



DEPARTMENT OF THE NAVY
COMMANDER NAVAL AIR FORCES
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COMNAVAIRFORINST 3710.9
N45
20 Nov 17

COMNAVAIRFORINST 3710.9

From: Commander, Naval Air Forces

Subj: GUIDANCE FOR THE OPERATION OF DEPARTMENT OF NAVY GROUP 1 AND
2 UNMANNED AIRCRAFT SYSTEMS

Ref: (a) SECNAV WASHINGTON DC 271307Z Jul 16 (ALNAV 052/16)
(b) CNAF M-3710.7
(c) OPNAVINST 4790.2
(d) OPNAVINST 3750.6
(e) CJCSI 3255.01
(f) 14 CFR Part 91
(g) DOD/FAA memo of 16 September 2013
(h) DODI 4540.01, Use of International Airspace by U.S. Military Aircraft and for
Missile and Projectile Firings of 2 June 2015
(i) JP 3-52 of 13 November 2014
(j) OPNAVINST 3500.39
(k) NAVMED P-117
(l) DCMA INST 8210.1
(m) NAVAIRINST 13034.1
(n) OPNAVINST 2400.20
(o) NAVSEAINST 9310.1C
(p) DEPSECDEF memo 15-002 of 17 February 2015

1. Purpose. In response to reference (a), this instruction provides Department of Navy (DoN) guidance on program of record (POR) and non-program of record (Non-POR) group 1 and 2 unmanned aircraft systems (UAS) operations, including command oversight responsibilities and minimum operator qualifications.

2. Applicability. This instruction applies to all group 1 and 2 UAS operations conducted by U.S. Navy and U.S. Marine Corps activities and those operating the UAS to include military, civilian and contractor personnel. The U.S. Marine Corps will publish detailed complementary guidance and policy to meet the intent of this instruction.

3. UAS Command Responsibilities. There are two essential command authorities assuming responsibility for UAS operations: the aircraft controlling custodian (ACC) or designated approval authority (DAA) and the aircraft reporting custodian (ARC).

a. Flag-level command oversight authorities and responsibilities

(1) ACC/DAA responsibilities. Within the Naval Aviation Enterprise (NAE), the management and operation of aircraft, including group 1 and 2 UAS, is the responsibility of an ACC. An ACC is responsible for exercising administrative control of assignment, employment and logistic support of group 1 and 2 UAS under their cognizance. A DAA is the flag officer, or SES equivalent, who assumes ACC authorities and responsibilities when an ACC is not designated. The ACC or DAA is responsible for designating in writing UAS ARCs under their cognizance. ACC responsibilities can be found in references (b) through (d). The ACC or DAA must ensure the designated ARC maintains the requisite personnel, training, equipment and infrastructure to support safe flight operations in compliance with DoN policies and instructions. Compliance must be ensured through DAA-conducted periodic evaluations of approved UAS programs.

(2) Establishment of ACC or DAA for UAS programs. Each command establishing a new group 1 or 2 UAS operation must provide written notification to COMNAVAIRFOR (N45) and NAVAIR AIRWorks documenting the establishment of the ACC or DAA. This notification should include ACC or DAA contact information and a list of designated ARC(s) under the cognizance of the ACC or DAA.

(3) ACC or DAA inventory responsibilities. The ACC or DAA must maintain an inventory of all group 1 and 2 UAS in subordinate commands and units. Inventories must, at a minimum, include UAS configuration and status, and the ARC responsible for UAS operations. UAS inventory may be tracked in the aircraft inventory readiness reporting system (AIRRS), combat observation and lasing team, global combat support systems - marine corps (GCCS-MC), the small unmanned aircraft systems manager (SUASMAN) system or other method deemed appropriate by the ACC or DAA.

(4) UAS crewmember designation authority. The ACC or DAA is responsible for delegating UAS crewmember designation authority to the ARC or higher echelon commander. This delegation may be included in the documentation establishing the ARC.

(5) Carrier strike group commanders will be designated DAAs for any group 1 and 2 UAS operated from aircraft carriers.

b. Unit/command-level aircraft reporting custodian authorities and responsibilities

(1) ARC. The ARC is the lowest echelon of command accepting responsibility for group 1 and 2 UAS operations, as designated by the Chief of Naval Operations (CNO), ACC or DAA. ARC responsibilities can be found in references (b) through (d). An ARC is typically an O-5 level commanding officer, but may be a military officer or government civilian leading an organizational component as deemed appropriate by the ACC or DAA. The ARC is responsible for the safe operation of assigned UAS.

(2) UAS crewmember designations. ARCs are authorized to approve UAS crew qualifications and certifications after ensuring each UAS crewmember has completed the requisite training for the applicable crewmember classification. UAS crewmember classifications are provided in reference (b), chapter 14, subparagraph 14.12. ARCs must issue a written designation letter to each qualified individual upon their designation. Copies of each designation letter must be retained in the individual crewmember's training jacket.

c. Intermediate commands - authorities and responsibilities. Commands in the administrative chain of command between the ACC or DAA and the ARC should have an appropriate working knowledge of UAS operations commensurate with their level of responsibility, to include general oversight, funding, manning, training, operations, safety, standardization, maintenance and any other topic areas that may apply. These commands are considered part of the safety and endorsement chain of command in the event of a mishap that meets mishap reporting thresholds as identified in reference (d).

4. Minimum group 1 and 2 UAS crew training and qualification requirements. The ARC is responsible for establishing UAS crew training and qualification requirements. The following minimum air vehicle operator (AVO) qualifications must be met prior to group 1 and 2 UAS operations inside of national class D, E or G airspace; U.S. special use airspace (e.g., military operating areas, prohibited areas, restricted areas, warning areas, etc.); joint operating areas; combat or contingency airspace; or international airspace. Additional AVO qualifications are required to conduct operations inside national class A, B or C airspace and under instrument flight rules (IFR). See reference (b) for additional information.

a. Basic UAS qualification (BUQ) training. Minimum BUQ level I and BUQ level II training. BUQ I and BUQ II training may be found online at the Joint Knowledge Online (JKO) website via <http://jko.jten.mil/>. Search "basic unmanned aircraft systems qualification" after logging into the website to access the appropriate level of BUQ training. See references (b) and (e) for additional information on BUQ qualifications.

b. Airspace operations. UAS crew must be trained in procedures applicable to the airspace in which they will operate.

(1) U.S. national class D, E and G airspace. Applicable procedures in references (b) and (f). Requirements for an FAA certificate of authorization, where required, are provided in reference (g).

(2) Restricted area, warning area and prohibited area operations. Applicable scheduling and operating procedures as provided by using or scheduling agency.

(3) Foreign national class D, E and G airspace. Applicable procedures in reference (b) and foreign national operating and flight rules, including host-nation agreements.

(4) International airspace. Applicable procedures contained in reference (h).

(5) Joint operating area, combat and contingency airspace. Applicable procedures contained in reference (i), joint force commander's air tasking order and special instructions.

c. Organization-specific training. Commands may promulgate additional training depending on expected employment, but should in all cases include UAS-specific, crewmember skills and mission training.

d. Safety reporting and operational risk management (ORM) training. AVO training must include safety management and reporting and ORM requirements stipulated in references (d) and (j).

e. Operating area familiarization. Regardless of the intended airspace environment, AVOs must receive operating area familiarization training prior to flight operations. This training should be coordinated with the appropriate operating area authority or using agency.

5. UAS crewmember medical qualifications. References (b) and (k) provide UAS crew medical qualification requirements. Contractor UAS crew must meet the requirements of reference (l). For the most up to date UAS medical guidance, visit the following link and click on "physical exams & standards":

<http://www.med.navy.mil/sites/nmotc/nami/arwg/Pages/AeromedicalReferenceandWaiverGuide.aspx>. When opened, scroll down to, "unmanned aircraft systems (UAS) operator standards."

6. Additional topics commands must consider and address in planning and execution of UAS operations.

a. Airworthiness certification. Per reference (m), all DoN owned, leased or operated aircraft must have a flight clearance issued by Commander, Naval Air Systems Command (COMNAVAIRSYSCOM). ARCs are responsible for obtaining COMNAVAIRSYSCOM flight clearances to support group 1 and 2 UAS operations under their cognizance. A flight clearance issued by COMNAVAIRSYSCOM, addressed to the ACC or ARC, for each specific group 1 and 2 UAS model is required prior to conducting flight operations. Contact COMNAVAIRSYSCOM for a listing of currently approved group 1 and 2 UAS, or to be added to existing UAS flight clearances.

b. Cyber security and cyber vulnerabilities. UAS may introduce unique cyber security and cyber vulnerabilities. In particular, many commercial off the shelf (COTS) UAS may inadvertently transfer sensitive operational information. Control and video links may be susceptible to exploitation. Generally, COTS Non-POR UAS data shall not be directly connected to government/Navy IT systems. Contact NAVAIR AIR 4.0P for information.

c. Spectrum approval. ARCs are responsible for ensuring radio frequency (RF) spectrum approval prior to operations for all spectrum-dependent equipment, including command and control and payload data links, IFF transponders and any other RF devices that are part of the UAS per Navy policy contained in reference (n).

- d. Lithium battery safety certification. UAS utilizing lithium chemistry batteries require safety approval in accordance with reference (o). Contact NAVAIR AIRWorks for information.
- e. Naval aviation safety policies. ARCs are responsible for establishing a safety program and complying with applicable safety policies, provisions and mishap reporting requirements provided in reference (d).
- f. Airspace access. Appropriate authorization and approval are mandatory to access the airspace planned for UAS operations. Refer to references (g), (h) and (i).
- g. Domestic use of UAS. All domestic UAS operations must comply with reference (p) and subsequent revisions. Unless permitted by law and approved by the Secretary of Defense, DoD personnel using UAS in the United States may not conduct surveillance on U.S. persons, regardless of whether or not the DoD UAS use is related to an intelligence activity.

7. Points of contact

- a. For assistance obtaining flight clearances for DoN UAS, ACC and ARC responsibilities, operator training and qualification and lithium battery certification: Mr. Al Stumm, NAVAIR AIRWorks class desk, (301) 342-8578, albert.stumm@navy.mil.
- b. For general information regarding UAS airworthiness policy and DoN UAS flight clearances: Mr. Rich Adams, NAVAIR AIR 4.0P, (301) 342-8297, richard.adams@navy.mil.
- c. For UAS crew medical requirements: CAPT Clifford Blumenberg, Aerospace Medicine Program Manager, (703) 681-9260, clifford.a.blumenberg.mil@mail.mil.
- d. For information regarding UAS airspace access requirements (including U.S. national airspace, international airspace and foreign national airspace): Mr. Ray Lewis, OPNAV N98, (703) 614-2641, ray.lewis@navy.mil.
- e. For information regarding safety reporting requirements: Mr. Kimball Thompson, Deputy Director Aviation Safety Programs, Naval Safety Center, (757) 444-3520 x7226, edward.thompson@navy.mil.
- f. For information regarding aircraft inventory reporting: Mr. Greg Rucci, NAVAIR Aircraft Controlling Custodian Officer, (301) 757-8617, gregory.rucci@navy.mil.
- g. For information regarding reference (b) general NATOPS: CDR Scott Lowe, COMNAVAIRPAC N455, (619) 545-2845, scott.lowe@navy.mil.
- h. For information regarding program of record UAS: Mr. Patrick Buckley, DPEO (UW) for UAS programs, (301) 757-6308, patrick.buckley@navy.mil.

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i. For information regarding rapid development of UAS capabilities including access to test facilities and ranges: CNASC - NAWCWD AIRWorks project management office, Mr. Jerry Swift, (301) 342-0146, gerald.swift@navy.mil; NAWCWD AIRWorks project management office, Mr. Kenneth Morton, (760) 939-8382, kenneth.l.morton@navy.mil.

8. Records Management. Records created as a result of this instruction, regardless of media or format, must be managed per Secretary of the Navy Manual 5210.1 of January 2012.

9. Review and Effective Date. Per OPNAVINST 5215.17A, Commander, Naval Air Forces (CNAF) will review this instruction annually on the anniversary of its effective date to ensure applicability, currency and consistency with Federal, DoD, SECNAV and Navy policy and statutory authority using OPNAV 5215/40 Review of Instruction. This instruction will automatically expire 5 years after effective date unless reissued or canceled prior to 5-year anniversary date, or an extension has been granted.



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Releasability and distribution:

The instruction is cleared for public release and is available electronically via:

COMNAVAIRPAC HIP: <https://cpf.navy.deps.mil/sites/cnap/n004/Pages/directives>