



National Severe Storms Laboratory
National Weather Service
National Oceanic and Atmospheric Administration

Authorized by:

Mission Commander

Procedure	VERSION
	1.0
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PREVIOUS VERSION DATE	N/A
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RESPONSIBLE	Mission Commander

UAS Standard Operating Procedures

Portions of this document shown in black text shall not be edited. Blue text may be added or edited to suit an individual operational unit's needs. Under no circumstances shall the blue text conflict with or change the meaning of the black text. If Blue text is not used, delete from the document.

1. Purpose

- 1.1. This procedure provides the minimum requirements for operation of an Uncrewed Aircraft System (UAS).

2. Scope

- 2.1. This procedure applies to all **National Severe Storms Laboratory (NSSL)** UAS operations that are designated as a NOAA operation based on the criteria defined in policy 1107-UAS Operations Policy.
- 2.2. The UAS platforms covered by this SOP include **Skydio X2, Evo II v3, Trinity F90+ and Marlyn**

3. Responsibilities

- 3.1. **Mission Commander** shall review and approve SOP biannually or anytime an update is made, whichever comes first.
- 3.2. Mission Commander (MC) shall ensure all personnel involved in the operation of UAS are familiar with these procedures. MC shall update these procedures as necessary.
- 3.3. PIC shall conduct daily operational briefs to include roles, responsibilities, environmental conditions, and operational expectations.

4. Procedures

4.1. Pre-flight

- PIC or MC shall check the proposed airspace to ensure warning areas are not active and temporary flight restrictions are not in place.
- If required appropriate authorities shall be notified of commencement of operations.
- Local weather conditions shall be checked prior to take off.
- Site survey shall be conducted. At a minimum the area will be assessed for hazards such as: powerlines, visual obstructions, towers, buildings, trees, shrubbery, equipment, people, wildlife, alternate take-off/landing locations, other aircraft
- Ensure required documentation is present on site. Required documentation includes: Part 107 certification and/or airspace approvals, and UAS registration
- Registration number visible on aircraft
- Complete a pre-flight checklist specific to your aircraft. At a minimum the checklist shall include: Aircraft visual inspection, payload secured to aircraft, battery voltage, manufacturer checklist items, emergency responses.
- [Refer to the NSSL Master UAS Standard Operating Procedures Document for additional pre-flight requirements.](#)

4.2. Flight

- For rotor aircraft complete an aircraft functional check
- Monitor aircraft performance and condition throughout the flight
- Maintain communication between PIC and Visual Observer
- Maintain awareness of the airspace and environmental conditions throughout the flight
- Ensure landing area is clear and land the UAS
- [Refer to the NSSL Master UAS Standard Operating Procedures Document for additional flight requirements](#)

4.3. Post-flight

- If required appropriate authorities shall be notified of completion of operations.
- Aircraft is packed up and stored appropriately
- Flights reported to UASD through the AlarisPro Fleet Management System. Report abnormalities in the comments section of the form
- [Refer to the NSSL Master UAS Standard Operating Procedures Document for](#)

additional post flight requirements.

5. Safety

5.1. Emergency Responses

- Loss of link response:
 - [Refer to the NSSL Master UAS Standard Operating Procedures Document](#)
- Fly Away:
 - Have contact information for nearest ATC
 - Note the UAS remaining available flight time, direction of travel, last known location
 - Keep eyes on the UAS and track it for as long as possible
 - [Refer to the NSSL Master UAS Standard Operating Procedures Document for additional information](#)
- Low Battery:
 - [Refer to the NSSL Master UAS Standard Operating Procedures Document for details of the UAS's programmed Low Battery Response](#)
- Evasive Maneuvers:
 - [Refer to the NSSL Master UAS Standard Operating Procedures Document for a detail planned response for maneuvering around aerial objects or UAS specific features to aid in avoiding aerial objects\)](#)
 - [Refer to the NSSL Master UAS Standard Operating Procedures Document for aircraft specific safety features \(additional emergency procedures, handling fuel, batteries, payloads, geo-fencing, etc.\)](#)

6. Training

- 6.1. [PICs will be trained IAW with UAS Policy 1107. VOs, if one is used, will be trained on the requirements to observe and respond to hazards in the air and on the ground.](#)
- 6.2. [Refer to the NSSL Master UAS Standard Operating Procedures Document for additional aircraft or mission specific training required \(BVLOS, Night, environmental, ETC\)](#)

7. Maintenance

- 7.1. Inspection as recommended by the manufacturer and FAA.

