



U.S. Department
of Transportation
**Federal Aviation
Administration**

Aviation Safety

800 Independence Ave
Washington, DC 20591

Dear Exemption Holder,

Congratulations! You have been issued an exemption to conduct commercial agricultural operations under Part 137.

Please carefully review the exemption and all enclosures, as you are required to comply **with all** of the conditions and limitations of the exemption, the enclosed ATO-issued Certificate of Waiver or Authorization (COA), and all pertinent regulations. **Of note**, these conditions and limitations include:

1. Obtaining an Agricultural Aircraft Operator Certificate (AAOC) by completing and submitting the 8710-3 form to UAS137Certificates@faa.gov. Operators must hold both a valid exemption and an AAOC in order to conduct operations.
 - *Please note, the applicant's name on the 8710-3 form must match the name of the Part 137 Exemption Holder.*
2. Pilots must hold a valid Remote Pilot Certificate.
3. Registering and marking your Unmanned aircraft system(s) (UAS).
4. Operating below 200' above ground level (AGL) in Class G airspace.

We appreciate your cooperation to ensure commercial agricultural operations are conducted in a manner that would not adversely affect safety.

If you have any questions, please contact 9-avs-fs-afs-700-correspondence@faa.gov.

Safe spraying!

/s/

Joseph Morra
Manager, Emerging Technologies Division, AFS-700
Office of Safety Standards, Flight Standards Service

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U.S. Department
of Transportation
**Federal Aviation
Administration**

Aviation Safety

800 Independence Ave
Washington, DC 20591

FY!

November 5, 2024

Exemption No. 23096
Regulatory Docket No. FAA-2024-2375

Ms. Kelly J. Neubecker
President
UASolutions Group, LLC
19940 Simla Highway
Simla, CO 80835

RE: Iowa State University
2356 Elings Hall
Ames, IA 50011-1098

Dear Ms. Neubecker:

This letter is to inform you that the Federal Aviation Administration (FAA) has granted your request for exemption. This letter transmits the FAA's decision, explains the FAA's basis, and provides the conditions and limitations of the exemption, including the date the exemption ends.

The Basis for the FAA's Decision

By letter dated September 16, 2024, you petitioned the FAA on behalf of Iowa State University (Iowa State University) for an exemption from §§ 61.3(a)(1)(i), 61.23(a)(2), 91.7(a), 91.119(c), 91.121, 91.151(b), 91.403(b), 91.405(a), 91.407(a)(1), 91.409(a)(1), 91.409(a)(2), 91.417(a), 91.417(b), 137.19(c), 137.19(d), 137.19(e)(2)(ii), 137.19(e)(2)(iii), 137.19(e)(2)(v), 137.31(a), 137.31(b), 137.33(a), 137.33(b), 137.41(c), and 137.42 of Title 14 Code of Federal Regulations (14 CFR) to the extent necessary to allow Iowa State University to operate unmanned aircraft systems (UAS), weighing 55 pounds (lbs.) or greater, for the provision of commercial agricultural-related services.

Additional Relief Determined to be Necessary

The FAA finds relief from 14 CFR §§ 61.23(a)(2), and 61.3(c)(1) is necessary. The FAA evaluated Iowa State University's operation, which includes controlled-access locations, speed limitations, and low-altitude operating environment, and finds these characteristics are adequate mitigations in the event of a medical incident. Therefore, the FAA has determined that requiring a third-class medical certificate provides reasonable assurance that the pilot does not have any physical or mental condition that would interfere with the safe operation of the UAS, and relief is granted to 14 CFR §§ 61.23(a)(2) and 61.3(c)(1).

The FAA finds that relief from 14 CFR § 91.209(a)(1) is necessary for nighttime operations. The FAA finds that the UA does not need to be equipped with position lights since the UA is equipped with identification lights. As the UA is equipped with identification lights instead of position lights, relief from 14 CFR § 91.209(a)(1) is granted. Refer to Condition and Limitation No. 16.

Airworthiness

The UAS on the List of Approved UAS (Agricultural) under Section 44807, found at Regulatory Docket No. FAA-2023-1271, do not currently have an airworthiness certificate. In accordance with the statutory criteria provided in 49 U.S.C. § 44807, and in consideration of the size, weight, speed, and operational capability, proximity to airports and populated areas, and specific operations, a determination has been made that the aircraft do not create a hazard to users of the National Airspace System (NAS) or the public.

Iowa State University is approved to operate any UAS under this exemption that has been approved for agricultural operations. This list, along with the approved maximum takeoff weight (MTOW), which includes the payload weight, can be found on the List of Approved Unmanned Aircraft Systems under Section 44807. The list, which will be updated periodically, is posted at www.regulations.gov, under Regulatory Docket No. FAA-2023-1271. This list is for UAS weighing 55 pounds (lbs.) or greater including payload that are unable to fly under Part 107 due to the MTOW of the aircraft.

Materially Similar Decisions

The FAA has issued grants of exemption in circumstances similar in all material respects to those presented in your petition. In Grant of Exemption Nos. 18009, 18413A, 19037B¹, and 22003, the FAA found that a grant of exemption was in the public interest, that the proposed operations' UAS safety features and the limitations under which the Exemption Holder would operate were sufficient mitigations that ensured the proposed agricultural operations would not adversely affect safety, and that the Exemption Holder

¹ All of these exemptions are available for review on the Regulatory Docket at www.regulations.gov, Exemption No. 18009 is available at Document ID No. FAA-2018-0574-0009, Exemption No. 18413A is available at Document ID No. FAA-2019-0802-0012, Exemption No. 19037B is available at Document ID No. FAA-2022-0034-0007, and Exemption No. 22003 is available at Document ID No. FAA-2023-1833.

may operate any UAS for these operations that has been previously approved by the Secretary.

Having reviewed your reasons for requesting an exemption, I find that:

- They are similar in all material respects to relief previously requested in Grant of Exemption Nos. 18009, 18413A, 19037B, and 22003;
- The reasons stated by the FAA for granting Exemption Nos. 18009, 18413A, 19037B, and 22003 also apply to the situation presented in your petition; and
- A grant of exemption is in the public interest.

The FAA's Decision

The FAA has determined that good cause exists for not publishing a summary of the petition in the *Federal Register* because the requested exemption would not set a precedent, and any delay in acting on this petition would be detrimental to Iowa State University.

Under the authority contained in 49 U.S.C. §§ 106(f), 40113, 44701, and 44807, which the FAA Administrator has delegated to me, I hereby grant Iowa State University an exemption from 14 CFR §§ 61.3(a)(1)(i), 61.3(c)(1), 61.23(a)(2), 91.7(a), 91.119(c), 91.121, 91.151(b), 91.209(a)(1), 91.403(b), 91.405(a), 91.407(a)(1), 91.409(a)(1), 91.409(a)(2), 91.417(a), 91.417(b), 137.19(c), 137.19(d), 137.19(e)(2)(ii), 137.19(e)(2)(iii), 137.19(e)(2)(v), 137.31(a), 137.31(b), 137.33(a), 137.33(b), 137.41(c), and 137.42 to the extent necessary to allow Iowa State University to operate any UAS found on the List of Approved Agricultural UAS under Section 44807 for the provision of commercial agricultural-related services, subject to the conditions and limitations described below.

Conditions and Limitations

1. This exemption is non-transferable. Only Iowa State University may conduct operations in accordance with this exemption.
2. Iowa State University must obtain an agricultural aircraft operator certificate under Part 137 by submitting FAA Form 8710-3 (copy enclosed) and Iowa State University's exemption number to UAS137Certificates@faa.gov. Please note, the name of person or entity on the 8710-3 application must match the Exemption Holder's name.
3. Prior to operations under 14 CFR Part 137, consistent with Conditions and Limitations Nos. 27 and 29 below, Iowa State University may conduct non-

commercial training flights, proficiency flights, experience-building flights, and maintenance functional test flights all limited to employees under this exemption with the understanding that Iowa State University is conducting these flights for the purpose of obtaining their Part 137 agricultural aircraft operator certificate.

4. Operations authorized by this grant of exemption include any unmanned aircraft system (UAS), along with the approved maximum take-off weight (MTOW), which includes payload, for the respective UAS identified on the List of Approved UAS (Agricultural) under Section 44807 at Regulatory Docket No. FAA-2023-1271 at www.regulations.gov, when weighing 55 pounds (lbs.) or greater including payload. Proposed operations of any aircraft not on the list, or at different weights than currently approved, will require a new petition or a petition to amend this exemption.
5. This exemption does not excuse Iowa State University from complying with 14 CFR Part 375. If operations under this exemption involve the use of foreign civil aircraft, Iowa State University must obtain a Foreign Aircraft Permit pursuant to 14 CFR § 375.41 before conducting any operations under this exemption. Application instructions are specified in 14 CFR § 375.43.
6. The unmanned aircraft (UA) may not be operated at a groundspeed exceeding 30 miles per hour or at a speed greater than the maximum operating speed recommended by the aircraft manufacturer, whichever is lower.
7. All operations must be conducted in accordance with an Air Traffic Organization (ATO) issued Certificate of Waiver or Authorization (COA). A copy of the blanket 49 U.S.C. § 44807 COA is enclosed with this exemption. Iowa State University must apply for a new or amended COA if it intends to conduct operations that cannot be conducted under the terms of the enclosed COA. *If a conflict exists between the COA and this condition, the more restrictive provision will apply.* The COA will also require Iowa State University to request a Notice to Air Missions (NOTAM) not more than 72 hours in advance, but not less than 24 hours prior to each operation. Unless the COA or other subsequently issued FAA authorization specifies an altitude restriction lower than 200 feet above ground level (AGL), operations under this exemption may not exceed 200 feet AGL. Altitude must be reported in feet AGL.
8. The pilot in command (PIC) must be designated before the flight and cannot transfer their designation for the duration of the flight. In all situations, Iowa State University and the PIC are responsible for the safety of the operation. Iowa State University must ensure the PIC follows all applicable conditions and limitations as prescribed in this exemption and ATO-issued COA and operate in accordance with the operating documents as defined in the conditions and limitations in this exemption. The UA must be operated within visual line of sight (VLOS) of the PIC at all times. If the PIC is unable to maintain VLOS with the UA during flight, (including if caused by the inadvertent loss of night vision) the entire flight operation must be terminated as soon

as practicable. The PIC must be able to use human vision unaided by any device other than corrective lenses, as specified on the PIC's FAA-issued airman medical certificate.

9. The PIC may manipulate flight controls in the operation of no more than three UA at the same time. Proposed operation of more than three UA at the same time (by one PIC) requires a new petition or a petition to amend this exemption.
10. Unless otherwise authorized by the Administrator, the Ground Control Station (GCS) and software must be designed for, and compatible with, the UAS to be operated. The GCS must clearly display and identify each UAS being operated by the PIC.
11. Operations of multiple UAS by a single PIC must be automated and have a back-up system capable of operating each UAS independently. The autopilot system must maintain UAS separation without input from the PIC.
12. All operations may optionally utilize the services of at least one or more visual observers (VO). *If utilized, the VO must be trained in accordance with Iowa State University's training program and successful completion of the training program must be recorded. A VO (if used) shall not perform VO duties for more than one PIC at a time.* For purposes of this condition, a VO is someone: (1) who maintains effective communication with the PIC at all times; (2) who the PIC ensures is able to see the UA with human vision as described in Condition and Limitation No. 8; and (3) who coordinates with the PIC to scan the airspace where the UA is operating for any potential collision hazard and maintain awareness of the position of the UA through direct visual observation. The PIC must ensure that the VO (if used) can perform the duties required of the VO. All UA must be operated within VLOS of both the PIC and VO (if used), at all times. The VO may be used to satisfy the VLOS requirement as long as the VO always maintains VLOS capability of the UA. The VO (if used) must maintain visual sight of all UA at all times during flight operations without distraction, the VO must have no collateral duties, and the VO cannot act as the PIC during the flight. The PIC and VO (if used) must be able to *communicate verbally at all times*; electronic messaging or texting is not permitted during flight operations. *If an operation begins with the use of a VO, then that operation must be completed with the use of that VO* (i.e. an operation must not switch from the use of a VO to an operation without the use of a VO mid-operation). If either the PIC or a VO (if used) is unable to maintain VLOS with the UA during flight, (including if caused by the inadvertent loss of night vision) the entire flight operation must be terminated as soon as practicable.
13. If a VO is not utilized, the PIC must maintain VLOS with the UA during the entire flight operation. Additional support personnel may be used to conduct UA inspections, and servicing, such as changing batteries and refilling or exchanging hoppers. Additional support personnel are not considered to be performing the

function of a VO; however, their use is encouraged to ensure the PIC is not distracted with non-essential duties during flight.

14. All documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations stated in this grant of exemption, are hereinafter referred to as the operating documents. At a minimum, the operating documents must include:
 - a. Iowa State University's operations manual;
 - b. Iowa State University's training program;
 - c. The manufacturer's provided flight manual;
 - d. All other manufacturer UAS provided documents;
 - e. This exemption; and
 - f. Any ATO-issued COA that applies to operations under this exemption.

These operating documents must be accessible during all UAS operations that occur under this exemption and made available to the Administrator or any law enforcement official upon request. *If a discrepancy exists between the conditions and limitations in this exemption and the procedures outlined in the operating documents, the conditions and limitations herein take precedence and must be followed.* Otherwise, Iowa State University must follow the procedures as outlined in its operating documents.

15. Iowa State University must have and keep current a comprehensive operations Manual that is tailored for their proposed operation and contain, at a minimum:
 - a. Operations policies, methods, and procedures that address Safety Risk Management (SRM);
 - b. Adverse weather;
 - c. Flight planning;
 - d. NOTAM;
 - e. Aircraft inspection;
 - f. Preflight duties and post-flight duties;
 - g. Normal and emergency flight procedures;
 - h. Crew Resource Management (CRM) and communications,
 - i. Crewmember responsibilities (to include operations with and without a VO);
 - j. Accident reporting;
 - k. Hazardous material (HAZMAT) handling and stowage; and
 - l. UAS maintenance;
 - m. Operation at Night (if operating at night);
 - n. Multi-UAS Operation (if operating multi-UAS);
 - o. Multi-UAS Operation at Night (if operating multi-UAS at Night); and
 - p. Operation without a VO (if operating without a VO).
16. Iowa State University must have and keep current a comprehensive training program that is tailored for their proposed operation and contain, at a minimum:

- a. Knowledge requirements of 14 CFR § 137.19(e)(1),
 - b. Initial and recurrent training;
 - c. Testing;
 - d. Completion standards;
 - e. Ground training;
 - f. Site surveying;
 - g. Flight training;
 - h. Normal and emergency procedures;
 - i. UAS operating limitations;
 - j. Lost-link procedures;
 - k. Multi-UAS;
 - l. Any ATO-issued COA that applies to operations under this exemption;
 - m. HAZMAT handling and stowage;
 - n. Operation at Night (if operating at night), the Training Program must include:
 - Elements to ensure crewmembers are personally prepared for night operation, with a focus on eyesight preparation and fatigue;
 - Emphasis on the preparation of the ground station and landing location, ensuring it is as well-lit as possible, without hindering the PIC's night vision; and
 - Satisfactory functional checks of the aircraft lights.
 - o. Multi-UAS Operation (if operating Multi-UAS), the Training Program must include:
 - Satisfactory pre-flight inspection of the GCS and operating area to ensure that three UAS can operate and land safely.
 - p. Multi-UAS Operation at Night (if operating multi-UAS at night), the Training Program must include:
 - Satisfactory pre-flight inspection of the GCS and operating area to ensure that three UAS can operate and land safely; and
 - Satisfactory pre-flight checks to ensure the aircraft identification lights distinguish each UAS individually.
 - q. Operation without a VO (if operating without a VO), the Training Program must include:
 - All roles and responsibilities of the VO to be assumed and conducted by the PIC.
17. Any UAS that has undergone maintenance or alterations that affect the UAS operation or flight characteristics (e.g., replacement of a flight-critical component) must undergo a functional test flight prior to conducting further operations under this exemption. Functional test flights may only be conducted by a PIC with a VO (if used) and other personnel required to conduct the functional flight test (such as a mechanic or technician) and must remain at least 500 feet from other people. The functional test flight must be conducted in such a manner so as to not pose an undue hazard to persons and property.

18. Iowa State University is responsible for maintaining and inspecting all aircraft to be used in the operation and ensuring that they are all in a condition for safe operation.
19. Prior to each flight, the PIC must conduct a pre-flight inspection and determine the UAS is in a condition for safe flight. The pre-flight inspection must account for all potential discrepancies, such as inoperable components, items, or equipment. If the inspection reveals a condition that affects the safe operation of the UAS, the UA is prohibited from operating until the necessary maintenance has been performed, and the UA is found to be in a condition for safe flight.
20. Iowa State University must follow the UAS manufacturer's operating limitations, maintenance instructions, service bulletins, overhaul, replacement, inspection, and life-limit requirements for the UAS and UAS components. Each UAS operated under this exemption must comply with all manufacturers' safety bulletins. Maintenance must be performed by individuals who have been trained by Iowa State University in proper techniques and procedures for these UAS. All maintenance must be recorded in the UAS records including a brief description of the work performed, date of completion, and the name of the person performing the work.
21. A PIC must hold a remote pilot certificate with a small UAS rating issued under Part 107. The PIC must meet the requirements of Section 107.65, *Aeronautical knowledge recency*.
22. For night operations, the PIC must not have any night operating limitations on their FAA-issued airman medical certificate, nor any medical condition which interferes with night vision and must be able to perceive those colors necessary to correctly distinguish the UA's position and orientation at night.
23. The PIC must also hold at least a current FAA third-class airman medical certificate. The PIC may not conduct the operation if the PIC knows or has reason to know of any medical condition that would make the PIC unable to meet the requirements for at least a third-class medical airman medical certificate or is taking medication or receiving treatment for a medical condition that results in the PIC being unable to meet the requirements for at least a third-class medical certificate. A VO (if used) or any other direct participant shall not participate in the operation if they know or have reason to know of any physical or mental condition that would interfere with the safe operation of the UAS.
24. The PIC must satisfactorily complete Iowa State University's training program requirements, as described in the training manual; and satisfactorily complete the applicable knowledge and skills requirements for agricultural aircraft operations outlined in Part 137, with the exception of Sections 137.19(e)(2)(ii), 137.19(e)(2)(iii), and 137.19(e)(2)(v), which are not required for the purposes of meeting this condition. Iowa State University or chief supervisor's knowledge and skill tests of 14

CFR § 137.19(e) may be self-administered. Documentation of satisfactory completion of both the training program and the knowledge and skill tests of Section 137.19(e) must include the date of the test, as well as the PIC's name, FAA pilot certificate number, and legal signature. This documentation must be provided to the FAA upon request.

25. PIC qualification flight hours and currency may be logged in a manner consistent with 14 CFR § 61.51(b). However, time logged for UAS operations may not be recorded in the same columns or categories as time accrued during manned flight, and UAS flight time does not count toward total flight time required for any Part 61 requirement.
26. When operating without a VO, the PIC will remain at the ground station at all times while any UAS is in flight. The PIC will not leave the ground station to load or service a UAS on the ground while any UAS is in flight. When operating without a VO, the PIC must land all UAS before proceeding to load or service.
27. All training operations must be conducted during dedicated training sessions in accordance with the Iowa State University's training program. Iowa State University may conduct training operations **only** for the Iowa State University's **employees**. Furthermore, the PIC must operate the UA not closer than 500 feet to any nonparticipating person while conducting training operations. Training, individually and combined, is required for night, multiple UAS by a single PIC, and operations without a VO.
28. The VO (if used) must not have any medical condition which interferes with night vision and must be able to perceive those colors necessary to correctly distinguish the UA's position and orientation at night.
29. For night operations, the VO (if used) must have completed the night training portion of Iowa State University's training program requirements, the completion of which must be documented. This documentation must be provided to the FAA upon request.
30. UAS operations may be conducted during night, as defined in 14 CFR § 1.1. All operations must be conducted under visual meteorological conditions (VMC). Operations may not be conducted under special visual flight rules (SVFR). Night operations require anti-collision lighting that is visible for 3 statute miles and has a flash rate sufficient to avoid a collision as is consistent with 14 CFR § 107.29(b). The aircraft must also be equipped with continuously illuminated identification lighting.
 - For multi-UAS operation at night, the UAS must incorporate unique identification lights configured to match each UAS's color displayed in the ground station software.

31. For night operations, the area of operation must be sufficiently illuminated to allow both the remote PIC and VO (if used) to identify people or obstacles on the ground, or the PIC must have inspected the operating area in person during daylight hours in order to assess all potential hazards and develop a plan to avoid these hazards.
32. For night operations, the PIC must verify all aircraft lights are fully functional prior to each operation. Should the lighting system become inoperative, the night operation must cease immediately.
33. The UA may not be operated less than 500 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.
34. For UAS operations where a global navigation satellite system (GNSS) signal is necessary to safely operate the aircraft, the PIC must immediately recover or land the UA upon loss of GNSS signal.
35. An individual system failure must not interfere with the operation of other UAS or cause incidents, accidents, or loss of control involving UAS that are the subject of this exemption.
36. If the PIC loses command or control link, the UA must follow a pre-determined route to either reestablish link or immediately recover or land.
37. The UAS must be equipped with a flight termination system. Prior to operations subject to this exemption, the flight termination system must be tested and verified to operate as described in the operating documents.
38. The PIC must abort the flight operation if unexpected circumstances or emergencies arise that could degrade the safety of persons or property. The PIC must terminate flight operations without causing undue hazard to persons or property in the air or on the surface.
39. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough available power for each aircraft involved in the operation to conduct the intended operation with sufficient reserve such that in the event of an emergency, the PIC can land each aircraft in a known area without posing an undue risk to other aircraft or people and property on the surface. If the manufacturer's manual, specifications, or other documents that apply to the operation of the UAS recommend a specific volume of reserve power, the PIC must adhere to the manufacturer's recommendation, as long as it allows the aircraft to conduct the operation with sufficient reserve and maintain power to land the aircraft in a known area without presenting undue risks, should an emergency arise.

40. Documents used by Iowa State University to ensure the safe operation and flight of the UAS and any documents required under 14 CFR §§ 91.9, 91.203, and 137.33 must be available to the PIC at the GCS of the UAS any time any UA operates in accordance with this exemption. These documents must be made available to the Administrator or any law enforcement official upon request.
41. The UA must remain clear and give way to all manned aviation operations and activities at all times.
42. The UAS may not be operated by the PIC from any moving device, vessel, or vehicle.
43. All flight operations must be conducted at least 500 feet from all persons who are not directly participating in the operation, and from vessels, vehicles, and structures, unless when operating:
 - a. *Over or near people directly participating in the operation of the UAS.* No person may operate the UAS directly over a human being unless that human being is directly participating in the operation of the UAS, to include the PIC, VO (if used) and other personnel who are directly participating in the safe operation of the UA.
 - b. *Near nonparticipating persons.* Except as provided in subsection (a) of this section, a UA may only be operated closer than 500 feet to a person when barriers or structures are present that sufficiently protect that person from the UA and/or debris or hazardous materials such as fuel or chemicals in the event of an accident. Under these conditions, Iowa State University must ensure that the person remains under such protection for the duration of the operation. If a situation arises, in which the person leaves such protection and is within 500 feet of the UA, flight operations must cease immediately in a manner that does not cause undue hazard to persons.
 - c. *Closer than 500 feet to vessels, vehicles and structures.* The UA may be operated closer than 500 feet, but not less than 100 feet, from vessels, vehicles, and structures under the following conditions:
 - i. The UAS is equipped with an active geo-fence boundary, set no closer than 100 feet to applicable waterways, roadways, or structures;
 - ii. The PIC must have a minimum of 7 hours' experience operating the specific make and model UAS authorized under this exemption, at least 3 hours of which must be acquired within the preceding 12 calendar months;
 - iii. The PIC must have a minimum of 25 hours' experience as a PIC in dispensing agricultural materials or chemicals from a UA;
 - iv. The UA may not be operated at a groundspeed exceeding 15 miles per hour;
 - v. The UA altitude may not exceed 20 feet AGL; and
 - vi. The PIC must make a safety assessment of the risk of operating closer than 500 feet from those objects and determine that it does not present an undue

hazard.

- d. *Closer than 100 feet from vessels, vehicles and structures.* The UA may operate closer than 100 feet from vessels, vehicles, and structures in accordance with the conditions listed in Condition and Limitations No. 43(c)(ii) through (vi) and the following additional conditions:
 - i. The UAS is equipped with an active geo-fence boundary, set to avoid the applicable waterways, roadways, or structures; and
 - ii. Iowa State University must obtain permission from a person with the legal authority over any vessels, vehicles or structures prior to conducting operations closer than 100 feet from those objects.
44. The PIC or a VO (if used) must be able to determine the aircraft's altitude, attitude, and direction of flight at all times at the GCS or have an attitude threshold limit alert that must be operable prior to night flight operations.
45. All operations shall be conducted from and over predetermined, uninhabited, segregated, private or controlled-access property as described in Iowa State University's Flight Operations Procedures Manual. The PIC must ensure the entire operational area will be controlled² to reduce risk to persons and property on the ground, as well as other users of the National Airspace System (NAS). This area of operation will include a defined lateral and vertical area where the UA will operate and must be geo-fenced to prevent any lateral and vertical excursions by the operating UA. Safety procedures must be established for persons, property and applicable airspace within the area of operation. A briefing must be conducted regarding the planned UAS operations prior to operation at each location of operation in which Iowa State University has not previously conducted agricultural aircraft operations. All personnel who will be performing duties within the boundaries of the area of operation must be present for this briefing. Additionally, all operations conducted under this exemption may only occur in areas of operation that have been physically examined by Iowa State University prior to conducting agricultural aircraft operations and in accordance with the associated COA.
46. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported within 24 hours as required by the applicable COA issued by the FAA ATO. Additionally, any incident or accident that occurs, or any flight operation that transgresses the lateral or vertical boundaries of the operational work area, must be reported to 137 UAS Operations Office at UAS137Certificates@faa.gov.

² Iowa State University will control access to minimize hazards to persons and property in the air and on the ground.

Failure to comply with any of the above conditions and limitations may result in the immediate suspension or rescission of this exemption.

Unless otherwise specified in this grant of exemption, the UAS, PIC, and Iowa State University must comply with all applicable parts of 14 CFR including, but not limited to, Parts 45, 47, 91, and 137. In addition, Iowa State University must comply with all limitations and provisions of the Iowa State University's agricultural aircraft operator certificate, which Iowa State University must obtain prior to conducting agricultural operations in accordance with 14 CFR § 137.11.

The Effect of the FAA's Decision

This exemption terminates on November 30, 2026, unless sooner superseded or rescinded.

To request an extension or amendment to this exemption, please submit your request by using the Regulatory Docket No. FAA-2024-2375 (<http://www.regulations.gov>). In addition, you should submit your request for extension or amendment no later than 120 days prior to the expiration listed above, or the date you need the amendment, respectively.

Any extension or amendment request must meet the requirements of 14 CFR § 11.81.

Sincerely,

/s/

Robert M. Ruiz
Deputy Executive Director
Flight Standards Service

Enclosure(s)



US Department
of Transportation

Federal Aviation
Administration

AGRICULTURAL AIRCRAFT OPERATOR CERTIFICATE APPLICATION

Paperwork Reduction Act Statement: The information collected on this form is required. This form is submitted to determine eligibility for the issuance of the Agriculture Aircraft Operator Certificate. Confidentiality is neither requested nor provided. We estimate that it will take 1 hour to complete the form. Please note that an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control number associated with this collection is 2120-0049. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave. SW, Washington, DC 20591 Attn: Information Collection Clearance Officer, ASP-110.

SUPPLEMENTAL
INFORMATION

Form 8710-3 (12/16)

AGRICULTURAL AIRCRAFT OPERATOR CERTIFICATE APPLICATION

INSTRUCTIONS
Complete form in its entirety
Submit to the local Flight Standards
District Office

1. APPLICATION FOR		TYPE		FOR DISPENSING (Check one)		ORIGINAL					
		PRIVATE		ECONOMIC POISONS		AMENDMENT					
		COMMERCIAL		OTHER THAN ECONOMIC POISONS		REISSUANCE					
2. NAME AND ADDRESS OF APPLICANT				3. PRINCIPAL OPERATIONS BASE (Airport, City, State)							
TELEPHONE NUMBER				TELEPHONE NUMBER							
4. OPERATING AS		INDIVIDUAL		OTHER (Specify)		5. NAME OF CHIEF SUPERVISOR OF OPERATIONS (Commercial Operations Only) (First) (Middle Initial) (Last)					
		CORPORATION									
		PARTNERSHIP									
6. AIRMAN CERTIFICATE HELD				CERTIFICATE NUMBER							
GRADE		RATINGS									
PRIVATE		ASEL		AMES		TYPE RATING(S) (Specify)					
COMMERCIAL		AMEL		HELICOPTER							
AIRLINE TRANSPORT		ASES		GYROPLANE							
7A. DO YOU HOLD A CURRENTLY EFFECTIVE CERTIFICATE OF WAIVER FOR CONDUCTING AGRICULTURAL AIRCRAFT OPERATIONS?						NO					
						YES (Complete 7B)					
7B. WAIVER HELD		DATE ISSUED		EXPIRATION DATE		FAA DISTRICT OFFICE WHERE ISSUED					
8. AGRICULTURAL AIRCRAFT TO BE OPERATED											
MAKE		MODEL		EQUIPPED FOR		TOTAL NUMBER EACH AIRCRAFT OPERATED		REGISTRATION MARK (List a minimum of one)			
				LIQUID	SOLID						
9. LIST THE NAME(S) AND AIRMAN CERTIFICATE NUMBER(S) OF AGRICULTURAL PILOT(S) WORKING FOR YOU AT THE PRESENT TIME (Use separate sheet and attach if additional space is needed.)											
NAME				CERT. NO.		NAME				CERT. NO.	
10. REMARKS (if applicable)											
11. CERTIFICATION: I CERTIFY THAT STATEMENTS MADE ON THIS FORM ARE TRUE AND CORRECT.											
DATE			TITLE					SIGNATURE			

INSPECTION REPORT - For FAA Use Only*(To be completed by the General Aviation for Flight Standards District Office)***COMPLIANCE WITH APPLICABLE REGULATIONS**

1. PILOTS	NOT REQUIRED	SATISFACTORY	UNSATISFACTORY
A. CERTIFICATES			
B. RATING(S)			
C. KNOWLEDGE TEST			
D. SKILL TEST			
2. AIRCRAFT			
A. CERTIFICATED			
B. AIRWORTHY			
C. EQUIPPED FOR AGRICULTURAL OPERATIONS			

10. REMARKS *(Include an explanation of denial if application is disapproved).***4. DISTRICT OFFICE ACTION**

	CERTIFICATE ISSUED	INSPECTORS SIGNATURES
	APPLICATION DISAPPROVED	
DATE INSPECTION COMPLETED		

Blanket COA, 44807 Grant of Exemption, Class G Airspace at or below 400 AGL
FAA Form 7711-1, Certificate of Authorization

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION	
CERTIFICATE OF WAIVER OR AUTHORIZATION	
ISSUED TO Any Operator with a valid 49 U.S. Code (USC) 44807 Grant of Exemption	
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 Unmanned Aircraft System(s) (UAS) in accordance with the operators' 49 USC 44807 Grant of Exemption in Class G airspace at or below 400 feet Above Ground Level (AGL) in the National Airspace System (NAS).	
LIST OF WAIVED REGULATIONS BY SECTION AND TITLE N/A	
STANDARD PROVISIONS	
<ol style="list-style-type: none">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 (FAA), 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 A to G, inclusive, are set forth on the attached pages.	
This Certificate of Waiver or Authorization (COA) is valid for two years from the issuance of a 49 USC 44807 Grant of Exemption and is subject to cancellation at any time upon notice by the Administrator or his/her authorized representative.	
BY DIRECTION OF THE ADMINISTRATOR	
<u>FAA Headquarters</u> (Region)	<div>/S/ DARYL L GRANT Daryl Grant (Signature)</div> <div>Manager, UAS Policy Team (Title)</div>

FAA Form 7711-1 (7-74)

SPECIAL PROVISIONS

A. General.

1. The holder of this COA will be referred herein as the “Proponent”
2. The approval of this operation is effective only with an approved 49 USC 44807 Grant of Exemption.
3. All personnel connected with the UAS operation must read and comply with the contents of this COA and its provisions.
4. This certificate shall be presented for inspection upon the request of any authorized representative of the Federal Aviation Administration, or of any federal, state or municipal official charged with the duty of enforcing federal, state or local laws or regulations.
5. This COA may be canceled at any time by the Administrator, persons authorized to grant the COA or representatives designated to monitor specific operations. As a general rule, this COA may be canceled when it is no longer required, an abuse or non-compliance of its provisions occur, or when unforeseen safety factors arise. If cancelled, the proponent will receive a written notice of cancellation.
6. During the time this COA is approved and active, a site safety evaluation/visit may be accomplished to ensure COA compliance, assess any adverse impact on air traffic control (ATC) or airspace, and ensure this COA is not burdensome or ineffective. Deviations accidents/incidents/mishaps, complaints, etc., will prompt a COA review or site visit to address the issue. Refusal to allow a site safety evaluation/visit may result in cancellation of the COA.
7. Frequency spectrum approval is independent of the COA process and requires the proponent to obtain certification and frequency assignments (licenses) from the National Telecommunications and Information Administration (NTIA) (47 CFR Part 300) or Federal Communications Commission (47 CFR Part 2, Subpart J and 47 CFR Part 87, Subpart D) and frequency licenses (47 CFR Part 87) when applicable for the control link, ATC radios, transponders, detect and avoid systems, and navigation systems used to support this COA. Equipment licensed under 47 CFR Part 5 (Experimental) or 47 CFR Part 15 (Radio Frequency Devices) does not provide the protection necessary for NAS operations.

B. Safety of Flight.

1. The operator or pilot in command (PIC) is responsible for halting or canceling activity in the operations area if, at any time, the safety of persons or property on the surface or in the air is in jeopardy, or if there is a failure to comply with the terms or conditions of this authorization.
2. The PIC is responsible:
 - a. for ensuring the unmanned aircraft (UA) remains clear and always give way to all manned aviation operations and activities and

- b. for the safety of persons or property on the surface with respect to the UAS.
 - c. For compliance with CFR Parts 91.111, 91.113 and 91.115.
3. UAS pilots must ensure there is always a safe operating distance between other aviation activities and their UA.
 4. This approval does not relieve the certificate holder from the responsibility to check the airspace they are operating in and comply with all restrictions such as Restricted and Prohibited Airspace, Temporary Flight Restrictions, Notices to Air Mission (NOTAM), etc.
 5. Any requirements related to the use of a visual observer will be contained within the Grant of Exemption.

C. Coordination Requirements.

1. Operators and UAS equipment must meet the requirements (communication, equipment, and clearance) of the class of airspace within which the UA will be operated.
2. Operator filing and the issuance of required distance (D) NOTAM will serve as advance ATC facility notification for UAS operations in an area.
3. Coordination and de-confliction 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 an MTR, the operator will contact the scheduling agency 24 hours in advance to coordinate and de-conflict. If prior coordination and de-confliction does not take place 24 hours in advance, the operator must remain clear of all MTRs. Scheduling agencies for SUAs are listed in the FAA JO 7400.10.

D. Flight Planning Requirements.

1. Operations must be conducted under Visual Meteorological Conditions (VMC) and meet the following conditions and limitations:
 - a. At or below 400 feet AGL,
 - b. Class G airspace, and
 - c. Beyond the following distances from the airport reference point (ARP) of a public use airport, heliport, gliderport, or seaport listed in the Digital-Chart Supplement (d-CS), Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications:
 - (1) 5 nautical miles (NM) from an airport having an operational control tower; or
 - (2) 3 NM from an airport having a published instrument flight procedure, but not having an operational control tower; or

- (3) 2 NM from an airport not having a published instrument flight procedure or an operational control tower; or
 - (4) 2 NM from a heliport.
 - d. may not operate in a manner that interferes with operations and traffic patterns and must give way to any manned aircraft.
2. For all UAS requests not covered by the conditions listed above, the Grant of Exemption holder must apply for a new Air Traffic Organization (ATO) COA at <https://caps.faa.gov/coaportal>.

E. Notice to Air Missions (NOTAM).

- 1. A NOTAM is not required for aircraft weighing less than 55 pounds and operating at a maximum airspeed of 100 miles per hour (87 knots) or less, unless specifically required by their accompanying 44807 Grant of Exemption. All other UAS must file a distant (D) NOTAM when unmanned aircraft operations are being conducted. This requirement may be accomplished through:
 - a. 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, and/or operating area.
 - (3) Time and nature of the activity.
 - (4) Number of UAS flying in the operating area.
- 2. The area of operation defined in the NOTAM must only be for the actual area to be flown for each day and defined by a point and the minimum radius required to conduct the operation.
- 3. The operator must cancel applicable NOTAMs when UAS operations are complete or will not be conducted.

F. Reporting Requirements.

- 1. Documentation of all operations associated with UAS activities is required regardless of the airspace in which the UA operates. NOTE: Negative (zero flights) reports are required.
- 2. The Proponent must submit the following information on a monthly basis through email to 9-AVS-FS-AFS-700-Correspondence@faa.gov:
 - a. Name of Proponent, and aircraft registration number,
 - b. UAS type and model,

- c. All operating locations, to include city name and latitude/longitude,
 - d. Number of flights (per location, per aircraft),
 - e. Total aircraft operation hours,
 - f. Takeoff or landing damage,
 - g. Equipment malfunction. Required reports include, but are not limited to, failures or malfunctions to the:
 - (1) Control station
 - (2) Electrical system
 - (3) Fuel system
 - (4) Navigation system
 - (5) On-board flight control system
 - (6) Powerplant
 - (7) In flight fire
 - h. The number and duration of lost link events (control, performance and health monitoring, or communications) per UAS, per flight.
3. Incident/Accident/Mishap Reporting
- a. The proponent must provide initial notification to the FAA via the CAPS forms (Incident/Accident), or if unable, mail at 9-AVS-FS-AFS-700-Correspondence@faa.gov within 24 hours of an incident or accident that meets the following criteria:
 - (1) All accidents/mishaps involving UAS operations where any of the following occurs:
 - (a) Fatal injury, where the operation of a UAS results in a death occurring within 30 days of the accident/mishap
 - (b) Serious injury, where the operation of a UAS results in:
 - Hospitalization for more than 48 hours, commencing within 7 days from the date of the injury was received;
 - A fracture of any bone (except simple fractures of fingers, toes, or nose);
 - Severe hemorrhages, nerve, muscle, or tendon damage;
 - Involving any internal organ; or
 - Involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.
 - (c) Total UA loss
 - (d) Substantial damage to the unmanned aircraft system where there is damage to the airframe, power plant, or onboard systems that must be repaired prior to further flight

- (e) Damage to property, other than the unmanned aircraft.
- b. Any incident/mishap that results in an unsafe/abnormal operation including but not limited to:
 - (a) A malfunction or failure of the unmanned aircraft's on-board flight control system (including navigation)
 - (b) A malfunction or failure of ground control station flight control hardware or software (other than loss of control link)
 - (c) A power plant failure or malfunction
 - (d) An in-flight fire
 - (e) An aircraft collision involving another aircraft
 - (f) Any in-flight failure of the unmanned aircraft's electrical system requiring use of alternate or emergency power to complete the flight
 - (g) A deviation from any provision contained in the COA
 - (h) A deviation from an air traffic control clearance and/or Letter(s) of Agreement/Procedures
 - (i) A lost control link event resulting in
 - Fly-away, or
 - Execution of a pre-planned/unplanned lost link procedure.
- c. Initial reports must contain the information identified in the CAPS Accident/Incident Report.
- d. Follow-on reports describing the accident/incident/mishap(s) must be submitted by providing copies of proponent aviation accident/incident reports upon completion of safety investigations.
- e. The above procedures are not a substitute for separate accident/incident reporting required by the National Transportation Safety Board under 49 Code of Federal Regulations (CFR) Part 830 §830.5.
- f. This COA is issued with the provision that the FAA be permitted involvement in the proponent's incident/accident/mishap investigation as prescribed by FAA Order 8020.11, Aircraft Accident and Incident Notification, Investigation, and Reporting.

G. Emergency/Contingency Procedures.

1. If the UAS loses communications or loses its Global Positioning Signal, the UA must return to a pre-determined location within the operating area and land. Lost link procedures must not present an undue hazard to other aircraft by performing such maneuvers as crossing a runway.

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: 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 COA does not, in itself, waive any Title 14 CFRs not specifically stated, 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 proponent to resolve the matter. This COA does not authorize flight within Temporary Flight Restrictions, Special Flight Rule Areas, regulatory Special Use Airspace or the Washington DC Federal Restricted Zone (FRZ) without pre-approval. The proponent is hereby authorized to operate UA in the NAS within the areas defined in the Operations Authorized section of the cover page.