

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
CERTIFICATE OF WAIVER OR AUTHORIZATION

ISSUED TO
Principia, Inc.

1 Jefferson Road
Parsippany, NJ 07054

This certificate is issued for the operations specifically described hereinafter. No person shall conduct any operation pursuant to the authority of this certificate except in accordance with the standard and special provisions contained in this certificate, and such other requirements of the Federal Aviation Regulations not specifically waived by this certificate.

OPERATIONS AUTHORIZED

Operation of DJI S1000 Unmanned Aircraft System at or below 200 feet Above Ground Level (AGL) for the purpose of aerial data collection.

LIST OF WAIVED REGULATIONS BY SECTION AND TITLE

N/A

STANDARD PROVISIONS

1. A copy of the application made for this certificate shall be attached and become a part hereof.
2. This certificate shall be presented for inspection upon the request of any authorized representative of the Federal Aviation Administration, or of any State or municipal official charged with the duty of enforcing local laws or regulations.
3. The holder of this certificate shall be responsible for the strict observance of the terms and provisions contained herein.
4. This certificate is nontransferable.

Note-This certificate constitutes a waiver of those Federal rules or regulations specifically referred to above. It does not constitute a waiver of any State law or local ordinance.

SPECIAL PROVISIONS

Special Provisions are set forth and attached.

This certificate FAA-2015-0576-333E is effective from May 25, 2015 to May 31, 2017 and is subject to cancellation at any time upon notice by the Administrator or his/her authorized representative.

BY DIRECTION OF THE ADMINISTRATOR

/S/

FAA Headquarters, AJV-115
(Region)

Jacqueline R. Jackson
(Signature)

May 18, 2015
(Date)

Manager, UAS Tactical Operations Section
(Title)

STANDARD PROVISIONS

A. General.

1. The approval of this COA is effective only with an approved FAA Grant of Exemption.
2. A copy of the COA including the special limitations must be immediately available to all operational personnel at each operating location whenever UAS operations are being conducted.
3. This authorization may be canceled at any time by the Administrator, the person authorized to grant the authorization, or the representative designated to monitor a specific operation. As a general rule, this authorization may be canceled when it is no longer required, there is an abuse of its provisions, or when unforeseen safety factors develop. Failure to comply with the authorization is cause for cancellation. The operator will receive written notice of cancellation.

B. Safety of Flight.

1. The operator or pilot in command (PIC) is responsible for halting or canceling activity in the COA area if, at any time, the safety of persons or property on the ground or in the air is in jeopardy, or if there is a failure to comply with the terms or conditions of this authorization.

See-and-Avoid

Unmanned aircraft have no on-board pilot to perform see-and-avoid responsibilities; therefore, when operating outside of active restricted and warning areas approved for aviation activities, provisions must be made to ensure an equivalent level of safety exists for unmanned operations consistent with 14 CFR Part 91 §91.111, §91.113 and §91.115.

a. The pilot in command (PIC) is responsible:

- To remain clear and give way to all manned aviation operations and activities at all times,
- For the safety of persons or property on the surface with respect to the UAS, and
- For compliance with CFR Parts 91.111, 91.113 and 91.115

b. UAS pilots will ensure there is a safe operating distance between aviation activities and unmanned aircraft (UA) at all times.

c. Visual observers must be used at all times and maintain instantaneous communication with the PIC.

d. The PIC is responsible to ensure visual observer(s) are:

- Able to see the UA and the surrounding airspace throughout the entire flight, and
 - Able to provide the PIC with the UA's flight path, and proximity to all aviation activities and other hazards (e.g., terrain, weather, structures) sufficiently for the PIC to exercise effective control of the UA to prevent the UA from creating a collision hazard.
- e. Visual observer(s) must be able to communicate clearly to the pilot any instructions required to remain clear of conflicting traffic.
2. Pilots are reminded to follow all federal regulations e.g. remain clear of all Temporary Flight Restrictions, as well as following the exemption granted for their operation.
 3. The operator or delegated representative must not operate in Prohibited Areas, Special Flight Rule Areas or, the Washington National Capital Region Flight Restricted Zone. Such areas are depicted on charts available at http://www.faa.gov/air_traffic/flight_info/aeronav/. Additionally, aircraft operators should beware of and avoid other areas identified in Notices to Airmen (NOTAMS) which restricts operations in proximity to Power Plants, Electric Substations, Dams, Wind Farms, Oil Refineries, Industrial Complexes, National Parks, The Disney Resorts, Stadiums, Emergency Services, the Washington DC Metro Flight Restricted Zone, Military or other Federal Facilities.
 4. All aircraft operated in accordance with this Certificate of Waiver/Authorization must be identified by serial number, registered in accordance with 14 CFR part 47, and have identification (N-Number) markings in accordance with 14 CFR part 45, Subpart C. Markings must be as large as practicable.

C. Reporting Requirements

1. Documentation of all operations associated with UAS activities is required regardless of the airspace in which the UAS operates. NOTE: Negative (zero flights) reports are required.
2. The operator must submit the following information through <mailto:9-AJV-115-UASOrganization@faa.gov> on a monthly basis:
 - a. Name of Operator, Exemption number and Aircraft registration number
 - b. UAS type and model
 - c. All operating locations, to include location city/name and latitude/longitude
 - d. Number of flights (per location, per aircraft)
 - e. Total aircraft operational hours
 - f. Takeoff or Landing damage

g. Equipment malfunctions. Reportable malfunctions include, but are not limited to the following:

- (1) On-board flight control system
- (2) Navigation system
- (3) Powerplant failure in flight
- (4) Fuel system failure
- (5) Electrical system failure
- (6) Control station failure

3. The number and duration of lost link events (control, performance and health monitoring, or communications) per UA per flight.

D. Notice to Airmen (NOTAM).

A distant (D) NOTAM must be issued when unmanned aircraft operations are being conducted. This requirement may be accomplished:

- a. Through the operator's local base operations or NOTAM issuing authority, or
- b. By contacting the NOTAM Flight Service Station at 1-877-4-US-NTMS (1-877-487-6867) not more than 72 hours in advance, but not less than 24 hours prior to the operation, unless otherwise authorized as a special provision. The issuing agency will require the:
 - (1) Name and address of the pilot filing the NOTAM request
 - (2) Location, altitude, or operating area
 - (3) Time and nature of the activity.

AIR TRAFFIC CONTROL SPECIAL PROVISIONS

A. Coordination Requirements.

1. Operators and UAS equipment must meet the requirements (communication, equipment and clearance) of the class of airspace they will operate in.
2. Operator filing and the issuance of required distance (D) NOTAM, will serve as advance ATC facility notification of UAS operations in an area.
3. Operator must cancel NOTAMs when UAS operations are completed or will not be conducted.
4. Coordination and deconfliction between Military Training Routes (MTRs) is the operator's responsibility. When identifying an operational area the operator must evaluate whether an MTR will be affected. In the event the UAS operational area overlaps (5 miles either side of centerline) an MTR, the operator will contact the

scheduling agency 24 hours in advance to coordinate and deconflict. Approval from the scheduling agency is not required. Scheduling agencies are listed in the Area Planning AP/1B Military Planning Routes North and South America, if unable to gain access to AP/1B contact the FAA at email address <mailto:9-AJV-115-UASOrganization@faa.gov> with the IR/VR routes affected and the FAA will provide the scheduling agency information. If prior coordination and deconfliction does not take place 24 hours in advance, the operator must remain clear of all MTRs.

B. Communication Requirements.

1. When operating in the vicinity of an airport without an operating control tower, announce your operations in accordance with the FAA Aeronautical Information Manual (AIM) 4-1-9 Traffic Advisory Practices at Airports without Operating Control Towers.

C. Flight Planning Requirements.

Note: For all UAS requests not covered by the conditions listed below, the exemption holder may apply for a new Air Traffic Organization (ATO) Certificate of Waiver or Authorization (COA).

This COA will allow small UAS (55 pounds or less) operations during daytime VFR conditions under the following conditions and limitations:

- (1) At or below 200 feet AGL; and
- (2) Beyond the following distances from the airport reference point (ARP) of a public use airport, heliport, gliderport, seaplane base and military airports listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications.
 - a) 5 nautical miles (NM) from an airport having an operational control tower; or
 - b) 3 NM from an airport having a published instrument flight procedure, but not having an operational control tower; or
 - c) 2 NM from an airport not having a published instrument flight procedure or an operational control tower; or
 - d) 2 NM from a heliport, gliderport or seaport

D. Emergency/Contingency Procedures.

1. Lost Link/Lost Communications Procedures:

- If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within the private or controlled-access property and land.
- The PIC must abort the flight in the event of unpredicted obstacles or emergencies.

2. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries defined in this COA must be reported to the FAA via email at <mailto:9-AJV-115-UASOrganization@faa.gov> within 24 hours. Accidents must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.nts.gov

AUTHORIZATION

This Certificate of Waiver or Authorization does not, in itself, waive any Title 14 Code of Federal Regulations, nor any state law or local ordinance. Should the proposed operation conflict with any state law or local ordinance, or require permission of local authorities or property owners, it is the responsibility of the operator to resolve the matter. This COA does not authorize flight within Special Use airspace without approval from the scheduling agency. The operator is hereby authorized to operate the small Unmanned Aircraft System in the National Airspace System.