO is unable to comply with an instruction, the AVO shall notify ATC immediately with a brief description of the limitation and a request for alternate instructions. If ATC is unable to provide new instructions based on the UAS limitations, then the AVO shall declare an emergency and land the UAS as soon as safely possible. The ATC Facility may deny, terminate, restrict, or delay flight operations at any time in order to prevent an unsafe activity within the airspace.

3.2.5 ATC Services. For DoD Group 1-2 UAS or non-DoD Small UAS, ATC services, to include separation, are not provided by ATC. However, ATC may alert AVOs to potential conflicting traffic if controller workload permits. ATC should issue traffic advisories and safety alerts to manned aircraft regarding known UAS activities as appropriate. For DoD Group 3-5 UAS or non-DoD UAS with a UA weighing 55 pounds or more, unless otherwise agreed to in an LOA, ATC will provide the same services to these UAs that it would to manned aircraft. This includes providing standard separation for the class of airspace under the appropriate Visual Flight Rules (VFR) or Instrument Flight Rules (IFR). However, ATC will not instruct and the AVO shall not conduct the following operations unless specifically authorized in the DON AAA or FAA COA:

- (1) Visually follow or maintain visual separation from a manned aircraft or UA,
- (2) Conduct Opposite Direction Operations (ODO),
- (3) Operate under Special Visual Flight Rules (SVFR) conditions, or
- (4) Conduct visual approaches.

3.2.6 Collision Avoidance. In U.S. Civil Airspace, ultimate responsibility for collision avoidance falls on the pilot or AVO, unless they are flying under IFR and unable to see other aircraft due to clouds or other weather conditions (known as Instrument Meteorological Conditions or IMC). For manned aircraft, this collision avoidance is maintained by pilots onboard the aircraft visually seeing and avoiding other aircraft as required by Title 14 CFR Section 91.113(b). Since AVOs are unable to comply with this see-and-avoid requirement as originally intended by the FAA, an AMOC must be identified and approved within the DON AAA or FAA COA. The use of VOs, either ground based or airborne, is considered a standard see-and-avoid AMOC. Operations in U.S. Civil Airspace conducted beyond VLOS of an AVO or VO, to include the use of a Senses and Avoid (SAA) system, are considered non-standard AMOC operations. Non-standard see-and-avoid AMOCs as described in paragraph 3.2.8, require that the operation is authorized in a NAVAIR Statement of Airworthiness and require an FAA waiver that will only be approved if the level of safety meets or exceeds the Title 14 CFR Section 91.113(b) standard as determined by OPNAV N98 (for USN units) or HQMC Aviation (for USMC units) and the FAA. Additionally, if an operation is requested in DoD U.S. Civil Airspace that is not assigned to a DON ATC facility, the AMOC must also be accepted by the Service that manages the airspace. Note that first-person view camera usage does not satisfy the see-and-avoid requirement for DON UAS, but can be used to assist the AVO if the collision avoidance requirement is satisfied by other means.

3.2.7 Visual Observers. One or more VOs may be authorized in the DON AAA or FAA COA to be used as the primary see-and-avoid AMOC for all or part of the UAS flight operation. If a VO is used as the primary see-and-avoid AMOC, the VO, or AVO when performing VO duties, must maintain visual contact with the UA at all times. The distance between the UA and the VO shall not exceed that which will allow the VO to effectively identify the UA's location, altitude, attitude, and direction of flight. The VO's field of view shall allow for observation of all potential air and surface hazards within the environment surrounding the UA. Note that the maximum effective VO distance will vary depending on the UA (size, shape, markings, etc.), visibility (weather, sun angle, ambient light, etc.), and capabilities of the individual VO. Observation must be conducted using human vision unaided by any device other than corrective lenses. VOs must maintain direct voice communications with the AVO at all times and be able to clearly communicate any instructions required to avoid collisions. The VO is responsible for providing guidance to the AVO that ensures the UA remains well clear of manned aircraft, other UAs, terrain, and structures. VOs will be familiar with all applicable UAS emergency procedures identified in the ATC LOA, ATC SOP, DON AAA, FAA COA, and paragraph 3.3, as appropriate. A description of the VO procedures (to include Ground VO locations, UA transfer procedures across multiple VOs, standard communications, lost communications, and loss of visual contact) shall be established by the Proponent and uploaded as part of the AAA/COA application within the FAA/DoD Processing System.

3.2.7.1 Ground Based Visual Observers. Ground based VOs may be authorized in the DON AAA or FAA COA to be used as the primary see-and-avoid AMOC for all or part of the UAS

flight operation. If ground based VOs are authorized, the VOs shall be located in positions that will allow them to support the VO requirements identified in paragraph 3.2.7. VOs may be used at multiple locations to extend the range of the UA beyond VLOS of the AVO or a single VO. This procedure is referred to by the FAA as “daisy chaining”. If daisy chaining is used, the Proponent is responsible for verifying that procedures are established to ensure positive visual observation of the UA maintained as it is handed off from one observer to another.

3.2.7.2 Airborne Visual Observers and Chase Pilots. Airborne VOs may be authorized in the DON AAA or FAA COA to be used as the primary see-and-avoid AMOC for all or part of the UAS flight operation. If airborne VOs are authorized, in addition to following FAA flight regulations, the chase aircraft containing the VO must remain close enough to the UA to support the VO requirements identified in paragraph 3.2.7. The chase aircraft must also remain at a safe enough distance from the UA to ensure collision avoidance if a malfunction or unexpected maneuver occurs. If the chase aircraft is operating more than 100 feet above/below or more than .5 nautical miles laterally from the UA, the chase pilot will advise the controlling ATC facility of the estimated separation distance. The chase pilot will not perform VO or AVO duties while flying the chase aircraft. The chase pilot will be familiar with all applicable UAS emergency procedures identified in the ATC LOA, ATC SOP, AAA, COA, and paragraph 3.3, as appropriate.

3.2.8 Non-Standard See-and-Avoid AMOC Operations. DON UAS operations conducted beyond VLOS of the AVO or VO in U.S. Civil Airspace require a non- standard see-and-avoid AMOC as described in paragraph 3.2.6. Requests to conduct DON UAS operations using a non-standard AMOC may be considered under the following circumstances:

- (1) Appropriate procedures are established to mitigate collision risk as determined by OPNAV N98 (for USN units), HQMC Aviation (for USMC units), and NAVAIR;
- (2) The operation is not specifically prohibited in the IFC or NATOPS Manual;
- (3) A Title 14 CFR Part 91.113(b) waiver is obtained from the FAA; and
- (4) Applicable system certifications are obtained from NAVAIR.

Timelines associated with FAA waivers and NAVAIR certifications are not included in the DON AAA and FAA COA processing times established by this document. These times vary greatly depending on the proposed system and concept of operation. Therefore, planners should be aware that the time required to gain approval to use a SAA system could result in a significant delay in the overall AAA/COA processing time. Proponents should contact the applicable NAVREP if considering a request involving a non- standard see-and-avoid AMOC.

3.2.8.1 Sense and Avoid System AMOC Operations. Ground Based Sense and Avoid (GBSAA) or Airborne Sense and Avoid (ABSAA) may be authorized in the DON AAA or FAA COA to be used as the primary see-and-avoid AMOC for all or part of the UAS flight operation. The use of a SAA system will require an FAA waiver to Title 14 CFR 91.113. The use of a SAA system will also require a DON Certification issued by NAVAIR in accordance with reference (m). If a SAA system is authorized, the UAS must be operated in strict compliance with the certified operating procedures and limitations for the SAA system being used. The SAA system must be authorized by NAVAIR for the specific type of UAS that the Proponent is operating. Note that SAA systems may also be referred to as Ground Based Detect

and Avoid (GBDAA) or Airborne Detect and Avoid (ABDAA) systems. The SAA Operator will be familiar with all applicable UAS emergency procedures identified in the ATC LOA, ATC SOP, AAA, COA, and paragraph 3.3, as appropriate. Note that the majority of DON UAS operations conducted using an SAA system will still require VOs during the departure and recovery phases of flight.

3.2.8.2 Other Non-Standard See-and-Avoid AMOC Operations. Requests to conduct UAS operations in U.S. Civil Airspace using non-standard see-and-avoid AMOCs that does not include the use of the SAA system will be evaluated on a case-by-case basis. Examples of cases where non-standard see-and-avoid AMOCs may be approved include operating a UA under ATC IFR control in Class A airspace, operating a UA in an area that contains a compelling expectation of being completely free of any manned aircraft, or operating a UA within a Title 14 CFR Section 99.7 TFR that was specifically established by the FAA to segregate UA transit operations. Note that these forms of see-and-avoid AMOCs are not typically approved for UAS operations within U.S. Civil Airspace.

3.2.9 Right of Way. Unless operating under an IFR clearance, all UAs must yield right of way to manned aircraft. AVOs should take action early to prevent a potential conflict from developing into an unsafe situation. For DON Group 1-2 UAS, the UA will also yield right of way to Group 3-5 UAs. In the event of a conflict between two Group 1-2 UAs, both AVOs are responsible for maneuvering their UA as to avoid a potential collision. For DON Group 3-5 UAS, in the event of a conflict between the UA and a manned aircraft or another Group 3-5 UA, the AVO should avoid a potential collision by maneuvering the UA in accordance with the right of way rules identified in Title 14 CFR Section 91.113 (c) through (g) if able.

3.2.10. Maximum Operating Altitude. All UAs shall remain below the lowest of the following altitudes:

- (1) The maximum altitude authorized by the DON AAA or FAA COA, if identified,
- (2) The ceiling of the class of airspace authorized by the AAA/COA,
- (3) The maximum altitude that allows for the safe application of the approved see-and-avoid AMOC, or
- (4) The maximum operating altitude authorized in the IFC or NATOPS Manual.

3.2.11 Minimum Operating Altitude. For DON Group 1-2 UAS, the UA may operate below the Title 14 CFR Section 91.119 (b) and (c) minimum safe altitude requirements under the following conditions:

- (1) The UA's total weight is less than 55 pounds;
- (2) The UA's ground speed does not exceed 87 knots (100 mph); and
- (3) The UA does not operate within 500 feet laterally from personnel not directly participating in the operation unless the DON UAS Proponent has made an operational risk assessment and determined that the operations will not create unnecessary risk to non-essential personnel.

For DON Group 3-5 UAS, the UA shall operate in accordance with the Title 14 CFR Section 91.119 minimum safe altitude requirements. Additionally, any DON UAS operations conducted

over private property, below 400 feet AGL, will require landowner permission as described in paragraph 2.8.11.

3.2.12 Operations over Populated Areas. Flight over populated areas, which include congested areas, open-air assemblies of people, and heavily trafficked roads, must be noted in the DoD AAA or FAA COA application and may only be conducted if specifically authorized in the IFC or NATOPS Manual. For airspace integration purposes, densely populated and congested areas are marked as yellow on FAA sectional aeronautical charts. DON Group 1-2 UAS operating below the minimum safe altitude requirements shall also comply with the requirements of paragraph 3.2.11.

3.2.13 Federal Airways. When necessary, the crossing of airways and routes must be conducted as expeditiously as possible. The UA should not loiter in Victor Airways, Jet Routes, Q and T Routes, IR Routes, or VR Routes. The use of airways for UA transit may only be conducted if specifically authorized in the DON AAA or FAA COA.

3.2.14 Weather and Visibility Requirements. Unless otherwise authorized by the ATC facility managing the airspace, UAS operations shall not be conducted in controlled airspace if the ceiling, which is defined as the lowest broken or overcast cloud layer, over the operating area, is less than 1,000 feet AGL. When ground based VOs are used:

- (1) The minimum visibility, as observed from the location of the AVO or VO responsible for conducting the see-and-avoid AMOC, must be no less than 3 statute miles and
 - (2) All UAs must remain 500 feet below and 2,000 feet horizontally from clouds when airborne VOs are used:
 - (3) The minimum in-flight visibility must be no less than 5 statute miles and
 - (4) Distance from clouds will be maintained in accordance with 14 CFR Section 91.155.
- If at any time during flight operations the visibility is reduced to a level below the requirements described in this paragraph, the UA should be landed as soon as safely practicable.

3.2.15 IFR Operations. DON UAS IFR operations must be specifically authorized in the DON AAA or FAA COA and the UAS IFC or NATOPS Manual. When operating a UA on an IFR clearance, the AVO shall communicate positional information to ATC by referencing FAA recognized fixes, navigational aids, and/or waypoints. The use of latitude/longitude positions is not authorized, except during oceanic flight operations. IFR operations shall be conducted with an operational mode S, mode 3/A, or mode 3/C transponder, or an Automatic Dependent Surveillance-Broadcast (ADS-B) Out transmitter. The NAVREP will assist in coordinating IFR operations between the Proponent and the appropriate DoD ATC facilities. IFR operations conducted in FAA controlled airspace will be coordinated by FAA Processors after the COA application has been submitted. Proponents are responsible for ensuring that AVOs are appropriately trained and certified to conduct IFR UAS operations. Note that the majority of DON UAS operations conducted under IFR will still require a portion of the operation to be conducted using VOs (e.g. during the departure and recovery phases). IFR operations that require the UA to remain clear of clouds (regardless of the mechanism for determining cloud location) will only be conducted if agreed to by the applicable ATC facility and appropriate procedures are established in an LOA or ATC SOP.

3.2.16 Night Operations. Night operations are defined as operations between the end of evening civil twilight and the beginning of morning civil twilight (as published in The Air Almanac, converted to local time). DON UAS night operations must be specifically authorized in the DON AAA or FAA COA and the UAS IFC or NATOPS Manual. During nighttime operations, lighting requirements identified in paragraph 2.9.6 shall be followed and lights shall be fully functional and activated unless lights-out operations are authorized in the AAA/COA. Prior to conducting operations at night, AVOs and VOs responsible for providing the primary see-and-avoid AMOC shall be trained on the lighting configuration of the UA and are required to be in place 30 minutes prior to flight operations to allow for night vision adaptation. Proponents are responsible for ensuring that AVOs and VOs are appropriately trained and certified to conduct night operations. For DON Group 3-5 UAS, in addition to the requirements of this paragraph, operations at night should be conducted with an operational mode S, mode 3/A, or mode 3/C transponder set to an ATC assigned squawk or an ADS-B Out transmitter. Note that the use of a transponder or ADS-B Out transmitter during night operations may be directed in the AAA/COA.

3.2.17 Lights-Out Night Operations. DON UAS operations conducted in U.S. Civil Airspace at night without the use of lights must be specifically authorized in the AAA/COA. Lights-out requests may be considered for approval under the following circumstances:

- (1) Lights-out night operations are not specifically prohibited in the UAS IFC or NATOPS Manual,
- (2) Appropriate procedures are established to mitigate collision risk, as determined by OPNAV N98 (for USN) or HQMC Aviation (for USMC), and
- (3) Applicable FAA waivers are obtained.

Proponents are responsible for ensuring that UAS crewmembers are appropriately trained and certified to conduct lights-out operations. Note that lights-out night operations are not typically approved for a DON UA flying in U.S. Civil Airspace.

3.2.18 Control Station to Control Station Handoff Operations. Handoff of a UA from the control of one control station to the control of a subsequent control station must be noted in the DON AAA or FAA COA application and specifically authorized in the UAS IFC or NATOPS Manual. When conducting a control station to control station handoff with a single link UAS, the UA shall remain within Radio Frequency (RF) line of sight of each control station until the handoff is complete. Proponents are responsible for ensuring that UAS crewmembers are appropriately trained and certified to conduct control station to control station handoff operations.

3.2.19 Multiple UA/Single AVO Operations. The simultaneous operation of multiple DON UAs controlled by a single AVO must be noted in the DON AAA or FAA COA application and specifically authorized in the UAS IFC or NATOPS Manual. This type of operation will typically require additional procedures in order to mitigate collision hazards. The specific mitigation procedures will be based on UA characteristics, number of UAs flown, distance between UAs, and complexity of air traffic for the requested area. The level of mitigation required will be determined by

NAVAIR and OPNAV N98 (for USN units) or HQMC Aviation (for USMC units) as well as the FAA or Non-DON DoD agency that has authority over the requested airspace, if applicable. Proponents are responsible for ensuring that UAS crewmembers are appropriately trained and certified to conduct multiple UA/single AVO operations.

3.2.20 Autonomous UAS Operations. Any autonomous operations conducted within U.S. Civil Airspace must be able to satisfy the AMOC requirement for Title 14 CFR Section 91.113 (b). When operating within U.S. Civil Airspace, an autonomous UAS must have the ability to avoid objects, both in the air and on the ground, reliably without the intervention of an AVO. Autonomous UAS operations must be specifically authorized in the airworthiness certificate and the DON AAA or FAA COA.

3.3 DON UAS Emergency Procedures for U.S. Civil Airspace

3.3.1 Emergency Coordination. The AVO may deviate from Title 14 CFR Part 91, this document, and the provision of the DON AAA or FAA COA if necessary to avoid injury or damage during an emergency. The use of standardized UAS emergency procedures established in this document allows ATC to anticipate UA actions during an emergency. These procedures are not intended to supersede emergency procedures established for a specific UAS platform. However, any procedural conflicts between this document and emergency procedures established by other authorities shall be pre-coordinated with ATC and addressed in the ATC LOA or ATC SOP as appropriate. In addition, a complete description of all applicable emergency procedures, standard or non-standard, shall be uploaded as part of the AAA/COA application within the FAA/DoD Processing System. When experiencing any emergency while in controlled airspace, the AVO shall contact the ATC facility having jurisdiction over the airspace, as soon as practicable and state the nature of emergency and the anticipated UA actions. The AVO shall also ensure that ATC remains updated throughout the situation. If an emergency is declared or experienced, the Proponent is responsible for ensuring that an incident report is submitted by the Proponent to the NAVREP in accordance with paragraph 3.4.

3.3.2 Lost Link Procedures. Lost link procedures should be coordinated with ATC to ensure that lost link holding areas and routes are laterally and vertically deconflicted from typical air traffic flow and the lost link procedures of other UAs operating in the area (in the event of multiple simultaneous lost link emergencies). Lost link procedures shall be established to ensure the UA does not transit or orbit inside of federal airways or over populated areas. If capable, once the link is lost, the UAS should be configured to change the transponder code automatically to 7400. If a ground based VO is being used during a lost link situation, the VO should be notified immediately. The VO will continue to update the AVO on the status of the UA to include identifying any deviations from the pre-planned lost link procedure. If an airborne VO is used during a lost link situation, the chase pilot and the VO must both be notified immediately. The chase pilot will attempt to stay within visual range of the UA if weather conditions and FAA flight regulations allow. The pilot will keep ATC updated and the VO will keep the AVO updated on the status of the UA to include identifying any deviations from the pre-planned lost link procedure. For DON Group 1-2 UAS, the lost link procedures will be pre-programmed to avoid flight over nonparticipating personnel and ensure the landing location is: (1) within the view of the AVO or VO and (2) within the operations area authorized by the DON AAA or FAA

COA and identified within the current NOTAM. For DON Group 3-5 UAS, at minimum, procedures shall include the following items for the departure, arrival, en route, and operating area phases of the flight:

- (1) Lost link activation parameters,
- (2) Notification procedures and transponder code changes,
- (3) Preprogrammed routing (including altitude, airspeed, waypoint location),
- (4) Actions at each waypoint, and
- (5) Link reestablishment procedures.

3.3.3 Flyaway Procedures. In the event that control of the UA is lost and the UA is not following its preprogrammed lost link procedures, the AVO, in addition to providing the emergency notification, will advise ATC of the following:

- (1) Last known location,
- (2) Last known altitude,
- (3) Direction of flight, and
- (4) Estimated flight time remaining.

The AVO should continue to attempt to reestablish the link until after the estimated flight time expires or the UA is confirmed to be no longer in the air.

3.3.4 Lost Communication Procedures. For DON Group 1-2 UAS, if both the primary and secondary means of communications with ATC are lost while operating within controlled U.S. Civil Airspace, the AVO shall keep the UA within the boundary, altitude, and airspeed parameters approved in the DoD AAA or FAA COA and either land or terminate the flight in the safest manner available, as soon as safely practicable. Do not resume the operation until reliable communication with ATC is restored. For DON Group 3-5 UAS, if communications with ATC are lost, set transponder code to 7600 (if able), attempt to reestablish communications with ATC, and execute the lost communications procedures identified in the ATC LOA, ATC SOPs, or the AAA/COA application as appropriate.

3.3.5 Lost Visual Observation Procedures. A loss of visual observation can result from either an inadvertent loss of visual contact with the UA, a loss of communication between the VO and the AVO, or a chase plane emergency. When the UAS operation is using a VO as the primary see-and-avoid AMOC, if the VO loses visual contact with the UA and such contact cannot be promptly reestablished, the VO shall immediately notify the AVO and chase pilot if applicable. If the chase pilot experiences an emergency and is no longer able to support the UAS operation, the chase pilot shall immediately notify the AVO via the VO. Once the AVO is notified or becomes aware that the VO is no longer able to perform the see-and-avoid AMOC function, the AVO shall keep the UA within the boundary, altitude, and airspeed parameters approved in the DoD AAA or FAA COA and either land or terminate the flight in the safest manner available, as soon as safely practicable. If airborne VOs are used and visual observation is lost, the chase pilot will take measures to maintain safe separation from the UA, based on its last known position and direction of flight as well as any updated flight information provided by the AVO. The chase pilot shall also confirm that ATC is aware of the situation. If visual observation is regained while returning to land, the AVO may resume the operation if

appropriate.

3.3.6 Lost Sense and Avoid (SAA) Procedures. If the UAS operation is using a SAA system as the primary see-and-avoid AMOC and the SAA system is no longer functioning reliably, the AVO shall operate in accordance with the lost SAA procedures approved by NAVAIR for the SAA system and UA being used. These procedures shall also be identified in either an ATC LOA or ATC SOP.

3.3.7 Other Emergencies. For DON Group 1-2 UAS, in the event of a system malfunction affecting the UAs ability to operate in U.S. Civil Airspace safely, the AVO shall attempt to remain within approved boundary, altitude, and airspeed parameters and immediately land the UA in an area that will not endanger personnel or property. For DON Group 3-5 UAS, in the event of a system malfunction affecting the UAs ability to safely operate in U.S. Civil Airspace, the AVO shall divert the UA to the nearest suitable landing or ditch site as appropriate, as soon as safely practicable.

3.4 DON UAS Proponent Reporting Requirements

3.4.1 Initial Incident and Accident Reporting. The Proponent is responsible for ensuring that initial notification and a summary of any incident or accident, including those listed in the below paragraphs, is provided to the NAVREP and DON FAA Headquarters Liaison by sending an email titled “DON UAS INCIDENT/ACCIDENT NOTIFICATION” to UAS-DON@faa.gov within 24 hours of the event. Initial reporting should include:

- (1) Unit(s) involved,
- (2) Initial facts of the incident,
- (3) Location of the incident, and
- (4) Date/time of the incident.

In addition, if an emergency was experienced or declared, including but not limited to emergencies identified in paragraph 3.3, the following information shall also be included:

- (1) Nature of the emergency,
- (2) Actions taken,
- (3) Agencies notified during the incident, and if applicable
- (4) Any regulations violated.

Additional follow-on information shall be provided to the NAVREP or DON FAA Headquarters Liaison upon request. The appropriate DON FAA Headquarters Liaison will forward the incident/accident information to OPNAV N980A (for USN units), HQMC Aviation APX-1 (for USMC units), or the FAA for awareness as appropriate. In addition to the notification procedures established above, Applicants shall comply with any specific notification requirements established in the DON AAA or FAA COA.

3.4.2 DON UAS Involved Incident Reporting. A DON UAS incident shall be reported to the NAVREP and DON FAA Headquarters Liaison when a DON UAS that is operating under a

DON AAA or FAA COA is involved in an unsafe or abnormal event. Unsafe or abnormal events include but are not limited to:

- 1) A malfunction or failure affecting the UAS flight controls, navigation, propulsion, takeoff/landing, or collision avoidance systems;
- (2) An emergency is declared or experienced; and
- (3) A deviation from an ATC instruction or any provision contained within the AAA, COA, ATC LOA, or ATC SOP.

3.4.3 DON UAS Involved Personnel Injury Accident Reporting. A DON UAS accident shall be reported to the NAVREP when a DON UAS that is operating under a DON AAA or FAA COA is involved in an event that causes any injury to a non-DoD member or significant injury to a member of the DoD. Significant injuries include:

- (1) A fatal injury, where the operation of a UAS resulted in a death occurring within 30 days of the accident/mishap or
- (2) A serious injury, which requires inpatient hospitalization.

3.4.4 DON UAS Involved Property Damage Accident Reporting. A DON UAS accident shall be reported to the NAVREP and DON FAA Headquarters Liaison when a DON UAS that is operating under a DON AAA or FAA COA is involved in an event that results in any damage to property, other than the UAS or substantial damage to the UAS that must be repaired prior to further flight.

3.4.5 Additional DON UAS Reporting Requirements. The reports required by this document are not a substitute for any additional accident/incident reports that may be required by other organizations within the DoD or DON.

3.5 UAS Airspace Access Suspension and Revocation. OPNAV N980A (for USN units), HQMC Aviation APX-1 (for USMC units), and the FAA have the authority to temporarily suspend or permanently revoke any DON AAA or FAA COA if continued operations under the authorization are considered unsafe. This may include:

- (1) Actions or procedures that result in a severe incident or accident;
- (2) Habitual noncompliance with administrative, operational or safety requirements;
- (3) Significant or reoccurring deviations from ATC instructions or any provision contained within the AAA, COA, ATC LOA, or ATC SOP;
- (4) Significant or reoccurring equipment malfunctions/failures;
- (5) A change to local ATC procedures affecting UAS operations; or
- (6) Other events determined to pose a risk to the safety of persons or property in the air or on the ground.

Additionally, if ATC personnel observe, or are notified of, an unsafe UAS operation, the controller shall immediately suspend the UAS operation until the safety issue is resolved. AAA/COA revocations will be issued in writing by the appropriate approval authority and submitted to the Proponent via the NAVREP.

Section 4: DON ATC Support of UAS Operations within U.S. Civil Airspace

4.1 Purpose. This section prescribes policies and procedures associated with DON ATC support of UAS operations in U.S. Civil Airspace. This section applies to USN and USMC:

- (1) ATC facilities that are providing and
- (2) NAVREPS/DON Liaisons to FAA Headquarters that are overseeing DON ATC support of UAS operations within U.S. Civil Airspace.

4.2 ATC Facility UAS Airspace Access Program (AAP)

4.2.1 UAS AAP Overview. Each DON ATC facility shall establish and maintain a UAS AAP to manage facility specific UAS airspace access and integration policies and procedures. The AAP should reflect the balance required by the ATC Facility to maintain the safe, orderly and expeditious flow of air traffic while at the same time ensure that fair access is granted to all airspace users, including UAS, to the maximum extent possible. ATC facilities are encouraged to continuously review and update their AAP to ensure that it remains current as UAS support requirements evolve over time. The program shall include procedures for:

- (1) Reviewing and updating UAS related facility policy,
- (2) Reviewing and updating the UASFM,
- (3) Reviewing and updating UAS Special Provisions,
- (4) Reviewing and updating course rules related to UAS activities,
- (5) Coordinating and reviewing non-UASFM compliant UAS airspace access requests,
- (6) Tracking and reporting unauthorized UAS activity, and
- (7) Providing UAS specific orientation to newly assigned controllers.

The AAP shall also identify facility responsibilities, by billet, associated with developing and/or endorsing the procedures and supporting documents necessary to review UAS requests and support UAS operations.

4.2.2 UASFM Development. Development of the UASFM, described in paragraph 2.7, requires each facility to analyze their airspace and identify areas where low altitude DoD Group 1-2 UAS or non-DoD Small UAS can fly safely without interfering with air traffic operations. Requests that fall within the parameters of a UASFM are considered pre-coordinated and can be authorized by the NAVREP or FAA without an individual ATC airspace access review. Benefits of the UASFM include:

- (1) Reduces the coordination requirements between Applicants, ATC
- (2) facilities, and Processors;
- (3) Standardizes the ATC facility response to all Groups 1-2/Small UAS airspace access requests based on a deliberate analysis of local airspace procedures;
- (4) Guides Proponents to lower risk areas; and
- (5) Informs installation commands and local government as they develop policy that
- (6) identifies UAS operating locations.

The UASFM should include all segments that are fully or partially contained within the lateral boundary of the ATC facility's Class B, C, or D airspace or Class E surface area airspace. When developing the UASFM, the UAS AAC should apply the following assumptions:

- (1) All runways are active in each direction,
- (2) Known low altitude operations (low level routes or helipads) are active,
- (3) Separation requirements are not applicable,
- (4) Manned aircraft will not maneuver below, and in close Proximity to, existing
- (5) structures or obstacles, and
- (6) When complying with the UASFM, AVOs are required to see-and- avoid and yield right-of-way to manned aircraft and Group 3-5 UAs.

4.2.3 UASFM Review and Modification. The UASFM should be reviewed annually by the UAS AAC to identify any adjustments that would increase safety or efficiency of air traffic operations for both manned aircraft and UAS. Additionally, the maps should be reassessed by the UAS AAC any time there is a change to facility policies or procedures that affects air traffic flow. Documentation of each assessment shall be recorded by the AAC to include the date conducted and a summary of any changes made. A copy of this record shall be maintained by the facility for a minimum of three years. Any UASFM modification requests will be sent by the UAS AAC to the NAVREP for submission to the FAA. Once reviewed, the NAVREP will submit UASFM change request to UASFM@faa.gov with a courtesy copy to UAS-DON@faa.gov for FAA Headquarters Liaison tracking and awareness.

4.2.4 UAS Special Provisions. UAS Special Provisions are unique airspace and ATC instructions that may be specified by the ATC facility and issued to the DoD Proponent or non-DoD operator as part of the DON AAA, DoD AAA, or FAA COA. If established, UAS Special Provisions may include, but are not limited to, ATC communication and procedural requirements as described in paragraph 3.2.3, as well as area, altitude, time, and weather restrictions. A copy of the facility's UAS Special Provisions will be maintained by the LIP and FAA Processors and automatically issued when an AAA/COA is approved using the UASFM. Any modifications to the facility's UAS Special Provisions that affect operations approved through the UASFM need to be sent by the UAS AAC to the NAVREP for review. Once the review is complete and any issues have been addressed, the NAVREP will forward the change request to the DON FAA Headquarters Liaison by emailing it to UAS-DON@faa.gov. The DON FAA Headquarters Liaison will coordinate the UAS Special Provisions with the Emerging Technologies Section (AJV-115) of FAA headquarters.

4.2.5 Integrating Unmanned and Manned Operations. In cases where unmanned flight operations are integrated with manned flight operations, the ATC facility should develop detailed procedures to ensure safe separation is maintained between UAs and manned aircraft. This is especially critical when integrating larger UAs into the airport traffic pattern. These procedures should be established either in an ATC SOP or in an LOA between the ATC facility and the UAS Proponent(s) involved. Copies of any agreements should be submitted to the NAVREP as described in paragraph 3.2.1.

4.3 Authority for Non-DoD UAS to Access DON Airspace. All UAS operating within U.S.

Civil Airspace must operate under either Title 14 CFR Part 91, Part 107, or under a recreational exception. The type of rule depends on the proponent’s affiliation, the purpose of the operation, and the UA weight. The FAA retains overall access authority for all non-DoD UAS operating in U.S. Civil Airspace regardless of the rule they are operating under. This includes final approval for access to DON controlled airspace. The FAA will not grant access to DON controlled U.S. Civil Airspace without first coordinating with and obtaining concurrence from the controlling DON ATC facility. This coordination can be conducted either indirectly, via the UASFM and UAS Special Provisions, or directly with the UAS AAC via the appropriate NAVREP.

4.4 DON ATC Facility Airspace Access Processing. While the requirements for operating a UAS under Part 91, Part 107, or a recreational exception are different, ATC facility procedures for coordinating, reviewing, and determining access to DON controlled U.S. Civil Airspace are the same for all DoD and non-DoD UAS regardless of the rule they are operating under. Basic procedures for processing UAS requests to access DON controlled U.S. Civil Airspace are summarized in Figure 4-1.

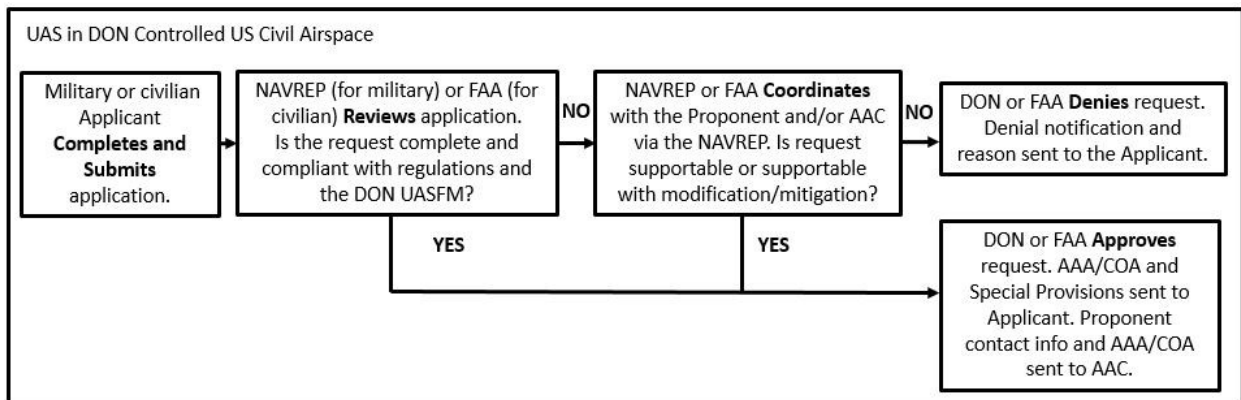


Figure 4-1: ATC Processing of UAS Access to DON Controlled U.S. Civil Airspace

4.4.1 Initial Applicant Contact. The UAS Applicant will first submit their airspace access requests directly to the LIP (for DoD requests) or the FAA Processor (for non-DoD requests) via the appropriate system. If DON ATC facility personnel are contacted directly by an Applicant who has not yet submitted a DoD AAA or FAA COA application, the DoD Applicant should be directed to the appropriate NAVREP and the non-DoD Applicant should be directed to the website www.faa.gov/uas for information about starting the application process.

4.4.2 ATC Facility Airspace Access Pre-Coordination. When an Applicant submits a request to operate a DoD Group 1-2 UAS or non-DoD Small UAS in DON controlled airspace, the NAVREP or FAA Processor will compare the request to what has been pre-coordinated by the facility through the UASFM. If the requested operation does not comply with the UASFM then the NAVREP or FAA Processor may ask the Applicant if the request can be modified to comply with the map. If the Applicant is unwilling to modify the request or if the Applicant is requesting to operate a UA that is not a Group 1-2/Small UAS, then the

NAVREP or FAA Processor (via the NAVREP) will need to coordinate the request with the AAC.

4.4.3 ATC Facility Airspace Access Coordination. The UAS AAC, identified in paragraph 1.3.4, should be the facility's point of contact for all UAS airspace access requests that cannot be pre-coordinated using the UASFM. Coordination with the AAC for both DoD and non-DoD UAS airspace access requests should be initiated by the NAVREP. The AAC may coordinate directly with the Applicant if necessary; however, any coordination between the ATC facility and the FAA should be conducted through the appropriate NAVREP. Note that ATC facility airspace access coordination will be conducted outside of the FAA/DoD Processing System. All applicable application data should be sent from the NAVREP to the ACC via email. ATC facilities may choose to setup an organizational mailbox account to help coordinate UAS related activities.

4.4.4 ATC Facility Airspace Access Review. The AAC shall review the UAS airspace access request in accordance with procedures established in the facility AAP. Reviews shall be conducted based on the proposed operation's potential impact to the safety and efficiency of the ATC facility's airspace. The review process and final access determination shall be performed without regard to the Proponent's affiliation (e.g. DON, non-DON DoD, non-DoD public, commercial, and private requests should be processed and adjudicated without distinction). The ATC facility may non-concur with a request if the operation is perceived to be a potential hazard to air traffic operations. However, coordination shall first be conducted with the Applicant in an attempt to modify the request or identify appropriate mitigation measures that will allow the operation to be conducted safely. Modifications can include, but are not limited to, requiring two-way communications or adjusting the time, date, location, and/or altitude of the operation. If the request is supportable or the ATC facility and the Applicant can agree to a modified request, then the AAC will email a notification of concurrence to the NAVREP. The DON or FAA Processor will approve the application by issuing an AAA or COA to the Proponent. The AAA or COA will include any UAS Special Provisions identified by the ATC facility. The flight details and operator contact information will be forwarded to the AAC via the appropriate NAVREP. If the request is not supportable, a written notification from the AAC or ATC Facility Officer will be sent to the NAVREP stating that the ATC facility does not concur with the request. Statements of non-concurrence shall include a description of the safety issues associated with the request and a summary of the actions taken in an attempt to resolve those issues. Formal denials will be sent to the Proponent from the appropriate approval authority.

4.4.5 ATC Facility Airspace Access Timeline. ATC facility airspace access reviews should be completed by the AAC and a statement of concurrence or non-concurrence provided to the NAVREP within the following number days after the AAC receives the request:

- (1) Five business days for a new or modification request for a Group 1-2 UAS,
- (2) 10 business days for a new or modification request for a Group 3-5 UAS request, and
- (3) Five business days for a renewal or extension request for a Group 1-5 UAS.

In the event that the timeline cannot be met, a reason for the delay and an estimated completion date will be provided by the AAC to the Applicant via the NAVREP.

4.4.6 Relief from FAA UAS Tracking and Identification Requirements. Per Title 14 CFR Sections 91.215 and 91.225, the ATC facility may allow a UAS to operate in Class A, B, and C Airspace and within the boundaries of a Mode C Veil without an operational IFF or ADS-B system. In cases where this relief is requested by the Applicant, and the ATC facility is able to support the request, the AAC shall inform the NAVREP that the Proponent is allowed to operate without an IFF or ADS-B system when providing the written notification of concurrence. This allowance will be added to the UAS Special Provisions by the LIP.

4.5 ATC Airspace Access Suspension. If at any time ATC facility personnel determine that the activities of a UAS presents an unacceptable risk to safety, they shall direct the AVO to cease the unsafe UAS activities immediately. The ATC facility should provide a reason for the suspension and an estimated time, if able, that the AVO could expect to resume operations. If an ATC suspension is issued for more than 24 hours, then the NAVREP shall be notified and periodically updated until the suspension is removed or a recommendation to modify or revoke the DON AAA or FAA COA is made.

4.6 ATC AAA/COA Modification and Revocation Recommendation. The authority to revoke an authorization resides with the appropriate DoD AAA or FAA COA approval authority. However, if at any time ATC determines that an approved AAA/COA presents an unacceptable risk to safety, the ATC facility should suspend the UAS activity immediately as described in paragraph 4.5. Following a suspension, the ATC facility is encouraged to work with the Applicant to identify and establish in writing new procedures or standards that will allow the UAS activity to continue safely. If the issue is resolved and no modification to the authorization is required, then the UAS activity may resume. If the issue is resolved; however, modification to the authorization is required, the Applicant should either submit a request to modify the AAA/COA or submit an application for a new authorization. In either case, UAS operations shall not resume until the modification is approved in writing by the AAA/COA approval authority or a new AAA/COA is issued. If the Applicant and the ATC facility are unable to resolve the issue, the AAC or ATC Facility Officer should submit a recommendation in writing to revoke the AAA/COA. The recommendation should be sent to the appropriate AAA/COA approval authority via the NAVREP with a detailed explanation of all unresolved safety concerns. Reasons for revocation may include items identified in paragraph 3.5. Formal revocation will be sent to the Proponent from the appropriate AAA/COA approval authority, via the NAVREP as appropriate.

4.7 ATC Incident/Accident Reporting. If a UAS incident or accident is observed by or reported to ATC facility personnel, a summary of the event and any pertinent details shall be provided to the NAVREP and DON FAA Headquarters Liaison by sending an email titled “DON UAS INCIDENT/ACCIDENT NOTIFICATION” to UAS-DON@faa.gov within 24 hours of the event. Incidents/accidents include but are not limited to events identified in paragraph 3.4. Additional follow-on information shall be provided to the NAVREP or DON FAA Headquarters Liaison upon request. The appropriate DON FAA Headquarters Liaison will forward the incident/accident information to OPNAV N980A (for USN units), HQMC Aviation APX-1 (for USMC units), or the FAA for awareness as appropriate. The reports required by this document are not a substitute for any additional UAS incident/accident reports that may be required by

other organizations within the DoD.

4.8 ATC Unauthorized UAS Operations Reporting. Unauthorized UAS operations include activities in which a UA appears to:

- (1) Pose a potential safety hazard,
- (2) Pose a potential security threat, or
- (3) Be in violation of federal, state, or local regulations.

If ATC facility personnel observe or receive a credible report of an unauthorized UAS activity, the following steps shall be taken:

- (1) Immediately alert any manned aircraft or UAS in the vicinity of the unauthorized UAS,
- (2) Log the time, date, location, UA description, and any other pertinent information associated with the occurrence,
- (3) Notify the Command Duty Officer (CDO), base security, and/or local law enforcement as appropriate, and
- (4) Report the activity to the FAA via the Domestic Events Network as outlined in reference (n).

If the UAS is detected using nonvisual means, ATC should attempt to obtain visual confirmation before the DEN is notified, if practical. A summary of the event and any pertinent details shall be provided to the NAVREP and DON FAA Headquarters Liaison by sending an email titled "UNAUTHORIZED UAS NOTIFICATION" to UAS-DON@faa.gov within 24 hours of the occurrence. The reports required by this document are not a substitute for any additional unauthorized UAS reports that may be required by other organizations within the DoD.

Section 5: DON UAS Access Processing within U.S. Civil Airspace

5.1 Purpose. This section prescribes policies and procedures associated with processing DON requests for DON public UAS operations within U.S. Civil Airspace. This section applies to DON L1Ps and L2Ps who are designated to review, approve, and/or endorse DON UAS requests to access U.S. Civil Airspace.

5.2 Managing Applicant Accounts. The L2P is responsible for managing the DON UAS Airspace Access Applicant accounts identified in in paragraph 2.8.1. This includes adding, deleting, updating, and resetting all Applicant accounts associated with the L2P’s Branch of Service. Procedures specific to managing accounts within the FAA/DoD Processing System are outlined in Appendix C. Prior to creating a new account the L2P shall ensure that the prospective Applicant has been properly designated as described in paragraph 1.3.2. If an OPNAV N980A (for USN units) or HQMC Aviation APX-1 (for USMC units) endorsement is required, the L2P shall draft the endorsement and coordinate its signature. Once the account is created, the L2P will notify the appropriate L1P who will contact the Applicant and provide instructions relating to accessing the FAA/DoD Processing System.

5.3 Initial Airspace Access Processing for DON UAS. Procedures for initial DON processing of DON UAS access requests to operate within U.S. Civil Airspace are summarized in Figure 5-1.

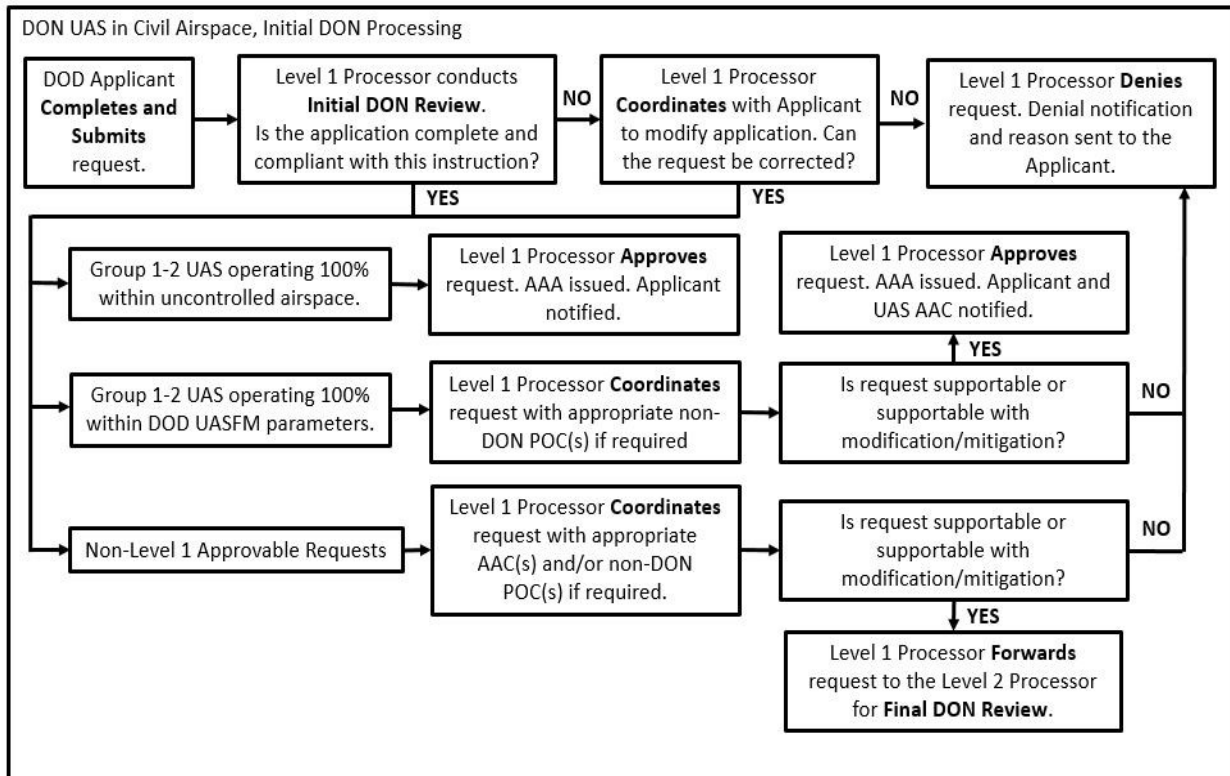


Figure 5-1: Initial Access Processing of DON UAS in U.S. Civil Airspace

5.3.1 Initial DON Review. The Initial DON Review is conducted by the LIP who is assigned to the FAA Service Area from which the UAS flight originates. The DON UAS Applicant will first complete and submit the airspace access application via the FAA/DoD Processing System in accordance with section (2). Once submitted, the DON UAS LIP will be automatically notified via email that the application is available in their FAA/DoD Processing System queue. The LIP will then claim the application from the queue and begin the initial DON review using Appendix C as a guide. During the review the LIP shall:

- (1) Ensure an ACC/DAA has been designated or a contracting entity is identified for DON contracted public UAS operations;
- (2) Confirm that the Proponent has authorized the request;
- (3) Verify that the application has been completed in compliance with this document;
- (4) Determine the airspace access jurisdiction(s); and
- (5) If the request is approvable by the DON, complete an initial draft of the DON AAA.

The draft AAA letter shall be created using the template provided in Appendix E based on information specific to the individual request and include any UAS Special Provisions coordinated with ATC. If issues with the request are identified, the LIP may correct the application or release the application back to the Applicant for corrections. If substantive changes are made by the LIP those changes shall be coordinated with the Applicant prior to approving or forwarding the request. If the application is unable to be satisfactorily corrected, then the request will be denied by the LIP. If no issues are identified or the issues identified have been resolved, the application will continue to be processed in accordance with the requirements for the UA weight and operating location. The Initial DON Review should be completed within five business days of receiving the application.

5.3.2 Determining the Airspace Access Jurisdiction. As described in paragraph 2.3.3, U.S. Civil Airspace is divided into the following UAS airspace access jurisdictions: FAA controlled, DoD controlled, FAA uncontrolled, and DoD uncontrolled. In order to ensure that the application is processed properly, it is critical that the LIP accurately identify all airspace access jurisdictions associated with the request. The method of determining these jurisdictions depends on the class of airspace. In general, DoD controls the Class C and D airspace and Class E surface area airspace established around a DoD airfield. In these cases, DoD controlled airspace can be identified on an FAA sectional aeronautical chart. However, within Class A, B, and non-surface area Class E airspace, the specific areas that are controlled by DoD are established by an LOA between the DoD and the FAA controlling agency. The boundaries established by these agreements are only recognized internally within the ATC facilities and are not normally made available to external entities. LIPs shall maintain a current copy of all DON-FAA airspace LOAs within their AOR and are responsible for comparing the flight path or operating area requested by the Applicant to the boundaries identified in these agreements. It is recommended that the LIPs create and maintain an electronic overlay file depicting these airspace boundaries to allow for efficient identification of the airspace access jurisdiction or jurisdictions associated with the request, as described in Appendix C.

5.3.3 ATC Coordination

5.3.3.1 DON UAS Requests Requiring DON ATC Coordination. During initial DON processing, any ATC coordination required for a DON UAS to operate within DON controlled U.S. Civil Airspace will be conducted between the L1P and the ATC facility's UAS AAC. If an airspace access request involves multiple ATC facilities, the L1P is responsible for coordinating with the UAS AAC of each facility within their AOR. When a requested operation is within the parameters of a DON UASFM, then the application is considered pre-coordinated and communication with the AAC is not required. When a requested operation is within DON controlled U.S. Civil Airspace, but not approvable via the UASFM, the L1P must coordinate the request with and receive written concurrence from the AACs of all affected DON ATC facilities prior to forwarding the application to the L2P. ATC facility airspace access coordination, review, and determination will be conducted as described in paragraphs 4.4.

5.3.3.2 DON UAS Requests Requiring Non-DON DoD ATC Coordination. During initial DON processing, any ATC coordination required for a DON UAS to operate within non-DON DoD controlled U.S. Civil Airspace will be conducted between the L1P and the Military Representative (MILREP) assigned to the DOD Service and location associated with the airspace access request. When the request involves multiple DoD Services, the L1P is responsible for coordinating with all applicable MILREPs within their AOR. The L1P must coordinate the request with and receive written concurrence from the appropriate MILREP or MILREPs prior to approving or forwarding the application. If the requested operation is within the parameters of a non-DON DoD UASFM, the L1P may establish a mutually agreed upon set of procedures with the applicable MILREP outlining how UASFM compliant requests should be coordinated. If no agreement is established then the application will be processed manually regardless of whether or not the request falls within UASFM parameters. Exact timelines associated with non-DON DoD ATC coordination will vary depending on the policies of the DoD Service that manages the airspace. The L1P should plan for up to 30 business days to coordinate a new DON UAS request, 15 business days to coordinate a DON UAS modification or renewal request, and 10 business days to coordinate a DON UAS extension request for operations within non-DON DoD controlled U.S. Civil Airspace.

5.3.3.3 DON UAS Requests Involving Multiple FAA Service Areas. When a DON UAS airspace access request involves operations in more than one FAA Service Area, the L1P assigned to the location from which the UAS flight originates will be assigned as the Lead L1P. During the initial DON review, the Lead L1P will process the portion of the request that falls within their AOR and coordinate all other portions of the request with L1Ps assigned to other AORs affected by the request. Each L1P will concurrently review and coordinate their AOR separately and report concurrence or non-concurrence to the Lead L1P. The Lead L1P is responsible for:

- (1) Leading Applicant coordination before, during, and after the application is processed;
- (2) Forwarding the application to the L2P; and
- (3) Denying the request if appropriate.

5.3.3.4 DON UAS Requests Requiring FAA ATC Coordination. The L1P is not responsible for conducting ATC coordination for any portions of a UAS flight that falls within

FAA controlled U.S. Civil Airspace. If this coordination is required, it will be conducted by FAA Processors after the application has been submitted to the FAA.

5.3.3.5 Non-DON DoD UAS Requests Requiring DON ATC Coordination. ATC coordination for non-DON DoD requests to operate a UAS within DON controlled U.S. Civil Airspace shall be conducted between the MILREP (or approved Service designee) and the UAS AAC via the appropriate LIP. ATC facility airspace access coordination, review, and determination will be conducted as described in paragraphs 4.4. Note that formal airspace access approval or denial will be issued by the Applicant's Service based on the concurrence or nonoccurrence of the DON ATC facility.

5.3.3.6 Non-DoD UAS Requests Requiring DON ATC Coordination. ATC coordination for non-DoD requests to operate a UAS within DON controlled U.S. Civil Airspace shall be conducted between the FAA and the UAS AAC via the appropriate LIP. ATC facility airspace access coordination, review, and determination will be conducted as described in paragraphs 4.4. Note that formal airspace access approval or denial for non-DoD applications will be issued by the FAA based on the concurrence or nonoccurrence of the DON ATC facility.

5.3.3.7 Resolving Conflicts Identified During ATC Coordination. All DoD UAS requests to operate within DoD controlled U.S. Civil Airspace requires coordination and written concurrence from the controlling ATC facility. The LIP will lead the coordination and an ATC airspace access review will be conducted by the AAC as described in paragraph 4.4. If initial ATC coordination determines that the request is not supportable as submitted, then the LIP will work with the ATC facility (via the UAS AAC or MILREP) and the Proponent (via the Applicant) to attempt to identify modifications that will accommodate both the Proponent's mission and the ATC facility's safety requirements. If the request is supportable or the ATC facility and the Proponent can agree to a modified request, the application will continue to be processed in accordance with the requirements for the UA characteristics and operating location. For DON UAS requests, if the ATC facility and the Proponent cannot identify a solution, then the request will be denied by the LIP. For non-DON DoD UAS requests, if the ATC facility and the Proponent cannot identify a solution, then a written notification of non-concurrence will be forwarded by the LIP to the MILREP.

5.3.4 Level One Processor Approvable Requests. Once the initial DON review is conducted and the application is determined to be complete and correct, the LIP is authorized to approve access requests for DON Group 1-2 UAS operations that are (1) compliant with the uncontrolled airspace parameters described in paragraph 2.4.3 or (2) compliant with the UASFM parameters described in paragraph 2.7.1.

5.3.4.1 Level One Approvable Uncontrolled Airspace Requests. For requests to operate DON Group 1-2 UAS within uncontrolled U.S. Civil Airspace, the LIP will confirm that the UA's ground speed does not exceed 87 knots (100 mph) and that the operation meets the parameters described in paragraph 2.4.3. The LIP shall review the flight path to verify that the requested operation does not enter controlled airspace or interfere with uncontrolled airfields, local low altitude training routes, or any Special Activity Airspace. The LIP may need to coordinate with the appropriate Regional Airspace Coordinator (RAC) to identify any unpublished local training areas. If any conflicts are identified, the LIP shall determine if

additional mitigation is required, and if so, ensure that the details of the required mitigation are documented in the DON AAA certificate. Once the review is complete and any mitigation procedures have been identified, the L1P should approve the request within the FAA/DoD Processing System, finalize and sign the DON AAA certificate, and send a copy to the L2P and Applicant. L1P approvable uncontrolled airspace requests may be approved for a single location, multiple locations, or all uncontrolled airspace in any location within U.S. Civil Airspace. Approval to operate in all uncontrolled airspace is referred to as a “Blanket Class G Approval”.

5.3.4.2 Level One Approvable UASFM Compliant Requests. For requests to operate a DON Group 1-2 UAS within DON controlled U.S. Civil Airspace, the L1P will confirm that the entire operating area or flight path of the UA remains within the lateral boundaries of the DON UASFM area, at or below the maximum altitude allowed by the applicable map segment. If the operation is requested within the parameters of a non-DON DoD UASFM, the L1P will also coordinate the request with the appropriate MILREP as described in paragraph 5.3.3.2. Once UASFM compliance, as described in paragraph 2.7.1, is confirmed and any required coordination is completed, then the L1P should approve the request within the FAA/DoD Processing System, finalize and sign the DON AAA certificate provided in Appendix E, and send copies to the L2P, Applicant, and UAS AAC or MILREP as applicable. L1P approvable UASFM requests may be approved for an individual segment, multiple segments, or all segments within a single UASFM. Approval to operate in all segments of a UASFM is referred to as a “Blanket UASFM Approval”. Note that UASFM altitude exceptions may be granted to specific units if stipulated in an LOA between the Proponent and the ATC facility. In these cases, the L1P may automatically approve DON Group 1-2 UAS operations that comply with the LOA and are contained within the lateral boundaries of the UASFM.

5.3.4.3 Deferring Level One Approval. If an L1P approvable request includes factors that introduce additional risk (e.g. close proximity to uncontrolled airfields, control station hand-offs, multiple UA/single AVO operations, etc.) the Processor may elect to review and forward the application and draft AAA to the L2P for additional review and final approval.

5.3.5 Non-Level One Processor Approvable Requests. For all DON UAS requests that cannot be approved by the L1P, once the request is reviewed and all required coordination is completed, the L1P will forward the request to the L2P via the FAA/DoD Processing System. If the request is contained within DoD controlled U.S. Civil Airspace, the L1P will also forward the updated draft DON AAA to the L2P.

5.4 Final Airspace Access Processing for DON UAS. Procedures for final DON processing of DON UAS access to U.S. Civil Airspace are summarized in Figure 5-2.

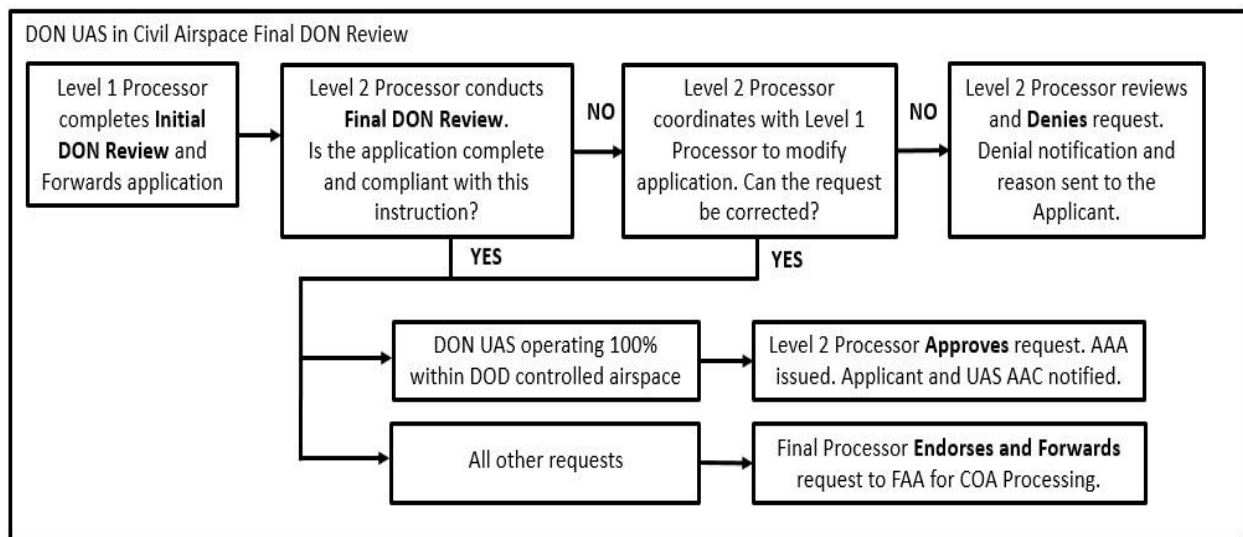


Figure 5-2: Final Access Processing of DON UAS in U.S. Civil Airspace

5.4.1 Final DON Review. The Final DON Review is conducted by the DON UAS L2P. Once the application is forwarded by the L1P, the L2P will be automatically notified via email that the application is available in their FAA/DoD Processing System queue. The L2P will then claim the application from the queue and begin the final DON review using Appendix C as a guide. During the review, the L2P will confirm that the application, required coordination, and draft authorization have been completed correctly. If issues with the request are identified, the L2P may correct the application or release the application back to the L1P or Applicant for corrections. If substantive changes are made by the L2P those changes shall be coordinated with both the Applicant and the L1P prior to approving or forwarding the request. If the application is unable to be satisfactorily corrected, then the request will be denied by the L2P. If no issues are identified or the issues identified have been resolved, the request will continue to be processed in accordance with the requirements for the operating location. Final DON Review should be completed within five days of the application being forwarded to the L2P.

5.4.2 Level Two Processor Approvable Requests. The L2P is authorized to approve access requests for either DON UAS operating completely within DoD controlled U.S. Civil Airspace or a DON Group 1-2 UAS operating completely within uncontrolled U.S. Civil Airspace. Once the final DON review is conducted and the application is determined to be complete and correct, the L2P should approve the request within the FAA/DoD Processing System, finalize and sign the DON AAA certificate, and send copies to the Applicant, UAS AAC, and MILREP as applicable via the L1P.

5.4.3 Non-Level Two Processor Approvable Requests. For all DON UAS requests that cannot be approved by the L2P, once the request is reviewed and all required coordination is completed, the L2P will forward the request to the FAA Processor via the FAA/DoD Processing System. The act of forwarding the application to the FAA shall be considered an endorsement by OPNAV N98 or HQMC Aviation, validating that the request has been properly completed in

accordance with this document and reference (a). Per reference (a), the FAA has 60 business days to process an application for a new COA.

5.5 DON AAA/COA Identifier. Each DON AAA and FAA COA Certificate will be given a unique identifier, established by the FAA/DoD Processing System. A description of the identifier for the current system is provided in Appendix C.

5.6 Processing DON UAS Modification Requests. Proponent requests to modify an active DoD AAA or FAA COA, as described in paragraph 2.8.3, will be processed by the L1P and L2P in accordance with paragraphs 5.3 and 5.4. However, Processors are only required to review and coordinate the parts of the application that are affected by the requested modification. Once the request is sent to the FAA, plan for up to 30 business days for FAA processing.

5.7 Processing DON UAS Renewal and Extension Requests. Proponent requests to renew or extend an active DoD AAA or FAA COA, as described in paragraph 2.8.4 and 2.8.5, will be processed by the L1P and L2P in accordance with paragraphs 5.3 and 5.4. During the initial review, the L1P shall ensure that all modifications to the original request have been properly authorized and that airspace procedures and regulations have not changed since the application was originally approved. Per reference (a), the FAA has 30 business days to process a COA renewal; however, renewal requests need to be submitted to the FAA 45 business days prior to the expiration of the original request. For an extension request, plan for up to 10 business days for FAA processing.

5.8 Possessing Requests for Access to Prohibited Areas. Proponent requests to operate in a Prohibited Area, as described in paragraph 2.5.5, will be processed by the L1P and L2P within the FAA/DoD Processing System in accordance paragraphs 5.3 and 5.4. However, since the FAA COA request is approved by the Operations Security Section (AJR-2) of FAA Headquarters, the formal request will be submitted by the L2P outside of the FAA/DoD Processing System. Coordination with the FAA will be initiated by the L2P sending an unclassified or classified email to AJR-2 that contains the following information: platform type/weight, operating location/altitude, requested start/end dates, and duration/frequency of the requested flight operations. Additional information will be provided to AJR-2 upon request.

Appendix A: References

- (a) Memorandum of Understanding for UAS Operations in the NAS, dtd 9 May 2019
- (b) CNAF M-3710.7
- (c) COMNAVAIRFORINST 3710.9
- (d) MCBuL 3710
- (e) CJCSI 3255.01
- (f) ALNAV 074-18
- (g) FAA JO 7400.8
- (h) DoD FLIP AP/1B
- (i) FAA/DoD J-SOP for UAS Specific SSI and Addendum
- (j) DCMA Inst 8210.1
- (k) NAVMED P-117, Manual of the Medical Department (MANMED)
- (b) OPNAVINST 2400.20 Electromagnetic Environmental Effects (E3) and Spectrum Supportability Policy and Procedures
- (l) NAVAIRINST 13034.4
- (m) NAVAIR 00-80T-114
- (n) FAA Order JO 7110.65

Appendix B: Glossary of Acronyms

AAA	-	Airspace Access Authorization
AAC	-	Airspace Access Coordinator
AAP	-	Airspace Access Program
ABSAA	-	Airborne Sense and Avoid
ACC	-	Aircraft Controlling Custodian
ADS-B	-	Automatic Dependent Surveillance-Broadcast
AGL	-	Above Ground Level
AMOC	-	Alternate Means of Compliance AOR - Area of Responsibility
ARC	-	Aircraft Reporting Custodian
ATC	-	Air Traffic Control
ATCAA	-	Air Traffic Control Assigned Airspace
AVO	-	Air Vehicle Operator
CDO	-	Command Duty Officer
CFA	-	Controlled Firing Area
CFR	-	Code of Federal Regulations
COA	-	Certificate of Waiver or Authorization
CTAF	-	Common Traffic Advisory Frequency
DAA	-	Designated Approval Authority
DC FRZ	-	Washington DC Flight Restricted Zone
DoD	-	Department of Defense
FAA	-	Federal Aviation Administration
FOIA	-	Freedom of Information Act
FSS	-	Flight Service Station
GBSAA	-	Ground Based Sense and Avoid
IFC	-	Interim Flight Clearance
IFR	-	Instrument Flight Rules
IMC	-	Instrument Meteorological Conditions
L1P	-	Level One Airspace Access Processor
L2P	-	Level Two Airspace Access Processor
LAANC	-	Low Altitude Authorization and Notification Capability
LOA	-	Letter of Agreement
MILREP	-	Military Representative to the FAA
MOA	-	Military Operating Area
MOU	-	Memorandum of Understanding MSL - Mean Sea Level
MTR	-	Military Training Route
NATOPS	-	Naval Air Training and Operating Procedures Standardization
NAVREP	-	DON Representatives to the FAA
NDA	-	National Defense Airspace NOTAM - Notice to Airmen
PBFA	-	Policy Board on Federal Aviation
POR	-	Program of Record
RAC	-	Regional Airspace Coordinator
RF	-	Radio Frequency
SAA	-	Sense and Avoid
SFRA	-	Special Flight Rules Area

SGI - Special Governmental Interest
SOP - Standard Operating Procedure
SSI - Special Security Instructions
TFR - Temporary Flight Restriction
UA - Unmanned Aircraft
UAS - Unmanned Aircraft System UASFM - UAS Facility Maps
USS - UAS Service Suppliers
VFR - Visual Flight Rules
VLOS - Visual Line of Sight
VMC - Visual Meteorological Conditions
VO - Visual Observer

Appendix C: DON UAS CAPS Application Guide

1. General. This guide provides basic instructions for completing the DoD AAA or FAA COA application within the FAA/DoD COA Application Processing System (CAPS). The information provided in the paragraphs below correspond to specific sections within CAPS. This guide is meant to assist the Applicant in filling out and the DON Processor in reviewing the CAPS application; however, it should not be used as a substitute for ensuring that the application complies with all requirements established in the [Title of final document] (referred to in this guide as the Base Instruction).

2. Administrative Information

2.1 Proponent Information. The ‘sponsor’ identified on this page should be the Proponent (i.e. the command submitting the application and responsible for the operation). The ‘Sponsor’ field should include DoD, Branch, and Unit Abbreviation (e.g. “DoD, USMC, VMU-2”). The ‘Attention Of’ field and all other information on this page should be associated with the unit’s Commanding Officer. Refer to paragraph 1.3.1 of the Base Instruction.

2.2 Declarations. All items should be marked ‘Yes’, except items D and E. Note 1: Proponents are responsible for reviewing and acknowledging each declaration. Note 2: If any items other than D and E are marked ‘No’ or if items D and E are marked ‘Yes’, the proponent should contact the NAVREP before proceeding.

2.3 Point of Contact Information. Do not select ‘Use Proponent Information’. The ‘POC’ identified on this page should be the Applicant (i.e. the individual from the requesting command who is the primary action officer for the request). Refer to paragraph 1.3.2 of the Base Instruction.

3. Operational Description

3.1 Start Date. The date format shall be YYYY-MM-DD. The anticipated start date shall be entered by the Applicant and reflect the maximum processing time for the AAA or COA request as required by the Base Instruction. This date shall be updated by the L1P and/or L2P as necessary prior to final AAA approval or COA endorsement. Refer to paragraph 2.8.2 and 2.8.6 of the Base Instruction.

3.2 End Date. The date format shall be YYYY-MM-DD. The anticipated end date shall be entered by the Applicant and shall not be more than two years after the anticipated start date. This date shall be updated by the L1P and/or L2P as necessary prior to final AAA approval or COA endorsement. Refer to paragraph 2.8.2 of the Base Instruction.

3.3 VFR/IFR Operations. If IFR operations are requested, ensure that: (1) IFR operations are authorized in the applicable NAVAIR issued Interim Flight Clearance or NATOPS Manual, (2) the UAS is equipped with an operational transponder or ADS-B Out transmitter, (3) the AVOs are IFR certified, and (4) ATC coordination is conducted via the L1P as necessary. Refer to paragraph 3.2.15 of the Base Instruction.

Day/Night Operations. Select ‘Night’ if the Proponent is requesting to operate the UAS during times defined by the Base Instruction as nighttime. If night operations are requested, ensure that:

- (1) Night operations are authorized in the applicable NAVAIR issued Interim Flight Clearance or NATOPS Manual and,
- (2) The UA is equipped with appropriate lighting.

Refer to paragraphs 2.9.6 and 3.2.16 of the Base Instruction.

Lights-Out Operations. If lights out night operations are requested, ensure that:

- (1) Lights-out night operations are not specifically prohibited in the applicable NAVAIR issued Interim Flight Clearance or NATOPS Manual,
- (2) Appropriate procedures are established to mitigate collision risk, and
- (3) Applicable FAA waivers are obtained.

Refer to paragraph 3.2.17 of the Base Instruction.

1.4 Classes of Airspace. Ensure the classes of airspace are properly identified for the entire route of flight by comparing both the flight path and altitudes of the requested operation to an FAA sectional aeronautical chart. Note 1: For Class A, B, C, D, and E airspace operations, additional mitigation may be required by the controlling ATC facility. Note 2: For Class G airspace operations, additional mitigation may be required by the LIP if the flight path could interfere with uncontrolled airfields, local low altitude training routes, or Special Activity Airspace. Refer to paragraphs 2.3 and 2.5 of the Base Instruction.

1.5 Executive Summary. The executive summary shall include the purpose of the operation, ACC/DAA name, ARC name, and the following statement: “This request has been authorized by the [Unit Name] Commanding Officer and is in compliance with the current FAA/DoD MOU and all applicable DoD and FAA regulations”. For DON Contracted Public UAS Operations, the executive summary should indicate the name of the Contracting Agency and Procurement Contracting Officer (PCO). Note: DoD regulations include applicable requirements identified in the Base Instruction and its references. Refer to paragraph 1.3.1 of the Base Instruction.

1.6 Operational Summary. The operational summary is a narrative that should include aircraft type, launch and recovery locations, maximum altitudes, maximum speed, a general description of the routing and/or operating area, maximum flight duration, and any other pertinent details about the requested operation (e.g. night operations, IFR operations, etc.).

Note 1: If the request is in support of an event that has specific dates, the Proponent should include the requested start and end dates as well as a description of the event (e.g. ‘The Requested dates for this operation are from 18 February 2020 to 22 May 2020 in order to support MTX 20-01’).

Note 2: If launch or recovery points are on private property, it shall be stated here that landowner written permission has been obtained. Additionally, the written statement from the landowner shall be uploaded to the Special Circumstances page.

4. UAS Platform

4.1 Aircraft Type/Model. The title chosen to identify the UAS should include enough information to allow the LIP to identify your exact UAS model (e.g. RQ-7Bv2 Shadow or DJI Phantom 4 Pro).

Note 1: If proponent is using a platform profile created for a previous application, due to limitations within CAPS, the platform will need to be saved under a new name. Otherwise, any updated data will not be saved. Recommend adding the Application Draft # to the platform name (e.g. RQ-7Bv2 Shadow (12345)).

Note 2: Multiple UAs can be submitted under the same application if the standard and emergency procedures are identical for all UAs listed.

Performance Characteristics. The information entered on this page should reflect the maximum performance capabilities of the UAS as provided by the manufacturer, not the maximum performance requested for the operation. This information is used to calculate potential performance during a system malfunction.

Note 1: Examples of launch methods include vertical takeoff, runway takeoff, hand launch, bungee/spring launch, catapult/rail launch, tube launch, and airborne launch.

Note 2: Examples of recovery methods include vertical landing, runway landing, arrested landing, deep stall landing, parachute recovery, net recovery, wire recovery, and airborne recovery.

Avionics/Equipment. The information entered on this page should reflect the equipment that will be fully functional and activated during flight. Ensure that system equipment is adequate for the class of airspace requested (to include operations within Mode C Veils).

Note 1: Equipment suffixes are listed in Table 2-3-10 of reference (o). Note 2: The equipment suffix for a majority of sUAS will be 'X'. Refer to paragraph 2.9.5 of the Base Instruction.

4.2 Airworthiness. Comments are not required in the note section of the airworthiness page. A NAVAIR issued statement of airworthiness or Interim Flight Clearance (IFC) shall be uploaded to the 'Public Aircraft Only' section of the airworthiness page. Refer to paragraph 2.9.2 of the Base Instruction.

4.3 Lost Link Procedures. Detailed procedures shall be uploaded to provide an accurate description of what the UA is programmed to do when it loses link with the control station. Refer to paragraph 3.3.2 of the Base Instruction.

4.4 Lost Communications Procedures. Detailed procedures shall be uploaded to provide an accurate description of what the AVO will do when communications with ATC are lost. Refer to paragraph 3.3.4 of the Base Instruction.

4.5 Emergency. Any relevant emergency procedures not covered on the lost link or lost communication pages (e.g. lost GPS, flyaway, lost VO, and lost Sense and Avoid) shall be uploaded to this page. Refer to paragraph 3.3 of the Base Instruction.

4.6 Lights. The information entered on this page shall reflect the UA lighting that will be fully functional and activated during flight. Note: Ensure that platform lighting is adequate for the hours of intended operation. Refer to paragraph 2.9.6 of the Base Instruction.

Spectrum. In the ‘NTIA/FCC Authorization’ text field, include the following statement: “[Unit name] is responsible for ensuring that all spectrum certification and frequency authorization requirements are completed in accordance with federal, DON, and local regulations prior to conducting any flight operations”. Select ‘No’ for R/C operations since in accordance with Title 47 CFR Section 95.203, federal government agencies are not authorized to operate as an R/C Station. Note: Proponents shall ensure all relevant spectrum certificates and frequency authorization documents are obtained and made available to the L1P upon request. Refer to paragraph 2.9.3 of the Base Instruction.

ATC Communications. The information entered on this page shall reflect means of communications between the AVO and ATC. If the proponent will be using a radio that is not part of the UA, but is considered a part of the UAS (e.g. a hand held radio used during every operation), it should be included on this page. One or more of the ‘Instantaneous Two-Way Voice Method’ items shall be selected as ‘Yes’.

Note 1: The term ‘Direct to Pilot’ refers to communication capability directly between ATC and the control station (i.e. not relayed through satellites or the UA).

Note 2: Each ATC facility may have additional communication requirements specific to their airspace, which will need to be identified in the DON AAA or FAA COA UAS Special Procedures. Refer to paragraphs 2.9.4 and 3.2.3 of the Base Instruction.

4.7 Electronic Surveillance. The information entered on this page shall reflect the Electronic Surveillance capabilities of the UAS that will be fully functional and activated during flight. Note: On-board systems and ATC radar can be used to enhance other approved AMOCs for the see-and-avoid requirement; however, they shall not be used as the primary AMOC unless specifically certified by NAVAIR and approved by L2P.

4.8 Aircraft Performance Recording. The information entered on this page shall reflect the recording capabilities of the UAS that will be fully functional and activated during flight.

5. Visual Surveillance. The information entered on this page shall identify the airborne and/or ground based VO plan for the entire flight path and/or operating area. Note: An explanation of the VO procedures shall be uploaded to the Special Circumstances Page. Refer to paragraphs 3.2.6 and 3.2.7 of the Base Instruction.

Flight Operations Area/Plan. Ensure the CAPS map clearly depicts the following information: launch and recovery points, entire flight path and/or operating area, lost link points, and

emergency recovery locations (diverts, ditch, parachute, etc.).

Note 1: The L1P and L2P should verify all coordinates for accuracy. Note 2: The CAPS map is the preferred tool for depicting the flight path and/or operating area; however, if an alternate map is uploaded, the accuracy and currency of that map should be confirmed by the L1P and L2P.

6. Flight Aircrew Qualifications

6.1 Training. The information entered on this page shall reflect the minimum qualifications of all AVOs and VOs involved in the requested operation. AVOs must be certified by DON and ‘DoD Certified Training’ must be selected for ‘Pilots’ on the training section of this page. Since VOs do not currently have formal DON training requirements, the Proponent’s Commanding Officer shall determine if an individual is qualified to perform the duties of VO. ‘DoD Certified Training’ must be selected for ‘Observers’ on the training section of this page. Note: Do not identify qualifications that are not required for the requested operation (e.g. if the Proponent has an AVO who is instrument rated, but the mission does not require that level of qualification, selecting yes under ‘Instrument’ will require that all future AVOs under this request be instrument rated). Refer to paragraph 2.9.1 of the Base Instruction.

6.2 Medical. All DON military and contracted civilian AVOs are required to have a Class IV physical in accordance with reference (k) therefore ‘Other’ should be selected for ‘Medical Certification Class’. Contractor AVOs conducting DON Contracted Public UAS Operations shall have a valid FAA medical in accordance with reference (j) and shall select the appropriate class associated with that medical certificate. The word “Current” should be entered in the ‘Currency Status’ field. State any crew rest requirements directed by reference (b) in the ‘Duty Time Restrictions’ field, enter “None” if not applicable (e.x. “Crew day will be limited to 12hrs, with minimum 10hrs crew rest”). Refer to paragraph 2.9.1 of the Base Instruction.

6.3 Multiple UA Controlled by a Single Operator. If a single AVO is controlling a single UA, select ‘Yes’ for ‘Single UAS Control’. If a single AVO is controlling more than one UA simultaneously, select ‘No’ for ‘Single UAS Control’ and confirm that the activity is authorized in the IFC or NATOPS Manual. Refer to paragraph 3.2.19 of the Base Instruction.

Special Circumstances. This page should be used to:

- (1) Identify any unique circumstances associated with the request,
- (2) Amplify any information in the request that could not be captured elsewhere in the application, and
- (3) Upload additional documents relevant to the operations (unique certifications, designations, approvals, agreements, procedures, etc.). If no comments are required in the ‘Special Circumstance’ text field, enter “N/A”.

7. Cancelling the AAA/COA Application. Draft applications can be cancelled (deleted from the system by the Applicant) by selecting the cancel button at the bottom of the application. If the Applicant intends to cancel the application after it has been submitted, prior coordination

with the LIP is required.

Submitting the AAA/COA Application. Once the application is complete, the Applicant can submit the request by selecting the ‘Submit’ button at the bottom of the application. Once submitted, CAPS will send an email to the LIP assigned to the FAA Service Area associated with where the Proponent is based. If the requested operation is to take place in a different FAA Service Area, the LIP that receives the application will need to redirect it to the appropriate LIP. 5.5 Note: The ‘Submit’ button is also used to resubmit an application that has been returned to the Applicant for corrections (referred to in CAPS as ‘Released’).

8. Processor Actions (L1P and L2P Only)

8.1 Identifying DoD Delegated ATC Airspace. CAPS does not currently possess the ability to import or create and save map overlay files. Therefore, a separate mapping system should be used to compare the requested UAS flight path or operating area to the DoD-FAA airspace boundaries. Map overlays should be created and maintained by the LIP based on the ATC boundaries established by local DoD-FAA LOAs. During processing, those electronic overlay files should be compared to the requested flight path to identify the airspace access jurisdiction or jurisdictions associated with the requested operation. Figure C-1 shows an example of a map overlay created outside of CAPS, which depicts DoD airspace access jurisdictional boundaries. Refer to paragraph 5.3.2 of the Base Instruction.

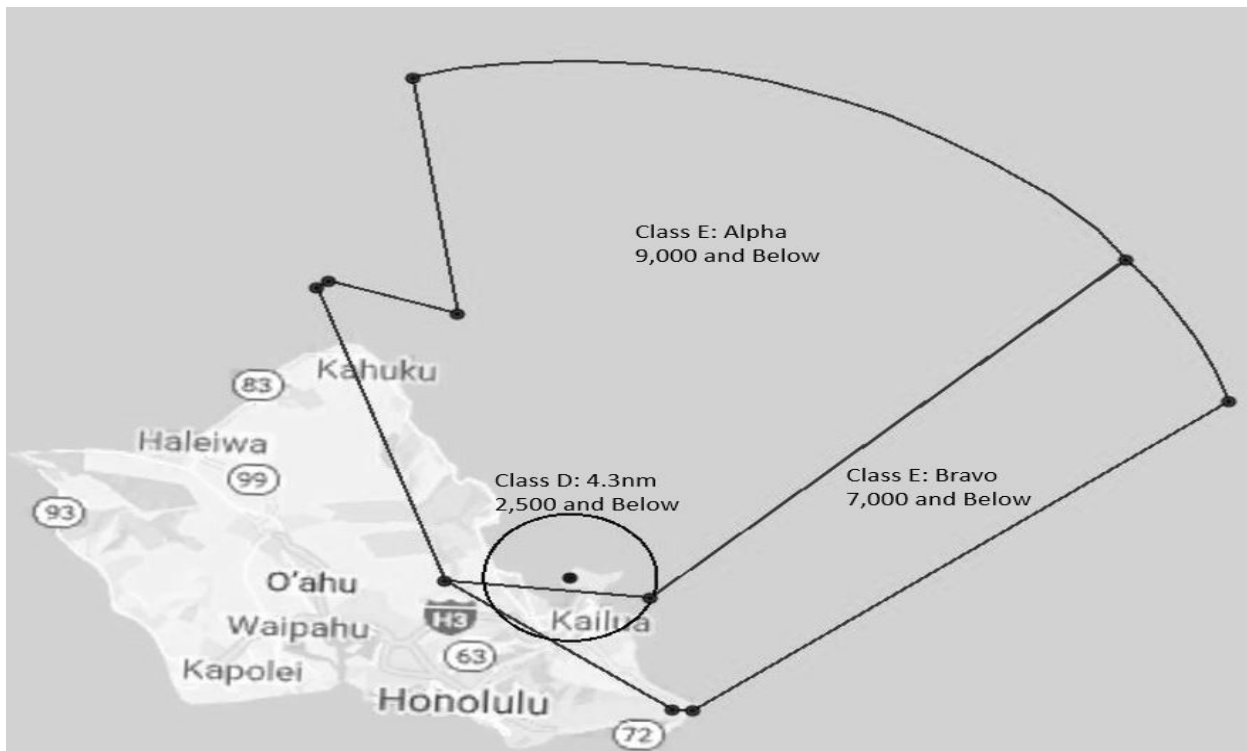


Figure C-1: Example of an Airspace Access Jurisdiction Overlay

8.2 DoD Concurrence. The L1P shall select ‘Yes’ under ‘Concurs’ for ‘DoD Reviewer’ after reviewing the application and the statement on the DoD Concurrence page. The L2P shall select ‘Yes’ under ‘Concurs’ for ‘DoD Approver’ after reviewing the application and the statement on the DoD Concurrence page. In cases where the L1P is approving the AAA request, the L1P shall select ‘Yes’ for both ‘DoD Reviewer’ and ‘DoD Approver’. Note 1: ‘Concur’ must be set to ‘Yes’ for both the ‘DoD Reviewer’ and ‘DoD Approver’ lines before the application can be approved by either the DON or the FAA. Note 2: If a request, previously submitted to the FAA is released (returned to the Applicant for corrections), CAPS will automatically set ‘Concur’ to ‘No’ and the L1P and L2P will need to review and concur with the application for a second time before the request can be approved by the FAA.

8.3 Redirecting the Application to a Different Processor. If an application needs to be redirected to a different Processor (usually used when the operation is in a different Service Area than where the Proponent is based), the L1P or L2P shall select ‘Admin’ and ‘COA Application Management’. Then on the COA management page, select the application (by Draft Number) and choose the new Processor from the dropdown.

Note: When an application is moved between two Processors, the system will not send an email to the receiving Processor; therefore, manual coordination outside of CAPS will be required.

8.4 AAA/COA Identifier Description. The AAA/COA identifier generated in CAPS will include the four digit calendar year, the FAA Service Area (ESA, CSA, or WSA), a sequential number in order of AAAs or COAs approved during the calendar year, the Service (USN or USMC), and the Approval Authority (DoD or FAA). Each section of the AAA/COA identifier will be separated by a hyphen. For example, the first DON AAA Certificate approved for a USMC operation conducted on the east coast in 2021 would have the identifier 2021-ESA-0001-USMC-DoD. Note: All initial AAA/COA identifiers end with an approval authority label of DoD. If the request is approved by a DON Processor, then it will keep the original approval authority label as part of the final AAA identifier. If the request is forwarded to the FAA for approval, then the approval authority label will automatically change to FAA, which will remain on the final COA identifier.

8.5 Manually Modifying the AAA/COA Identifier. The AAA/COA identifier is automatically generated by CAPS when the Applicant submits the application. This identifier includes a tag intended to identify the location from which the flight operation will originate. However, this location tag is generated from the Proponent’s base location. If the application is submitted by a Proponent that is based in a different FAA Service Area than the where the flight originates, then CAPS will generate an incorrect location tag. To correct the location tag, the L1P or L2P shall select ‘Admin’ and ‘Reassign COA ID’. Then on the COA ID reassignment page, select the application (by Draft Number, COA identifier, or Processor Name) and choose the correct location tag from the dropdown.

8.6 Releasing the AAA/COA Application. If an application needs to be released (returned to the Applicant for corrections), the L1P or L2P shall select the ‘Release’ button at the bottom of the application.

8.7 Terminating the AAA/COA Application. Draft applications can be terminated (deleted from the system by the Processor) by selecting 'Admin' and 'COA Application Management'. Then on the COA management page, select the application (by Draft Number) and choose 'Terminate'.

8.8 Forwarding and Returning the Application. The application can be sent between the L1P and the L2P through the 'Forward to DoD Approver' and 'Return to DoD Reviewer' buttons at the bottom of the application. When an application is moved between the L1P and the L2P, the system will send an email to the receiving Processor.

8.9 Approving an AAA Application. Both the L1P and the L2P have the ability approve an application within CAPS. It is the responsibility of the Processor to know under what conditions they are authorized to approve a request. This includes confirming the jurisdiction of airspace affected by the entire flightpath of the requested operation. To approve a request, the L1P or the L2P shall upload a copy of the signed DoD AAA Certificate to the 7711 page and select the 'Approve Case' button at the bottom of the application. Refer to section (5) of the Base Instruction.

8.10 Submitting a COA Application to the FAA. Both the L1P and the L2P have the ability to forward an application to the FAA within CAPS. During standard COA processing, this action is only performed by the L2P; however, there could be unique case that the action is performed by the L1P after coordination with the L2P. To forward a request to the FAA, the L1P or the L2P shall select the 'Submit to FAA' button at the bottom of the application. Refer to section (5) of the Base Instruction.

Appendix D: Designation Letter Templates

- D-2 Airspace Access Applicant Designation Letter Template
- D-3 Airspace Access Coordinator Designation Letter Template
- D-4 Airspace Access Processor Designation Letter Template



DEPARTMENT OF THE NAVY
(ORGANIZATION NAME) (BUILDING NAME)
(STREET ADDRESS) BLDG (#)
(CITY) (STATE) (ZIP)

3700
Ser xxx/xxxxxx
[Date Signed]

From: Commanding Officer, [Unit Name]

To: [Rank First Name Middle Initial Last Name]

Subj: DON UNMANNED AIRCRAFT SYSTEM (UAS) AIRSPACE ACCESS APPLICANT
DESIGNATION

Ref: (a) [Title of final document]

1. In accordance with reference (a), you are hereby designated as UAS Airspace Access Applicant for [Unit Name].
2. You shall understand and comply with all policies and procedures set forth in the reference that pertain to the role and responsibilities of a UAS Airspace Access Applicant.
3. This designation is effective immediately and will remain in effect until your departure from this unit or until otherwise directed.

[NAME OF CO]

Copy to: [N98/HQMC AVN]



DEPARTMENT OF THE NAVY
(ORGANIZATION NAME) (BUILDING NAME)
(STREET ADDRESS) BLDG (#)
(CITY) (STATE) (ZIP)

3700
Ser xxx/xxxxxx
[Date Signed]

From: Air Traffic Facility Officer, [ATC Facility ame]
To: [Rank, First Name Middle Initial Last Name]

Subj: UNMANNED AIRCRAFT SYSTEM (UAS) AIRSPACE ACCESS
COORDINATOR DESIGNATION

Ref: (a) [Title of final document]

1. In accordance with reference (a), you are hereby designated as [Primary/Secondary] UAS Airspace Access Coordinator for [ATC Facility Name].
2. You shall understand and comply with all policies and procedures set forth in the reference that pertain to the role and responsibilities of a UAS Airspace Access Coordinator.
3. This designation is effective immediately and will remain in effect until your departure from this unit or until otherwise directed.

[NAME OF ATCFO]

Copy to:
[N98/HQMC
AVN]



DEPARTMENT OF THE NAVY
(ORGANIZATION NAME) (BUILDING NAME)
(STREET ADDRESS) BLDG (#)
(CITY) (STATE) (ZIP)

3700
Ser xxx/xxxxxx
[Date Signed]

From: [Headquarters Marine Corps Aviation, Expeditionary Enablers, APX-1 / Director,
Naval Airspace and Air Traffic Control Standards and Evaluation Agency (N980A)]

To: [Rank First Name Middle Initial Last Name]

Subj: [US NAVY / US MARINE CORPS] LEVEL [ONE / TWO] UNMANNED AIRCRAFT
SYSTEM (UAS) AIRSPACE ACCESS PROCESSOR DESIGNATION

Ref: (a) [Title of final document]

1. In accordance with reference (a), you are hereby designated as [US Navy / US Marine Corps] Level [One / Two] UAS Airspace Access Processor [for FAA Eastern / Central / Western Service Area (*for LIP only*)].
2. You shall understand and comply with all policies and procedures set forth in the reference that pertain to the role and responsibilities of a UAS Airspace Access Processor.
3. This designation is effective immediately and will remain in effect until your position as UAS Airspace Access Processor has been properly relieved or until otherwise directed.

[NAME OF APPROVER]

Copy to:
[N98/HQMC
AVN]

Appendix E: DON Airspace Access Authorization (AAA) Template



DEPARTMENT OF THE NAVY
(ORGANIZATION NAME) (BUILDING NAME)
(STREET ADDRESS) BLDG (#)
(CITY) (STATE) (ZIP)

3700
Ser xxx/xxxxxx
[Date Signed]

From: [Headquarters Marine Corps Aviation, Expeditionary Enablers, APX-1 / Director, Naval Airspace and Air Traffic Control Standards and Evaluation Agency (N980A)]

To: Commanding Officer, [Unit Name]

Subj: UNMANNED AIRCRAFT SYSTEM (UAS) AIRSPACE ACCESS AUTHORIZATION, [AAA Identifier]

Ref: (a) DoD and FAA MOU for UAS Operations in the NAS, dtd XX
(b) [Title of final document]
(c) [AAA Identifier] COA Application Processing System (CAPS) Application
(d) [ATC Facility]-[Proponent] Letter of Agreement [Not Required]

Encl: (1) [AAA Identifier] Operational Area Map
(2) [AAA Identifier] Special Provisions [Not Required]
(3) FAA Waiver [Waiver Identifier] [Not Required]

1. In accordance with reference (a) and (b), [AAA Identifier] is approved for [Unit Name] to operate the [UAS Type, Model, and Series of all authorized UAS] within the [Controlling Agency, if applicable] [Airspace Class] airspace from [Start Date] to [End Date] as requested in reference (c).

2. Under this AAA, the proponent is authorized to operate in the following location: [description of location using altitudes, waypoints, distances from points, UASFM segments, blanket UASFM approval, blanket Class G approval, and/or reference to the enclosed Operational Area Map]. This AAA does not give permission to enter Special Activity Airspace or National Defense Airspace; before UAS operations are conducted in these areas, Proponents must receive authorization as described in in reference (b).

3. This AAA authorizes the following alternate means of complying with 14 CFR Part 91.113b: [description of authorized AMOC and associated limitation].

4. While operating under this AAA, the proponent shall comply with all UAS Special Provisions established in Enclosure (2). [Remove if not applicable]

5. In addition to the standard DON UAS procedures authorized in reference (b), while

operating under this AAA, the proponent is authorized to conduct the following activities: [IFR operations, night operations, lights-out night operations, control station to control station handoffs, multiple UA/single AVO operations, autonomous UAS operations, transit using Victor Airways, Jet Routes, Q and T Routes, IR Routes, or VR Routes, or describe any additional non-standard provisions allowed under this authorization to include any FAA waivers as identified in Enclosure (3)].

6. This AAA was [reviewed / reviewed and approved] by [Rank, Name], [Eastern/Central/Western Service Area] NAVREP, on [Date] and approved by [Rank, Name], [US Navy / US Marine Corps FAA HQ Liaison], on [Date].

7. The [Aircraft Controlling Custodian / Designated Approval Authority] for operations conducted under this AAA is [DAA/ACC Rank, Name] and the Aircraft Reporting Custodian is [ARC Rank, Name].

8. The [Unit Name] Commanding Officer maintains overall responsibility for ensuring all operations conducted under this authorization are executed safely and in compliance with this authorization, the policies and procedures established in reference (b), and the information submitted in reference (c). Any change to the information provided or the operation requested in reference (c) will void this authorization unless otherwise authorized in writing by [N980A / APX-1].

9. All operations conducted under this authorization will be executed in accordance with Title 14 CFR Part 91 unless otherwise authorized by references (a) and (b). If the proponent cannot adhere to these requirements, contact the NAVREP listed below prior to conducting any UAS operations under this AAA.

10. This authorization may be canceled at any time by [N980A / APX-1] or by the FAA via the DON Approver for failure to operate in a safe manner or failure to comply with this authorization or any applicable requirements established by the FAA, DoD, or DON.

11. Direct any questions regarding this authorization to [Rank, Name], [Eastern/Central/ Western Service Area] NAVREP, at [Individual or Organizational Email Address] or [Phone Number].

[NAME OF APPROVER]

By direction

Copy to:

[N98/HQMC AVN]