

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

CERTIFICATE OF WAIVER OR AUTHORIZATION

ISSUED TO

**Astraeus Aerial, Responsible Person: David Wagreich
Waiver Number: 107W-2016-00601B**

ADDRESS –

**2708 Wilshire Blvd., Ste. 383
Santa Monica, CA 90403**

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

Night small Unmanned Aircraft System (sUAS) operations, first person view in lieu of visual line of sight operations by the remote pilot in command, and operating more than one sUAS at the same time.

LIST OF WAIVED REGULATIONS BY SECTION AND TITLE

**14 CFR § 107.29 Daylight operation
14 CFR § 107.31 Visual line of sight operations
14 CFR § 107.35 Operation of multiple small unmanned**

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 24, inclusive, are set forth on the attached pages.

This Certificate of Waiver is effective from March 15, 2017 to March 31, 2021, inclusive, and is subject to cancellation at any time upon notice by the Administrator or an authorized representative.

BY DIRECTION OF THE ADMINISTRATOR

General Aviation and Commercial Division, AFS-800

**SPECIAL PROVISIONS ISSUED TO
Astraeus Aerial**

General.

This Certificate of Waiver is an amendment which supersedes and replaces Waiver 107W-2016-00601A issued to Astraeus Aerial for operations under 14 CFR 107. Waivers 107W-2016-00601A and 107W-2016-00601 are no longer valid.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 § 107.31, Visual line of sight aircraft operation is waived to the extent necessary to allow the remote pilot in command (PIC) to operate the small unmanned aircraft (sUA) with first person view (FPV), in lieu of visual line of sight, while a second remote pilot and Visual Observer (VO) exercise the ability to see the sUA throughout the entire flight.

14 CFR § 107.35 Operation of multiple small unmanned aircraft.

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

1. The Responsible Person listed 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, manipulators of the controls, and 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, manipulators 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 from the Administrator or an authorized representative.

2. 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;

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

9. As described in the Waiver application, the remote PIC and VO must be trained, to recognize and overcome visual illusions caused by darkness, and understand physiological conditions which may degrade night vision prior to conducting operations that are the subject of this Waiver. This training must be documented and must be presented for inspection upon request from the Administrator or an authorized representative;
10. The area of operation must be 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;
11. The sUA must be equipped with lighted anti-collision lighting visible from a distance of no less than 3 statute miles. The intensity of the anti-collision lighting may be reduced if, because of operating conditions, it would be in the interest of safety to do so;

Visual Line of Sight Operations Special Provisions. sUAS operations may be conducted with the remote pilot in command using FPV, in lieu of visual line of sight, provided:

12. Communication between the remote PIC, VO, and the second remote pilot must allow for the remote PIC to maneuver the sUA with sufficient time to perform necessary maneuvers to avoid other aircraft in accordance with § 107.37, or react to any unforeseen operational or mechanical failure;
13. As described in the waiver application, operations that are the subject of this Waiver must remain within visual line of sight (VLOS) of the second remote pilot and VO at all times while the remote PIC, located within the base station vehicle, uses FPV while manipulating the controls, in lieu of VLOS, to operate the sUA;
14. As described in the waiver application, a second remote pilot will maintain continuous VLOS with the aircraft and can assume full control of the aircraft at all times, via a remote control transmitter featuring independent C2 link to the aircraft and immediate override capability;
15. As described in the waiver application, prior to and during operations that are the subject of this Waiver, the “override” feature of the V.3CS sUA must operate properly so that the second remote pilot has continuous control and override capability of the sUA while the remote PIC operates the sUA using FPV;
16. As described in the waiver application, prior to conducting operations that are the subject of this Waiver, the remote PIC and the second remote pilot must maintain continuous full-duplex voice communication;
17. As described in the waiver application, the remote PIC must fulfill the requirements of § 107.15(a) for all components of the sUAS;
18. Operations conducted under this Waiver must not exceed 50 knots groundspeed (57 mph) when a single sUA is operated;

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

19. Prior to conducting operations that are the subject of this Waiver, operational area obstacles and boundaries must be identified so as to avoid collision with, or damage to property;
20. An individual system failure must not interfere with the operation of any other sUA or cause incidents, accidents, or loss of control involving any other sUA that are subject to this Waiver;
21. As described in the waiver application, operations are only permitted within a location closed to the general public, with a secured perimeter;

22. As described in the waiver application, operations using multiple sUA are limited to not more than 6 sUA at a time and will not exceed 30 knots groundspeed (35 mph);
23. As described in the waiver application, prior to conducting operations that are the subject of this Waiver, the flight controller and the associated flight control system capability for each aircraft, operate properly; and
24. Not less than 24 hours prior to conducting operations that are the subject of this Waiver, a Notice to Airmen (NOTAM) must be filed. 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.