

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

CERTIFICATE OF WAIVER OR AUTHORIZATION

ISSUED TO

Project Wing
Responsible Person: Chris Jackman
Waiver Number: 107W-2016-01223E

ADDRESS –

100 Mayfield Avenue
Mountain View, CA 94043

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

Acting as a remote pilot in command (PIC) or visual observer (VO) in the operation of more than one small unmanned aircraft (sUA) at the same time. Night small unmanned aircraft system (sUAS) operations.

LIST OF WAIVED REGULATIONS BY SECTION AND TITLE

14 CFR § 107.35 Operation of multiple small unmanned aircraft
14 CFR § 107.29 Daylight operation

STANDARD PROVISIONS

1. A copy of the application made for this certificate shall be attached to and become a part hereof.
2. This certificate shall be presented for inspection upon the request of any authorized representative of the Administrator 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 Nos. 1 to 18, inclusive, are set forth on the attached pages.

This Certificate of Waiver is effective from May 25, 2018 to May 31, 2022 and is subject to cancellation at any time upon notice by the Administrator or an authorized representative.

OFFICE OF THE EXECUTIVE DIRECTOR

Flight Standards Service

**SPECIAL PROVISIONS ISSUED TO
Project Wing**

General.

This waiver is an amendment and supercedes waiver 107W-2016-01223D. All previously issued versions of waiver 107W-2016-01223 are no longer valid.

The FAA's Flight Standards Service has reviewed your application to ensure compliance with the requirements of 14 CFR § 107.200. The Administrator finds that the proposed sUAS operation can be conducted safely under the provisions of this Certificate of Waiver (Waiver) as listed below, because you have established adequate mitigations for risks involved with operating your sUAS in the manner you described. Adherence to the provisions of this Waiver establishes the required level of safety within the national airspace system.

This Waiver may be canceled at any time by the Administrator, the person authorized to grant the Waiver, or the representative designated to monitor a specific operation. As a general rule, this Waiver 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 any provision listed below is a violation of the terms of this Waiver and may serve as justification for cancellation.

List of Regulations Waived by Section and Title. The following regulations are waived:

14 CFR § 107.29, Daylight operation, is waived to allow sUAS operations during night.

14 CFR §107.35 Operation of multiple small unmanned aircraft is waived to the extent necessary to allow a person to act as a remote Pilot in Command (PIC) or visual observer (VO) in the operation of more than one unmanned aircraft at the same time.

Common Provisions. The Responsible Person is directly responsible for safety of operations conducted under this Waiver and will ensure the remote Pilot in Command (PIC), manipulator of the controls, and Visual Observer (VO) complies with all provisions of this Waiver.

1. The Responsible Person on the Waiver is responsible to the FAA for the safe conduct of the operations. Prior to conducting operations that are the subject of this Waiver, the responsible person:
 - a. Must ensure the remote PIC, manipulator of the controls, and the VO are informed on the terms and provisions of this waiver and the strict observance of the terms and provisions herein;
 - b. Must ensure the remote PIC, manipulator of the controls, and VO are informed and familiar with part 107 regulations not waived; and
 - c. The above must be documented and must be presented for inspection upon request of the Administrator or an authorized representative.

2. This Waiver may be combined with waiver 107W-2018-13895 as amended and waiver 107W-2018-12649 as amended. This waiver must not be combined with any other waiver(s), authorization(s), or exemption(s) without specific authorization from the FAA;

3. The FAA has the authority to cancel or delay any or all flight operations if the safety of persons or property on the ground or in the air, are in jeopardy or there is a violation of the terms of this Waiver;
4. Operations under this Waiver are to be conducted in Class G airspace only unless specific airspace authorization or Waiver is received from the FAA in accordance with § 107.41;
5. A copy of this Waiver must be available during sUAS operations that are the subject of this Waiver;
6. The Responsible Person listed on this Waiver must maintain a current list of pilots by name and remote pilot certificate number used in the Waiver holder's operations. This list must be presented for inspection upon request from the Administrator or an authorized representative;
7. The Responsible Person listed on this Waiver must maintain a current list of small unmanned aircraft (sUA) by registration number(s) used in the Waiver holder's operations. This list must be presented for inspection upon request from the Administrator or an authorized representative;
8. All operations under this Waiver must use one or more VO;

Operation of Multiple sUAS Special Provisions. sUAS operations with multiple sUA may be conducted, provided:

9. As described in the waiver application, all operations under this Waiver must be conducted over a restricted access location or sparsely populated area;
10. Prior to conducting operations under this Waiver, the remote PIC must identify operational area obstacles and boundaries so as to avoid collision with, or damage to property;
11. The remote PIC must ensure that an individual system failure does not interfere with the operation of other sUA or cause incidents, accidents, or loss of control involving other sUA that are the subject of this Waiver;
12. As described in the application for waiver, the remote PIC must ensure that routes are preplanned prior to flight and aircraft are programmed to automatically follow the route. Flight planning must provide for route deconfliction to avoid propagation of faults affecting multiple systems;
13. Prior to conducting operations under this Waiver, the remote PIC must ensure that the flight controller, geo-fence system encompassing the test area and the associated flight control system with 'land now' capability for each aircraft, as described in the waiver application, operate properly;

14. Operations conducted under this Waiver are limited to no more than 20 sUA operated by the remote PIC;
15. The remote PIC must ensure that the sUA that are the subject of this Waiver do not exceed 200 feet above ground level unless not more than 72 hours in advance, but not less than 24 hours prior to conducting operations that are the subject of this Waiver, the Responsible Person must file a Notice to Airmen (NOTAM). The NOTAM must include location, altitude, and/or operating area, time and nature of the activity, and number of sUA flying in the operating area;

Night sUAS Operations Special Provisions. sUAS operations may be conducted at night, as defined in 14 CFR § 1.1, provided:

16. Prior to conducting operations that are the subject of this Waiver, the Responsible Person listed on the Waiver must ensure the remote PIC and VO are trained, as described in the Waiver application, to recognize and overcome visual illusions caused by darkness, and understand physiological conditions which may degrade night vision. This training must be documented and must be presented for inspection upon request from the Administrator or an authorized representative;
17. The remote PIC and VO must ensure the area of operation is sufficiently illuminated to allow both the remote PIC and VO to identify people or obstacles on the ground, or the remote PIC and VO must conduct a daytime site assessment prior to conducting operations that are the subject of this Waiver, noting any hazards or obstructions; and
18. The sUA must be equipped with lighted anti-collision lighting visible from a distance of no less than 3 statute miles. The remote PIC may reduce the intensity of the anti-collision lighting if he or she determines that, because of operating conditions, it would be in the interest of safety to do so.