

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****14 CFR Parts 91 and 101****[Docket No. 21631; Notice No. 81-6]****Hang Gliders and Other Ultralight Vehicles; Proposed Operating Requirements****AGENCY:** Federal Aviation Administration (FAA), DOT.**ACTION:** Notice of proposed rulemaking.

SUMMARY: This notice proposes to establish rules governing the operation of hang gliders and other ultralight vehicles in the United States. The proposal would apply the new rules to single occupant, lightweight designs that are less than 155 pounds, with a fuel capacity of 15 pounds or less, and which have no U.S. or foreign airworthiness certificate. The proposed rules would govern the operations of ultralight vehicles, including specification of daylight operations and those areas that would require prior authorization of air traffic control (ATC). The rules for ultralight vehicles are needed to achieve an acceptable level of air safety by reducing potential conflict with other airspace users and to provide protection to persons and property on the ground. Under the proposal, ultralight vehicles which weigh 155 pounds or more, have a fuel capacity of more than 15 pounds, or have a U.S. or foreign airworthiness certificate are subject to existing regulations, including the certification and operating requirements for aircraft and operators.

The regulatory objectives of the proposed rule are consistent with, and achieve the purposes of, Executive Order 12291 issued February 17, 1981 (46 FR 13193; February 19, 1981), and have been chosen to maximize the net benefits to society at the least possible cost.

DATE: Comments must be received on or before November 25, 1981.

ADDRESS: Send comments on this proposal in duplicate to:

Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC-204), Docket No. 21631, 800 Independence Avenue SW., Washington, D.C. 20591;

OR deliver comments in duplicate to:

FAA Rules Docket, Room 916, 800 Independence Avenue SW., Washington, D.C.

Comments may be examined in the Rules Docket on weekdays, except Federal holidays, between 8:30 a.m. and 5:00 p.m.

FOR FURTHER INFORMATION CONTACT:

Ken Peppard, Air Traffic Rules Branch (AAT-220), Airspace and Air Traffic Rules Division, Air Traffic Service, Federal Aviation Administration, 800 Independence Ave., SW., Washington, DC 20591; telephone (202) 426-3128;

or

Arthur C. Jones, Operations Branch (AFO-820), General Aviation and Commercial Division, Office of Flight Operations, Federal Aviation Administration, 800 Independence Ave., SW., Washington, DC 20591; telephone (202) 426-8196.

SUPPLEMENTARY INFORMATION:**Comments Invited**

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Comments that provide the factual basis supporting the views and suggestions presented are particularly helpful in developing reasoned regulatory decisions on the proposal. Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposals. In addition, the FAA is particularly interested in comments pertaining to the proposed weight and fuel capacity limitations for ultralight vehicles, since those limitations will determine whether or not the vehicle must be certificated as an aircraft. Communications should identify the regulatory docket or notice number and be submitted in duplicate to the address indicated above. Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 21631." The postcard will be date/time stamped and returned to the commenter. All communications received by the FAA before the date specified above will be considered by the Administrator before taking action on the proposed rule. The proposals contained in this notice may be changed in the light of comments received. All comments submitted will be available for examination in the Rules Docket both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket.

Availability of NPRM

Any person may obtain a copy of this notice of proposed rulemaking (NPRM) by submitting a request to the Federal

Aviation Administration, Office of Public Affairs; Attn: Public Information Center (APA-430), 800 Independence Ave., SW., Washington, DC 20591, or by calling (202) 426-8058. Communications must identify the notice number of this NPRM. Persons interested in being placed on a mailing list for future NPRMs should also request a copy of Advisory Circular No. 11-2 which describes the application procedures.

Synopsis of Proposal

This notice proposes to establish operating requirements and limitations applicable to all "ultralight vehicles." The proposed definition of "ultralight vehicle" includes those vehicles used or intended to be used for manned flight by a single occupant, that weigh less than 155 pounds (dry, empty weight), with a fuel capacity of 15 pounds or less, and which have no U.S. or foreign airworthiness certificate. Ultralight vehicles not conforming to those criteria, and their operators, will be subject to applicable certification and operating requirements for aircraft and operators under existing regulations. The rule, as proposed, identifies the specific airspace areas in which ATC authorization will be required prior to operating "ultralight vehicles" in that airspace. Those areas include prohibited and restricted areas, control zones, airport traffic areas, terminal control areas, and positive control areas. Additionally, the operation of ultralight vehicles would be prohibited over any congested area of a city, town, or settlement, and over any open air assembly of persons.

Also proposed are rules governing operations near aircraft and other ultralight vehicles, including requirements for the operator to maintain vigilance necessary to see and avoid both aircraft and ultralight vehicles. To ensure safety of flight operations, this notice proposes right-of-way rules, rules governing the dropping of objects, and rules which prohibit operating ultralight vehicles in a manner that creates a potential hazard of collision.

Other proposals involve requirements concerning flight visibility and distance from clouds, visual reference to the surface, and authorization for daylight operation only. To determine compliance with the rules, a section of the rule indicates that any ultralight vehicle may be inspected by the FAA, including inspections at the launch or recovery site.

This proposal represents a minimal and limited regulatory approach which would impose the least burden on the user. It borrows from a number of self-

policing programs already established by hang glider and other ultralight vehicle clubs and associations but for which an adequate level of voluntary compliance has not been achieved. The proposal seeks to implement only those requirements considered necessary to maintain flight safety for all airspace users. Under the provisions of Executive Order 12291, its implementation would not have a major economic effect on consumers, industries, Federal, State, and local government agencies, or geographic regions.

Although the FAA intends to continue monitoring ultralight vehicle activities to determine whether additional regulatory action is needed, it is hoped that the proposals contained in this notice will be adequate to ensure enhanced safety of flight operations. The FAA, however, will not hesitate to consider imposing additional requirements on ultralight operations if it is determined that the problems of safety and efficient use of the navigable airspace are not adequately resolved.

Background

During the late 1960s and early 1970s, a renewed interest in sport flying occurred throughout the country. This interest, sparked by the advent of high strength, lightweight space age materials, allowed the development of a variety of lightweight sport flying vehicles, including powered designs of fixed and rotary wing configurations. In particular, the almost forgotten art of powerless flight called "hang gliding" or "sky sailing" developed a considerably large following of enthusiasts with manufacturer associations and operator clubs forming across the country.

In January 1974, a team of FAA personnel began gathering information on hang glider activities, including data on design, construction, and flight operations. The team's goal was to assemble available data and develop a recommended policy position encompassing the broad range of hang gliders, and to determine what degree of regulation, if any, was necessary. The FAA team met with individuals, operator clubs, and representatives of a newly formed manufacturer association. As a result, the FAA determined that the formal regulation of hang gliders and hang glider operations was not needed at that time. Instead, the FAA continued to work with hang glider operators, associations, and manufacturers to promote safety and self-policing within the sport. The FAA has continued to monitor the growth of the sport and development of various hang gliding devices.

Advisory Circular No. 60-10, entitled "Recommended Safety Parameters for Operation of Hang Gliders," was published on May 16, 1974. The Advisory Circular defines "hang glider" as "an unpowered, single place vehicle whose launch and landing capability depends on the legs of the occupant and whose ability to remain in flight is generated by natural air currents only." The hang glider operators are advised to become familiar with the relevant portions of Part 101 and §§ 91.17 and 91.18 of the Federal Aviation Regulations concerning towing operations. In addition, the Advisory Circular contains safety suggestions for the manufacture and operation of hang gliders.

In the Advisory Circular, operators are urged to limit their altitude to 500 feet above ground level; to be alert for aircraft; to avoid controlled airspace and especially airport traffic areas; to avoid flying within 100 feet horizontally of, or at any altitude over, buildings, populated places, or assemblages of persons; to remain clear of clouds; and to discuss any questions on operations with the nearest FAA district office.

Also, the FAA recommended to manufacturers that they develop criteria for materials and construction techniques; implement quality control procedures; establish training programs for hang glider operators; and provide adequate instructions in "do-it-yourself" kits to ensure use of proper materials and construction techniques. The Advisory Circular recommends to operators that they wear protective clothing; coordinate with local government and landowners on recognized flying sites; establish safety programs and distribute related material to clubs, associations, and individual operators; and work closely with the FAA.

In an effort to monitor more closely the growth of hang gliding, the FAA, in March of 1975, amended the General Aviation Operations Inspectors Handbook (FAA Order 8440.5A) to provide a chapter on hang gliding, which included procedures for reporting incidents or accidents involving hang gliders. In addition to gathering information on activities within the United States, the FAA followed developments abroad, including proposed policies and regulations in other countries. The problem areas associated with hang glider operations in other countries have been found to be similar to those experienced in the United States. Canada, Australia, New Zealand, South Africa, and New Guinea already have either proposed or adopted

rules regulating hang gliders (ultralight vehicles).

Need For Regulation

As the sport of hang gliding developed, designers, assemblers, and operators improved designs and added powerplants to some of their hang gliders. Those advances have moved well beyond the state of the art contemplated by the Advisory Circular. At the time Advisory Circular No. 60-10 was published, the FAA had intended to treat powered hang gliders as aircraft, subject to aircraft certification and registration, and to require operators to obtain pilot certificates. However, as time passed, hang gliding became a sport activity and the FAA sensitive to the needs of the sport, decided to review the need for such stringent measures.

In addition to the use of powerplants to increase speed, altitude, and distance capabilities, hang glider operators began to use landing gear and moveable control surfaces, and started to operate two-place or passenger-carrying hang gliders. They have been operated into regulated airspace, such as airport traffic areas, terminal control areas, control zones, positive control areas, prohibited and restricted areas and Federal airways. Many operations have also taken place over congested areas, over spectators, and into adverse weather conditions reserved for operators qualified for instrument flight (IFR conditions). As a result of these new developments, many hang gliding vehicles and their operations no longer fall within the scope of Advisory Circular 60-10. Further, by adding powerplants and controllable aerodynamic surfaces, the designers and manufacturers have developed designs closely resembling the operational capabilities of fixed-wing and rotary-wing aircraft for which current regulations apply. These design concepts were not envisioned or intended to be eligible to operate within the scope of the Advisory Circular. Moreover, some operators are exceeding the suggested safety limitations of the Advisory Circular, particularly with respect to operations at altitudes and in controlled airspace and airport traffic areas where they can more readily create a conflict with, or hazard to, the flight of certificated aircraft.

The growing popularity of the hang gliding sport, coupled with the advancing technology and increased capability of hang gliding vehicles, permits an increasing number of flights at altitudes and in areas previously utilized only by certificated aircraft and operators. As interest has increased, the

number of hang gliders operating in the United States has also grown and the potential for midair collisions becomes more likely. The specific operational and airspace requirements for hang gliding and other ultralight vehicle activity are necessary to minimize the likelihood of conflicts and to enhance the safety of flight in the United States for all airspace users. This proposed rule does not deal with the airworthiness of the ultralight vehicle. The FAA is proposing a rule that requires, among other things, ATC authorization for operations that take place within certain controlled airspace and airport traffic areas.

To illustrate the potential for hazardous situations that can arise, the FAA has recorded data detailing numerous instances of hang gliders in controlled airspace causing near-miss situations with aircraft. The following examples highlight the problem:

(1) On April 11, 1981, a Western Airlines 727 captain reported a near-miss with an ultralight vehicle in the vicinity of Phoenix Sky Harbor Airport.

(2) On March 24, 1981, an MU-2 flew between two ultralights operating off the end of the runway at Winter Haven, Florida. Both ultralights were equipped with floats and were operating at night without lights.

(3) A NASA Alert Bulletin (AB-79-86) described an air carrier flight on downwind for landing at Raleigh-Durham, North Carolina, which flew between two hang gliders without time for evasive action.

In order to prevent similar events from continuing to occur (perhaps with tragic results), it is essential that regulatory action be taken. Allowing hang gliders to operate without regulatory restrictions is not consistent with the responsibility of ensuring the safety of air carrier and other aircraft. It is for this reason that these operating rules are proposed. If adopted, the regulation will act to deter flights with hang gliders that would present a serious danger to aircraft operating in their vicinity. Additionally, it would give the FAA a regulatory basis for enforcement action, if necessary.

Notwithstanding the potential for creating unsafe situations, the FAA recognizes the sport activity qualities of the ultralight vehicles and desires to keep those vehicles and their flight activities free from the airworthiness and pilot certification requirements when operated under appropriate operating rules, such as those proposed.

Historically, the need to have a regulating influence over the use of airspace in the vicinity of active airports and in controlled airspace has already

been well documented. Air traffic control towers with their associated services have been established at many of those airports along with specifically designated airspace in which control of air traffic is exercised. Airport traffic areas are part of that airspace, and are generally defined as airspace within a horizontal radius of 5 statute miles from the geographical center of an airport at which a control tower is operating; they extend from the surface up to, but not including, an altitude of 3,000 feet above the elevation of the airport.

The controlled airspace identified for regulation under this proposal includes areas in which some or all aircraft are subject to air traffic control, such as control zones, terminal control areas, and positive control areas. General description of those airspace areas are provided under the following discussion of the proposed rules and their definitions can be found in the Federal Aviation Regulations, on aeronautical charts, in the Airman's Information Manual, and other pertinent materials. Operators of ultralight vehicles, like pilots of certificated aircraft, must become familiar with those rules and materials in order to comply with the proposed rules and to ensure safe operations.

Discussion of the Proposed Rule

The primary objectives of this proposed rulemaking action are to define the sport-type, ultralight vehicle and to establish safety related operating requirements for them. The purpose of the rules is to provide maximum safety for all users while imposing the least amount of regulatory control consistent with maintaining flight safety. These objectives are consistent with, and achieve the purposes of, Executive Order 12291, issued February 17, 1981.

Necessarily, those vehicles to which the existing rules have not been applied and that do not fall under the proposed definition of "ultralight vehicles" would be, or become, subject to the existing regulations. That is, some would be "aircraft," classified as airplanes, gliders, or rotorcraft and would be treated accordingly. This notice, therefore, also proposes that result, even though specific rule changes may not be necessary to achieve it.

The FAA specifically invites comments on a number of issues contained in the proposal. We also solicit information on the experiences of ultralight vehicle operators as they relate to the specific features of the proposed rules. Detailed comments are particularly requested on the proposed definition of an ultralight vehicle.

General

The necessary amendment would be made to part 91 to exclude from the requirements of that part those ultralight vehicles that are operated under the proposed amendments to Part 101. However, other powered or unpowered vehicles not defined in the proposed rules as "ultralight vehicles" (because of their weight, fuel capacity, occupancy capability, or having an airworthiness certificate) are not excluded. Thus, unless the vehicle falls under the proposed definition of "ultralight vehicle," that vehicle is, or will become, subject to the certification and operating requirements specified under Parts 21, 45, 47, 61, and 91 of the Federal Aviation Regulations.

Definition

The title of Part 101 would be amended to include "ultralight vehicles" and a new paragraph (a)(3) would be added to Part 101.1 to prescribe the definition of the term "ultralight vehicle" as used in that part and Part 91. Hang glider manufacturers, operators, and associations in the United States have adopted terms such as "ultralight," "microlight," and other similar terms to describe hang gliders and powered hang gliders. The FAA proposes to adopt, with appropriate definition, the term "ultralight vehicle" as the generic regulatory term, embracing all varieties of hang gliders and powered hang gliders of current and future design. The proposed definition of "ultralight vehicle" encompasses those vehicles used or intended to be used for manned flight by a single occupant, that weigh less than 155 pounds (dry, empty weight), with a fuel capacity of 15 pounds or less, and which have no U.S. or foreign airworthiness certificate.

In defining an ultralight vehicle, the FAA seeks to achieve a realistic criteria that can be easily understood and determined by even the least experienced individual involved in the activity. In the past, the primary criteria for classifying an unpowered hang glider was the vehicle's capability of being foot-launched and landed. As innovation and design advanced, this criteria has become more and more difficult to determine and apply, especially with the introduction of complex and powered vehicles. Thus, it has been rejected as the basis for classifying ultralight vehicles under this proposal.

The factors considered regarding the definition of an "ultralight vehicle," include the total weight, engines, horsepower, and wing loading, or a

combination of them with weight. The common element in each factor is the weight of the vehicle. Limiting the weight will have much the same effect as regulating the other factors but without the complexities. Therefore, the FAA proposes to use "weight" as one criteria for defining an ultralight vehicle. Use of weight as a limiting factor will not unduly inhibit innovative and reasonable design developments; however, it does not meet the need for being simple, easily understood, and readily determined.

The FAA proposes to use an empty weight which includes the frame, sailcloth, all fixtures and attachments, and if appropriate, the powerplant. The empty weight would not include the operator, liquids and fuel, harnesses, or a parachute recovery device. An empty weight of less than 155 U.S. pounds has been specified for ultralight vehicles operating exclusively under Part 101, as proposed. That weight is a close equivalent to the 70 kilograms used by other countries and allows for greater commonality in application and marketing without permitting too large a vehicle to be operated under the rule. Further, the empty weight criteria imposes the least amount of restriction on current ultralight designs. The FAA is not aware of any unpowered ultralight vehicle (hang glider) that would not be governed by the rule solely because it exceeds that weight. Further, a large majority of powered ultralights currently being operated are below the proposed 155 pounds empty weight limit.

The FAA is concerned that current or future developments could create a hazardous situation if a reasonable fuel capacity limitation is not specified. The FAA is considering a maximum fuel limit of 15 pounds (approximately 2.5 U.S. gallons of gasoline). That maximum capacity would have the practical effect of limiting both the range the vehicle can operate under power and the hazard of fire posed by the ultralight vehicle. Those vehicles are being treated as sport vehicles under the proposal, and their operators, are not required to be certificated nor must their operators demonstrate a pilot's knowledge of navigational technique or weather; thus, extended range and endurance capability should be reasonably limited. Neither should the vehicles be permitted to present an undue hazard of fire to the operator or to other persons and their property.

The FAA's objective is to provide safety for the public as well as safety in aviation. In that light, careful consideration has been given to "ultralight vehicles" carrying persons or

cargo. While the restriction may be opposed for those individuals and organizations currently offering passenger or cargo services or dual airborne instruction in the use of ultralights, the carriage of persons or property and the operation of commercial activities would be prohibited. It is essential that persons who conduct operations beyond those involving the sport activities, have the demonstrated airman knowledge and skill prescribed in Part 61 for certification.

A final qualitative factor would be added to the definition in § 101.1(a)(3) to provide that the proposed rule would cover only those vehicles that do not have an airworthiness certificate. Operators may, at their option, apply for airworthiness certification even though the ultralight vehicle otherwise qualifies under the Part 101 definition. Those individuals would, as a result of that option, be required to follow the certification process prescribed under Part 21, the pilot certification requirements under Part 61, the operating rules under Part 91 and other applicable rules of the Federal Aviation Regulations. The FAA recognizes that circumstances, such as competition in air shows, may arise which make it desirable for those certificated aircraft to be operated for limited purposes under the "ultralight vehicle" rules of Part 101. If found appropriate, such an operation could be conducted under the terms and conditions of a certificate of waiver issued by the Administrator on a case-by-case basis under §§ 91.63 and 101.3. The waiver would permit deviation from the otherwise applicable provisions of the certification or general operating rules for aircraft and operators.

The vast majority of hang gliders and ultralight vehicles now operating would fall within the proposed limitations and, thus, would be exempted from the certification requirements of the regulations. The range, altitude capability, and passenger capacity of some ultralight-type vehicles now on the market, however, make them indistinguishable from aircraft. Those ultralight vehicles which do not meet the proposed weight, passenger-carrying, and fuel capacity limitations would necessarily be subject to the certification requirements for aircraft under FAR Parts 23 and 27. Those "vehicles" would be treated in the same manner as other aircraft with similar characteristics. It must be noted that many of those aircraft could utilize the experimental certification provisions contained in FAR Section 21.191 which

would reduce their regulatory requirements.

Flight Operations

To provide for the safety of aircraft operating within a restricted area and provide for the security of those areas designated as prohibited areas, the proposed rule includes ultralight vehicles under the provisions § 101.5: "Operations in prohibited or restricted areas." That would prohibit the unauthorized flight of ultralight vehicles in those areas. Prohibited areas are designated for reasons generally associated with national security. Restricted areas are designated, where necessary, to confine or segregate activities considered to be hazardous to nonparticipating aircraft.

In all aspects of aviation, the flight rules prohibit operating aircraft in a manner which would create a hazard to other persons or their property. Similarly, the dropping of any object from an aircraft is prohibited unless it can be accomplished in a manner that does not create a hazard to persons or property. The purpose of those restrictions is to provide for the safety of persons and their property on the ground or in the air. Ultralight vehicle operators should be treated in the same manner and comply with current § 101.7: "Hazardous operations." Therefore, the FAA proposes to extend the applicability of § 101.7 to all ultralight vehicles governed by Part 101.

A new Subpart E to Part 101, entitled "Ultralight Vehicles," would contain specific rules governing the applicability (§ 101.41) and other specific operational requirements for ultralight vehicles under Part 101.

In keeping with similar operating requirements for aircraft designs that possess experimental or special airworthiness certificates, under proposed § 101.43 ultralight vehicles would be authorized to operate only between the hours of official sunrise to sunset. The operating period under the provisions of this proposed rule is described in this manner because (1) it is easily understood and can be directly observed by the operator and (2) the times of sunrise and sunset are widely reported occurrences which do not require special knowledge or published tables.

Proposed § 101.45 identifies those airspace areas in which a person would be required to receive air traffic control authorization to operate any ultralight vehicle. The airspace areas identified in the proposal (except for airport traffic areas) are already designated "controlled airspace" and are depicted

on aeronautical charts. Thus, all the airspace specified under the proposal are areas in which some or all aircraft are subject to air traffic control. Unauthorized operations of ultralight vehicles in those areas would conflict with the authorized uses of that airspace and could create unsafe conditions or inefficient use of that airspace for all airspace users.

Specifically, control zones are controlled airspace which extends upward from the surface of the earth and terminates at the base of the continental control area (generally 14,500 feet MSL; however, control zones that do not underlie the continental control area have no upper limit). Control zones are normally circular areas within a 5-statute-mile radius of an airport (although some are larger or smaller) with any rectangular extensions at various distances from runways necessary to include the airspace needed for the flight paths of instrument approaches and departures.

Terminal control areas (TCAs) are controlled airspace with designated shapes extending upward from the surface and from tiers at higher altitudes, to specified upper altitudes. All aircraft within a TCA are subject to the pilot, operating, and equipment requirements of § 91.90 of Part 91 of the Federal Aviation Regulations. A TCA includes at least one primary, high traffic activity airport where the TCA is located.

As previously discussed, airport traffic areas are that airspace within a horizontal radius of 5 statute miles from the geographical center of any airport having an operating control tower; they extend from the surface up to, but not including, an altitude of 3,000 feet above the elevation of the airport.

Finally, the other areas in which prior air traffic control authorization would be required to operate an ultralight vehicle are positive control areas (PCA). Aircraft are under positive control by air traffic control in this higher altitude airspace where flight is conducted only by qualified pilots and normally under instrument flight rules (IFR). PCA is designated throughout most of the conterminous United States at altitudes that pilots and air traffic control would not expect to find or readily see and avoid ultralight vehicles. The presence of airborne vehicles must be known for air traffic control to meet its responsibilities in that positively controlled environment. Those PCA altitudes include that airspace from 18,000 feet MSL to and including 60,000 feet MSL. In Alaska, where the surface reaches above 18,000 feet MSL, the PCA does not include the airspace less than

1,500 feet above the surface, nor west of longitude 160°00'00"W.

Proposed § 101.47 prohibits operations of ultralight vehicles over congested areas and any open air assembly of persons to protect persons and property on the ground. Currently, aircraft having an experimental airworthiness certificate may not be flown over a densely populated area because, like ultralight vehicles, their designs are unproven. Aircraft of that nature vary from highly complex, newly designed aircraft to proven designs that have received various degrees of modification. Similarly, the FAA proposes to limit the operation of (uncertificated) ultralight vehicles over any congested area of a city, town, or settlement. The operation of an ultralight vehicle (which does not otherwise create a hazard) within the confines of open areas within a congested area, such as an unoccupied, open field, would not generally be considered an operation over a "congested area." To further clarify one aspect of "congested area," this notice proposes to expressly prohibit the operation of ultralight vehicles from operating over any open air assembly of persons. However, persons directly associated with the ultralight operations (such as ground crews, and operators and crew members of other vehicles), would not be considered an assemblage of persons under this proposal. Spectators not directly associated with the operation would be considered as an assemblage of persons and precautions should be taken by ultralight operators to ensure operating well clear of them at all times.

The purpose of the Federal Aviation Regulations is, in part, to provide for the prevention of collision between aircraft. The proposed § 101.49 employs the "see and avoid" concept as the basis for right of way rules for ultralight vehicle operations. Persons operating ultralight vehicles under the proposed provisions of Part 101 would be required to "see and avoid" by taking appropriate action to remain clear of, and yield the right of way to, all aircraft and other ultralight vehicles. The right of way rules would apply to all operations regardless of whether they are over water or land. Ultralight vehicles having a U.S. or foreign airworthiness certificate would continue to comply with, among other rules, the Part 91 right of way rules for the aircraft category under which the vehicle is certificated; e.g., glider, airplane, etc.

Minimum Flight Requirements

Further, to reduce the potential for collisions and to ensure the safe

operation of ultralight vehicles, the FAA proposes in § 101.51 to require ultralight vehicle operators to maintain visual reference with the surface. Those requirements would preclude all operations "over the top" of any layer of clouds or other obscuring weather phenomena. It would ensure that the operator of an ultralight vehicle has the opportunity to safely descend and return to the surface without entering the obscuring conditions or experiencing the hazards of spatial disorientation associated with the loss of visual orientation.

An important operational safety consideration for the operators of ultralight vehicles, as well as aircraft, is to see and avoid other aircraft, obstructions, and airborne objects. Therefore, proposed in § 101.53 are flight visibility and clearance from cloud requirements. These provisions are similar to those for other users of the airspace and require operators to distinguish between operations in "controlled" airspace and "uncontrolled" airspace. Operators of ultralight vehicles would be required to be able to identify which airspace is "controlled" and which is "uncontrolled." As with certificated aircraft, ultralight vehicles may not be operated in uncontrolled airspace, with a flight visibility of less than one statute mile. In other cases, flight visibility of three or five miles is required. For easier identification of the visibility and cloud clearance requirements, a table format is utilized to prescribe those parameters. Since visibility and clearance from clouds are important safety factors for all users of the airspace within the United States, the FAA specifically solicits comments concerning the experience of ultralight vehicle operators during times of reduced visibility, including darkness or inadvertent flight into or near clouds. All controlled airspace included within this rule is currently depicted in published aeronautical charts. Interested persons need only contact the nearest FAA facility for information on the location and extent of controlled airspace in their area.

Inspection Requirements

Proposed § 101.55 expressly informs all operators of ultralight vehicles that the Administrator or the Administrator's designated representative, has the authority to inspect any ultralight vehicle to determine compliance with the proposed rules, including inspection of the vehicle in operation, at the launch or the recovery site.

The Proposed Amendments

Accordingly, the Federal Aviation Administration proposes to amend Parts 91 and 101 of the Federal Aviation Regulation (14 CFR Parts 91 and 101) as follows:

PART 91—GENERAL OPERATING AND FLIGHT RULES**§ 91.1 [Amended]**

1. By amending § 91.1(a) to add "ultralight vehicles" to the exception clause in the applicability provision by removing the words within the parentheses and substituting for them the words "other than moored balloons, kites, ultralight vehicles, unmanned rockets, and unmanned free balloons governed under Part 101 of this chapter."

PART 101—MOORED BALLOONS, KITES, ULTRALIGHT VEHICLES, UNMANNED ROCKETS AND UNMANNED FREE BALLOONS

2. By revising the title of Part 101 to read—"Part 10-Moored Balloons, Kites, Ultralight Vehicles, Unmanned Rockets, and Unmanned Free Balloons."

3. By amending § 101.1 as follows:
a. By redesignating paragraphs (a)(3) and (a)(4) as paragraphs (a)(4) and (a)(5), respectively, and by adding a new paragraph (a)(3) to read as follows:

§ 101.1 Applicability.

(a) This part prescribes rules governing the operation in the United States of the following:

(3) Except as provided for in § 101.7, any ultralight vehicle, which for the purposes of this part, means any powered or unpowered vehicle that—

(i) Is used or intended to be used for manned flight in the air by a single occupant;

(ii) Weighs less than 155 pounds dry, empty weight;

(iii) Has a fuel capacity not exceeding 15 pounds; and

(iv) Does not have any U.S. or foreign airworthiness certificate.

§§ 101.5 and 101.7 [Amended]

4. By amending § 101.5 and paragraphs (a) and (b) of § 101.7, in each case, after the comma following the word "kite" by adding the words "ultralight vehicle" followed by a comma.

5. By adding a new Subpart E to read as follows:

Subpart E—Ultralight Vehicles**Sec.**

- 101.41 Applicability.
- 101.43 Daylight operations.
- 101.45 Operations in certain airspace.
- 101.47 Operations over congested areas.
- 101.49 Operations near aircraft and other ultralight vehicles; right of way rules.
- 101.51 Visual reference to the surface.
- 101.53 Flight visibility and distance from clouds.
- 101.55 Inspection requirements.

§101.41 Applicability.

This subpart applies to the operation of the ultralight vehicles (as defined under § 101.1(a)(3)) in the United States.

§ 101.43 Daylight operations.

No person may operate an ultralight vehicle except between the hours of sunrise and sunset.

§ 101.45 Operations in certain airspace.

In addition to the requirements under §§ 101.5 and 101.7 of this part, no person may operate an ultralight vehicle within an airport traffic area, control zone, terminal control area, or positive control area unless that person has appropriate prior authorization from the air traffic control facility having jurisdiction over that airspace.

Flight altitudes	Minimum flight visibility	Minimum distance from clouds
(a) 1,200 feet or less above the surface regardless of MSL altitude:		
(1) Within controlled airspace.....	3 statute miles.....	500 feet below, 1,000 feet above, 2,000 feet—horizontal.
(2) Outside controlled airspace.....	1 statute mile.....	Clear of clouds.
(b) More than 1,200 feet above the surface but less than 10,000 feet MSL:		
(1) Within controlled airspace.....	3 statute miles.....	500 feet below, 1,000 feet above, 2,000 feet—horizontal.
(2) Outside controlled airspace.....	1 statute mile.....	500 feet below, 1,000 feet above, 2,000 feet—horizontal.
(c) More than 1,200 feet above the surface and at or above 10,000 feet MSL:	5 statute miles.....	1,000 feet below, 1,000 feet above, 1 statute mile—horizontal.

§ 101.55 Inspection requirements.

Each person operating an ultralight vehicle under this part shall, upon request, make the vehicle available to the Administrator, or the Administrator's designee, for inspection (including inspection of the vehicle in operation at the launch and recovery site) to determine compliance with the requirements of this part.

(Secs. 307, 313(a), 601(a), 602, and 603, Federal Aviation Act of 1958 (49 U.S.C. §§ 1348, 1354(a), 1421(a), 1422, and 1423; Sec. 6(c), Department of Transportation Act (49 U.S.C. § 1655(c)); and 14 CFR 11.45)

Note.—The FAA has determined that this document involves a proposed regulation which is not a major rule under Executive

§ 101.47 Operations over congested areas.

No person may operate an ultralight vehicle over any congested area of a city, town, or settlement, or over any open air assembly of persons.

§ 101.49 Operations near aircraft and other ultralight vehicles; right of way rules.

(a) Each person operating an ultralight vehicle shall maintain vigilance so as to see and avoid aircraft and other ultralight vehicles and shall yield the right of way to all aircraft.

(b) No person may operate an ultralight vehicle in a manner that creates a potential collision hazard with any aircraft or other ultralight vehicles.

§ 101.51 Visual reference to the surface.

No person may operate an ultralight vehicle except by visual reference with the surface sufficient for the safe operation of that ultralight vehicle.

§ 101.53 Flight visibility and cloud clearance requirements.

No person may operate an ultralight vehicle when the flight visibility or distance from clouds is less than that in the following table, as appropriate:

Order 12291, nor a significant rule pursuant to the Department of Transportation Regulatory Policies and procedures (44 FR 11034; February 26, 1979). Under the provisions of Executive Order 12291, its implementation would not have a major economic effect on consumers, industries, Federal, State, and local government agencies, or geographic regions. There would be no significant effects on competition, employment, investment, productivity, innovations, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or import markets. The total projected costs of this rule may be found in a copy of the draft regulatory evaluation