



**NOAA UNCREWED AIRCRAFT SYSTEMS (UAS)  
OPERATIONS POLICY**

This policy will be reviewed 5 years after the effective date and categorized under 1107 in the OMAO Document Management System. The Uncrewed Aircraft Systems Division is responsible for updating and maintaining this policy.

Authorized By: \_\_\_\_\_ Effective Date: 5/8/2024

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## 1. PURPOSE

- 1.1 This policy provides guidance specific to the operation and management of Uncrewed Aircraft Systems (UAS) in the National Oceanic and Atmospheric Administration (NOAA).
- 1.2 This policy further prescribes procedures for obtaining flight approval for NOAA UAS operations.
- 1.3 A copy of this policy must be available for reference during all UAS operations.

## 2. SCOPE

- 2.1 This policy applies to all UAS operations where NOAA has responsibility for safety of flight.
  - (A) The following is a non-inclusive list of UAS operations to which this policy applies:
    - (1) UAS owned by NOAA.
    - (2) NOAA personnel are utilized as Pilot in Command (PIC) or Mission Commander (MC).
    - (3) NOAA personnel are directing daily operations.
    - (4) Operations in which NOAA owned or leased property or facilities are utilized.
    - (5) NOAA UAS missions utilizing a FAA Certificate of Authorization (COA) or Waiver to obtain access to the U.S. National Airspace System (NAS).
    - (6) NOAA sponsored UAS missions that operate under the authority of “due regard” or “state aircraft” to obtain access to international airspace.
    - (7) UAS operations aboard a NOAA vessel.
    - (8) UAS deployed from NOAA aircraft.
    - (9) UAS operations that are flown in coordination with NOAA crewed aircraft.
  - (B) UAS operations that this policy may not apply to:
    - (1) Demonstration flights where NOAA personnel are designated as observers only.
    - (2) UAS operations conducted by another governmental organization with an established UAS management program and taking responsibility for the operation.
    - (3) UAS operations owned and operated by external contractors or operated under a contract for UAS services, where NOAA does not have any operational responsibility.
    - (4) UAS operations owned and operated by external contractors as part of a NOAA contract for data.
    - (5) NOAA grants to external cooperative organizations where NOAA does not have any operational involvement.

### 3. AUTHORITIES

- 3.1 Current Federal Aviation Administration (FAA) policy identifies UAS as aircraft flown by a pilot regardless of where the pilot is located.
- 3.2 This policy does not supersede any of the regulations in the Federal Aviation Regulations (FAR), 14 Code of Federal Regulations (CFR) Chapter 1, Federal Management Regulation (FMR) Chapter 102, Part 33.
- 3.3 Responsibility
  - (A) The overall responsibility for UAS management within NOAA rests with the Office of Marine and Aviation Operations (OMAO) Uncrewed Systems Operations Center (UxSOC).
  - (B) All NOAA UAS operations are approved by the Director, UxSOC or delegated to the Chief, UAS Division (UASD).
  - (C) The UASD has the responsibility to:
    - (1) Ensure that UAS operations do not pose unacceptable risks to persons and property.
    - (2) Ensure that UAS operations meet applicable statutory and regulatory requirements.
    - (3) Create a standardized process to review and approve UAS operations.

### 4. POLICY

- 4.1 4.1 Ownership of UAS
  - (A) Corporate UAS (Capitalized Assets)
    - (1) UAS that exceed the capital asset threshold of \$200,000 original acquisition cost are considered corporate aircraft and subject to additional federal regulation and reporting.
    - (2) In most cases, corporate UAS will be managed and/or operated by the UxSOC and/or UASD.
  - (B) Field UAS (Non-Capitalized Assets)
    - (1) NOAA Line Offices may own and operate field UAS. Field UAS do not exceed the capital asset threshold of \$200,000 acquisition cost and do not require highly specialized training.
    - (2) All UAS operations will be approved by the UxSOC and/or UASD.
- 4.2 Airspace Accessibility
  - (A) UAS flights in the National Airspace System (NAS)
    - (1) Compliance with FAA regulations is required.
    - (2) The UASD is responsible for coordinating and developing FAA COA's, 14 CFR Part 107 Airspace Authorizations, and 14 CFR Part 107 Waiver applications.
    - (3) NOAA UAS flights in the NAS can be authorized as follows.

- (a) NOAA UAS operations may be conducted in accordance with 14 CFR Part 107.
  - (b) An approved FAA COA or Waiver.
- (B) UAS flights in Special Use Airspace (SUA)
- (1) The UASD is responsible for coordinating UAS flights in SUA.
  - (2) UAS operations in SUA require permission and scheduling from the appropriate controlling agency (such as USAF, US Navy, or NASA) and may require significant lead time.
- (C) UAS flights outside the NAS
- (1) The UASD is responsible for coordinating UAS flights outside the NAS.
  - (2) UAS flights in Oceanic Flight Information Regions (FIRs) where the FAA is the air traffic service provider requires direct coordination with the UASD.
  - (3) For UAS flights in areas where the air traffic service provider is a foreign government; coordination and approval with that government is required prior to flight. Additional diplomatic clearances may also be required.
  - (4) For UAS flights in uncontrolled airspace (i.e., Class G below the FIR), and entirely conducted above international waters (beyond 12 nm from shore), refer to UAS Operations in Uncontrolled (Class G) International Airspace (Appendix A).

## 5. CREWMEMBER DESIGNATIONS

### 5.1 Mission Commander (MC)

- (A) Role
- (1) Required for all NOAA UAS operations.
  - (2) Designated for each UAS operation.
  - (3) Maintains general oversight of operations and is considered the federal authority responsible for safe, efficient mission execution.
  - (4) Focal point for coordination, incident reporting, HAZREP investigations, and routine operational reporting.
  - (5) Works in conjunction with the UASD to ensure all crew members are properly trained and current in their respective platforms.
  - (6) Closely coordinates with the UASD to ensure operations conform to FAA requirements and NOAA policies.
  - (7) Responsible for ensuring required supporting documentation is provided to UASD for any FAA coordination.
- (B) Qualifications
- (1) Recommended by Line Office.

- (2) Federal employee.
  - (3) Non-NOAA, Federal employees must be recommended by their supervisor to receive a UASD MC Designation Letter. (e.g., Army Corp of Engineers)
  - (4) MC Designation Letter signed by the Chief, UASD.
- (C) Training
- (1) MC-specific training course provided by the UASD.
- (D) Currency
- (1) MC will attend or review the UASD provided policy and regulation update annually.

## 5.2 Pilot in Command (PIC)

### (A) Role

- (1) Required for all NOAA UAS operations.
- (2) Directly responsible for and is the final authority for UAS operation and safety during flight.

### (B) Qualifications

- (1) Maintain an FAA Part 107 Remote Pilot Certificate for UAS operations in the NAS not utilizing a COA.
- (2) PIC Designation Letter specific to the platform being operated.
  - (a) UASD will only designate NOAA Federal employees as PICs.
  - (b) Affiliates and contractors must be designated as PICs in writing by their agency, contracting vendor, or specific UAS manufacturer, and are required to meet the same criteria set forth for NOAA federal employee PICs.
    - (i) The UASD must receive a copy of the PIC Designation Letter before flight operations commence.
    - (ii) PIC designation may be limited in scope to the requirements of the UAS, particular project, and/or operating environment.
    - (iii) PIC Designation Letters are maintained on file with the UASD.
- (3) Depending on the size or complexity of the UAS, airspace, and/or operation, additional requirements may be specified in the COA, Operational Risk Management Document (ORM), or Non-Standard Operations Flight Authorization Memo (FAM).

### (C) Training

- (1) Original Equipment Manufacturer (OEM) or UASD approved equivalent training specific to the UAS platform.
- (2) Training in all specific details of the UAS being operated including normal, abnormal, and emergency procedures.

- (a) During training events, the PIC must be qualified on the platform being flown.
  - (b) All training must be documented with a validated training completion certificate.
  - (c) The UASD must receive and validate the training curriculum before operations approval.
  - (d) Certificates will be retained by the UASD.
- (3) UASD provided policy and procedures training.
- (D) Currency
- (1) Three (3) takeoffs and landings within the previous ninety (90) days utilizing the specific UAS to which the PIC is qualified.
    - (a) Currency may be regained using an appropriate simulator, if available. Currency may also be regained under the direct supervision of a qualified, current PIC operating the specified UAS.
    - (b) If the above means are unavailable, currency may be regained with dedicated training flights on the specified UAS before conducting any operational flights.
  - (2) Depending on UAS complexity, the UASD will determine specific currency requirements in the training syllabus or Standard Operating Procedures (SOP). Where differences exist, the UAS-specific syllabus will take precedence.

### 5.3 Visual Observer (VO)

- (A) Role
- (1) May be required for operations per FAA policy, operational risk, and NOAA requirements. The requirement for a dedicated VO will be determined by the UASD.
  - (2) Designated by the PIC to supplement situational awareness and maintain Visual Line of Sight (VLOS) with the UAS.
  - (3) Assist with observing and avoiding other air traffic and objects aloft or on the ground.
- (B) Qualifications
- (1) Ability to provide aircraft and airspace awareness.
  - (2) Ability to effectively communicate with the PIC.
- (C) Training
- (1) PIC brief prior to operations to ensure competency.
  - (2) UASD-approved training course for BVLOS operations.
- (D) Currency
- (1) For BVLOS operations, VOs must complete an annual refresher course as designated by the UASD.



## 5.4 Field Trainer

### (A) Role

- (1) Train and evaluate on supported or unsupported platforms.
  - (a) Trains within NOAA Line Office or across other NOAA Line Offices
  - (b) Cross Line Office training requires participating line office's written approval
  - (c) Utilizes existing UASD curriculum for supported UAS or develops unsupported UAS curriculum
  - (d) Conducts site selection, registration, classroom training, practical evaluations, feedback requests and certificate distribution
  - (e) Initiates PIC designation letter process with UASD
  - (f) Submits a training request for student flight training to [uas.sst@noaa.gov](mailto:uas.sst@noaa.gov) prior to course.

### (B) Qualifications

- (1) Recommended by Line Office EOB Representative or delegate
- (2) Federal Employee
- (3) Current MC Designation Letter
- (4) Current Remote Pilot Certification from the FAA (Part 107)
- (5) One (1) year small UAS experience.
- (6) OEM or UASD approved equivalent training certification for platforms to be trained
- (7) Field Trainer Designation Letter signed by the Director, UxSOC for each qualification on a supported or unsupported platform.
- (8) NOAA required training under 5.4.(C).

### (C) Training

- (1) Complete UASD Module 6 Field Trainer Course on-site at the Aircraft Operations Center (AOC) in Lakeland, Florida or at an approved off-site location with access to a classroom and flight training area limited to three (3) field trainer students.
  - (a) If the Field Trainer is designated on multiple platforms that are similar and task items for each platform are similar, training may be combined and accomplished concurrently during a single evaluation.
  - (b) Additional platform designations may require an oral review and/or a flight(s) that demonstrates the Field Trainers' ability to instruct and perform the additional UAS training.

### (D) Currency

- (1) Current and proficient on the trained platform(s).

- (2) Instruct at least one course per year
- (3) Annual review from the most recent field trainer certification date by UASD. Annual review may include any of the following:
  - (a) Feedback forms review
  - (b) Previous student interview
  - (c) Course material review
  - (d) On-site evaluation (location determined real time)
  - (e) Virtual evaluation
  - (f) Currency may be regained by conducting a training session virtually with a UASD trainer.

## 6. USAD OPERATIONAL STAFF ROLES

### 6.1 Inspector

#### (A) Role

- (1) Leads or conducts inspections of diverse types of UAS and ancillary equipment to ensure maintenance and safety compliance with NOAA policies, FARs, and all other applicable rules, regulations, and policies.
- (2) Reviews qualification and training programs for NOAA UAS personnel and recommends training where needed to ensure safe and efficient NOAA UAS operations.
- (3) Observes, monitors, and makes recommendations on UAS field operations to confirm compliance with NOAA policy and procedures.

### 6.2 Trainer

#### (A) Role

- (1) Train and instruct the NOAA UAS community in UAS operations per current governance documents to include NAOs, handbooks, and policies.
- (2) Develop and maintain official NOAA training material for distribution and standardization.

#### (B) Qualifications

- (1) Trainer Designation Letter specific to the UAS platform signed by the Director, UxSOC.
- (2) Demonstrated operational proficiency, knowledge, experience, and risk mitigation for the UAS platforms to be operated.
- (3) FAA Part 107 Remote Pilot Certificate.
- (4) Standards evaluation administered by the Inspector, UASD.

(C) Training

- (1) OEM or UASD approved equivalent training specific to the UAS platform.
- (2) If the above training is unavailable, a PIC Designation Letter may be issued by the Director, UxSOC for the sole purpose of obtaining platform proficiency.

(D) Currency

- (1) Current and proficient in UAS platform, mission, and policy-specific objectives.
- (2) Evaluated annually by the Inspector, UASD.

6.3 Platform Evaluator (PE)

(A) Role

- (1) Perform Airworthiness Evaluations and develop UAS flight envelope criteria.

(B) Qualifications

- (1) PE Designation Letter signed by the Director, UxSOC.

(C) Training

- (1) UASD approved airworthiness certification program.

(D) Currency

- (1) Demonstrate three (3) takeoffs and landings of a UAS in the same group and category within the previous ninety (90) days.
- (2) Familiar with the UAS platform through available sources to include operator manuals, training aids, or contact with the manufacturer.
- (3) In-flight proficiency operations should include familiarization with airworthiness techniques and automated and/or manual aircraft operations.

## 7. AIRWORTHINESS

7.1 Operational flights within NOAA require an Airworthiness Evaluation and Designation.

7.2 The applicant must define and submit to the UASD a concept of operations (CONOPS) proposal describing the UAS operation in the NAS for which uncrewed aircraft (UA) type airworthiness is requested. The CONOPS proposal must include, at a minimum, a description of the following information in sufficient detail to determine the parameters and extent of testing and operating limitations:

- (A) The intended type of operations, e.g. maritime, Hand Launch and Recovery (HLR);
- (B) UA specifications and payload requirements
- (C) Meteorological conditions;
- (D) Operators, pilots, and personnel responsibilities;

- (E) Control station, support equipment, and other associated elements (AE) necessary to meet the airworthiness criteria;
  - (F) Command, control, and communication functions;
  - (G) Operational parameters (such as population density, geographic operating boundaries, airspace classes, launch and recovery area, congestion of proposed operating area, communications with air traffic control, line of sight, and aircraft separation); and
  - (H) Collision avoidance equipment, whether onboard the UA or part of the AE, if requested.
- 7.3 Airworthiness requirements are dependent on airspace, platforms, and associated risks.
- 7.4 The UASD will determine whether the UAS has sufficient airworthiness substantiation.
- 7.5 The UAS Airworthiness Designation will include, at a minimum, the date(s) of effectiveness and any applicable notes, warnings, and limitations.
- 7.6 The Chief, UASD may approve a PIC to operate a UAS under the supervision of a UASD representative for the purposes of conducting an Airworthiness Evaluation.
- 7.7 Airworthiness designations or flight clearances from other federal agencies such as NASA, DOI, or Naval Air Systems Command (NAVAIR) may be used by the UASD to meet airworthiness requirements.
- 7.8 To ensure continued airworthiness, any aircraft modifications to include structural, electrical, or non-original OEM-provided payload integration must be submitted to the UASD for review, approval, and documentation.
- 7.9 A Functional Check Flight (FCF), as defined in the specific UAS SOP, must be conducted following any modifications to the UAS.
- 7.10 The Airworthiness Evaluation form is available on the [UASD Website](#).

## **8. SAFETY**

### **8.1 General**

- (A) Safety is the inherent responsibility of every NOAA UAS user.
- (B) Safe operations depend on each UAS crew member meeting the requirements of applicable NOAA policies, UAS procedures and ORM requirements.

### **8.2 Personal Flight Risk Assessment**

- (A) Before a flight, each crewmember is responsible for completing a self-assessment of their physical and mental condition.
- (B) The following industry-accepted IMSAFE Checklist should be used as a guide when determining personal fitness for flight:
  - (1) Illness - Experiencing illness or any symptoms of an illness.
  - (2) Medication - Prescription or over-the-counter medication use.
  - (3) Stress - Psychological pressure that may impact one's ability to perform their duties.

- (4) Alcohol - Alcoholic beverage consumption within 8 hours of flight is prohibited. Operators must be free from the effects of alcohol.
- (5) Fatigue - Ensure adequate rest.
- (6) Eating - Ensure adequate nourishment.
- (C) Although not intended to be a comprehensive list of personal risk factors, crewmembers that answer "Yes" to any of the above questions or identify significant risk factors during their self-assessment should notify and discuss with the PIC or MC as soon as possible.
- (D) The PIC is responsible for completing an overall flight risk assessment before each flight. At a minimum, the PIC must consider the following elements of flight risk:
  - (1) Input from personal risk assessments
  - (2) Type of mission
  - (3) Planned flight time
  - (4) Crew rest
  - (5) Length of duty day
  - (6) Weather
  - (7) Launch and landing site survey and hazards to include HLR
  - (8) UAS condition
  - (9) Flight crew proficiency
- (E) If the PIC determines that anyone, or a confluence of these risks increases the overall risk of flight to an unsafe level, the mission must be postponed or canceled.

### 8.3 Crew Rest

- (A) Flying a UAS for an extended period of time can cause considerable fatigue due to small screens, moving platforms, and concentration when operating in confined areas. If, at any point, any member of the flight crew team experiences signs of fatigue, adequate crew rest must be taken until the fatigue has been eliminated.
- (B) A crew duty day will consist of no more than a sixteen (16)- hour duty day.
- (C) No person must act as crewmember for more than eight (8) hours of flight time during the sixteen (16)- hour duty day.

### 8.4 Operational Risk Management (ORM)

- (A) An ORM is a document that identifies risks associated with operations and identifies specific actions to mitigate the risks.
  - (1) An approved ORM assessment must be on file with the UASD and available to the PIC before the start of each flight.
  - (2) The MC will work with the UASD to develop the ORM.

- (3) Additional risks not identified within the ORM require an addendum submission. ORM and/or ORM addendums may require up to thirty (30) days lead-time for processing and approval.
  - (4) An ORM assessment remains valid until the expiration date, conditions, and/or experience necessitate additional assessment.
  - (5) The risk reduction control measures in an approved ORM assessment must be adhered to.
- (B) The Standard UAS Operational Risk Management (ORM) is a preapproved ORM that may be utilized for most UAS operations and platforms.

## 8.5 Hazardous Materials (HAZMAT)

### (A) Lithium Batteries

- (1) Must be stored per manufacturer recommended guidance and field office battery policy.
- (2) An appropriate extinguishing agent must be available near the storage area and during operations.
- (3) Shipping or transporting batteries must follow all Department of Transportation (DOT) requirements.
- (4) The highest risk of UAS battery fires occurs during charging operations. At no point must any UAS battery be connected to a charging device unattended.

## 8.6 Mishap Reporting

### (A) Incident Definition

- (1) Personal injury requiring medical attention.
- (2) Damage to property other than the UAS.
- (3) Any incident/mishap that results in an unsafe or abnormal operation, including but not limited to:
  - (a) Malfunction or failure of the UAS onboard flight control system (including navigation).
  - (b) Malfunction or failure of Ground Control Station (GCS), flight control hardware, or software (other than loss of control link).
  - (c) Power plant failure or malfunction.
  - (d) In-flight fire.
  - (e) Aircraft collision involving another aircraft.  
  
Any in-flight failure of the UAS electrical system requiring the use of alternate or emergency power to complete the flight.
  - (f) Deviation from any provision contained in the COA.

- (g) Deviation from an air traffic control clearance and/or Letter(s) of Agreement/Procedures.
- (h) Lost control link event in which the UAS does not respond properly to lost link pre-programmed procedures.

(B) Accident Definition

- (1) Fatal injury, where the operation of a UAS results in a death occurring within thirty (30) days of the injury event.
- (2) Serious injury, where the operation of the UAS results in:
  - (a) Hospitalization for more than 48 hours, commencing within seven (7) days from the date of the injury event.
  - (b) A fracture of any bone except simple fractures of fingers, toes, or nose.
  - (c) Severe hemorrhages, nerve, muscle or tendon damage involving any internal organ.
  - (d) Second or third-degree burns, or any burns affecting more than 5 percent of the body surface.
- (3) Total UAS loss as defined in the applicable COA.
- (4) Substantial damage to the UAS to include airframe, power plant, or onboard systems that must be repaired before further flight.
- (5) Damage to property, other than the UAS, as defined in the applicable FAA COA or 14 CFR Part 107.

(C) Mishap Procedures/Reporting

- (1) (All UAS operations will be halted until clearance is given by the Chief, UASD or appointed designee.
- (2) The MC and/or PIC must make immediate positive contact with the UASD via telephone.
- (3) The Mishap Reporting form must be completed and submitted to the UASD within 24 hours of the incident. The form is available on the [UASD Website](#).
- (4) Obtain photographic evidence of any damages to the UAS, GCS, personnel and/or property.
- (5) Secure and send any flight telemetry data available after a UAS incident to the UASD. The MC and/or PIC will work with the UASD investigation team to process and analyze the data.
- (6) For 14 CFR Part 107 operations, mishaps must be reported by the PIC to the FAA when either of the following occurs:
  - (a) Serious injury to any person or any loss of consciousness.
  - (b) Damage to property (other than the UAS) unless the cost of repair (including labor and materials) does not exceed \$500, or the fair market value of the property does not exceed \$500 in the event of a total loss.

- (D) For COA operations, mishaps must be reported when the requirements outlined in the COA criteria are met. The UASD is responsible for reporting the mishap to the FAA.

## 9. FLIGHT APPROVAL

### 9.1 Standard Operations

- (A) Operations are conducted under 14 CFR Part 107 or the NOAA Class G Blanket COA.
- (B) All operational hazards must be addressed in the Standard UAS Operational Risk Management (ORM). The Standard UAS ORM is available on the [UASD Website](#)
- (C) The UAS must meet airworthiness standards as defined in Section 7.
- (D) Require a qualified MC.
- (E) Require a qualified PIC.
- (F) A Standard Operations Approval Request (SOAR) must be submitted to the UASD.
  - (1) The SOAR contains all required information for determining compliance with NOAA policies, adherence to FAA regulations, and operational airspace vetting and analysis.
  - (2) The SOAR is available on the [UASD Website](#).
  - (3) SOAR forms must be approved by the Chief, UASD or appointed designee before any UAS flight(s) and are valid for the duration of the Standard UAS ORM effective dates unless otherwise specified.
- (G) A completed, signed Line Office Administrative Review of UAS Operations Checklist must be submitted with the SOAR form. Further requirements of the checklist are defined in the UAS Handbook.
- (H) Before operations, users must receive a Standard Operations Flight Approval (SOFA) form provided by UASD. The SOFA provides details of approved flight operational areas and as applicable; coordination requirements, personnel requirements, and any additional information for reviewed and approved operations approval request.

### 9.2 Non-Standard Operations

- (A) A UAS operation with a high degree of complexity, hazards, and/or airspace requirements as determined by UASD.
- (B) The UAS must meet airworthiness standards as defined in Section 6.
- (C) Require a qualified MC.
- (D) Require a qualified PIC.
- (E) May require a VO.
- (F) The MC will submit:
  - (1) An operations plan detailing who, what, when, where, and how.



- (2) A signed, completed Line Office Administrative Review of UAS Operations Checklist must be submitted to the UASD. Further requirements of the checklist are defined in the UAS Handbook.
- (G) The UASD will:
- (1) Assist in the generation of a specific ORM.
  - (2) Coordinate with the appropriate airspace controlling authorities for airspace access.
  - (3) Require a Flight Readiness Review (FRR) at the discretion of the Chief, UASD.
    - (a) The FRR will include at least one UASD representative.
    - (b) The UASD will schedule the FRR and ensure the MC is appropriately prepared.
    - (c) Briefing material should be made available to the members a minimum of one (1) week before the scheduled FRR.
    - (d) The FRR will focus on, but not limit the scope to, the following areas:
      - (i) ORM, hazard analysis, and mitigations.
      - (ii) Operations and/or Ship Project plans (if required).
      - (iii) Airspace/Safety plans.
      - (iv) Emergency procedures to include incident notification.
      - (v) COA provisions.
- (H) Require approval by the Director, UxSOC, through the issuance of a UxS Flight Authorization Memorandum (FAM).
- (1) The signed FAM is the final approval to operate.
  - (2) Requests for deviations from the signed Non-Standard UAS Operations FAM must be submitted in writing by the MC to the UASD.
  - (3) Changes to the FAM may require an updated operations plan, ORM, and other materials, as appropriate.
  - (4) The Chief, UASD has the discretion to request an additional FRR to review changes and reissue a modified FAM.
- (I) Operations are approved for a specific flight envelope and may include restrictions on weather, daylight, dates, airframe, locations, or other operational parameters.

### 9.3 Radio Spectrum Usage Requirements

- (A) The UASD is responsible for coordination and approval of UAS spectrum management. UAS operations must have appropriate National Telecommunications and Information Administration (NTIA) approval for radio spectrum usage before commencing operations.
- (B) This is accomplished through the NOAA Office of Radio Frequency Management Division (RFMD). For UAS utilizing licensed frequencies, receipt of approval may take in excess of 50 days.

- (C) For UAS utilizing unlicensed frequencies, UASD will notify RFMD of operations. No lead time is required.

#### 9.4 Private Property

- (A) Written permission must be obtained for the launch and recovery locations for UAS from private property.
- (B) Flight over private property is a complex state-by-state issue and not permitted unless the PIC addresses privacy, legal, and liability requirements for the specific operation. The UASD can assist with requests for UAS flights over private property when required for the mission.

#### 9.5 Operations over People

- (A) Operations over non-participating people require approval from the Director, UxSOC.

## 10. OPERATIONS

### 10.1 Daily Operations Reporting

- (A) Post approval, projects must record daily flight information per normal UAS project reporting requirements (e.g., SITREPs, flight logs, maintenance discrepancies).
- (B) Flight records will be transmitted to the UASD via the most expedient means available.
- (C) In cases where UAS operations occur in remote environments with limited internet access, daily flight activity will be transmitted at the earliest availability, in no case, less frequent than a weekly basis.

### 10.2 Standard Operating Procedures (SOP)

- (A) Each NOAA Field Office is responsible for customizing the SOP template specific to their respective UAS operations to include Pre-flight, Airborne, and Maritime Operations. The SOP template is available on the [UASD Website](#).
- (B) At a minimum, SOPs will include
  - (1) System specific operational procedures.
  - (2) Maintenance practices.
  - (3) Personnel requirements.
  - (4) Equipment and environmental limitations.
- (C) The SOP will be tracked via version control, effective date, review authority, and annual review date.
- (D) The requirement for an SOP is limited to operational systems.
- (E) UAS platforms under an approved test and evaluation plan are not required to maintain a NOAA SOP but should ensure all operations utilize industry accepted best practices, available OEM checklists, and procedures.

### 10.3 Hand-Launch and Recovery (HLR) Operations

- (A) Only approved UAS platforms (see [platform matrix](#)) are authorized for HLR operations within the applicable category. Additional platforms may be considered and require an airworthiness evaluation for HLR risk acceptance. Platforms that exceed 25lbs Maximum Takeoff Weight (MTOW) capacity will not be authorized for HLR operations.
  - (1) Category A - HLR ops via Shore-Based/Small Boat/Ship
  - (2) Category B - HLR ops via Shore-Based/Ship
  - (3) Category C - HLR ops via Shore-Based
  - (4) Category D - HLR ops via Hand-Launch Only
- (B) Training and Currency Requirements
  - (1) All Line Offices conducting HLR ops will provide personal protective equipment (PPE) including long sleeves, cut resistant gloves, closed-toe shoes, eye protection, and a helmet.
  - (2) Flight team will consist of a minimum of two individuals; the PIC and the Catcher. The PIC is required to be HLR qualified and will train the Catcher. A VO may also be required/used.
  - (3) PIC must be vendor or UASD trained/qualified for HLR ops.
  - (4) PIC and catcher will have at least 3 HLR ops within the previous ninety (90) days before conducting mission profile to include maritime operations training on a similar type/size vessel for proposed operation.
- (C) Platform Qualifications
  - (1) UASD Supported HLR and Unsupported HLR Platforms
    - (a) PIC/MC shall incorporate required HLR training and proficiency procedures, best practices, and checklists into the Field Office UAS specific SOP to be reviewed and approved by UASD SST.
  - (2) HLR UASD Supported Platforms
    - (a) UASD conducts Airworthiness Designation
    - (b) UASD creates SOP and Training and delivers OEM training
    - (c) UASD approved vendor creates training and delivers to users
  - (3) HLR UASD Unsupported Platforms
    - (a) UASD conducts Airworthiness Designation
    - (b) UASD approved vendor creates SOP/training and conducts training for users
    - (c) PIC/MC shall incorporate required HLR training and proficiency procedures, best practices, and checklists into the Field Office UAS-specific SOP to be reviewed and approved by UASD SST.

#### 10.4 Water-Based Operations

- (A) All required Water-Based Operations procedures, best practices, and checklists will be incorporated into the Field Office UAS specific SOP.
- (B) Additional Water-Based Operations administrative requirements include:
  - (1) UAS operations from all ships and small boats will occur using documented approved vessel operating procedures. These procedures should be demonstrated under controlled non-mission training flights before field deployments. Increased risk from vessel-based HLR with an UAS will be mitigated through documented procedures and the ORM.
  - (2) UAS operations conducted on NOAA ships will be subject to the policies, procedures, and risk mitigation guidance of NOAA ship safety and environmental compliance procedures, as well as, any applicable Standing Orders.
  - (3) (3) UAS operations conducted on NOAA small boats will be subject to the policies, procedures, and risk mitigation guidance of the NOAA Small Boat Standards and Procedures Manual.
  - (4) (4) UAS operations conducted on ships or small boats of other government organizations will be subject to the policies, procedures, and risk mitigation guidance of the sponsoring agency.
  - (5) (5) The ORM and FRR teams must consult with a marine vessel representative to identify and adapt response plans to meet the specific needs of the operations.

## 11. MAINTENANCE

- 11.1 The PIC will ensure the UAS has been inspected and maintained per the manufacturer's procedures, FAA guidelines, and/or UASD guidance.
- 11.2 NOAA Field Offices will work with the UASD to set and adhere to an inspection schedule for critical components based on the UAS manufacturer's procedures and FAA guidance.
- 11.3 Individual aircraft logbooks for corporate UAS assets will be maintained by the UASD.
- 11.4 Individual aircraft logbooks for field UAS assets will be maintained by the operating UAS field office.
- 11.5 At a minimum, aircraft logbooks must include flight hours, software or firmware updates, any malfunctions such as lost link, damage of parts, and serial numbered parts that require replacement.
- 11.6 Software, firmware, and hardware changes must be documented as part of the normal maintenance procedures.
- 11.7 For UAS discrepancies and/or payload changes related to maintenance, a record entry must be made in the aircraft logbook and submitted to the UASD.

## 12. DEFINITIONS

Term	Definition
Due Regard	A phase of flight wherein an aircraft commander of State-operated aircraft assumes responsibility to separate his/her aircraft from all other aircraft.

<b>Term</b>	<b>Definition</b>
Flight Team	Person(s) assigned to operate or assist in operating an aircraft during flight time.
HAZREP	This is a report that gets sent from operators to UASD noting some hazard they have recognized in their UAS or operations.
National Airspace System	A network of both controlled and uncontrolled airspace, both domestic and oceanic. It also includes air navigation facilities, equipment and services; airports and landing areas; aeronautical charts, information and services; rules and regulations; procedures and technical information; and manpower and material.
Non-Participating People	People who are not involved in the operations in any way.
Special Use Airspace	Special use airspace (SUA) consists of that airspace wherein activities must be confined because of their nature, or wherein limitations are imposed upon aircraft operations that are not a part of those activities, or both. SUA areas are depicted on aeronautical charts, except for controlled firing areas (CFA), temporary military operations areas (MOA), and temporary restricted areas.
Standard Operations Approval Request (SOAR)	UASD form to be completed by users requesting standard operations approval.
Standard Operations Flight Approval (SOFA)	UASD form provided to users indicating approval of standard operations.
State Aircraft	Aircraft used in military, customs, and police services are deemed to be State aircraft.
Supported UAS	UASD provides OEM training, airworthiness evaluations, and additional administrative assistance for identified platforms.
Unsupported UAS	UASD does not provide OEM training for unsupported platforms.

### 13. NOTES

Effect on Other Documents: Supersedes previous versions of 1107 – *NOAA Uncrewed Aircraft Systems Operations Policy*

<b>DOCUMENT HISTORY</b>		
<b>Version</b>	<b>Description of Change</b>	<b>Effective Date</b>
2.0	Adds Field Trainer role and Hand Launch and Recover operations.	
1.0	Initial Document.	12/02/2022

## Appendix A

### UAS Operations in Uncontrolled (Class G) International Airspace

- A.1 This Appendix applies to UAS owned and operated by the National Oceanic and Atmospheric Administration (NOAA). It follows the guidance from Department of State Memorandum, *Designation of Other Agency Aircraft as State Aircraft* (Policy 220-1-1-1, Appendix A) and Director, OMAO Memorandum to Executive Secretary, Department of State (Policy 220-1-1-1, Appendix B). It establishes policy and operating procedures for NOAA UAS operating “due regard” within international airspace.
- A.2 The procedures and operational restrictions in this Appendix allow for safe UAS operations over international waters (i.e. UAS launch and recovery from a NOAA vessel) in uncontrolled (Class G) airspace.
- A.3 Additional appendices will be developed for other operational scenarios.
- A.4 An FAA Certificate of Authorization or Waiver (COA) is *not* required as long as the Pilot-in-Command (PIC) complies with this Appendix.
- A.5 These procedures and operational restrictions *do not* permit the PIC to deviate from applicable UAS flight manuals, checklists, SOPs and shipboard manuals while operating in uncontrolled international airspace. The following procedures and operational restrictions must be complied with during UAS “due regard” international operations:
1. The Ground Control Station (GCS) and UAS must remain within uncontrolled (Class G) airspace at all times.
  2. The GCS and UAS must remain greater than 12 nm (i.e. international waters) from the U.S. coastline or U.S. territory during all phases of flight. (*Note:* for UAS operations conducted off another country’s coastline, the U.S. Department of State must be consulted for the minimum standoff, which may be greater than 12 nm).
  3. The UAS must be operated at or below 2,000-ft MSL, provided the UAS remains within Class G airspace at all times.
  4. The UAS must remain within 5 nm of the GCS at all times.
  5. The UAS must be operated in VMC (Visual Meteorological Conditions) only. If IMC (Instrument Meteorological Conditions) is encountered unintentionally, VMC must be regained by the safest and most expeditious means possible.
  6. Day or night operations are permitted, and associated risks and mitigation measures must be addressed in each project-specific Operational Risk Management (ORM) document.
  7. Flight operations must be selected so as not to interfere with established air routes and ocean shipping lanes.
  8. Due Regard UAS operations must *not* be conducted under the Mode C veil of Class B or C airspace.

9. Notices to Airmen (NOTAMs) and Notices to Mariners (NOTMARs) must be issued for the affected airspace/body of water.
10. The launch vessel should conduct a surface search using its radar no later than 10 minutes before the launch of the UAS to identify other vessels within the operational area. A qualified radar operator should monitor the ship's radar display whenever the UAS is airborne. If another vessel is identified within the 5nm UAS operational range, the UAS must remain at least 2nm from that vessel at all times unless identification of vessels is a requirement of the mission flight (e.g. during National Marine Sanctuaries missions). Specifics must be addressed in each project-specific ORM assessment.
11. At least one (1) observer must be posted during all UAS operations to assist with separation from other aircraft. The observer must be provided binoculars, or another visual enhancement device, and must have the means to be able to clearly communicate with the PIC.
12. Each project-specific ORM document must comply with the above items, as well as identify and address any newly identified risk.