

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
CERTIFICATE OF WAIVER

Issued To: TORC Robotics
Responsible Person: Cody McClintock
Waiver Number: 107W-2019-02417

Address:
405 Partnership Dr
Blacksburg, VA 24060

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.

LIST OF WAIVED REGULATIONS BY SECTION AND TITLE

14 CFR § 107.35—Operation of multiple small unmanned aircraft systems

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

This Certificate of Waiver is effective from June 3, 2019, to June 30, 2023, 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 TORC Robotics

General

This Certificate of Waiver supersedes and replaces waiver #107W-2018-00038, 107W-2018-00038A, and 107W-2019-00384 issued to TORC Robotics for operations under 14 CFR 107. Waivers 107W-2018-00038, 107W-2018-00038A, and 107W-2019-00384 are no longer valid.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 § 107.35, Operation of multiple small unmanned aircraft systems, 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.

No part of this waiver will function as an airspace authorization under 14 CFR § 107.41. The FAA's Air Traffic Organization responds directly to such requests.

Common Special 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 Visual Observer(s) (VO)¹ comply 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 of the terms and provisions of this Waiver and strictly observe 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; and
 - c. Evidence of the above (a and b) must be documented and must be presented for inspection upon request from the Administrator or an authorized representative;
2. This Waiver may not be combined with any other waiver(s), authorization(s), or exemption(s) without specific authorization from the FAA;

¹ Title 14 CFR § 107.3 defines the term "visual observer." Any VO participating in operations conducted under this Waiver must meet the requirements listed in § 107.33 throughout the duration of flight operations.

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. A copy of this Waiver must be accessible and available to the Remote Pilot in Command (remote PIC) at the ground control station during sUAS operations that are the subject of this Waiver;
5. The Responsible Person listed on this Waiver must maintain a current list of pilots by name and remote pilot certificate number used in operations under this Waiver. This list must be presented for inspection upon request from the Administrator or an authorized representative;
6. 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;
7. For the purposes of this Waiver, Direct Participants are the remote pilots in command (PICs), persons manipulating the controls, visual observers (VOs), and any persons whose involvement is necessary for safety of the sUAS operation. All other persons are considered non-participants;

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

8. All operations under this Waiver must use one or more VO;
9. Prior to conducting operations under this Waiver, operational area obstacles and boundaries must be identified so as to avoid collision with, or damage to property;
10. An individual system failure must 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;
11. As described in the waiver application, routes must be preplanned prior to flight and aircraft must be programmed to automatically follow the route. Flight planning must provide for route de-confliction to avoid propagation of faults affecting multiple systems;
12. As described in the waiver application, prior to conducting operations, the flight controller, geo-fence system encompassing the area and the associated flight control system capability for each aircraft must operate properly;
13. 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;
14. ADS-B out (1090/978 MHz) may not be transmitted from the sUAS when operating pursuant to this Waiver;
15. All emitters used in sUAS must be in compliance with all applicable FCC regulations and all provisions of the FCC authorization granted for the emitter. A FCC experimental authorization may not be used for sUAS operations under this Waiver;

16. Operations Operations conducted under this Waiver are limited to the area of:
- a. The TORC Testing Ground and VTTI Drone Testing Grounds, (Blacksburg, VA)
 - b. The MacDill Air Force Base Auxillary Field, (Avon Park, FL), (27°39'2.68"N, 81°20'37.54"W)
Restricted Airspace R-2901A)
 - c. The Allen C. Perkinson Blackstone Army Airfield, (Blackstone, VA) (37°04'26"N 77°57'09"W) and,
 - d. Fort Polk & The Joint Readiness Training Center (Vernon Parish, LA) (31°4'38.60"N 93°6'50.49"W)