FEDERAL AVIATION AGENCY
FLIGHT STANDARDS SERVICE
Washington 25, D. C.

November 7, 1962

CIVIL AIR REGULATIONS DRAFT RELEASE NO. 62-47

SUBJECT: Proposed New Part 55 of the Civil Air Regulations, "Agricultural Aircraft Operations"

The Flight Standards Service of the Federal Aviation Agency has under consideration a new Part 55 of the Civil Air Regulations to prescribe certification and operation rules applicable to agricultural aviation. The reasons therefor are set forth in the explanatory statement of the attached proposal which was published today in the Federal Register as a notice of proposed rule making.

The Flight Standards Service desires that all persons who will be affected by the requirements of this proposal be fully informed as to its effect upon them and is therefore circulating copies in order to afford interested persons ample opportunity to submit comments as they may desire.

Because of the large number of comments which we anticipate receiving in response to this draft release, we will be unable to acknowledge receipt of each reply. However, you may be assured that all comments will be given careful consideration.

It should be noted that comments should be submitted, preferably in duplicate, to the Docket Section of the Federal Aviation Agency, and in order to insure consideration should be received on or before January 15, 1963.

Director,
Flight Standards Service

As published in the Federal Register on
November 7, 1962 (27 F.R. 10848)

FEDERAL AVIATION AGENCY

[14 CFR Part 55]

[Reg. Docket No. 1464; Draft Release No. 62-47]

CERTIFICATION AND OPERATION RULES FOR AGRICULTURAL AIRCRAFT OPERATIONS

Notice of Proposed Rule Making

Pursuant to the authority delegated to me by the Administrator (14 CFR 405.27), notice is hereby given that there is under consideration a proposal to adopt a new Part 55 of the Civil Air Regulations relating to the certification of agricultural aircraft operators, the conduct of agricultural aircraft activities, including aerial pest control and forest preservation, and the dispensing of chemicals and other materials from agricultural aircraft.

Interested persons may participate in the making of the proposed rules by submitting such written data, views, or arguments as they may desire. Communications should be submitted, preferably in duplicate, to the Docket Section of the Federal Aviation Agency, Room A-103, 1711 New York Avenue NW., Washington 25, D.C. All communications received on or before January 15, 1963, will be considered by the Administrator before taking action on the proposed part. The proposals contained in this notice may be changed in the light of comments received. All comments submitted will be available in the Docket Section for examination by interested persons at any time.

The rules proposed in this notice are the result of extensive study and public coordination. In April of 1960, a staff study entitled "Regulation of Aerial Application Operations" was prepared by the Federal Aviation Agency and circulated to the public. This was followed by a public conference on agricultural aircraft operations in May of 1960, in Washington, D.C. Two additional conferences, one in Oklahoma City, Oklahoma, and another in Topeka, Kansas, were held that year. The agendas for them reflected the comments and recommendations made at the Washington conference. These conferences and the staff study resulted in a large number of comments. These have been carefully studied and suggestions from them have been used. The proposed rules have also been discussed with representatives of several national aviation organizations and government agencies.

Under the Federal Aviation Act of 1958, the Administrator of the Federal Aviation Agency is authorized and directed to prescribe rules for the flight of aircraft and for the protection of persons and property on the ground. He is also authorized to provide for the examination and rating of such air agencies as may, in his opinion, be necessary in the interest of the public. In carrying out this authority, it is believed necessary to propose Part 55 as hereinafter set forth. This notice of proposed rule making is therefore concerned with persons and aircraft engaging in such activities.

The operation of agricultural aircraft has become a large business. It dates back to the year 1913, when aircraft were used experimentally for spreading poison dust on crops to control insects. In 1921, a specially equipped airplane was effective in dispensing lead arsenate dust on caterpillars. In 1923, a commercial aerial dusting company was established. By 1947, there were 1,000 aircraft engaged in a variety of agricultural operations and, by 1948, this number had more than doubled. In 1959, according to data compiled by the Federal Aviation Agency, 4,000 pilots used 4,960 aircraft and flew 879,750 hours in treating 50,891,000 acres. Figures for 1960 reflect continuing growth, with 4,160 pilots using 5,100 aircraft and flying 889,100 hours while treating 51,978,000 acres.

From this data, it is evident that the services offered by the commercial agricultural aircraft operator are in considerable demand. Farmers and ranchers look to him mostly for dusting or spraying crops to protect them from disease and insects. However, in some cases, he may sow the crop and fertilize it, and in other cases defoliate the matured plants for easy harvesting. His services are also in demand for controlling pests not related to growing plants, such as spraying marshland to control mosquitos. So effective has the airplane and helicopter become in rapidly treating large areas of farmland and orchard that crop production which would have been incredible at the turn of the century is now accepted as commonplace. In view of the world's expanding population and its growing food demands, the agricultural aircraft has become an economic necessity.

The Agency's work with agricultural aircraft activities, including pest control, has identified two areas of general concern. One of these is flight safety, as illustrated by low-flying activities over thousands of acres of farmland and orchard, near airports, and sometimes over cities and towns. The other is the hazard to persons and property by the wide variety of economic chemicals which are dispensed from these aircraft.

Many years of experience by the Agency and the agricultural aviation industry have established the need for operating and maintenance standards to insure a reasonable level of flight safety. Much has also been learned about the properties and effects of agricultural materials and chemicals, including the undesirable effects of some of them. The remarkable potency of modern agricultural dusts and sprays has increased the significance of the chemical aspect and the future promises even greater significance. However, this very potency can be a two-edged sword, as some agricultural chemicals are toxic to fish and wildlife and others are toxic to man. Thus, in addition to the hazards to nonhuman forms of life, hazards can also be present for the agricultural aircraft operator and his crew and for others. A lack of knowledge by him, concerning these critical materials, could have severe consequences.

The rules proposed in this notice are directed to the safety of agricultural aircraft operations and the dispensing of materials during such operations. In preparing them, no attempt has been made to establish flight procedures for specific crops or to direct the use of any particular application techniques.

Nor do the rules attempt to prescribe the kinds of chemicals or other materials to be used for the various agricultural and pest control situations. The Agency believes that Civil Air Regulations of this nature are not needed at this time. Instead, the proposed rules are designed to provide standards, requirements, and limitations which will enable the Agency to exercise reasonable control over agricultural aviation and to attain a practical level of safety in its everyday operation.

Commercial agricultural aircraft operations have long been conducted under authority of certificates of waiver or authorization issued by the Federal Aviation Agency and its predecessor organization, the Civil Aeronautics Administration. Holders of these certificates are granted permission to deviate from the requirements of certain sections of the Civil Air Regulations, for example, § 60.17(c), "Minimum altitudes over other than congested areas," and, less frequently, § 60.17(b), "Minimum altitudes over congested areas." These waivers contain special provisions designed to offset the waiving of the rules by providing an equivalent level of safety.

The use of a certificate of waiver for conducting agricultural aircraft operations has not been entirely satisfactory. By nature it is a negative approach as it authorizes nonobservance of regulations. Holders of these waivers have claimed this creates a stigma which sometimes works against them in cases of civil litigation. One group within the agricultural aircraft industry has expressed itself in favor of authorizing agricultural aircraft operations within the structure of existing Civil Air Regulations subject only to certain operating restrictions. Another group has proposed the use of an operating certificate to signify official approval. A third group has indicated that the existing procedure of issuing waivers is satisfactory and no change is needed. The Federal Aviation Agency believes that an operating certificate of indefinite duration, embodying suitable operating authorizations, is the most satisfactory method.

An operating certificate has several advantages. First, it is a positive approach and its use would replace the certificate of waiver as a means of authorization. As proposed herein, each operating certificate would carry authorizations describing the kinds of operations that are approved; for example, "Noncongested Area." Secondly, each holder of an agricultural aircraft operating certificate would be given broad authority to conduct agricultural aircraft operations anywhere within the United States and its possessions. In return for such authority, he would be held responsible for operating so as not to create a hazard to persons or property, either by movements of his aircraft or from the effects of materials and chemicals dispensed from them. Finally, the Agency believes that the stature of the agricultural aircraft industry warrants the recognition accorded by an operating certificate.

The proposed rules provide that an applicant for a commercial agricultural aircraft operator certificate shall demonstrate a professional knowledge of agricultural materials and their application, as well as agricultural aircraft flying skill. The knowledge test is designed to show his understanding of safe agricultural aircraft operations and the proper handling and dispensing of economic poisons and other agricultural chemicals and materials. The flight test is designed to show that he possesses sufficient skill in performing basic agricultural aircraft flight maneuvers with an aircraft loaded to its gross weight. A "grandfather" clause would exempt from the knowledge test and the flight test any person who holds a currently effective certificate of waiver at the time he applies for an agricultural aircraft operator certificate, and whose record of operation under the waiver has not disclosed any question regarding the safety of his flying or his competence in dispensing agricultural materials and chemicals.

Private agricultural aircraft operations have also been conducted under the authority of certificates of waiver issued to farmers and ranchers for treating their land and crops. Although the volume of this activity is small when compared to that of the commercial operators, the operations themselves are much the same; the private operator is privileged to fly at low altitudes and may dispense from his aircraft the same kinds of agricultural materials and economic poisons. The Agency, therefore, believes that reasonable rules are required for his operations and in lieu of a waiver it is proposed to issue him a private agricultural aircraft operator certificate.

The rules proposed for the private agricultural aircraft operator are similar to those for the commercial operator but there are several differences. The private operator may not conduct agricultural aircraft operations for compensation or hire. In addition, he is limited to operations over noncongested areas and property which he owns, has under lease, or in whose crop he has a legal interest. These limitations are believed to be reasonable and they should not prevent any qualified person whose property can be safely treated by air from making effective use of his agricultural aircraft.

The proposed rules further provide that an applicant for a private agricultural aircraft operator certificate will demonstrate an elementary knowledge of economic poisons and reasonable skill in performing agricultural flight maneuvers. His knowledge and skill are not expected to be as advanced as his commercial counterpart but should be sufficient to conduct a safe operation. The same "grandfather" clause as proposed for the commercial agricultural operator applicant would apply to the private operator applicant.

The new Part 55 is designed to: (1) Define certain names and terms associated with agricultural aviation; (2) provide for the issuance of agricultural aircraft operator certificates for conducting commercial and private agricultural aircraft operations within the United States and its possessions; (3) provide for the issuance of operating authorizations to accompany the agricultural aircraft operator certificate, describing the kind of operations that are authorized; (4) prescribe reasonable rules for conducting commercial agricultural aircraft operations, including aerial pest control, over noncongested and congested areas, and generally similar rules for conducting private agricultural aircraft operations; and (5) eliminate the requirement for issuing waivers to persons conducting either commercial or private agricultural aircraft operations.

This proposal is subject to the FAA Recodification Program recently announced in Draft Release No. 61-25 (26 F.R. 10698). The final rule, if adopted, may be in a recodified form, however, the recodification itself will not alter the substantive contents proposed herein.

In consideration of the foregoing, it is proposed to promulgate a new Part 55 of the Civil Air Regulations to read as hereinafter set forth.

This new part is proposed under the authority of sections 307(c), 601(a), and 607 of the Federal Aviation Act of 1958 (72 Stat. 749, 775, 779; 49 U.S.C. 1348, 1421, 1427).

Issued in Washington, D.C., on November 1, 1962.

G. S. MOORE,
Acting Director,
Flight Standards Service.

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Subpart A—Applicability and Definitions

§ 55.1 Applicability.

The rules in this part apply to the certification of commercial and private agricultural aircraft operators, and the operation of civil aircraft in agricultural activities in the United States or its possessions; except that in the event of a public emergency certain of these rules may be waived by the Administrator for relief and welfare activities approved by an agency of the federal, state, or local government.

§ 55.5 Definitions.

As used in this part, terms are defined as follows:

"Administrator" means the Administrator of the Federal Aviation Agency or any person to whom he has delegated his authority in the matter concerned.

"Agricultural aircraft" means an aircraft operated for agricultural production and care of agricultural products. It includes aircraft used for pest control, or for forest preservation.

"Aircraft" means a device that is used or intended to be used for flight in the air.

"Airport" means an area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

"Airport traffic area" means an airspace within a circular limit defined by a 5 statute mile horizontal radius from the geographical center of an airport at which an operative airport traffic control tower is located and extending upward from the surface to, but not including 2,000 feet above the surface.

"Commercial agricultural aircraft operator" means any person who holds a commercial agricultural operator certificate.

"Commercial agricultural aircraft operation" means operation of aircraft for compensation or hire for the purpose of dispensing any economic poison or any other substance intended for plant nourishment, soil treatment, propagation of plant life, or pest control; or for engaging in other activities directly affecting agriculture, horticulture, or forest preservation.

"Congested area" means a land or water area containing vessels, vehicles, structures, or persons, in such numbers or arrangement, that an emergency landing by the aircraft being operated would create a hazard to persons or property.

"Control zone" means a zone extending upward from the surface. A control zone may include one or more airports and is normally a circular area of 5 stature miles in radius with extensions where necessary to include instrument approach and departure paths.

"Crewmember" means a person assigned to perform duty in an aircraft during flight time.

"Critical engine" means the engine whose failure would most adversely affect the performance or handling of an aircraft.

"Economic poison" means (1) any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any insects, rodents, nematodes, fungi, weeds, or other forms of plant or animal life or viruses, except viruses on or in living man or other animals, which the Secretary of Agriculture shall declare to be a pest, and (2) any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

"Flight time" means the time from the moment the aircraft first moves under its own power for the purpose of flight until the moment it comes to rest at the next point of landing. ("Block-to-block" time.)

"Person" means an individual, firm, partnership, corporation, company, association, joint-stock association, or governmental entity. It includes a trustee, receiver, assignee, or similar representative of any of them.

"Pesticide" means an economic poison or mixture of substances used to repel or destroy pests.

"Pilot in command" means the pilot responsible for the operation and safety of an aircraft during flight time.

"Private agricultural aircraft operator" means any individual who holds a private agricultural operating certificate.

"Private agricultural aircraft operation" means operation not for compensation or hire, over property of the operator, property under lease to him, or property in whose crop he has a legal interest, for the purpose of dispensing any economic poison or other substance intended for plant nourishment, soil treatment, preparation of plant life, or pest control, or of engaging in any other activity directly affecting agriculture.

"Twilight" means the period in the morning when the sun is six degrees below the horizon until sunrise (morning twilight); and the period from sunset until the sun is six degrees below the horizon (evening twilight).

Subpart B—Commercial Agricultural Aircraft Operator

CERTIFICATION RULES

§ 55.10 Certificate required.

No person may conduct commercial agricultural aircraft operation without, or in violation of the terms of, a commercial agricultural aircraft operator certificate issued by the Administrator.

§ 55.11 Duration of certificate.

A commercial agricultural aircraft operator certificate is of indefinite duration and shall continue in effect until suspended, revoked, or voluntarily surrendered.

§ 55.12 Application for certificate.

Application for a commercial agricultural aircraft operator certificate is made on a form and in a manner prescribed by the Administrator. The form may be obtained from any General Aviation District Office of the Federal Avia-

tion Agency. The completed application is sent to the district office having jurisdiction over the area in which the applicant's home base of operations is located.

§ 55.13 Continuance of existing authority.

Any person conducting commercial agricultural aircraft operations under a currently effective certificate of waiver or authorization may continue to operate under the certificate if he applies for a commercial agricultural aircraft operator certificate before the effective date of this part. The extension of authority thus granted shall terminate when he is given notice of final action on his application, unless his waiver is sooner suspended, revoked, or otherwise terminated.

§ 55.14 Certification requirements.

A commercial agricultural aircraft operator certificate with an authorization to operate over a noncongested area, or a congested area, or both, shall be issued to a person who shows that he meets the requirements of § 55.15 or 55.16, or both.

§ 55.15 Noncongested area authorization.

An authorization for conducting commercial agricultural aircraft operations over a noncongested area is granted an applicant who meets the requirements of this section.

(a) *Pilots.* The applicant shall have available the services of at least one person who holds a currently effective United States commercial or airline transport pilot certificate and is properly rated for the aircraft to be used; the person available may be the applicant.

(b) *Aircraft.* The applicant shall have at least one certificated and airworthy aircraft, properly equipped for the intended agricultural operation, which is owned by him or under a lease which grants exclusive use of the aircraft by the applicant for at least six consecutive months. The aircraft shall be equipped with a suitable and properly installed shoulder harness for use by the pilot in command, and a like shoulder harness for the copilot, if a copilot is used. The harness shall restrain both shoulders of the wearer and still permit necessary freedom of movement.

(c) *Handbook.* The applicant shall have, and present for the examination and acceptance by the Administrator, a handbook appropriate to the kinds of agricultural aircraft operations to be conducted by him; or, if other individuals are to conduct them, for their direction and guidance. A copy of any changes and amendments to the handbook shall be furnished to the Administrator for examination and acceptance. The handbook shall contain necessary instructions, information, and data on at least the following subjects:

(1) Authority and duties of each individual responsible for any function directly related to the operation, including managers, foremen, pilots, flagmen, mechanics, loaders, and recordkeepers;

(2) Handling and mixing of agricultural materials and chemicals, including the use of personnel protective devices and equipment, emergency treatment of persons exposed to or injured by toxic chemicals, location of poison control centers and how to contact them, compliance with manufacturers' label instructions, and the disposal or decontamination of used containers;

(3) Surveying the area to be worked for flight hazards, susceptible adjacent crops, and for sensitive locations such as poultry farms, mink ranches, and animal corrals;

(4) Preflight inspection of aircraft, including dispensing equipment and jettisoning devices;

(5) Fueling of aircraft, including precautions for avoiding contamination;

(6) Loading of hoppers and tanks, including precautions to avoid spillage;

(7) Dispensing agricultural materials and economic poisons, including procedures and precautions peculiar to the areas to be worked, with emphasis on materials and conditions which may result in injury to persons or property;

(8) Handling of in-flight emergencies, including the jettisoning of loads;

(9) The use of pilot protective devices and equipment;

(10) Procedure to be followed when aircraft mechanical difficulties or malfunctions are encountered during operation;

(11) Instructions regarding the use of roads by aircraft in landing, taking off, and for loading, where such use is permitted by private owners or by highway authorities;

(12) Instructions regarding team flight operations; when appropriate;

(13) Cleaning and decontaminating the aircraft and dispensing equipment;

(14) Handling of complaints by farmers, ranchers, and others; and

(15) Reporting of accidents and incidents.

(d) *Knowledge and skill tests.* The applicant shall demonstrate, or have the individual who is to supervise agricultural aircraft operations demonstrate, to the Administrator satisfactory professional knowledge and skill regarding commercial agricultural aircraft operations, as described in subparagraphs (1) and (2) of this paragraph; except that an applicant is not required to comply with this paragraph if, at the time he applies for a commercial agricultural aircraft operator certificate, he holds a currently effective certificate of waiver for conducting commercial agricultural aircraft operations, and if his record of operation under the waiver has not disclosed any question regarding either the safety of his flight operations or his competence in dispensing agricultural materials or chemicals.

(1) The test of knowledge shall consist of the following subjects;

(i) Steps to be taken prior to starting operations, including survey of the area to be worked;

(ii) Proper handling, mixing, and loading of commonly used agricultural materials, including economic poisons and pesticides, and the proper disposal of used containers;

(iii) Properties of commonly used economic poisons and agricultural chemicals and their effects on plants, animals, and persons, with emphasis on those normally used in the areas of intended operations; and the precautions to be observed in using such poisons and chemicals;

(iv) Performance capabilities of and the approved operating procedures for the aircraft to be used;

(v) Primary symptoms of poisoning of persons from agricultural poisons, the appropriate emergency measures to be taken, and the location of poison control centers;

(vi) Correct flight and application procedures; and

(vii) Cleaning of dispensing equipment.

(2) The test of skill shall consist of the following maneuvers which shall be demonstrated in any of the aircraft specified in § 55.15(b), and at the aircraft's certificated gross weight or the gross weight established in accordance with the provisions of Part 8 of this chapter (Civil Air Regulations), whichever is applicable:

(i) Short-field and soft-field take-offs;[1]

(ii) Approaches to the working area;

(iii) Flare-outs.

(iv) Swath runs;

(v) Pullups and turnarounds; and

(vi) Rapid deceleration (quick stops).[2]

§ 55.16 Congested area authorization.

An authorization for conducting commercial agricultural aircraft operations over a congested area is granted an applicant who meets the requirements of § 55.15 for a noncongested area authorization and the requirements of paragraphs (a) and (b) of this section.

(a) *Pilots.* The applicant shall show that any person designated under § 55.15 (a) has acquired at least 25 hours of pilot-in-command flight time in the make and basic model of the aircraft to be used, 10 hours of which must have been acquired within the 12 months preceding application; and that this person has also acquired at least 100 hours of flight experience as pilot in command in dispensing agricultural materials or chemicals.

(b) *Aircraft.* The applicant shall at time of application have at least one aircraft which meets the requirements of § 55.15(b). In addition, it shall meet the following requirements:

(1) Within the last 100 hours of time in service, it shall have been—

(i) Given a 100-hour or periodic inspection by a person authorized by Part 18 of this subchapter; or

(ii) Maintained under a progressive inspection system;

(2) All FAA Airworthiness Directives currently in effect and applicable to the intended use shall have been complied with; and

(3) It is equipped with a device capable of jettisoning at least one-half of the aircraft's maximum authorized load of agricultural material within 15 seconds. When the aircraft is equipped with a device for releasing the tank or hopper as a unit, a means shall be provided to pre-

[1] Airplanes and gyroplanes only.
[2] Helicopters only.

vent inadvertent release by the pilot or other crewmember.

§ 55.17 Amendment of certificate.

The holder of a commercial agricultural aircraft operator certificate may apply to the Administrator for an amendment of his certificate to add or delete an operating authorization. Application for such an amendment is made by executing the appropriate portion of the form used in applying for an agricultural aircraft operator certificate. The completed application for amendment is sent to the General Aviation District Office of the FAA having jurisdiction over the area in which the certificate holder's home base of operations is located.

§ 55.18 Display, transfer, and surrender of certificate.

(a) The commercial agricultural aircraft operator certificate shall be kept at the holder's home base of operations specified in § 55.30, and shall be made available for inspection by the Administrator, or by any person, upon reasonable request.

(b) A commercial agricultural aircraft operator certificate is not transferable.

(c) Upon the suspension or revocation of a commercial agricultural aircraft operator certificate, the holder shall surrender it as requested by the Administrator. When the certificate holder for any other reason abandons operations under the certificate, he shall, within 30 days after termination, surrender the certificate to the General Aviation District Office of the Federal Aviation Agency having jurisdiction over the area in which the holder's home base of operations is located.

OPERATING RULES

§ 55.20 Responsibilities of certificate holder.

Each holder of a commercial agricultural aircraft operator certificate, when conducting agricultural aircraft operations, shall be responsible as specified in paragraphs (a) through (f) of this section.

(a) In addition to any other appropriate regulations issued by the Administrator, the holder shall comply with the applicable provisions of this part, the applicable provisions of Parts 43 and 60 of this chapter (Civil Air Regulations), and the provisions of Part 320 of the Civil Aeronautics Board's Safety Investigation Regulations governing the notification and reporting of aircraft accidents. In addition, a certificate holder who operates aircraft certificated in a restricted classification under the provisions of Part 8 of this chapter (Civil Air Regulations), shall comply with the applicable provisions of that part.

(b) He may not operate under a business name that is not shown on his operating certificate.

(c) He may not dispense or cause to be dispensed from an agricultural aircraft any material or substance in a manner that is likely to create a hazard to persons or property.

(d) He may not dispense or cause to be dispensed any material defined as an "economic poison" for a purpose that is disapproved by its federal or state label, nor may he dispense or cause to be dispensed any material in a manner contrary to the printed directions of the seller, manufacturer, or registrant, unless such dispensing is approved or recommended by the appropriate state agency, or is part of a controlled experimental program.

(e) He may not conduct or cause to be conducted any operations governed by this subpart without having an appropriate operating authorization shown on his agricultural aircraft operating certificate, nor shall he conduct any operation in violation of the provisions governing such an authorization.

(f) Except for an emergency requiring jettisoning of the aircraft's load, he may not discharge or cause to be discharged any material without the consent of the owner of the property upon which the material is dispensed or his authorized representative. When material is discharged through error or due to an emergency, the certificate holder shall notify or cause to be notified as soon as practicable, the owner of the property or his representative.

§ 55.21 Noncongested area operation.

Notwithstanding the provisions of § 60.17(c) of Part 60 of this chapter (Civil Air Regulations), the holder of a commercial agricultural aircraft operator certificate with a noncongested area authorization, may conduct agricultural aircraft operations over noncongested areas below 500 feet above the surface and closer than 500 feet to persons, vessels, vehicles, and structures; if the operations are conducted without creating a hazard to persons or property and he complies with paragraphs (a) through (c) of this section.

(a) *Pilots.* Each pilot in command shall meet the requirements of § 55.15 (a); and each pilot engaging in agricultural aircraft operations shall wear:

(1) A shoulder harness;

(2) A protective helmet (hard hat) while operating single-engine aircraft; and

(3) A suitable respirator or equivalent breathing device when dispensing materials that are likely to produce toxic effects under conditions of either brief or continued exposure.

(b) *Aircraft.* Each aircraft used shall meet the requirements of § 55.15 (b), but only one aircraft is required to be owned or leased by the certificate holder.

(c) *General.* Noncongested area operations shall be conducted in accordance with instructions and guidance contained in the handbook prescribed by § 55.15(c), and subparagraphs (1) through (4) of this paragraph.

(1) *Airport traffic areas and control zones.* Prior to conducting operations within an airport traffic area, or a control zone with a functioning control tower, the operator or the pilot in command shall obtain approval from the control tower; and, prior to conducting operations within a control zone without a functioning control tower, approval shall be obtained from the facility exercising instrument flight rule (IFR) control. In either case, the pilot shall comply with air traffic instructions as may be issued.

(2) *Nonobservance of airport traffic pattern.* Not withstanding the provisions of § 60.18 of Part 60 of this chapter (Civil Air Regulations), the pilot of an agricultural aircraft may deviate from an airport traffic pattern when authorized by the control tower concerned. At airports without a functioning control tower, the pilot may deviate from the traffic pattern if:

(i) Prior coordination is made with the airport management concerned;

(ii) Deviations are limited to agricultural operations;

(iii) Landings and takeoffs are not made on ramps, taxiways, or other areas of the airport not intended for such use, unless due to an emergency requiring a landing; and

(iv) The agricultural aircraft will at all times remain clear of, and give way to, aircraft conforming to the traffic pattern for the airport.

(3) *Operations without position lights.* Notwithstanding the provisions of § 60.23(a) of Part 60 of this chapter (Civil Air Regulations), agricultural aircraft operations may be conducted without position lights during the periods of morning and evening twilight under the following conditions:

(i) Prominent unlighted objects shall be visible for at least one mile; and

(ii) Takeoffs and landings at airports with a functioning control tower may be made only as authorized by the tower controller. Takeoffs and landings, at other airports may be made only with the permission of the airport management; however, no takeoffs or landings may be made at such airports when other operations requiring position lights are in progress.

(4) *Carrying certificate in the aircraft.* A facsimile of the commercial agricultural aircraft operator certificate shall be carried in each aircraft while it is being used in agricultural aircraft operations; the facsimile shall be made available for inspection by the Administrator, or by any person, upon reasonable request.

§ 55.22 Congested area operation.

Notwithstanding any provisions of Part 60 of this chapter (Civil Air Regulations), the holder of a commercial agricultural aircraft operator certificate with a congested area authorization may conduct agricultural and pest control operations over congested areas at such altitudes as may be required to accomplish the objective; if such operations are conducted with the maximum safety to persons and property consistent with the activity, and in compliance with the following:

(a) *Pilots.* Each pilot in command, and each copilot when a copilot is required, shall meet the requirements of § 55.16(a) except that copilots need not hold a type rating for the aircraft.

(b) *Aircraft.* Each aircraft used shall meet the requirements of § 55.16(b), but only one aircraft is required to be owned or leased by the certificate holder.

(c) *General.* Congested area operations shall be conducted in accordance

with instructions and guidance contained in the handbook prescribed by § 55.15(c), and subparagraphs (1) through (6) of this paragraph.

(1) Prior written approval shall be obtained from the appropriate official or governing body of the political subdivision over which the operations are conducted.

(2) Notice of the intended operation shall be given to the public by some effective means, including daily newspapers, radio, television, or door to door notice.

(3) A plan for each complete operation shall be developed by the operator, coordinated with, and approved by, appropriate personnel of the General Aviation District Office of the Federal Aviation Agency having jurisdiction over the area where the operation is to be conducted. The plan shall include consideration for obstructions to flight; the emergency landing capablities of the aircraft to be used, including rotorcraft; and necessary coordination with air traffic control.

(4) Excepting helicopters, single-engine aircraft may not, when loaded, take-off or make turnarounds over a congested area. Swath runs by single-engine aircraft may not be made over a congested area unless traversed in a pattern and at an altitude that the aircraft can land, in the event of an emergency, without endangering persons or property.

(5) Multiengine airplanes shall be operated as follows:

(i) No takeoff shall be made over a congested area except under conditions which will permit the airplane to be brought to a safe stop within the effective length of the runway from any point on takeoff up to the time of attaining with all engines operating at normal takeoff power, 105 percent of the minimum control speed in the takeoff configuration, whichever is greater, as shown by the accelerate-stop distance data. In applying this requirement, takeoff data shall be based upon still-air conditions, and no correction shall be made for any uphill gradient of one percent or less when the percentage is measured as the difference between elevation at the end points of the runway divided by the total length. For uphill gradients greater than one percent, the effective takeoff length of the runway shall be reduced 20 percent for each one percent grade.

(ii) Each airplane shall be operated at a weight which, with the critical engine inoperative, would permit a rate of climb of at least 50 feet per minute at an altitude of at least 1,000 feet above the elevation of the highest ground or obstruction within the area to be worked, or at an altitude of 5,000 feet, whichever is higher. For the purposes of this requirement, it shall be assumed that the propeller of the inoperative engine is in the minimum drag position; that the wing flaps and landing gear are in the most favorable positions; and that the remaining engine or engines are operating at the maximum continuous power available.

(6) Low altitude flight over a congested area shall be limited to the dispensing of agricultural materials and pesticides, except for approaches, departures, and necessary turnarounds.

§ 55.23 Inspection authority.

The Administrator shall be permitted at any reasonable time and place to make inspections, including on-the-job inspections, to determine compliance with regulations issued by the Administrator and the terms of the commercial agricultural aircraft operator certificate.

RECORDS AND REPORTS

§ 55.30 Records.

Each holder of a commercial agricultural aircraft operator certificate shall maintain and keep current, at the home base of operations designated in his application, the records described in paragraphs (a) through (c) of this section. These records shall be available for inspection by the Administrator upon reasonable request, and if the home base of operations is moved to another location, the move shall be reported to the Administrator within 30 days.

(a) The name, address, duties, certificate number, grade, and ratings of each individual whose duties require him to hold an airman certificate issued by the Federal Aviation Agency; and, for pilot personnel, the date and class of the most recent FAA medical certificate, including any restriction or limitation shown on it.

(b) A record of the pertinent Agricultural aircraft training given by the operator to each of his flight and operating ground personnel, and a record of training they may have received elsewhere.

(c) The name and address of each person for whom agricultural aircraft services are provided, the date(s) of such service, the name of the material dispensed, for each operation conducted. The records required by this paragraph shall be kept at least 12 months.

§ 55.31 Reports.

Each holder of a commercial agricultural aircraft operator certification shall furnish an annual report of agricultural aircraft operations, upon request of the Administrator, on a form provided by him.

Subpart C—Private Agricultural Aircraft Operator

§ 55.40 Certificate required.

No person may conduct private agricultural aircraft operations without, or in violation of the terms of, a private agricultural aircraft operator certificate issued by the Administrator.

§ 55.41 Duration of certificate.

A private agricultural aircraft operator certificate is of indefinite duration and shall continue in effect until suspended, revoked, or voluntarily surrendered.

§ 55.42 Application for certificate.

Application for a private agricultural aircraft operator certificate is made on a form and in a manner prescribed by the Administrator. The form may be obtained from any General Aviation District Office of the Federal Aviation Agency. The completed application is sent to the district office having jurisdiction over the area where the property to be treated is located.

§ 55.43 Continuance of existing authority.

Any individual conducting private agricultural aircraft operations under a currently effective certificate of waiver or authorization may continue to operate under the certificate if he applies for a private agricultural aircraft operator certificate before the effective date of this part. The extension of authority thus granted shall terminate when he is given notice of final action on his application, unless his waiver is sooner suspended, revoked, or otherwise terminated.

§ 55.44 Certification requirements.

A private agricultural aircraft operator certificate for operating over a noncongested area shall be issued to a person who shows that he meets the requirements of paragraphs (a) through (c) of this section.

(a) He holds a currently effective United States private, commercial, or airline transport pilot certificate and is properly rated for the aircraft to be used.

(b) He has the use of at least one appropriately certificated and airworthy aircraft, properly equipped for the intended argicultural operation, and equipped with a suitable and properly installed shoulder harness for use by the pilot in command, and a like shoulder harness for the copilot, if a copilot is used. The harness shall restrain both shoulders of the wearer and still permit necessary freedom of movement.

(c) He demonstrates to the Administrator satisfactory basic knowledge and skill regarding agricultural aircraft operations as described in subparagraphs (1) and (2) of this paragraph; except that an applicant is not required to comply with this paragraph if, at the time he applies for a private agricultural aircraft operator certificate, he holds a currently effective certificate of waiver for conducting private agricultural aircraft operations, and if his record of operation under the waiver has not disclosed any question regarding either the safety of his flight operations or his competence in dispensing agricultural materials or chemicals.

(1) The test of knowledge shall consist of the following subjects:

(i) Steps to be taken prior to starting operations, including survey of the area to be worked;

(ii) Proper handling, mixing, leading, and application of the agricultural materials to be dispensed, and the proper disposal of used containers;

(iii) General properties of any economic poisons that are to be used, the precautions to be observed in using them, and their effect on plants, animals, and persons;

(iv) Basic performance capabilities of and the approved operating procedures for the aircraft to be used; and

(v) Primary symptoms of poisoning of persons from agricultural poisons, the appropriate emergency measures to be taken, and the location of the nearest poison control center.

(2) The test of skill shall consist of the following maneuvers which shall be demonstrated in the aircraft specified in § 55.44(b), and shall be demonstrated at the aircraft's certificated gross weight or the gross weight established in accordance with the provisions of Part 8 of this chapter (Civil Air Regulations), whichever is applicable:

(i) Short-field and soft-field takeoffs;[3]

(ii) Approaches to the working area;

(iii) Flare-outs;

(iv) Swath runs;

(v) Pullups and turnarounds; and

(vi) Rapid deceleration (quick stops).[4]

§ 55.45 Display, transfer, and surrender of certificate.

(a) A private agricultural aircraft operator shall make his certificate available for inspection by the Administrator, or by any person, upon reasonable request.

(b) A private agricultural aircraft operator certificate is not transferable.

(c) Upon the suspension or revocation of a private agricultural aircraft operator certificate, the holder shall surrender it as requested by the Administrator. When the certificate holder for any other reason abandons operations under the certificate, he shall, within 30 days after termination, surrender the certificate to the General Aviation District Office of the Federal Aviation Agency having jurisdiction over the area where the property being treated is located.

§ 55.46 Operating rules.

(a) *Responsibilities of certificate holder.* Each holder of a private agricultural aircraft operator certificate shall be responsible as follows:

(1) In addition to any other appropriate regulations issued by the Administrator, the holder shall comply with the applicable provisions of this part, the applicable provisions of Parts 43 and 60 of this chapter (Civil Air Regulations), and the provisions of Part 320 of the Civil Aeronautics Board's Safety Investigation Regulations governing the notification and reporting of aircraft accidents. In addition, a certificate holder who operates aircraft certificated in the restricted classification under the provisions of Part 8 of this chapter (Civil Air Regulations), shall comply with the applicable provisions of that part.

(2) He may not dispense from an agricultural aircraft any material or substance in a manner likely to create a hazard to persons or the property of others.

(3) He may not use any material defined as an "economic poison" for a purpose that is disapproved by its federal or state label, nor may he dispense any material in a manner contrary to the printed directions of the seller, manufacturer, or registrant, unless such dispensing is approved or recommended by the appropriate state agency, or is part of an experiment program, supervised by, or coordinated with an agricultural agent of the Federal, state, or local government.

(b) *Area of operation.* Notwithstanding the provisions of § 60.17(c) of Part 60 of this chapter (Civil Air Regulations), the holder of a private agricultural aircraft operator certificate may conduct agricultural aircraft operations below 500 feet above the surface, and closer than 500 feet to persons, vessels, vehicles, and property, if such operations are:

(1) Limited to noncongested areas, and to the certificate holder's own property, property under bona fide lease to him, or property in whose crop he has a legal interest; and

(2) Conducted in such a manner as not to be likely to create a hazard to persons and the property of others.

(c) *General.*

(1) *Pilots.* Each pilot engaging in agricultural aircraft operations shall wear:

(i) A shoulder harness;

(ii) A protective helmet (hard hat) while operating single-engine aircraft; and

(iii) A suitable respirator or equivalent breathing device when dispensing materials that are likely to produce toxic effects under conditions of either brief or continued exposure.

(2) *Airport traffic areas and control zones.* Prior to conducting operations within an airport traffic area, or a control zone with a functioning control tower, the pilot shall obtain approval from the control tower; and, prior to conducting operations within a control zone without a functioning control tower, approval shall be obtained from the facility exercising instrument flight rule (IFR) control jurisdiction. In either case, the pilot shall comply with air traffic instructions as may be issued.

(3) *Nonobservance of airport traffic pattern.* Notwithstanding the provisions of § 60.18 of Part 60 of this chapter (Civil Air Regulations), the pilot of an agricultural aircraft may deviate from an airport traffic pattern when authorized by the control tower concerned. At airports without a functioning control tower, the pilot may deviate from the traffic pattern provided:

(i) Prior coordination is made with the airport management concerned;

(ii) Deviations are limited to agricultural operations;

(iii) Landings and takeoffs are not made on ramps, taxiways, or other areas of the airport not intended for such use, unless due to an emergency requiring a landing; and

(iv) The agricultural aircraft will at all times remain clear of, and give way to, aircraft conforming to the traffic pattern for the airport.

(4) *Operations without position lights.* Notwithstanding the provisions of § 60.23(a) of Part 60 of this chapter (Civil Air Regulations), agricultural aircraft operations may be conducted without position lights during the periods of morning and evening twilight under the following conditions:

(i) Prominent unlighted objects shall be visible for at least one mile; and

(ii) Takeoffs and landings at airports with a functioning control tower may be made only so authorized by the tower controller. Takeoffs and landings at other airports may be made only with the permission of the airport management; however, no takeoffs or landings may be made at such airports when other operations requiring position lights are in progress.

(5) *Carrying certificate in the aircraft.* The private agricultural aircraft operator certificate or a facsimile thereof shall be carried in the aircraft while it is being used in agricultural operations and shall be available for inspection by the Administrator, or by any person, upon reasonable request.

§ 55.47 Inspection authority.

The Administrator shall be permitted at any reasonable time and place to make inspections, including on-the-job inspections, to determine compliance with any regulations issued by him and the terms of the private agricultural aircraft operator certificate.

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[3] Airplanes and gyroplanes only.

[4] Helicopters only.