FEDERAL AVIATION AGENCY

PART 60 · AIR TRAFFIC RULES

CIVIL AIR REGULATIONS

and related

Civil Aeronautics Manual 60

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May 15, 1961

FEDERAL AVIATION AGENCY

Introductory Note

Part 60 of the Civil Air Regulations was last reprinted on September 15, 1959. Since that time nine amendments to the Part have been issued. These amendments are incorporated in the text of the Part in this printing and include Amendments 60–16 and 60–17 and Amendments 60–19 through 60–23. Additionally, included as an attachment to the Part are Special Civil Air Regulations Numbers 397, 424C, 437, 438, 442, 444, and 445.

This consolidation of amendments involves no substantive or editorial changes and is intended only to incorporate all outstanding and currently effective amendments affecting Part 60 as of May 15, 1961. This reprint is intended to provide a simplified edition of the Air Traffic Rules during an interim period pending a complete revision and recodification of the Part.

Also contained herein is Civil Aeronautics Manual 60 which includes the rules, policies, and interpretations issued or continued by the Administrator of the Federal Aviation Agency relating to the various sections of the Civil Air Regulations Part 60, Air Traffic Rules.

FAA *rules* are supplementary regulations which are mandatory.

FAA *policies* provide detailed technical information on recommended methods of complying with the Civil Air Regulations. Such policies are for the guidance of the public and are not mandatory in nature.

FAA *interpretations* define or explain words and phrases of the Civil Air Regulations. Such interpretations are for the guidance of the public and will be followed by the Administrator in determining compliance with the regulations.

Additional information of value to the pilot may be found in the FAA Flight Information Manual.

This reprinting of Civil Aeronautics Manual 60 incorporates all amendments as of May 15, 1961. Future amendments to Part 60 or to the Civil Aeronautics Manual 60 will be issued as page revisions for insertion in this publication.

Federal Aviation Agency

Washington, D.C.

Civil Air Regulations, Part 60

AIR TRAFFIC RULES

Supplement No. 1, CAR 60 dated May 15, 1961 **July 17, 1961**

SUBJECT: Corrected page 10 of CAR 60.

During the recent reprinting and consolidation of amendments to CAR 60 a portion of Amendment 60–23 was inadvertently omitted. This concerned a revised definition of the Continental Control Area.

This supplement is issued to correct this oversight.

Remove the following pages:	*Insert the following new pages:*
9 and 10	9 and 10

D. D. Thomas

D. D. THOMAS, *Director,*
Air Traffic Service.

ATTACHMENT.

Federal Aviation Agency
Washington, D.C.

Civil Air Regulations, Part 60
AIR TRAFFIC RULES

Supplement No. 3, CAR 60 dated May 15, 1961 **October 10, 1961**

SUBJECT: Amendment 60–24 to CAR 60.

Amendment 60–24 to CAR 60 was issued by the Administrator on September 22, 1961, to revise section 60.18 of the Civil Air Regulations, effective December 26, 1961.

This amendment is forwarded in advance of its effective date to afford public notice of its provisions and should be retained in the back of Part 60. When Amendment 60–24 becomes effective, it will be issued in the proper format for insertion as page revisions to CAR 60.

Insert the attached new pages 46–1 through 46–4.

D. D. Thomas

D. D. THOMAS, *Director,*
Air Traffic Service.

ATTACHMENTS.

Federal Aviation Agency

Washington, D.C.

Civil Air Regulations, Part 60

AIR TRAFFIC RULES

Supplement No. 2, CAR 60 dated May 15, 1951 **October 6, 1961**

SUBJECT: CAR 60 Special Regulation SR-449

Special Regulation SR-449 was adopted by the Administrator on October 6, 1961, to prohibit the flight of non-participating aircraft during defense exercise "Sky Shield II," and is effective from 1700Z October 14, 1961, through 0500Z October 15, 1961.

This Special Regulation is forwarded in advance of its effective date to afford public notice of its provisions. It should be retained in the publication until terminated on October 15, 1961, and removed immediately thereafter.

Insert the attached new pages 46-1 and 46-2.

D. D. Thomas

D. D. Thomas, *Director,*
Air Traffic Service.

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Federal Aviation Agency

Washington, D.C.

Civil Air Regulations, Part 60

AIR TRAFFIC RULES

Supplement No. 4, CAR 60 dated May 15, 1961 **November 1, 1961**

SUBJECT: Amendments Nos. 1 to Special Civil Air Regulations Nos. SR-424C and SR-444.

Special Civil Air Regulations Nos. SR-424C and SR-444, affecting Civil Air Regulations, Part 60, were amended by the Administrator on October 23, 1961. SR-424C is amended effective December 1, 1961, and SR-444 is amended effective March 1, 1962; both amendments appeared in the Federal Register on October 27, 1961 (26 F.R. 10096).

SR-424C will now require a coded radar beacon transponder, having a Mode 3/A 64 code capability, for flight within positive control areas. SR-444 will now require a coded radar beacon transponder, having a Mode 3/A 64 code capability, for flight in radar jet advisory areas unless prior authorization has been granted by Air Traffic Control to operate in these areas without a coded radar beacon transponder.

These amendments are forwarded in advance of their effective dates to afford public notice of their provisions and should be inserted in the publication as they become effective.

CAM 60, appendix A is revised to correct the listed address of the General Aviation District Office, Van Nuys, California, and this revision should be inserted immediately.

Remove the following pages:	*Insert the following new pages:*
17 through 20	17 through 20
41 through 44	41 through 44
85 and 86	85 and 86

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Attachment.

Federal Aviation Agency
Washington, D.C.

Civil Air Regulations, Part 60

AIR TRAFFIC RULES

Supplement No. 5, CAR 60 dated May 15, 1961 **November 15, 1961**

SUBJECT: Amendment 60-25 to CAR 60.

Amendment 60-25 was adopted by the Administrator on November 13, 1961, and amends CAR 60 by adding a new section, 60.27, Aircraft Speed, effective December 19, 1961. This new section prohibits the operation of an arriving aircraft at indicated airspeed in excess of 250 knots (288 m.p.h.) during flight below 10,000 feet m.s.l. within 30 miles of the airport of intended landing.

Included in this supplement as an addendum is the preamble to Amendment 60-25, which provides certain policies relative to the rule. This amendment is forwarded in advance of its effective date to afford additional public notice of its provisions. Addendum material should be inserted immediately; page revisions should be inserted on December 19, 1961.

Remove the following pages:	*Insert the following new pages:*
III and IV	III and IV
5 and 6	5 through 6-1
	P-1 through P-5

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D. D. THOMAS, *Director*
Air Traffic Service

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Federal Aviation Agency
Washington, D.C.

Civil Air Regulations, Part 60

AIR TRAFFIC RULES

Supplement No. 6, CAR 60 dated May 15, 1961 — January 1, 1962

SUBJECT: Amendment 60–26 to CAR 60 and Supplement 60–32 to CAM 60.

Amendment 60–26 was adopted by the Administrator on December 19, 1961, effective January 23, 1962. This amendment revised section 60.18(c) (3) to provide for the depiction of Flight Service Stations on World Aeronautical Charts for locations where Sectional Charts are not published.

Supplement 60–32 was adopted by the Administrator on December 20, 1961, effective December 26, 1961. This supplement rescinded the Special Airport Traffic Area rules at LaGuardia, Newark, and Teterboro Airports contained in sections 60.18–4 and 60.18–8 of CAM 60. This rescission appeared in the Federal Register on December 23, 1961.

Included in this supplement as addendum material is the preamble to Amendment 60–26 which provides information relative to this rule-making action. Additionally, page revisions are included to incorporate section 60.18 in its proper place in the text. This section was revised by Amendment 60–24 and was effective December 26, 1961.

Remove the following pages:	*Insert the following new pages:*
III through VI	III through VI
3 through 6–1	3 through 6–2
9 through 11	9 through 12
46–1 through 46–4	—
57 and 58	57 and 58
67 through 72	67 and 68
—	72
P–5	P–5 and P–6

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Air Traffic Service.

ATTACHMENTS.

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Federal Aviation Agency
Washington, D.C.

Civil Air Regulations, Part 60

AIR TRAFFIC RULES

Supplement No. 7, CAR 60 dated May 15, 1961 **March 1, 1962**

SUBJECT: Amendment 60–27 to CAR 60. Supplement 33 to CAM 60.

Amendment 60–27 was adopted by the Administrator on January 19, 1962, to revise section 60.49, Radio failure, effective May 1, 1962.

Section 60.49 was revised to recognize the operating limitations of jet aircraft at low altitudes and the operational problems which became apparent with the introduction of the three-level route structure.

Supplement 33 to CAM 60 was issued by the Administrator on January 19, 1962 to delete sections 60.21–1 and 60.49–1 of CAM 60 which became obsolete upon the adoption of Amendment 60–27.

Appendix A office listings are subject to frequent change, making it impractical to maintain the list current in a publication which is not issued on a scheduled basis. Accordingly Appendix A has been deleted from this publication.

Included in this supplement as an addendum to Part 60 is the preamble to Amendment 60–27 which sets forth the basis for this rule making action. This amendment is forwarded in advance of its effective date to afford additional public notice of its provisions. Page revisions should NOT be inserted until effective on May 1, 1962.

Remove the following pages:	*Insert the following new pages:*
III through VI	III through VI
9 through 12	9 through 12
P–5 and P–6	P–5 through P–7
67 through 94	67 through 76

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Air Traffic Service

Attachments.

Federal Aviation Agency
Washington, D.C.

Civil Air Regulations, Part 60

AIR TRAFFIC RULES

Supplement No. 8, CAR 60 dated May 15, 1961 **May 30, 1962**

SUBJECT: Amendments 60–28 and 60–29 to CAR 60. Supplement 34 to CAM 60.

Amendment 60–28 was adopted by the Administrator on March 21, 1962, to revise section 60.45, Course to be flown, effective April 26, 1962. Section 60.45 was revised to more clearly show its applicability in conjunction with other equally applicable sections of Part 60.

Amendment 60–29 was adopted by the Administrator on April 24, 1962, effective May 1, 1962. This amendment revised the definition of controlled airspace in section 60.60 to provide for more equitable designation of controlled airspace.

Supplement 34 to CAM 60 was issued by the Administrator on April 25, 1962, effective May 1, 1962. This action revoked section 60.21–2 of CAM 60 to eliminate an obsolete policy for the handling of emergency situations.

Included in this supplement 8 as an addendum to Part 60 are the preambles to Amendments 60–27 and 60–28 which set forth the basis for these rule making actions.

Remove the following pages:	*Insert the following new pages:*
III through VI	III through VI
7 through 10	7 through 10
P–7 and P–8	P–7 through P–10
67 and 68	67 and 68

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Federal Aviation Agency
Washington, D.C.

Civil Air Regulations, Part 60

AIR TRAFFIC RULES

Supplement No. 9, CAR 60 dated May 15, 1961 **November 26, 1962**

SUBJECT: Special Civil Air Regulation No. SR–454A.

Special Civil Air Regulation No. SR–454A was adopted by the Administrator on November 23, 1962, and became effective immediately. This special regulation, published in 27 F.R. 11692, on November 28, 1962, rescinds Special Civil Air Regulation No. SR–454 and was issued to provide relief from the requirements of SR–454 regarding aircraft operations over the land mass of Florida.

The loose copy of SR–454 previously distributed to all holders of CAR 60 should be removed and replaced by Special regulation SR–454A.

Remove the following pages:	*Insert the following new pages:*
III and IV	III and IV
SR-454	46–1 and 46–2

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Air Traffic Service.

Attachments.

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Federal Aviation Agency
Washington, D.C.

Civil Air Regulations, Part 60

AIR TRAFFIC RULES

Supplement No. 10, CAR 60 dated May 15, 1961 **January 18, 1963**

SUBJECT: Amendments 60–30, 60–31, and 60–32 to CAR 60. Rescission of SR–438.

Amendment 60–30 was adopted by the Administrator on December 13, 1962, to add section 60.28, Avoidance of disaster areas, to CAR 60 effective March 20, 1963. Section 60.28 was adopted to prohibit the flight of nonessential aircraft within designated disaster areas.

Amendment 60–31 was adopted by the Administrator on January 7, 1963, effective March 14, 1963, to except unmanned rockets from the scope of CAR 60.

Amendment 60–32 was adopted by the Administrator on January 11, 1963, effective January 17, 1963. This amendment revised CAR 60.18(b)(6)(ii) to permit flight below the visual glide slope during the final stages of an approach for landing.

SR–438 was rescinded by the Administrator on January 7, 1963, effective January 11, 1963, to eliminate a duplication of the requirements established in CAR 60.18.

Included in this supplement 10 as an addendum to CAR 60 are preambles to amendments 60–30, 60–31, and 60–32 which set forth the basis for these rule making actions.

Remove the following pages:	*Insert the following new pages:*
III and IV	III and IV
1 and 2	1 and 2
5 and 6	5 and 6
6–1 and 6–2 (after 3/20/63)	6–1 through 6–3
25 through 32	25 and 26
P–9 and P–10	P–9 through P–15

D. D. THOMAS, *Director,*
Air Traffic Service.

Attachments.

Federal Aviation Agency
Washington, D.C.

Civil Air Regulations, Part 60

AIR TRAFFIC RULES

Supplement No. 11, CAR 60 dated May 15, 1961 **March 15, 1963**

SUBJECT: Supplement 35 to CAM 60.

Supplement 60–35 was adopted by the Administrator on March 6, 1963, effective March 12, 1963. This supplement revoked CAM 60.18–6, Traffic patterns for Fairbanks and Chena River Landing Area, since these rules were obsolete in certain respects and in others were duplicated by the provisions of Civil Air Regulations section 60.18.

Supplement 10 to CAR 60 deleted the regulatory portion of SR–438, but left the preamble. This supplement removes the remaining pages to correct this omission.

Remove the following pages:	*Insert the following new pages:*
V and VI	V and VI
21 through 26	21
65 through 68	65

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Air Traffic Service

Attachments.

Civil Air Regulations Part 60

Contents

General

General Flight Rules (GFR)

Visual Flight Rules (VFR)

Instrument Flight Rules (IFR)

Definitions

NOTE.—The statements contained in the notes in this Part are intended as explanation only and shall not be construed as official interpretations of the regulations.

(Rev. 1/18/63)

Special Civil Air Regulations Which Affect Part 60

Addendum

Civil Aeronautics Manual 60

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General

General Flight Rules (GFR)

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General

60.1 Scope. The air traffic rules in this Part shall apply to aircraft operated anywhere in the United States, including the several States, the District of Columbia, and the several Territories and possessions of the United States, including the territorial waters and the overlying airspace thereof, except:

(a) Military aircraft of the United States Armed Forces when compliance with this Part has been waived by the Administrator or when appropriate military authority determines that noncompliance with this Part is required by military emergency, or current military necessity essential to the defense of the United States, and prior notice thereof is given to the Administrator. Such prior notice shall be given to the Administrator at the earliest time practicable and, to the extent time and circumstances permit, every reasonable effort shall be made to consult fully with the Administrator and to arrange in advance for the required deviation from the rules on a mutually acceptable basis.

(b) Aircraft engaged in special flight operations, requiring deviation from this Part, which are conducted in accordance with the terms and conditions of a certificate of waiver issued by the Administrator.

Note: Specific operations which cannot be conducted within the provisions of the regulations in this Part, such as air races, air meets, acrobatic flights, or certain pest control or seeding operations require, prior to commencement of the operation, a certificate of waiver which may be obtained from the nearest office of FAA.

[(c) Unmanned rockets.]

60.1a Operation over the high seas. Aircraft of United States registry operated in air commerce shall while over the high seas comply with the provisions of Annex 2 (Rules of the Air) to the Convention on International Civil Aviation.

Note: An airman who complies fully with Part 60 while over the high seas will also be in compliance with Annex 2. Under Article 12 of the Convention on International Civil Aviation, the member states undertake to make their regulations conform to the greatest possible extent to the ICAO Annexes. It may therefore be expected that the provisions of Annex 2 will be generally applicable to flight over the territory of member states of the International Civil Aviation Organization.

60.2 Authority of the pilot. The pilot in command of the aircraft shall be directly responsible for its operation and shall have final authority as to operation of the aircraft. In emergency situations which require immediate decision and action the pilot may deviate from the rules prescribed in this Part to the extent required by consideration of safety. When such emergency authority is exercised, the pilot, upon request of the Administrator, shall file a written report of such deviation. In an emergency situation which results in no deviation from the rules prescribed in this Part but which requires air traffic control to give priority to an aircraft, the pilot of such aircraft shall make a report within 48 hours of such emergency situation to the nearest regional office of the Administrator.

General Flight Rules (GFR)

60.10 Application. Aircraft shall be operated at all times in compliance with the following general flight rules and also in compliance with either the visual flight rules or the instrument flight rules, whichever are applicable.

60.11 Preflight action. Before beginning a flight, the pilot in command of the aircraft shall familiarize himself with all available information appropriate to the intended operation. Preflight action for flights away from the vicinity of an airport, and for all IFR flights, shall include a careful study of available current weather reports and forecasts, taking into consideration fuel requirements, an alternate course of action if the flight cannot be completed as planned, and also any known traffic delays

of which he has been advised by air traffic control.

60.12 Careless or reckless operation. No person shall operate an aircraft in a careless or reckless manner so as to endanger the life or property of others.

Note: Examples of aircraft operations which may endanger the lives or property of others are:

(a) Any person who "buzzes", dives on, or flies in close proximity to a farm, home, any structure, vehicle, vessel, or group of persons on the ground. In rural districts the flight of aircraft at low altitude often causes injury to livestock. A pilot who engages in careless or reckless flying and who does not own the aircraft which he is flying unduly endangers the aircraft, the property of another.

(b) The operation of aircraft at an insufficient altitude endangers persons or property on the surface or passengers within the aircraft. Such a flight may also constitute a violation of section 60.17.

(c) Lack of vigilance by the pilot to observe and avoid other air traffic. This includes failure of the pilot to clear his position prior to starting any maneuver, either on the ground or in flight; and special flight activities which require such preoccupation by the pilot with cockpit duties as would prevent adequate vigilance outside the cockpit for the purpose of collision avoidance without compensation for such reduced degree of vigilance by the use of a competent observer in the aircraft, a chase aircraft, or other equivalent arrangements.

(d) Passing other aircraft too closely.

(e) An operation conducted above a cloud layer in accordance with VFR minimums which results in the pilot becoming involved in instrument flight, unless the pilot possesses a valid instrument rating, the aircraft is properly equipped for instrument flight, and all IFR requirements are observed.

60.13 Avoidance of prohibited and restricted areas.

(a) *Prohibited area.* No person shall operate an aircraft within a prohibited area unless prior permission has been obtained from appropriate authority.

(b) *Restricted area.* No person shall operate an aircraft within a restricted area contrary to the restrictions imposed unless prior permission has been obtained from appropriate authority.

Note: Prohibited and restricted areas are established in order to conduct certain essential activities either on the ground or within the airspace area. Avoidance of prohibited areas and operation within restricted areas strictly in accordance with the published restrictions are imperative to the safety of flight or the protection of the activity on the ground. Any person desiring to secure permission to fly in such areas contrary to the prohibition or the restrictions imposed, should contact the agency controlling that area. Prohibited and restricted areas, indicating the prohibitions or restrictions to flight and the name of the using agency, are shown on aeronautical charts or in publications of aids to air navigation.

60.14 Right-of-way. An aircraft which is obliged by the following rules to keep out of the way of another shall avoid passing over or under the other, or crossing ahead of it, unless passing well clear:

Note: Right-of-way rules do not apply when, for reasons beyond the pilot's control, aircraft cannot be seen due to restrictions of visibility. The aircraft which has the right-of-way will normally maintain its course and speed, but nothing in this Part relieves the pilot from the responsibility for taking such action as will best aid to avert collision.

(a) *Distress.* An aircraft in distress has the the right-of-way over all other air traffic;

(b) *Converging.* Aircraft converging shall give way to other aircraft of a different category in the following order: Airplanes and rotorcraft shall give way to airships, gliders, and balloons; airships shall give way to gliders and balloons, gliders shall give way to balloons. When two or more aircraft of the same category are converging at approximately the same altitude, each aircraft shall give way to the other which is on its right. In any event, mechanically driven aircraft shall give way to aircraft which are seen to be towing or refueling other aircraft:

Note: In effect, an aircraft will give way to another of a different category which is less maneuverable and is unable to take as effective action to avoid collision. For this reason, aircraft towing or refueling others are given the right-of-way.

(c) *Approaching head-on.* When two aircraft are approaching head-on, or approximately so, each shall alter its course to the right;

(d) *Overtaking.* An aircraft that is being overtaken has the right-of-way, and the overtaking aircraft, whether climbing, descending, or in horizontal flight, shall keep out of the way of the other aircraft by altering its course to the right, and no subsequent change in the relative

positions of the two aircraft shall absolve the overtaking aircraft from this obligation until it is entirely past and clear;

Note: Passing an overtaken aircraft on the right is required because the pilot in side-by-side, dual-control aircraft is seated on the left and has a better view on that side. Further, in narrow traffic lanes, passing on the left of an overtaken aircraft would place the overtaking aircraft in the path of the oncoming traffic.

(e) *Landing.* Aircraft, while on final approach to land, or while landing, have the right-of-way over other aircraft in flight or operating on the surface. When two or more aircraft are approaching an airport for the purpose of landing, the aircraft at the lower altitude has the right-of-way, but it shall not take advantage of this rule to cut in in front of another which is on final approach to land, or to overtake that aircraft.

Note: Pilots must recognize that once committed to a landing in certain aircraft the pilot has little chance to avoid other aircraft which may interfere with that landing and, therefore, careful observance of this rule is important to the safety of all concerned.

60.15 Proximity of aircraft. No person shall operate an aircraft in such proximity to other aircraft as to create a collision hazard. No person shall operate an aircraft in formation flight when passengers are carried for hire. No aircraft shall be operated in formation flight except by prearrangement between the pilots in command of such aircraft.

60.16 Acrobatic flight. No person shall engage in acrobatic flight:

(a) Over congested areas of cities, towns, settlements, or over an open-air assembly of persons, or

(b) Within any Federal airway or control zone, or

(c) When the flight visibility is less than 3 miles, or

(d) Below an altitude of 1,500 feet above the surface.

Note: Acrobatic maneuvers performed over a congested area or an open assembly of persons, or in areas where considerable air traffic exists, creates an undue hazard to persons or property. Flight visibility of at least 3 miles is believed to be a prerequisite to acrobatic flight in order that the pilot, after scanning the entire vicinity, may be reasonably assured that no other aircraft is within dangerous proximity prior to performing such maneuvers.

60.17 Minimum safe altitudes. Except when necessary for take-off or landing, no person shall operate an aircraft below the following altitudes:

(a) *Anywhere.* An altitude which will permit, in the event of the failure of a power unit, an emergency landing without undue hazard to persons or property on the surface;

(b) *Over congested areas.* Over the congested areas of cities, towns or settlements, or over an open-air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet from the aircraft. Helicopters may be flown at less than the minimum prescribed herein if such operations are conducted without hazard to persons or property on the surface and in accordance with paragraph (a) of this section; however, the Administrator, in the interest of safety, may prescribe specific routes and altitudes for such operations, in which event helicopters shall conform thereto;

Note: The rule recognizes the special flight characteristics of the helicopter which can accomplish an emergency landing within a relatively small space. However, if a helicopter is flown over the congested area of a city, town or settlement, at less than 1,000 feet above the highest obstacle, the pilot is required to fly with due regard to places in which an emergency landing can be made with safety and, further, to maintain an altitude along the flight path thus selected from which such an emergency landing can be effected at any time.

(c) *Over other than congested areas.* An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In such event, the aircraft shall not be operated closer than 500 feet to any person, vessel, vehicle, or structure. Helicopters may be flown at less than the minimums prescribed herein if such operations are conducted without hazard to persons or property on the surface and in accordance with paragraph (a) of this section;

Note: When flight is necessary at an altitude of less than 500 feet above the surface, the pilot must avoid creating any hazard to persons or property on the surface which may result from such flight. In no event

should the pilot expose his passengers to unnecessary hazard while engaging in flight at low altitude. The maneuverability of the helicopter permits safe flight below the minimums required in section 60.17, provided good judgment and caution are exercised by the pilot.

(d) *IFR operations.* The minimum IFR altitude established by the Administrator for that portion of the route over which the operation is conducted. Such altitude shall be that which the safe conduct of flight permits or requires considering the character of the terrain being traversed, the meteorological services and navigational facilities available, and other flight conditions. Where the Administrator has not established such a minimum, operations shall be conducted at not less than 1,000 feet above the highest obstacle within a horizontal distance of 5 miles from the center of the course intended to be flown.

Note: When minimum altitudes are established by the Administrator for particular routes, such altitudes will be published in Parts 609 and 610 of this title, and also may be found in the Approach and Landing Charts and Radio Facility Charts of the Coast and Geodetic Survey, and in the Airman's Guide.

Note: Civil Air Regulations, Interpretation 1, 19 F.R. 4602, July 27, 1954, provides in part as follows:

"The Board construes the words 'Except when necessary for take-off or landing, no persons shall operate an aircraft below the following altitudes' where such words appear in section 60.17 of the Civil Air Regulations, as establishing a minimum altitude rule of specific applicability to aircraft taking off and landing. It is a rule based on the standard of necessity, and applies during every instant that the airplane climbs after take-off and throughout its approach to land. Since this provision does prescribe a series of minimum altitudes within the meaning of the act, it follows, through the application of section 3, that an aircraft pursuing a normal and necessary flight path in climb after take-off or in approaching to land is operating in the navigable airspace."

60.18 Operation on and in the vicinity of an airport. Aircraft shall be operated on and in the vicinity of an airport in accordance with the following rules:

(a) *General rules.*

(1) *Avoidance of airport traffic areas.* No person shall operate an aircraft within an airport traffic area, except for the purpose of landing or taking off at airports located within such airport traffic area, or unless authorized by air traffic control.

(2) *Speed.* Except as otherwise authorized by air traffic control, no person shall operate an aircraft within an airport traffic area at an indicated airspeed in excess of 156 knots (180 m.p.h.) for reciprocating engine aircraft or 200 knots (230 m.p.h.) for turbine powered aircraft unless the operating limitations or military normal operating procedures require a greater airspeed, in which case the aircraft shall not be flown in excess of such airspeed.

(b) *Airport with control tower.* Aircraft being operated to, from, or on an airport served by an airport traffic control tower shall be operated in accordance with the following rules unless otherwise authorized or required by the airport traffic control tower of that airport. Such authorization may be provided as individual approvals of specific operations or contained in written agreements between airport users and the tower.

(1) *Communications.* During the hours the airport traffic control tower is in operation the following radio communication requirements shall apply:

(i) *United States Government operated control towers.* When operating an aircraft to, from, or on an airport at which an airport traffic control tower is operated by the United States Government, two-way radio communications shall be maintained with that control tower while operating within the airport traffic area. In the event of an in-flight failure of radio communications equipment during VFR flight, the foregoing requirement shall not apply and a pilot may enter the airport traffic area and land; *Provided*, That the weather conditions are equal to or above VFR conditions and the pilot maintains visual contact with the control tower and obtains a clearance (light signal) prior to landing. In the event of in-flight failure of radio communications equipment during IFR flight, the provisions of section 60.49 shall apply.

(ii) *Other control towers.* When operating an aircraft to, from, or on an airport at which an airport traffic control tower is operated by a person other than the United States Government, pilots of aircraft having radio equipment permitting two-way radio communications with the airport traffic control

tower shall maintain such communications and pilots of aircraft having radio equipment permitting reception only from such control tower shall maintain a listening watch on the appropriate tower frequency while operating within the airport traffic area of that airport.

Note: Pilots of aircraft operating to or from uncontrolled airports within the airport traffic area are not required to maintain radio contact with the control tower. However, such pilots should maintain two-way radio communications or a listening watch when feasible.

(2) *Clearances.*

(i) *Take-off, landing or taxi clearance.* During the hours the airport traffic control tower is in operation, a clearance shall be obtained prior to taxiing on a runway, taking off, or landing. Authorization to taxi "to" a runway is authorization to cross runways that intersect the taxi route unless instructions to the contrary are received. Authorization to taxi "to" a runway shall not constitute a clearance to taxi "on" that runway.

(ii) Pilots shall obtain a visual light signal clearance prior to taxiing on a runway and prior to take-off and landing at those airports where the control tower has authorized noncompliance with the requirement for two-way radio communications, or at those airports at which a non-United States Government airport traffic control tower is in operation if, for any reason, radio communications cannot be established.

(iii) Air traffic control may grant continuing permission to the pilot of an aircraft to conduct landings and take-offs within an airport traffic area of a controlled airport without individual clearance for each such operation.

(3) *Airport traffic area altitudes.* Unless prevented by terrain, obstacles or the VFR distance-from-cloud criteria, turbine powered fixed-wing aircraft shall be flown within the airport traffic area, including the traffic pattern, at an altitude of at least 1,500 feet, above the surface of the airport, until maneuvering for a safe landing requires further descent.

(4) *Traffic pattern direction.* Pilots of fixed-wing aircraft shall circle the airport to the left unless the airport traffic control tower specifies a different traffic pattern. In approaching to land, helicopters shall be flown in a manner which avoids the flow of fixed-wing aircraft.

(5) *Preferential runway system.*

(i) When a preferential runway system has been established by the Federal Aviation Agency for an airport, pilots of large fixed-wing aircraft landing at or taking off from such airport shall use a preferential runway when it has been assigned by the airport traffic control tower; *Provided,* That pilots shall retain final authority and responsibility for the operational safety of the aircraft and if a pilot determination is made to use another runway on the basis of safety, such other runway shall be authorized by air traffic control, traffic and other conditions permitting. When such authorization is given, the pilot retains responsibility for deviation from the provisions of the preferential runway system.

(ii) When a runway other than the originally assigned preferential runway is used, the pilot shall file, if requested by air traffic control, a written report of the reasons therefor, including a full description of the safety basis for his determination to use such other runway. This report shall be forwarded within 48 hours to the Chief, Airport Traffic Controller, Federal Aviation Agency, located at that airport at which the report is required.

(6) *Final approach.*

(i) When approaching to land on a runway served by a functioning instrument landing system (ILS), large fixed-wing aircraft equipped with a functioning ILS instrumentation shall be flown so as to remain at or above the glide slope between the outer marker and the middle marker; *Provided,* That when the VFR distance-from-cloud criteria require interception of the glide slope between the outer marker and the middle marker, large fixed-wing aircraft shall be flown so as to remain at or above the glide slope altitude between the point of interception and the middle marker.

(ii) When approaching to land on a runway served by visual glide slope devices, fixed-wing aircraft shall be flown so as to remain at or above the glide slope until [flight below the glide slope is necessary to complete a safe landing].

(7) *Departures.* Aircraft taking off shall be operated as follows:

(i) Pilots shall, prior to departure, familiarize themselves with any departure procedures established by the Federal Aviation Agency and shall comply with such procedures upon departure.

(ii) When departure procedure altitudes for a particular airport are not specified and unless otherwise required by the VFR distance-from-cloud criteria, large fixed-wing aircraft shall be flown so that a climb is made as rapidly as practicable to at least 1,500 feet above the surface: *Provided,* That the Federal Aviation Agency may specify a different rate of climb for a particular type of aircraft when a greater advantage in noise reduction can thereby be achieved with no derogation of safety.

(c) *Airports without control tower.* Aircraft being operated to or from an airport not served by a control tower shall be operated in accordance with the following rules:

(1) *Approaching to land.* When approaching for landing, fixed-wing aircraft shall be flown so that all turns are made to the left unless the airport displays light signals or standard visual markings of a type approved by the Federal Aviation Agency and which indicate that all turns are to be made to the right. When approaching for landing, helicopters shall be flown in a manner which avoids the flow of fixed-wing aircraft.

(2) *Departures.* Pilots of aircraft operating from an airport shall conform to the traffic patterns established for that airport.

(3) *Communications.* Aircraft being operated to or from an airport not served by a control tower, but at which an operative Federal Aviation Agency Flight Service Station is located and so depicted on the current appropriate Sectional Aeronautical Chart of the U.S. Coast and Geodetic Survey, or World Aeronautical Chart in the case of an area for which a Sectional Chart is not published, shall be operated in accordance with the following:

(i) Pilots of aircraft having radio equipment permitting two-way radio communications with the Flight Service Station shall maintain such communications when within 5 statute miles of the uncontrolled airport for purposes of receiving airport advisory information: *Provided,* That for instrument flight rules operations, air traffic control may require otherwise.

(ii) Pilots of aircraft having radio equipment permitting reception only from the Flight Service Station shall maintain a listening watch on the appropriate frequency when within 5 statute miles of the uncontrolled airport for purposes of receiving airport advisory information.

60.19 Air traffic control instructions. No person shall operate an aircraft contrary to air traffic control instructions in areas where air traffic control is exercised.

60.20 Notification of arrival. If a flight plan has been filed, the pilot in command of the aircraft, upon landing or completion of the flight, shall file an arrival or completion notice with the nearest Federal Aviation Agency communication station or control tower.

60.21 Adherence to air traffic clearances. When an air traffic clearance has been obtained under either the VFR or IFR rules, the pilot in command of the aircraft shall not deviate from the provisions thereof unless an amended clearance is obtained. In case emergency authority is used to deviate from the provision of an air traffic clearance, the pilot in command shall notify air traffic control as soon as possible and, if necessary, obtain an amended clearance. However, nothing in this section shall prevent a pilot, operating on an IFR traffic clearance, from notifying air traffic control that he is canceling his IFR flight plan and proceeding under VFR: *Provided,* That he is operating in VFR weather conditions when he takes such action.

60.22 Water operations. An aircraft operated on the water shall, insofar as possible, keep clear of all vessels and avoid impeding their navigation. The following rules shall be observed with respect to other aircraft or vessels operated on the water:

(a) *Crossing.* The aircraft or vessel which has the other on its right shall give way so as to keep well clear;

(b) *Approaching head-on.* When aircraft, or an aircraft and vessel, approach head-on, or approximately so, each shall alter its course to the right to keep well clear;

(c) *Overtaking.* The aircraft or vessel which is being overtaken has the right-of-way, and the one overtaking shall alter its course to keep well clear;

(d) *Special circumstances.* When two aircraft, or an aircraft and vessel, approach so as to involve risk of collision, each shall proceed with careful regard to existing circumstances and conditions including the limitations of the respective craft.

Note: The rules for operating aircraft on the surface of the water conform to marine rules for the operation of vessels. The "Special circumstances" rule is provided for situations wherein it may be impracticable or hazardous for a vessel or another aircraft to bear to the right because of depth of a waterway, wind conditions, or other circumstances.

60.23 Aircraft lights. Between sunset and sunrise:

(a) All aircraft in flight or operated on the ground or under way on the water shall display position lights;

(b) All aircraft parked or moved within or in dangerous proximity to that portion of any airport used for, or available to, night flight operations shall be clearly illuminated or lighted, unless the aircraft are parked or moved in an area marked with obstruction lights;

(c) All aircraft at anchor shall display anchor lights, unless in an area within which lights are not required for vessels at anchor; and

(d) Within the State of Alaska the lights required in paragraphs (a), (b), and (c) of this section shall be displayed during those hours specified and published by the Administrator.

Note: International visual distress and urgency signals are contained in the FAA Flight Information Manual for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

60.24 Flight test. The following provisions shall apply to the flight testing of aircraft unless otherwise authorized by the Administrator under such conditions as he may prescribe:

(a) No person shall flight test an aircraft unless such flight test is conducted:

(1) Over open water or sparsely populated areas having light air traffic and approved by the Administrator; or

(2) Over an area designated by the Administrator.

(b) This section shall not apply to take-offs and landings and operations necessary for flights to and from approved flight areas of production aircraft and aircraft which have been subject to major alterations as defined in Part 18 of the Civil Air Regulations.

(c) All flight tests shall be conducted in accordance with such traffic rules as the Administrator may from time to time prescribe.

Note: It should be recognized that any flight operation that requires excessive preoccupation with cockpit duties may result in careless or reckless operation of aircraft. See Example (c) under section 60.12 of the Civil Air Regulations.

60.25 Altimeter setting. The cruising altitude or flight level of aircraft shall be maintained by reference to an altimeter which shall be set:

(a) At or below 23,500 feet MSL, to the current reported altimeter setting of a station along the route of flight within 100 nautical miles: *Provided,* That where there is no such station, the current reported altimeter setting of an appropriate available station shall be used: *And provided further,* That in aircraft having no radio the altimeter shall be set to the elevation of the airport of departure or appropriate altimeter settings available prior to departure shall be used.

(b) At or above 24,000 feet MSL, to 29.92″ Hg. The use of flights levels below this altitude is not permissible.

(c) For overseas operations, in ICAO Flight Information Regions, in accordance with ICAO Regional Supplementary Procedures.

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Note: Flight levels appropriate to normally encountered atmospheric pressure are shown in the table following:

Atmospheric pressure in inches of mercury	Lowest usable flight level
29.92	240
29.91 to 29.42	245
29.41 to 28.92	250
28.91 to 28.42	255
28.41 to 27.92	260

60.26 Flight crew members at controls. All required flight crew members when on flight deck duty shall remain at their respective stations while the aircraft is taking off or landing, and while en route except when the absence of one such flight crew member is necessary for the performance of his duties in connection with the operation of the aircraft. All flight crew members shall keep their seat belts fastened when at their respective stations.

60.27 Aircraft speed. A person shall not operate an arriving aircraft at an indicated airspeed in excess of 250 knots (288 m.p.h.) during flight below 10,000 feet mean sea level within 30 nautical miles of an airport where a landing is intended or where a simulated approach will be conducted unless the operating limitations or military normal operating procedures require a greater airspeed, in which case the aircraft shall not be flown in excess of such speed.

[*60.28 Avoidance of disaster areas.*

[(a) Whenever the Administrator determines it to be necessary, the airspace below 2,000 feet above the surface over and within five statute miles of an aircraft or train accident, forest fire, earthquake, flood, or other disaster of substantial magnitude will be designated a disaster area. Designation will be made in a Notice to Airmen.

[(b) Aircraft may not be flown within a disaster area except under the following conditions:

[(1) Aircraft participating in airborne relief activities may be operated under the direction of the Agency responsible for relief activities.

[(2) Aircraft may be operated to or from an airport within the area if they do not hamper or endanger relief activities.

[(3) When flight around or above the area is impractical due to weather, terrain, or other considerations, aircraft may be operated en route through the area if they do not hamper or endanger relief activities and prior notice is given to the Air Traffic Service facility specified in the Notice to Airmen.

[(4) Aircraft may be operated through the area when specifically authorized under an IFR air traffic control clearance.

[(5) Aircraft carrying properly accredited news representatives or persons on official business pertaining to the disaster may be operated within the area. However, they shall be operated in accordance with section 60.17 and other applicable Civil Air Regulations and they may not be operated at or below altitudes being used by relief aircraft unless they have the specific approval of the Agency responsible for relief activities. Such approval, together with any special instructions, will normally be obtained through the Air Traffic Service facility specified in the Notice to Airmen. A flight plan containing the following shall be filed for news media and official business aircraft prior to operating in a disaster area:

[(i) Aircraft identification, type, and color;

[(ii) Radio communications frequencies to be used;

[(iii) Proposed time of entry and exit of the disaster area;

[(iv) Name of news media or other purpose of flight, and

[(v) Any other information deemed necessary by air traffic control.]

Visual Flight Rules (VFR)

60.30 Basic VFR minimum weather conditions. Aircraft shall not be flown VFR in weather conditions below those specified herein except as provided in section 60.31. When VFR flight operations are conducted in accordance with the provisions of section 60.32 at an altitude coincident with the designated base of the continental control area, control area or transition area, the visibility and clearance-from-cloud requirements applicable to the immediately underlying airspace shall govern.

or of the flight commander if a formation flight is involved;

(d) Point of departure;

(e) Cruising altitudes or flight levels, and the route to be followed;

(f) Point of first intended landing;

(g) Proposed true air speed at cruising altitude;

(h) Radio transmitting and receiving frequencies to be used;

(i) Proposed time of departure;

(j) Estimated elapsed time until arrival over the point of first intended landing;

(k) Alternate airport or airports, in accordance with the requirements of section 60.42;

(l) Amount of fuel on board expressed in hours;

(m) Any other information which the pilot in command of the aircraft, or air traffic control, deems necessary for air traffic control purposes;

(n) For international flights: The number of persons on board.

60.42 Alternate airport. An airport shall not be listed in the flight plan as an alternate airport unless current weather reports and forecasts show a trend indicating that the ceiling and visibility at such airport will be at or above the following minimums at the time of arrival:

(a) *Airport served by radio directional facility.* Ceiling 1,000 feet, visibility one mile; or ceiling 900 feet, visibility 1½ miles; or, ceiling 800 feet, visibility 2 miles;

(b) *Airport not served by radio directional facility.* Ceiling 1,000 feet with broken clouds or better, visibility 2 miles;

(c) *Minimums at individual airports.* The Administrator may, in the interest of safety, prescribe higher ceiling and visibility minimums at individual airports than required by paragraph (a) or (b) of this section; and for individual operations at particular airports, may specify lower minimums if he shall find that such reduced minimums will not decrease safety.

Note: The minimums set forth in section 60.42 are required for clearance prior to take-off and are not intended to limit use of any alternate airport if weather conditions change while en route, in which event the published landing minimums shall apply. Minimums for particular airports which may be prescribed by the Administrator will be published in Parts 609 and 610 of this title, and also may be found in the Approach and Landing Charts of the U.S. Coast and Geodetic Survey, and in the Airman's Guide.

60.43 Air traffic clearance. Prior to operating in controlled airspace, an air traffic clearance shall be obtained from air traffic control.

60.44 IFR cruising altitudes. When an aircraft is operated in level cruising flight, it shall be operated in accordance with the following cruising altitudes, or the equivalent flight levels, whichever is appropriate, except that, in the absence of a specific altitude authorized by air traffic control, aircraft operating "on top" shall be flown at altitudes specified in section 60.32:

(a) *Within controlled airspace.* At altitudes authorized by air traffic control.

(b) *Outside controlled airspace—below 29,000 feet.* At an altitude appropriate to the magnetic course being flown as follows:

(1) 0° to 179° inclusive, at odd thousands (1,000; 3,000; etc.).

(2) 180° to 359° inclusive, at even thousands (2,000; 4,000; etc.).

(c) *Outside controlled airspace at and above 29,000 feet in the State of Alaska and in territorial possessions of the United States.* At an altitude appropriate to the magnetic course being flown as follows:

(1) 0° to 179° inclusive, at 4,000-foot intervals beginning at 29,000 (29,000; 33,000; etc.).

(2) 180° to 359° inclusive, at 4,000-foot intervals beginning at 31,000 (31,000; 35,000; etc.).

Note: When an aircraft is holding in a one or two minute holding pattern or when it is turning, it is not considered to be in level cruising flight.

[*60.45 IFR course to be flown.* Aircraft operating in controlled airspace shall be flown along the center line of federal airways or along a direct course between the navigational aids or fixes defining other routes, unless:

(a) Otherwise authorized by air traffic control;

(b) Maneuvering as necessary to pass well clear of other aircraft; or

(c) In VFR conditions and maneuvering as necessary to visually clear the intended flight path prior to and during climb or descent.]

60.46 Instrument approach procedure. When instrument letdown to an airport is necessary, a standard instrument approach pro-

(c) *Flight visibility outside controlled airspace.* No person shall operate an aircraft VFR in flight when the flight visibility is less than one mile. However, helicopters may be flown at or below 1,200 feet above the surface when the flight visibility is less than one mile, if operated at such reduced speed as to give the pilot of such helicopter adequate opportunity to see other air traffic or any other obstruction in time to avoid collision.

Note: The minimum weather conditions prescribed in this section for flight in controlled airspace are those within which a pilot is expected to be able to observe and avoid other air traffic. When operating in weather conditions equal to or above those specified herein, irrespective of the type of flight plan an aircraft may be operated under, i.e., IFR or VFR, the primary responsibility for the avoidance of collision rests with the pilot. It should be recognized that the criteria contained herein prescribe the "minimums" required for VFR flight. Good operating practice requires that regular or continued flight in near minimum weather conditions be avoided.

60.31 Special VFR minimum weather conditions in control zones. When a clearance is obtained from air traffic control, aircraft may be flown VFR within a control zone when the weather conditions are below the basic minimums specified in section 60.30 subject, however, to special weather minimums as follows:

(a) *Visibility.* When the flight visibility is less than one mile, no person shall operate an aircraft VFR, other than a helicopter, in flight within a control zone. When the ground visibility is less than 1 mile, no person shall take off or land an aircraft VFR, other than a helicopter, at an airport within a control zone.

(b) *Clearance from clouds.* No person shall operate an aircraft VFR in flight within a control zone unless clear of clouds.

Note: With respect to this section, an air traffic clearance obtained under these provisions does not constitute authority for the pilot to deviate from section 60.17 or any other applicable provision of the Civil Air Regulations.

60.32 VFR cruising altitudes. When an aircraft is operated in level cruising flight at 3,000 feet or more above the surface, the following cruising altitudes, or the equivalent flight levels, whichever is appropriate, shall be observed:

(a) *Below 29,000 feet.* At an altitude appropriate to the magnetic course being flown as follows:

(1) 0° to 179° inclusive, at odd thousands plus 500 (3,500; 5,500; etc.).

(2) 180° to 359° inclusive, at even thousands plus 500 (4,500; 6,500; etc.).

(b) *Above 29,000 feet.* At an altitude appropriate to the magnetic course being flown as follows:

(1) 0° to 179° inclusive, at 4,000-foot intervals beginning at 30,000 (30,000; 34,000; etc.).

(2) 180° to 359° inclusive, at 4,000-foot intervals beginning at 32,000 (32,000; 36,000; etc.).

Note: When an aircraft is holding in a one or two minute holding pattern or when it is turning, it is not considered to be in level cruising flight.

60.33 VFR flight plan. If a VFR flight plan is filed, it shall contain such of the information listed in section 60.41 as air traffic control may require.

Note: Although flight plans are not required for VFR flight, air traffic control will accept such flight plans when desired by the pilot. Flights proceeding over sparsely populated areas or mountainous terrain may thus take advantage of any search and rescue facilities which may be available in emergencies. The information contained in such a flight plan is of importance to search and rescue operations.

Instrument Flight Rules (IFR)

60.40 Application. When aircraft are not flown in accordance with the distance-from-cloud and visibility rules prescribed in the visual flight rules, sections 60.30–60.33, aircraft shall be flown in accordance with the rules prescribed in sections 60.41–60.49.

60.41 IFR flight plan. Prior to operating in controlled airspace, a flight plan shall be filed with air traffic control. Such flight plan shall contain the following information unless otherwise authorized by air traffic control.

(a) Aircraft identification, and if necessary, radio call sign;

(b) Type of aircraft; or, in the case of a formation flight, the types and number of aircraft involved;

(c) Full name, address, and number of pilot certificate of pilot in command of the aircraft,

Definitions

60.60 Definitions. As used in this Part, terms shall be defined as follows:

Acrobatic flight. Maneuvers intentionally performed by an aircraft involving an abrupt change in its altitude, an abnormal attitude, or an abnormal acceleration.

Note: The term "acrobatic flight" is not intended to include turns or maneuvers necessary to normal flight.

Air traffic. Aircraft in operation anywhere in the airspace and on that area of an airport normally used for the movement of aircraft.

Air traffic clearance. Authorization by air traffic control, for the purpose of preventing collision between known aircraft, for an aircraft to proceed under specified traffic conditions within controlled airspace.

Air traffic control. A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

Aircraft. Any contrivance used or designed for navigation of or flight in the air, except a parachute or other contrivance designed for such navigation but used primarily as safety equipment.

Airplane. A mechanically propelled aircraft the support of which in flight is derived dynamically from the reaction on surfaces in a fixed position relative to the aircraft but in motion relative to the air.

Airport. A defined area on land or water, including any buildings and installations, normally used for the take-off and landing of aircraft.

Airport traffic area. An airport traffic area is that 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 upwards from the surface to, but not including 2,000 feet above the surface.

Airship. A mechanically propelled aircraft whose support is derived from lighter-than-air gas.

Alternate airport. An airport specified in the flight plan to which a flight may proceed when a landing at the point of first intended landing becomes inadvisable.

Balloon. An aircraft, excluding moored balloons, without mechanical means of propulsion, the support of which is derived from lighter-than-air gas.

Basic airworthiness. "Basic airworthiness" means the structural integrity and controllability of an aircraft as determined by the pilot in normal flight maneuvering such that there is no reasonable probability of failure which would endanger persons or property.

Ceiling. The height above the ground or water of the lowest layer of clouds or obscuring phenomena that is reported as "broken," "overcast," or "obscuration" and not classified as "thin" or "partial."

Controlled airspace. Airspace of defined dimensions designated in Part 601 of this title as continental control area, control area, control zone or transition area, within which air traffic control is exercised.

(1) *Continental control area.* The Continental Control Area consists of the airspace of the continental United States at and above 14,500 feet MSL but excludes: (1) The State of Alaska, (2) the airspace less than 1,500 feet above terrain, and (3) prohibited and restricted areas except those restricted areas specified in Part 601 of this Title.

(2) *Control area.* Unless otherwise provided in appropriate cases, control areas extend upward from 700 feet above the surface until designated from 1,200 feet above the surface or from at least 500 feet below the MEA, whichever is higher, to the base of the continental control area.

(3) *Control zone.* Control zones extend upward from the surface. A control zone may include one or more airports and is normally a circular area of 5 statute miles in radius with extensions where necessary to include instrument approach and departure paths.

[(4) *Transition area.* Transition areas extend upward from 700 feet or higher above the surface when designated in conjunction with an airport for which an instrument approach procedure has been prescribed, or from 1,200 feet or higher above the surface when designated in conjunction with airway route structures or segments. Unless otherwise]

cedure prescribed for that airport by the Administrator shall be used, unless:

(a) A different instrument approach procedure specifically authorized by the Administrator is used, or

(b) A different instrument approach procedure is authorized by air traffic control for the particular approach, provided such authorization is issued in accordance with procedures approved by the Administrator.

Note: Standard instrument approach procedures prescribed by the Administrator are published in Parts 609 and 610 of this title, and also may be found in the Approach and Landing Charts and Radio Facility Charts of the U.S. Coast and Geodetic Survey, and in the Airman's Guide. Such procedures have been carefully investigated with respect to pattern and terrain clearance. Safety would not permit several aircraft to make simultaneous use of more than one instrument approach procedure unless such operations were controlled.

60.47 Radio communications. Within controlled airspace the pilot in command of the aircraft shall ensure that a continuous watch is maintained on the appropriate radio frequencies and shall report by radio as soon as possible the time and altitude of passing each designated reporting point, or the reporting points specified by air traffic control, together with weather conditions which have not been forecast, and other information pertinent to the safety of flight.

Note: Designated reporting points are noted in publications of aids to air navigation. Control of air traffic is predicated on knowledge of the position of aircraft in flight. The reporting of unanticipated weather encountered en route such as icing or extreme turbulence may be of importance to the safety of other aircraft anticipating flight within the area.

60.49 *Radio communications failure.* In the event of two-way radio communications failure the pilot shall comply with the following procedures, unless otherwise authorized by air traffic control:

(a) *VFR conditions.* If the failure occurs in VFR conditions or if such conditions are subsequently encountered, continue flight under VFR and land as soon as practicable.

(b) *IFR conditions.* If the failure occurs in IFR conditions or if the provisions of paragraph (a) of this section cannot be followed, continue flight to the airport of destination.

(1) *Route.* Via the route specified in the last air traffic control clearance received or, if no route has been specified, via the planned route.

(2) *Altitude.* At whichever of the following altitudes or flight levels is the higher:

(i) At the altitude or flight level specified in the last air traffic control clearance received;

(ii) At the minimum safe altitude; or

(iii) At the lowest cardinal altitude or flight level (1,000-foot level), at or above the MEA of the highest planned route structure.

When climb to a higher route structure is necessary, climb shall be initiated, unless required earlier by the minimum safe altitude, 10 minutes after passing the first compulsory reporting point over which the failure prevented communications with air traffic control.

(3) *Holding.* When holding instructions have been received, depart the holding fix at the expected further clearance time received or, if an expected approach clearance time has been received, depart the holding fix so as to arrive over the radio facility to be used for the approach at the destination airport as nearly as possible to the expected approach clearance time.

(4) *Descent.* Descent from the en route altitude or flight level shall be initiated at the radio facility to be used for the approach at the destination airport at whichever of the following times is the later:

(i) The expected approach clearance time, if received;

(ii) The estimated time of arrival as determined from the flight plan, as amended with air traffic control; or

(iii) The actual time of arrival over the facility.

Note: Detailed procedures to be followed by the pilot are contained in the FAA Flight Information Manual, for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

the sunshine tables in the offices of the Federal Aviation Agency or the United States Weather Bureau.

Traffic pattern. The flow of aircraft operating on and in the vicinity of an airport during specified wind conditions as established by appropriate authority.

VFR. The symbol used to designate visual flight rules.

VFR conditions (VFR minimum weather conditions). Basic weather conditions prescribed in section 60.30 for flight under VFR.

Basic VFR minimums as provided in section 60.30

	Visibility	Distance from clouds	
Control zone	3 miles [1]	500 feet under. [1] 1,000 feet over. [1] 2,000 feet horizontally. [1] and 1,000-foot ceiling.	
Control area and transition area	3 miles	500 feet under. 1,000 feet over. 2,000 feet horizontally.	
Continental control area	5 miles	1,000 feet under. 1,000 feet over. 1 mile horizontally.	
		1,200 feet or below	Above 1,200 feet
Outside controlled airspace	1 mile [2]	Clear of clouds	500 feet under. 1,000 feet over. 2,000 feet horizontally.

[1] If traffic conditions permit, Air Traffic Control will issue an air traffic clearance for flight within a control zone when the weather conditions are less than above. However, no person shall operate an aircraft VFR, other than a helicopter, irrespective of any clearance, unless the visibility is 1 mile. All flights shall remain clear of clouds.

[2] Helicopters are excepted from the 1 mile requirement when operated at or below 1,200 feet and at reduced airspeed. (See section 60.30.)

limited, transition areas terminate at the base of the overlying controlled airspace.

Cruising altitude. Cruising altitude is a level determined by vertical measurement from mean sea level.

Expected approach time. The time at which it is expected that an arriving aircraft will be cleared to commence approach for a landing.

Flight level. Flight level is a level of constant atmospheric pressure related to a reference datum of 29.92" Hg. For example, flight level 250 is equivalent to an altimeter indication of 25,000 feet, and flight level 265 to 26,500 feet.

Flight plan. Specified information filed either verbally or in writing with air traffic control relative to the intended flight of an aircraft.

Flight test. "Flight test" means flight for the purpose of investigating or checking the operational capabilities of a new type of aircraft, engine, or propeller, the airworthiness of which has not been determined by appropriate military or civil authority; or flights of production aircraft until the basic airworthiness of the aircraft, engine, or propeller contemplated by the appropriate production specification or type certificate is determined by the pilot; or flights involving aircraft, engines, or propellers following major alteration, as defined in Part 18 of the Civil Air Regulations, until the basic airworthiness of the aircraft, engine, or propeller has been determined by the pilot.

Flight visibility. The average horizontal distance that prominent objects may be seen from the cockpit.

Glider. An aircraft without mechanical means of propulsion, the support of which in flight is derived dynamically from the reaction on surfaces in motion relative to the air.

Ground visibility. The average range of vision in the vicinity of an airport as reported by the U.S. Weather Bureau or, if unavailable, by an accredited observer.

Helicopter. A type of rotorcraft the support of which in the air is normally derived from airfoils mechanically rotated about an approximately vertical axis.

IFR. The symbol used to designate instrument flight rules.

IFR conditions. Weather conditions below the minimum prescribed for flights under VFR.

Large aircraft. Aircraft of more than 12,500 pounds maximum certificated take-off weight.

Magnetic course. The true course or track, corrected for magnetic variation, between two points on the surface of the earth.

MEA. The minimum en route IFR altitude applicable to a particular route or route segment, from radio fix to radio fix, as specified in Part 610 of this title.

Person. Means an individual, firm, copartnership, corporation, company, association, joint-stock association, or body politic; and includes any trustee, receiver, assignee, or other similar representative thereof.

Prohibited area. Airspace identified by an area on the surface of the earth within which the flight of aircraft is prohibited.

Reporting point. A geographical location in relation to which the position of an aircraft is reported.

Restricted area. Airspace identified by an area on the surface of the earth within which the flight of aircraft, while not wholly prohibited, is subject to restrictions.

Rotorcraft. An aircraft whose support in the air is chiefly derived from the vertical component of the force produced by rotating airfoils.

Special VFR conditions (special VFR minimum weather conditions). Weather conditions which are less than basic VFR weather conditions and which permit flight under Visual Flight Rules as specified in section 60.31.

Sunset and sunrise. Sunset and sunrise are the mean solar times of sunset and sunrise as published in the Nautical Almanac converted to local standard time for the locality concerned, except within the State of Alaska.

Note: The Nautical Almanac containing sunshine tables may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C. Information is also available from

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(a) *Clearance from clouds.*

(1) *In controlled airspace.* Aircraft shall not be flown VFR less than 500 feet vertically under, 1,000 feet vertically over, and 2,000 feet horizontally from any cloud formation, except that in the continental control area, aircraft shall not be flown VFR less than 1,000 feet vertically and one mile horizontally from any cloud formation. Aircraft shall not be flown VFR within a control zone beneath the ceiling when the ceiling is less than 1,000 feet.

(2) *Outside controlled airspace.* When at an altitude of more than 1,200 feet above the surface, aircraft shall not be flown VFR less than 500 feet vertically under, 1,000 feet vertically over, and 2,000 feet horizontally from any cloud formation. When at an altitude of 1,200 feet or less above the surface, aircraft flown VFR shall be flown clear of clouds.

(b) *Visibility within controlled airspace.*

(1) *Control zones.* When the flight visibility is less than 3 miles, no person shall operate an aircraft VFR in flight within a control zone. When the ground visibility is less than 3 miles, no person shall take off or land an aircraft or enter the traffic pattern of an airport within a control zone.

(2) *Control area.* When the flight visibility is less than 3 miles, no person shall operate an aircraft VFR in flight within a control area.

(3) *Transition area.* When the flight visibility is less than three miles, no person shall operate an aircraft VFR within a transition area.

(4) *Continental control area.* When the flight visibility is less than 5 miles, no person shall operate an aircraft VFR in flight within the continental control area.

Special Civil Air Regulations Which Affect Part 60

SPECIAL CIVIL AIR REGULATION NO. SR-424C

(As amended by Amendment No. 1, issued October 23, 1961; effective December 1, 1961)

Effective: August 30, 1960
Issued: July 25, 1960

Positive Air Traffic Control Areas; Positive Air Traffic Control Routes

Draft Release No. 60-9, published in the Federal Register on May 7, 1960 (25 F.R. 4082) gave notice that the Federal Aviation Agency had under consideration the adoption of a Special Civil Air Regulation establishing a new and additional application of the positive air traffic control concept. It has been long recognized that there are certain areas wherein the problems of collision avoidance by high-speed flight operations require the application of air traffic control separation standards regardless of the meteorological conditions. While the positive control routes, established in Special Civil Air Regulation series 424, and the civil jet radar flight following and advisory program were designed to reduce the possibility of mid-air collision, these programs were concerned primarily with the requirements of point-to-point flight. It is axiomatic that the next step in the evolution of positive control would be to the provision of such service within a specified "area," while still retaining the "route" concept of positive control and the civil jet advisory service until superseded by the "area" concept.

All comments received in response to Draft Release No. 60-9 have been reviewed and due consideration has been given to their content. While all of the comments endorsed the concept, some did so with certain reservations.

The Department of the Air Force has recommended that a plan for the evaluation of the positive control area concept be developed and that a simulation study and evaluation of the control procedures to be used and the traffic in the affected area be completed prior to the final rule making action. The Agency intends to evaluate and analyze the positive control program and to prepare a report, available to interested persons or agencies, after the implementing phase of the program is accomplished. Knowledge and statistics gathered will provide the Agency with information upon which future expansion of the positive control program and modification of associated control procedures will be based. A simulation study of the procedural and traffic factors contingent with this program has been completed. While a formal report is not yet available, the preliminary evaluation substantiates the ideology of the positive control area concept. Further knowledge must be obtained from a practical application.

The Air Force has also recommended that the positive control routes underlying positive control areas not be expanded vertically to include the airspace between 22,000 and 24,000 feet, m.s.l. This recommendation cannot be accepted. To leave a narrow strata of nonpositive controlled airspace between the positive control route segments and the positive control area would compress nonparticipating flight activities into the airspace between the two positive control systems. This funneling of traffic into a constricted band of

airspace in conjunction with aircraft transiting from one positive control environment to the other, would create a hazardous situation. For this reason it has been concluded that the airspace between 22,000 and 24,000 feet, m.s.l., should be designated as a positive control route segment.

The Air Force has contended that certain military flight operations cannot be satisfactorily conducted within positive control airspace and has enumerated such activities in its comments. The Agency had previously informed the Air Force of its program to integrate these operations into the system in accordance with a three-phase plan. Complete integration was scheduled to be accomplished within an estimated six-month period. The Air Force has stated that a delay in accepting these operations in the system could compromise its operations to the extent that the over-all combat readiness of certain commands and units could not be maintained. The Agency has therefore revised the phasing schedule to shorter periods of time and is, in fact, prepared to accept at the inception of the program, several operations which had been scheduled for later phases. The problems are primarily procedural in nature and resolution lies in increased system capacity. The Agency is confident that most of these problems will be resolved prior to or shortly after the initiation of this positive control program.

One foreign air carrier company expressed concern regarding the requirement for a radar beacon transponder, not wishing to install such equipment in the absence of internationally accepted transponder specifications. Due to the limitations of primary radar, particularly in regard to resolution of target information from certain aircraft types, the use of radar beacon transponders is essential to the success of positive control on an area basis.

Certain language in the proposed rule has been modified to promote clarity. Paragraph 1(d) now states that the Director, Bureau of Air Traffic Management, or his designated air traffic control representative, has the responsibility for the issuance of special authorizations permitting deviations from the requirements of paragraph 1 (b) and (c). As this change is clarifying in nature, makes no substantive change and imposes no additional burden on any person, further rule making procedures thereon are unnecessary.

Draft Release No. 60–9, discussed in considerable detail the airspace within which the proposed implementation of the positive control service would be accomplished. This elaboration was necessary in order to convey to the public a comprehensive understanding of the Agency's intent. Since formal airspace notices of proposed rule making relative to this airspace have been or will be presented for comment, further discussion with respect to the exact dimensions of airspace is not considered pertinent to this document.

In cooperation with all airspace users, the Federal Aviation Agency is making every effort to develop a program for positive control which will best serve the interest of the public. It is believed that with the adoption of this regulation a major advancement in safety will be achieved. It is extremely important that all interested persons exert a concerted effort to promote the success of this endeavor. Through a continuing evaluation and modification of procedures or operations and in close coordination with all users, an orderly and practical expansion of this concept will be accomplished.

In consideration of the foregoing, the following Special Civil Air Regulation is hereby adopted to become effective on August 30, 1960.

SPECIAL CIVIL AIR REGULATION NO. SR-397

Effective: June 30, 1953
Adopted: June 30, 1953

Authorization for the U.S. Forest Service To Deviate From the Civil Air Regulations

The Forest Service of the U.S. Department of Agriculture uses both public and civil aircraft to carry personnel and equipment to fire areas. The aircraft and pilots are certificated and, where possible, Forest Service operations are conducted in accordance with the Civil Air Regulations. In order to deal effectively with fire control and other Forest Service specialized activities, however, it is often necessary to use uncertificated personnel as parachute riggers during peak-load periods, to remove seats and safety belts from aircraft in which firefighters are carried, to drop equipment and supplies from aircraft, and to deviate from other provisions of the Civil Air Regulations such as minimum altitudes and visibility conditions. Due to the exigencies of the particular situation, it is usually impracticable for the Forest Service to seek authority in each particular instance to deviate from the provisions of the Civil Air Regulations. In view of the public service rendered by this organization and the well organized supervisory control which the Forest Service exercises over its operations, it is considered desirable that the Board authorize the Forest Service to deviate from the Civil Air Regulations and normal practices thereunder when necessary for their operations.

This regulation authorizes the Chief of the Forest Service to permit aircraft and airmen, while engaged in Forest Service operations, to deviate from the Civil Air Regulations to the extent that he finds necessary for the expeditious conduct of such operations. The regulation also provides that the Administrator shall establish a procedure for notification by the Chief of the Forest Service of those deviations which he has authorized.

Interested persons have been afforded an opportunity to participate in the making of this regulation, and due consideration has been given to all relevant matter presented. Since this regulation imposes no additional burden on any person, it may be made effective without prior notice.

In consideration of the foregoing the Civil Aeronautics Board hereby makes and promulgates the following Special Civil Air Regulation, effective immediately:

Contrary provisions of the Civil Air Regulations notwithstanding, the Chief, Forest Service, U.S. Department of Agriculture, is authorized to permit aircraft and airmen, while engaged in operations conducted for the U.S. Forest Service, to deviate from the provisions of the Civil Air Regulations to the extent that he finds necessary for the expeditious conduct of such operations. The Chief, Forest Service, shall notify the Administrator of any deviation which he has authorized and the reasons therefor in accordance with a procedure established by the Administrator.

(1) The special air traffic rules prescribed in this section shall be applicable, except as otherwise provided in paragraph (d), to any operation of an aircraft in that portion of airspace in the continental control area which has been designated by the Administrator as a "positive control area" in Part 601 of the Administrator's Regulations (14 CFR Part 601):

(a) No person shall operate an aircraft within a positive control area without prior approval of air traffic control.

(b) All VFR flight activities, including VFR on top, irrespective of weather conditions, are prohibited from operating in this designated airspace.

(c) All aircraft operated within positive control areas shall:

(1) Have instruments and equipment required for IFR operations and pilots of such aircraft shall be rated for instrument flight.

[(2) Be equipped with a coded radar beacon transponder, having a Mode 3/A 64 code capability, which shall be operated to reply to Mode 3/A interrogation with the code specified by air traffic control; *Provided*, That in the event a radar beacon transponder failure is experienced in flight, air traffic control may approve operation within positive control area.[1]]

(3) Be equipped with radio equipment capable of providing direct pilot-controller communications on the frequencies specified by air traffic control for the positive control area in which flight is conducted.

(d) The Director of the Bureau of Air Traffic Management or his designated representative may authorize deviation from the requirements of paragraphs (b) and (c) of this section in accordance with the terms and conditions of such authorization. [2]

(2) The special air traffic rules prescribed in the following paragraphs of this section shall be applicable to any operation of an aircraft in that portion of a federal airway, designated by the Administrator as a "positive control route segment" in Part 601 of the Administrator's Regulations (14 CFR Part 601), between the altitudes of 17,000 and 22,000 feet (m.s.l.); or between the altitudes of 17,000 to 24,000 feet (m.s.l.) for the portion of a "positive control route segment" underlying a "positive control area" with a base of 24,000 feet (m.s.l.).

(a) No person shall operate an aircraft within such designated airspace without prior approval of air traffic control.

(b) All VFR flight activities, including VFR on top, irrespective of weather conditions, are prohibited from operating in this designated airspace.

(c) All aircraft operated within this designated airspace shall have the instruments and equipment currently required for IFR operations and all pilots shall be rated for instrument flight.

SR–424B is hereby rescinded on the effective date of this regulation.

[[1] Mode A is identical to military Mode 3. For purposes of brevity and clarity, it is referred to herein as Mode 3/A.]

[2] Requests for such authorization shall be presented, in writing, to the air route traffic control center exercising control over the positive control area within which the deviating flight will be conducted. Such request must reach the center at least 4 days in advance of the proposed operation. Approval will be conveyed in writing and may be granted on a continuing basis or by individual flight, whichever is more appropriate.

SPECIAL CIVIL AIR REGULATION NO. SR-437

Effective: November 4, 1959
Issued: October 30, 1959

Flight Plans for Flight of Civil Aircraft Over Cuba

In order to provide for the proper coordination and clearance of all civil aircraft departing the United States for flight to or over Cuba, this regulation requires the pilot in command of such aircraft to file a flight plan prior to take-off. The DVFR or IFR flight plan required in section 620.11 of the Security Control of Air Traffic Rules may be used for this purpose. Additionally, at least one hour prior to departure a statement in writing with certain supplemental information must be filed with the office of the Immigration and Naturalization Service at the international airport from which such flights will depart.

This regulation does not apply to scheduled air carriers or foreign air carriers conducting flights from a place in the United States over routes authorized in operations specifications issued by the Administrator.

Since a situation exists requiring the immediate adoption of this regulation for the national security and safety in air commerce I find that notice and public procedure hereon are impracticable, and that good cause exists for making this regulation effective on November 4, 1959.

In consideration of the foregoing, the following Special Civil Air Regulation is adopted.

No person shall operate a civil aircraft from the United States for flight over, or landing within Cuba, unless departure is made from an international airport designated as an international airport of entry in section 6.13 of the Air Commerce Regulations of the Bureau of Customs (19 CFR 6.13).

The pilot in command of a civil aircraft departing from the continental United States (excluding Alaska) for flight over, or landing within, Cuba, shall file a DVFR or IFR flight plan in accordance with the requirements prescribed in section 620.11 of the Security Control of Air Traffic Rules (14 CFR 620). In addition, at least one hour prior to the time of departure from such international airport, the pilot in command shall file with the office of the Immigration and Naturalization Service at the airport a written statement containing the information in the flight plan, together with the following further information: Number and names of all persons aboard the aircraft, description of the cargo, if any, carried aboard the aircraft, and the international airport of departure.

This regulation shall not apply to aircraft operated by a scheduled air carrier or foreign air carrier departing from the United States over routes authorized in operations specifications issued by the Administrator.

This regulation shall become effective on November 4, 1959, and remain in effect until superseded, rescinded or revoked.

(*Note:* Pages 23 through 32 deleted by Supplement No. 10 dated January 18, 1963, and Supplement No. 11 dated March 15, 1963. The next page is 33.)

SPECIAL CIVIL AIR REGULATION NO. SR-438

Effective: April 4, 1960
Issued: February 23, 1960

Los Angeles International Airport Traffic Pattern Area Rules

On October 28, 1959, notice was given in Draft Release No. 59-17 (24 F.R. 9020) that the Federal Aviation Agency had under consideration the adoption of a Special Civil Air Regulation establishing special airport traffic pattern rules for the Los Angeles International Airport area. This regulation would establish a specific area of airspace surrounding the Los Angeles International Airport to be designated as an airport traffic pattern area within which special aircraft operating rules would apply. These operating rules were developed in order to enhance the safety of all aircraft operations in this area and to provide for the protection of persons and property on the ground.

The nature of comments received in response to the draft release could be classified in two broad categories; those submitted from aviation community interests which addressed the technical aspects of the proposed aircraft operating rules, and those submitted from other interested persons which addressed the aircraft noise abatement aspects of the proposed rule.

Many of the comments of this latter category contended that the proposed rules did not "go far enough" and urged that much more be done to provide relief to nearby communities from the aircraft noise problem. While comments such as these were prevalent, other comments recognized that the rules, which deal with traffic pattern flight procedures would result in an alleviation of the problem insofar as practical air traffic rules could provide. For example, the comment of the City Council of Inglewood stated, in part, that the proposed regulation "* * * is, and will be, a long step toward the ultimate solution of the critical noise problem in this city; * * *". The City Council urged the early adoption of the proposed regulation.

The Agency would like to emphasize the point that the proposed rules outlined in Draft Release No. 59-17, were not intended to be representative of a complete Agency answer to the aircraft noise problem. These rules are an initial product of an Agency-wide program that seeks the alleviation of aircraft noise through the various areas of purview of each particular Bureau in the Agency. The Agency has been studying the fundamental problems of aircraft noise in airport communities to attack the problem on a broad scale. Basic research is under way on the fundamentals of community objections to aircraft noise to determine how to improve the designs of aircraft and their flight operational techniques to lower noise levels and, where possible, alter the noise characteristics to make them less annoying. As part of this intensive research program, a wide number of community reactions to aircraft noise studies have been made, the results of which are being regularly discussed with the aircraft operators for consideration in the design of new aircraft and engines.

While all jet transport aircraft in civil operation are equipped with engine noise suppressors, which are heavy and costly, the Agency is continuing its studies of jet noise suppression methods to further minimize the noise problem.

Ground engine mufflers are also being analyzed as these devices are particularly pertinent to the engine run-up maintenance procedures employed at airports. Studies of the new turbofan engines are also being made to assure that these engines will produce less noise on both take off and landing.

Studies are also under way to determine the least noisy methods and techniques for the take off and approach to landing of civil jet transport aircraft. Camera studies are being continued to determine the extent of operational variations between operators and pilots along with the accuracy to which the aircraft is flown. Airspeed indicators, artificial horizons, and angle of attack indicators with improved accuracy and readability are being studied to permit jet aircraft to be flown to the optimum performance consistent with safety and noise abatement.

Commercial air carriers based at many major airport terminals have been requested to remove their flight training activities to other airports where such operations may be conducted over less congested areas without creating undue noise annoyance. These requests were made primarily on the basis of safety, in that simulated engine-out maneuvers and the conflict of training flights with normal heavy traffic at such airports constitute an undue hazard as well as an unnecessary source of noise annoyance.

Additional navigation aids for instrument approach procedures at major airport terminals have been established so that approaches during limited weather conditions may be made from more than one direction. This eliminates the necessity for circling approaches around the airport at low altitudes since straight-in approaches to land can be made from more than one direction and is expected to contribute significantly to the further alleviation of the noise problem.

For operations in good weather conditions, considerable attention is being devoted to the development of visual glide path indicators. These devices will provide accurate visual guidance in the landing approach so as to assure that aircraft which create a difficult noise problem will not be flown at an altitude lower than that deemed acceptable throughout the approach. Five types of visual glide indicators are being installed at the National Aviation Facilities Experimental Center for testing and evaluation. One system is currently under active test and one will soon be ready for actual test. Within a few months, all five systems will be under simultaneous evaluation.

Studies are also under way by the Agency to determine the practicability of expanding the scope of airport master plans to include buffer zones designed to cushion the effects of aircraft noise. Consideration is also being given to recommending to airport owners and other public agencies, the utilization by them of local zoning powers to encourage land uses of areas contiguous to airports in a manner mutually beneficial to the community and airport activities.

The diligent pursuit of these and other noise alleviation projects within the Agency coupled with the continued and conscientious efforts of the aviation community, particularly the aircraft operators and local airport authorities, justify a confidence that significant progress will be made in the alleviation of the aircraft noise problem.

With respect to the comments received from the aviation community which addressed the technical operating provisions of the proposed rules, the consensus indicated an opposition to the principle of establishing separate Special Civil Air Regulations for each airport that may have a noise problem. It was contended that the inflexibility inherent in the establishment of manda-

tory operating procedures in a Civil Air Regulation could compound the complexities involved in further developing and revising noise abatement flight techniques. It was held that the establishment of detailed procedures designed to minimize the noise problem at particular airports could best be devised and more readily improved if developed on a local basis. The Agency finds merit in this proposition and consideration is being given to drafting an air traffic rule of general applicability which will standardize all controlled airport traffic pattern rules to the extent practicable and provide for the establishment of detailed airport procedures on a local basis.

Many comments were directed to the proposed provision which would require jet aircraft to maintain an altitude at or above the ILS glide path. The view was expressed that the precise 3° angle should not be specified and should not apply to the point of touchdown. Further, the approach altitude requirement ought to be applicable to piston engine aircraft as well as jet aircraft. The proposal has been modified in light of these comments and the rule is phrased to require descent at or above the glide path setting by all large aircraft equipped with ILS instrumentation. The rule applies only until the aircraft reaches the middle marker so as to provide for a safe "flare-out" for a landing by the pilot.

The proposed restriction on the use of the airport by jet aircraft between the hours of 10 p.m. and 7 a.m. under certain surface wind conditions has also been revaluated and this provision has been omitted from the rule. The practice of prohibiting the use of various airports during certain specific hours could create critically serious problems to all air transportation patterns. The network of airports throughout the United States and the constant availability of these airports are essential to the maintenance of a sound air transportation system. The continuing growth of public acceptance of aviation as a major force in passenger transportation and the increasingly significant role of commercial aviation in the nation's economy are accomplishments which cannot be inhibited if the best interest of the public is to be served. It was concluded therefore that the extent of relief from the noise problem which this provision might have achieved would not have compensated the degree of restriction it would have imposed on domestic and foreign Air Commerce.

Recommendations were received from aircraft operators at Hughes, Hawthorne and Santa Monica Airports for modifications to the proposed rules which would provide for a more flexible operation to and from those airports. Some of these recommendations indicated a misunderstanding of the proposed rules, especially the applicability of the two-way radio requirement. The proposal did not provide that two way communication had to be established with the Los Angeles tower if an aircraft were being flown to or from any airport other than Los Angeles International Airport within the Los Angeles traffic pattern area provided the appropriate entry and departure areas were utilized. For example, aircraft may enter the southeast sector of the Los Angeles traffic pattern area and land at Hawthorne Airport without communicating with the Los Angeles tower. Likewise aircraft may depart Hawthorne to the south without communicating with the Los Angeles tower. It will also be noted that the proposed departure procedure from Hawthorne has been modified to permit turns as early as practicable after a take-off to the west.

It should also be made clear that all the required traffic pattern area entry and departure procedures, altitudes as well as routes, may be superseded by authorization of the control tower. The principal purpose in adopting these procedures is to establish a standardized, segregated flow of air traffic at these

various airports which would promote the controllers capability to provide for a safe and expeditious movement of traffic in the area. The rules intend that the controller be provided the flexibility to authorize flight operations in such manner as is best suited to the instant state of the traffic situation.

Recommendations for a re-designation of the traffic pattern area to exclude the downwind leg portion of the Santa Monica traffic pattern were also received. However, the advantages of a standardized dimension of the traffic pattern area are considered more significant than locally different dimensions especially since national application of the concept is being considered. Further, the rules herein adopted do not contemplate the imposition of a radio requirement or any other restriction to Santa Monica Airport traffic other than that which provides a degree of segregation between Hughes Airport traffic and traffic on the downwind leg of the Santa Monica Airport.

As stated above, consideration is being given to the development of an amendment to the Air Traffic Rules, Part 60, of the Civil Air Regulations, which would provide for a national application of standardized controlled airport traffic pattern rules. It is expected that this proposed amendment would accommodate locally developed detailed airport procedures and provide for the ready implementation of revisions to these local procedures. Further, such a general rule would minimize a requirement for several special rules at individual airports.

In consideration of the foregoing, the following Special Civil Air Regulation is hereby adopted to become effective April 4, 1960.

(*Note*: Pages 27–32 deleted by Supplement No. 10 dated January 18, 1963. The next page is 33.)

SPECIAL CIVIL AIR REGULATION NO. SR-442

Effective: October 15, 1960
Issued: August 31, 1960

New York International Airport Traffic Area Rules

Draft Release No. 60-10 (25 F.R. 4202), dated May 5, 1960, gave public notice that the Federal Aviation Agency had under consideration the adoption of a Special Civil Air Regulation which would designate certain airspace around the New York International Airport as an airport traffic area and establish special air traffic rules applicable to this area.

A major purpose of this regulation is to reduce the aircraft noise disturbance to persons on the ground, recognizing that all aircraft noise cannot be eliminated and that safety of aircraft must be a primary consideration. The most direct solutions presently feasible include rearrangement of local traffic flow, use of prescribed preferential runways and traffic rules to establish the maximum altitudes of flight near airports consistent with safe landings and take-offs.

The degree to which aircraft noise may be reduced by regulating flight operations is limited to a great extent by the requirements of flight safety. The Agency must weigh all safety factors and consider the public interest with respect to a requirement for adequate air transportation against the problems which arise from aircraft noise in affected areas. For example, the Agency cannot prescribe regulations, simply to achieve some noise abatement, which would require an aircraft approaching to land to maintain a high altitude so close to the point of landing as to require descent at an angle too steep for safety.

Suggestions were made to prohibit the operation of jet aircraft during nighttime hours and to require the offloading of passengers and cargo to permit use of preferential runways. Such curtailment is not compatible with the critical need in the New York area for air transportation services. Moreover, bearing in mind that this is an initial attempt to provide noise relief in the New York area by regulation, there has not been sufficient experience for determining whether the noise benefits which might be derived would justify the resulting penalties upon the air transportation services required.

Although one of the primary objectives of this special regulation is to reduce aircraft noise, it is recognized that the preferential runway system, revised routings and minimum descent angles and altitudes set forth in this regulation will not completely eliminate the problem.

In developing a regulatory policy to resolve the problem of aircraft noise, the Agency has adopted certain basic concepts, previously incorporated in regulatory form in Special Civil Air Regulation SR-438, Los Angeles International Airport Traffic Pattern Area Rules. These concepts include the establishment of an airport traffic area for 5 statute miles around an airport within which special operating rules would apply. Such rules in turn would provide for use of preferential runways, prescribe altitudes for flight within the area

which would reduce noise, require entry and departure in specified directions where possible, and exclude en route traffic from the area to the maximum extent. A requirement for radio communication between aircraft and the controlling facility is also included as essential to the safe and expeditious movement of traffic within the area.

The primary source of aircraft noise is the large jet transport aircraft. The Agency currently requires that such aircraft be equipped with engine noise suppressors which effect a significant reduction of engine noise. Further studies of jet noise suppression methods are under way in an effort to obtain additional reduction of aircraft noise. Development and use of ground engine mufflers may result in the reduction of noise during the period of ground engine run-up.

In addition to those comments discussing the general aspects of the noise problem there were also a large number of comments relative to the operational contents of the proposal. To promote clarity and continuity, these comments will be considered jointly as portions of each apply to the sequence of the rule.

The term "airport traffic pattern area" appearing in Draft Release 60–10 has been replaced by the term "airport traffic area" in both the preamble and the rule adopted herein. This change was accomplished in order to provide a clear distinction between the airport traffic area which encompasses airspace within a 5 statute mile radius of the airport, and the airport traffic pattern which refers to the flow of traffic operating on and in the vicinity of an airport during specified wind conditions. In addition, the description of the horizontal radius of the airport traffic area has been revised by adding the word "statute" to make it clear that the measurement is not based upon nautical miles.

Comments received from the Air Line Pilots Association (ALPA) recommended raising the ceiling of the airport traffic area to 3,000 feet to avoid the mingling of VFR/IFR air traffic in the vicinity of the airport. Conversely, general aviation groups recommended the establishment of a corridor to permit VFR traffic to fly through the area. Each of these proposals has been carefully considered and it has been concluded that one counterbalances the other. While it is considered desirable to segregate en route traffic from terminal traffic, such action should be taken in a manner imposing no undue burden upon either type of operation. In a large measure, the rule proposed herein reduces the probability of incidents resulting from the intrusion of an en route aircraft into or through the airport traffic area. At the same time, it permits en route aircraft to proceed over the airport traffic area at an altitude compatible with the operational characteristics of such aircraft. The establishment of an en route VFR corridor is not considered feasible since such action would derogate the benefits intended by the rule. Moreover, in this particular case, it does not appear that an appreciable hardship is imposed upon en route traffic due to their requirement to comply with Section 60.17 of Part 60.

The proposed rule was designed to prohibit all flight training activities within the New York International Airport Traffic Area with the exception of necessary airport qualification flights. It was not intended to prohibit pilots who intended to conduct training activities outside such area from utilizing the airport as a base for such operations. The rule has been modified accordingly.

The rule, as adopted herein, will require that all large aircraft be operated at altitudes of 1,500 feet or more except when maneuvering for landing or in flight following departures. Draft Release No. 60–10 proposed that small air-

craft be required to enter the airport traffic area between the altitudes of 1,000 and 1,200 feet and, after entry, operate at altitudes between 800 and 1,000 feet until maneuvering for a landing requires otherwise. Several of the comments recommended that the traffic area entry and operating altitudes be revised to require all aircraft to operate at or above 2,000 feet except as required for take-off and landing, while other comments voiced objection to the stipulation of a maximum operating altitude for small aircraft. A basic concept of aircraft separation by reason of performance is practically expressed in the rule by the segregation of large and small aircraft operations into different altitude strata. Inherent separation, as provided by this rule, is designed to reduce the probability of mid-air collision and it is, therefore, deemed advisable to require its retention. In addition to the benefits accruing to safety, the requirement that small, less noisy aircraft operate in the lower strata of airspace and the larger and more noisy aircraft at the higher altitudes will serve to relieve the problems resulting from aircraft noise. In recognition of problems involved in flight by small aircraft over congested areas and in the interest of noise reduction, the altitude requirements for small aircraft have been modified to permit their entry at 1,200 feet or higher and to require that flight within the area be conducted between 1,000 and 1,200 feet until maneuvering for landing requires further descent.

The provisions of the rule adopted herein relative to the maintenance of an altitude at or above the glide slope angle are designed to provide a measure of relief from aircraft noise to those areas underlying the final approach path. It was not the intent of the proposal that compliance with the regulation for the purpose of noise relief should be carried to the point of compromising safety. For clarification, the final rule states that requirements for flight at or above the glide slope are applicable only when the VFR distance-from-cloud criteria will permit.

The Agency recognizes the validity of those comments suggesting that, under certain conditions, a climb to 1,500 feet, as rapidly as practicable, will generate more noise than a climb under reduced power. Also, it recognizes that a turn executed as soon after take-off as safety will permit may alleviate noise in certain areas. The rule adopted herein is designed to provide the necessary flexibility to accommodate such techniques. The Administrator may authorize a slower rate of climb in the interest of noise abatement, either by directive or through authorizations by the airport traffic control tower.

Several comments recommended elimination of the restriction prohibiting the use of runways 4L, 4R, 13L and 31R for take-off by turbojet aircraft, contending that flight safety and efficiency of operation require the availability of these runways. Prohibition of the use of these runways is a measure designed to reduce aircraft noise and the action was taken only after due consideration of safety requirements. The Agency realizes that under certain conditions, it may be necessary to utilize these runways; therefore, this rule provides the New York International Airport Traffic Control Tower the necessary flexibility to authorize deviations when necessary. However, it is emphasized that such authority will be used sparingly.

Several comments urged revision of the proposed rule to distinguish between the "heavy" turbojet (for example, 150,000 or more pounds maximum certificated take-off weight) and the "light" turbojet aircraft. These comments contended that "light" turbojet aircraft, with higher performance capability and a lesser aircraft noise output, would not significantly contribute to the

noise problem in critical areas regardless of the runway used for take-off. Although recognizing the logic of some of these arguments, it has been decided that modification of the rule is not currently warranted since the rule provides differentiation at the discretion of ATC authorities.

Many and varied recommendations were received relative to the system of preferential runways. After carefully considering these comments, the system has been revised to the maximum extent possible considering the requirements of safety and of noise abatement. Some questions were raised regarding the report required from the pilot of a large fixed-wing aircraft who, for safety reasons, elects to use a runway other than the preferential or alternate runway assigned by air traffic control. It is not intended that this rule, in any way, abrogate the authority and responsibility of the pilot in command to assure the safe operation of his aircraft. It is intended that such reports of deviation from the preferential runway system be prepared either by the pilot or by a responsible official of the company concerned and that the report be in transit to the appropriate FAA Regional Office within the prescribed time. Inasmuch as provision is made to permit filing of such reports by company officials in lieu of the pilot, it is not considered necessary to revise the 48-hour time limit provisions.

This rule provides that helicopters shall be operated as authorized by the New York International Airport Traffic Control Tower. Such authorization may be contained in air traffic control clearances or in formal agreements between the helicopter operator and the control tower.

In consideration of the foregoing, the following Special Civil Air Regulation is hereby adopted to become effective October 15, 1960.

NEW YORK INTERNATIONAL AIRPORT TRAFFIC AREA RULES

Scope and applicability. All aircraft operating within the New York International Airport Traffic Area shall be operated in accordance with the following rules unless otherwise authorized by the New York International Airport Traffic Control Tower. As used in this regulation, the New York International Airport Traffic Area shall include the airspace within a five statute mile horizontal radius from the geographical center of that airport and extending upward from the surface to but not including, 2,000 feet above the surface. Additionally, the term "large aircraft," as used herein, shall mean those aircraft of 12,500 or more pounds maximum certificated take-off weight. The term "small aircraft" shall mean all others.

(a) *General rules.*

(1) *Avoidance of Airport Traffic Area.* En route aircraft shall not be flown within the New York International Airport Traffic Area, and aircraft while engaged in training flights shall not be flown within such area except to the extent necessary for take-off from and landing at that airport. This restriction shall not apply to required airport qualification flights.

(2) *Communications.* Two-way radio communications shall be established with the New York International Airport Traffic Control Tower prior to entering the airport traffic area for a landing at that airport and prior to take-off from that airport unless prior authorization is obtained from the airport traffic control tower.

(b) *Airport traffic area entry.* Unless the VFR distance-from-cloud criteria requires otherwise, all fixed-wing aircraft landing at the New York International Airport shall enter the airport traffic area at the following altitudes:

(1) *Large aircraft.* Large aircraft shall enter the airport traffic area at an altitude of at least 1,500 feet above the surface. After entry, an altitude of at least 1,500 feet shall be maintained until maneuvering for a landing requires further descent.

(2) *Small aircraft.* Small aircraft shall enter the airport traffic area at an altitude of at least 1,200 feet above the surface. After entry, an altitude between 1,000 and 1,200 feet shall be maintained until maneuvering for landing requires further descent.

(c) *Final approach.* When approaching to land at the New York International Airport on a runway served by a functioning instrument landing system (ILS), large fixed-wing aircraft equipped with functioning ILS instrumentation shall be flown so as to remain at or above the glide slope altitude between the outer marker and the middle marker: *Provided,* That when the VFR distance-from-cloud criteria requires interception of the glide slope between the outer marker and the middle marker, large fixed-wing aircraft shall be flown so as to remain at or above the glide slope altitude between the point of interception and the middle marker.

(d) *Departures*

(1) *Rate of climb.* Unless the VFR distance-from-cloud criteria requires otherwise, all fixed-wing aircraft taking off from the New York International Airport shall climb to at least 1,500 feet above the surface as rapidly as practicable: *Provided,* That the Administrator will specify a different rate of climb for a particular type of aircraft should he find that greater advantages in noise reduction can thereby be achieved.

(2) *Take-off runway restrictions.* Pilots of turbojet aircraft shall not use runways 4 Left, 4 Right, 13 Left or 31 Right for take-off.

(e) *New York International Airport preferential runway system.*

(1) *Large fixed-wing propeller-driven aircraft.* When applicable aircraft performance limitations permit; when the ceiling and visibility are equal to or greater than 1,000 feet and 3 miles, respectively, and when the runway to be used is dry, pilots of large fixed-wing propeller-driven aircraft shall use the following preferential runway system unless the surface wind at the time of take-off or landing exceeds a velocity of 15 knots:

Wind direction	Take-off runway	Landing runway
N	31L	4R/L
NNE	31L	4R/L
NE	7R	4R/L
ENE	13L/R	13R/L, 4R/L, 7R
E	13L/R	13R/L, 4R/L, 7R
ESE	13L/R	13R/L, 4R/L
SE	13L/R	13R/L, 4R/L
SSE	13L/R, 22R/L	13R/L, 22L/R
S	22R/L, 25L	22L/R, 25L
SSW	22R/L, 25L	22L/R, 25L
SW	22R/L, 25L	22L/R, 25L
WSW	22R/L, 25L	22L/R, 25L
W	22R/L, 25L	22L/R, 25L
WNW	22R/L, 25L	22L/R, 25L
NW	31L/R, 25L	31R/L
NNW	31L/R	4R/L
Calm (0–5 knots)	22R/L, 25L, 31L	22R/L, 4L/R

(2) *All turbojet aircraft.* When the applicable aircraft performance limitations permit; when the ceiling and visibility are equal to or greater than 1,000 feet and 3 miles, respectively; and when the runway to be used is dry, pilots of turbojet aircraft shall use the following preferential runway system unless the surface wind at the time of take-off or landing exceeds a velocity of 15 knots:

Wind direction	Take-off runway	Landing runway
N	31L	4R/L
NNE	31L	4R/L
NE	7R, 13R	4R/L
ENE	13R	13R/L, 4R/L
E	13R	13R/L, 4R/L
ESE	13R	13R/L, 4R/L
SE	13R	13R/L, 4R/L
SSE	13R	13R/L, 22L/R
S	25L	22L/R, 25L
SSW	25L	22L/R, 25L
SW	25L	22L/R, 25L
WSW	25L	22L/R, 25L
W	25L	22L/R, 25L
WNW	25L	22L/R, 25L
NW	31L, 25L	31R/L
NNW	31L	4R/L
Calm (0–5 knots)	25L, 31L	22R/L, 4L/R

(3) *Alternate runway.* In the event the preferential runway is closed for take-off or landing, the pilot of an aircraft subject to the requirements of this section shall use an alternate runway for take-off or landing as assigned by the airport traffic control tower.

(4) *Use of other runways.* If the pilot of an aircraft subject to the requirements of this regulation determines that use of either the preferential or alternate runway assigned by air traffic control is unsafe for the operation of his aircraft he may use another runway of his choice, subject to other air traffic. If the pilot makes such a choice, a written report of the reasons therefor shall be forwarded within 48 hours to the Chief, Flight Standards Division, Federal Aviation Agency, Region One, Jamaica, N.Y.

Note: In determining the safety factor for total required runway length for take-off, the pilot's calculation may include an additional 1 percent of runway length for each 3 knots of cross-wind component over and above the minimum required take-off runway length.

(f) *Helicopters.* Helicopters shall be operated as authorized, by the New York International Airport Traffic Control Tower and in such a manner as to avoid the flow of fixed-wing aircraft. Such authorization may be contained in air traffic control clearances or established in formal agreements between helicopter operators and the control tower.

(g) *Traffic pattern rules for Floyd Bennett Naval Air Station.* All aircraft operating in that portion of the Floyd Bennett Naval Air Station traffic pattern which may extend into the New York International Airport Traffic Area

shall be flown so that traffic landing on runways 19 or 24 will remain at or below 800 feet until clear of the New York International Airport Traffic Area. Departures on runways 6 or 1 shall execute the first turn after take-off so as to remain clear of the New York International Airport Traffic Area.

This Special Civil Air Regulation shall remain in effect until superseded or rescinded by the Administrator.

SPECIAL CIVIL AIR REGULATION NO. SR-444

(As amended by Amendment No. 1, issued October 23, 1961; effective March 1, 1962)

Effective: February 14, 1961
Issued: January 9, 1961

Jet Advisory Areas

Draft Release No. 60-2, published in the Federal Register on January 15, 1960 (25 F.R. 610) gave notice that the Federal Aviation Agency proposed the adoption of a Special Civil Air Regulation establishing jet advisory areas and certain requirements for flight therein.

With the advent of commercial turbojet air carrier operations in the United States, procedures were adopted to provide an increased measure of flight safety for such operations. Through the cooperation of the Air Defense Command of the Department of the Air Force, selected long-range radar facilities of that Command were jointly used and the Federal Aviation Agency provides flight following and traffic advisory service to United States turbojet air carrier flights as well as to some aircraft of foreign registry. This service does not provide positive separation. It does, however, provide an increased degree of safety by advising pilots of the presence of other aircraft and by providing guidance with respect to the most effective manner to avoid collision.

Comments received in response to the draft release reflected general endorsement of the principles of the proposal, but recommended some modifications.

The proposal would require that air carrier turbojet aircraft operating within the continental control area and engaged in the carriage of passengers in scheduled air transportation be flown within airspace designated as a "jet advisory area." A jet advisory area would be a designated area of airspace within which special operating rules apply to enhance the safety of air carrier turbojet flight. Such rules would require that air carrier turbojet aircraft be operated in accordance with the Instrument Flight Rules of Part 60 of the Civil Air Regulations during all flight above 24,000 feet within the continental control area. They would also require that all air carrier turbojet aircraft be equipped with a functioning radar beacon transponder. It has since been determined that these provisions, bearing solely upon scheduled air carrier operations, should not be made a part of the Air Traffic Rules but should become a part of the regulations governing air carrier operations. For this reason, the proposed more restrictive operating rules, applicable solely to air carrier operations, do not appear in the final rule.

The International Air Transport Association (IATA) supported the proposed amendment but expressed concern with respect to the effective date of the requirement for a radar beacon transponder. Their problem stems from contemplated changes in internationally acceptable equipment specifications for the radar beacon transponders. The IATA has recommended that the effective date of the radar transponder equipment requirement for foreign air carrier turbojet aircraft be established at a date sufficiently in the future to permit international agreement on the matter as well as to provide an adequate period of time for installation of equipment after such agreement is reached. The

Agency has concluded that the IATA recommendation is reasonable and valid and any future regulation will provide a reasonable period of time for equipment installation after international radar beacon transponder equipment specifications are resolved.

The Department of the Air Force acknowledged the necessity of the proposed rules, but did not concur with the proposed lateral dimensions of the jet advisory areas or with the extension of the nonradar jet advisory areas. In its comment, the Department of the Air Force contended that the establishment of jet advisory areas, 32 miles in width, would result "in a 60 percent increase in separation criteria." It states that no formal agreement to increase the current standards with respect to the jet routes has been reached, nor have statistics been developed to establish that such an increase is either necessary or desirable. The Department of the Navy also objected to expansion of nonradar jet advisory areas to flight levels 370–390.

Radar advisory areas, which comprise 90 percent of the airspace affected, are now 40 miles wide and such width will be reduced a minimum of 8 miles by the implementation of the rule. With regard to the expansion of nonradar advisory areas, which are presently 20 miles wide and exist only at flight levels 270–310, inclusive, the Agency recognizes that the number of such areas should be reduced insofar as possible. It is anticipated that such a reduction will result from the utilization of new flight checking procedures which will permit the establishment of radar advisory areas with a floor in excess of 24,000 feet. Thus, the overall effect will be to reduce the airspace within which the new rules will apply.

Certain language contained in the proposal has been modified to more clearly state the intent of the rule. Paragraphs 2 (a) and (b) now clearly state that radar and nonradar jet advisory areas will not have dimensions in excess of 16 statute miles on either side of specified jet routes. The applicability paragraph has been revised to more clearly indicate the scope of the rule. It is emphasized that this regulation does not affect flight advisory areas located outside the continental control area.

In consideration of the foregoing, the following Special Civil Air Regulation is hereby adopted to become effective on February 14, 1961.

JET ADVISORY AREA RULES

1. *Applicability.* The air traffic rules contained in this regulation shall apply to the operation of all aircraft in jet advisory areas located within the continental control area.

2. *Jet advisory areas.* As used in this regulation, the term "jet advisory areas" means airspace so designated in the Regulations of the Administrator, within which the air traffic rules contained in this Special Civil Air Regulation apply for the purpose of providing additional traffic advisory service for U.S. and foreign scheduled air carrier aircraft.[1]

(a) Nonradar jet advisory areas have a lateral dimension of not more than 16 statute miles on either side of specified jet routes between flight levels 270 and 310, inclusive, and 370 and 390, inclusive.

[1] Jet advisory areas (radar and nonradar) are also depicted on Flight Information Publication—"En Route—High Altitude (U.S.)" published by the Aeronautical Chart and Information Center, Air Photographic and Charting Service (MATS), USAF, Second and Arsenal Streets, St Louis 18, Missouri, and on the U.S. Coast and Geodetic Survey Radio Facility Chart entitled—"High Altitude—En Route," compiled and printed in Washington, D.C., by the U.S. Department of Commerce.

(b) Radar jet advisory areas have a lateral dimension of not more than 16 statute miles on either side of specified jet routes between 24,000 feet mean sea level and flight level 390, inclusive.

(c) Terminal radar jet advisory areas are those areas between 24,000 feet mean sea level and flight level 390, inclusive, designated to provide for the arrival and departure requirements of major air terminals.

3. *Operating rules.* In addition to the air traffic rules of Part 60, the following rules apply to any aircraft when operated within jet advisory areas in accordance with VFR, or in accordance with IFR, when cleared to maintain "VFR conditions" or "VFR conditions on top."

[(a) *In radar jet advisory areas.* (i) Pilots of aircraft equipped with a coded radar beacon transponder, having a Mode 3/A 64 code capability, shall operate the transponder to reply to Mode 3/A interrogation with the code specified by air traffic control.[2]

[(ii) Pilots of aircraft not equipped with a functioning coded radar beacon transponder, having a Mode 3/A 64 code capability, shall obtain specific prior authorization from air traffic control, except that flights unable to obtain authorization because of radio failure may transit jet advisory areas by maintaining the appropriate VFR cruising flight level specified in section 60.32 of the Civil Air Regulations.]

(b) *In nonradar jet advisory areas.* All aircraft, including those equipped with a functioning radar beacon transponder, shall obtain specific authorization from air traffic control prior to operating within the area of nonradar coverage of a jet advisory area.

[[2] Mode A is identical to military Mode 3. For purposes of brevity and clarity, it is referred to herein as Mode 3/A. Mode 3/A requirements and other detailed operational procedures for the radar beacon transponder are published in the Airman's Guide and are also depicted on Flight Information Publication—"En Route—High Altitude (U.S.)" and U.S. Coast and Geodetic Survey Radio Facility Chart—"High Altitude—En Route."]

SPECIAL CIVIL AIR REGULATION NO. SR-445

Effective: February 17, 1961
Issued: February 13, 1961

Reports of Navigation and Communications Equipment Malfunctions

Under this special regulation, pilots in command of aircraft being operated in controlled airspace under the instrument flight rules (IFR) must report immediately any malfunctions of navigation or communications equipment to Air Traffic Control.

Part 60 of the Civil Air Regulations contains the Air Traffic Rules and prescribes in section 60.2 that the pilot in command of an aircraft is directly responsible for that aircraft and "shall have final authority" as to its operation. This authority includes the responsibility to utilize available facilities at his disposal when a malfunction occurs which curtails the pilot's ability to navigate by reference to ground radio aids or communicate with ground facilities while operating under instrument flight rules.

Information regarding the airborne malfunction of a component which may affect the ability to navigate or communicate should be made available immediately to Air Traffic Control in order that the system will be alerted to the fact that the pilot may not be able to fully comply with the requirements of the system, or that an emergency situation may develop. Such immediate notification will permit a more complete utilization of the resources of the system.

For many years, it has been a common practice for pilots to report malfunctions of communications or navigation equipment to Air Traffic Control. However, there have been instances wherein an equipment malfunction has not been communicated to Air Traffic Control and where subsequent handling of the aircraft might conceivably have been more effective if the circumstances had been properly reported. It is, therefore, no longer feasible to continue the reporting relationship on a voluntary basis for IFR operations in controlled airspace. Accordingly, this regulation is being promulgated.

The exact nature and degree of assistance available and appropriate from the air traffic control system will vary considerably. In areas where extensive ATC radar surveillance capability exists, it will be possible to provide greater assistance than in areas with little or no radar coverage. The volume of IFR traffic under ATC jurisdiction will also be a factor in the handling of the reporting aircraft. It should be emphasized that the efficient provision of ATC assistance is dependent upon a complete understanding between the pilot and the controller as to the nature and extent of the assistance needed, as well as the nature and extent of the service available. If it is possible to maintain radar and communications contact with the pilot, the controller can render considerable assistance during en route operations, during entry into holding patterns, during holding, and during the approach and landing.

It is important that the distinction between the ATC "special handling" of aircraft with malfunctioning equipment and the "priority handling" of aircraft

in emergencies be noted. "Special handling" means that the air traffic controller will provide the maximum amount of assistance, consistent with the equipment at his disposal and the proper performance of his control functions with respect to other IFR aircraft. Should the circumstances warrant greater attention and priority handling with respect to other IFR aircraft, the pilot should declare an emergency in accordance with section 60.2 of Part 60.

This regulation requires reports concerning the loss or malfunction of VOR, TACAN, ADF, or low frequency navigation receivers, the total or partial loss of ILS receiver capability, and any malfunction affecting air/ground communications capability.

The application and results obtained from this regulation will be closely monitored and its benefits evaluated. After a reasonable period, a notice of proposed rule making will be issued, proposing an amendment to Part 60 to incorporate the salient points of this special regulation, as modified in the light of experience gained.

Since events have recently occurred which establish a requirement for the immediate adoption of this regulation for the safety of air commerce, I find it contrary to the public interest to comply with the notice and public procedure provisions of the Administrative Procedure Act and that good cause exists for making this special regulation effective immediately.

In consideration of the foregoing, the following Special Civil Air Regulation is hereby adopted and is effective February 17, 1961:

1. *Applicability.* This Special Civil Air Regulation applies to the operation of aircraft within controlled airspace under the Instrument Flight Rules of Part 60 of the Civil Air Regulations.

2. *Malfunction reports.* The pilot in command shall report immediately to Air Traffic Control any inflight malfunction of navigation or air/ground communications equipment as listed below:

(a) Loss of VOR, TACAN, ADF, or low frequency navigation receiver capability; or

(b) Complete or partial loss of ILS receiver capability; or

(c) Impairment of air/ground communications capability.

3. *Substance of reports.* Each report required under paragraph 2 hereof shall include the following:

(a) Aircraft identification;

(b) The equipment affected;

(c) The degree to which the capability of the pilot to operate IFR in the air traffic control system is impaired; and

(d) The nature and extent of assistance desired from Air Traffic Control.

Amendment 60–24

Effective: December 26, 1961
Issued: September 22, 1961

Airport Traffic Area Rules

60.18 Operation on and in the vicinity of an airport. Aircraft shall be operated on and in the vicinity of an airport in accordance with the following rules:

(a) *General rules.*

(1) *Avoidance of airport traffic areas.* No person shall operate an aircraft within an airport traffic area, except for the purpose of landing or taking off at airports located within such airport traffic area, or unless authorized by air traffic control.

(2) *Speed.* Except as otherwise authorized by air traffic control, no person shall operate an aircraft within an airport traffic area at an indicated airspeed in excess of 156 knots (180 m.p.h.) for reciprocating engine aircraft or 200 knots (230 m.p.h) for turbine powered aircraft unless the operating limitations or military normal operating procedures require a greater airspeed, in which case the aircraft shall not be flown in excess of such airspeed.

(b) *Airport with control tower.* Aircraft being operated to, from, or on an airport served by an airport traffic control tower shall be operated in accordance with the following rules unless otherwise authorized or required by the airport traffic control tower of that airport. Such authorization may be provided as individual approvals of specific operations or contained in written agreements between airport users and the tower.

(1) *Communications.* During the hours the airport traffic control tower is in operation the following radio communication requirements shall apply:

(i) *United States Government operated control towers.* When operating an aircraft to, from, or on an airport at which an airport traffic control tower is operated by the United States Government, two-way radio communications shall be maintained with that control tower while operating within the airport traffic area. In the event of an in-flight failure of radio communications equipment during VFR flight, the foregoing requirement shall not apply and a pilot may enter the airport traffic area and land; *Provided,* That the weather conditions are equal to or above VFR conditions and the pilot maintains visual contact with the control tower and obtains a clearance (light signal) prior to landing. In the event of in-flight failure of radio communications equipment during IFR flight, the provisions of section 60.49 shall apply.

(ii) *Other control towers.* When operating an aircraft to, from, or on an airport at which an airport traffic control tower is operated by a person other than the United States Government, pilots of aircraft having radio equipment permitting two-way radio communications with the airport traffic control tower shall maintain such communications and pilots of aircraft having radio equipment permitting reception only from such

control tower shall maintain a listening watch on the appropriate tower frequency while operating within the airport traffic area of that airport.

NOTE: Pilots of aircraft operating to or from uncontrolled airports within the airport traffic area are not required to maintain radio contact with the control tower. However, such pilots should maintain two-way radio communications or a listening watch when feasible.

(2) *Clearances.*

(i) *Take-off, landing or taxi clearance.* During the hours the airport traffic control tower is in operation, a clearance shall be obtained *prior to taxiing on a runway, taking off, or landing. Authorization to* taxi "to" a runway is authorization to cross runways that intersect the taxi route unless instructions to the contrary are received. Authorization to taxi "to" a runway shall not constitute a clearance to taxi "on" that runway.

(ii) Pilots shall obtain a visual light signal clearance prior to taxiing on a runway and prior to take-off and landing at those airports where the control tower has authorized noncompliance with the requirement for two-way radio communications, or at those airports at which a non-United States Government airport traffic control tower is in operation if, for any reason, radio communications cannot be established.

(iii) Air traffic control may grant continuing permission to the pilot of an aircraft to conduct landings and take-offs within an airport traffic area of a controlled airport without individual clearance for each such operation.

(3) *Airport traffic area altitudes.* Unless prevented by terrain, obstacles or the VFR distance-from-cloud criteria, turbine powered fixed-wing aircraft shall be flown within the airport traffic area, including the traffic pattern, at an altitude of at least 1,500 feet, above the surface of the airport, until maneuvering for a safe landing requires further descent.

(4) *Traffic pattern direction.* Pilots of fixed-wing aircraft shall circle the airport to the left unless the airport traffic control tower specifies a different traffic pattern. In approaching to land, helicopters shall be flown in a manner which avoids the flow of fixed-wing aircraft.

(5) *Preferential runway system.*

(i) When a preferential runway system has been established by the Federal Aviation Agency for an airport, pilots of large fixed-wing aircraft landing at or taking off from such airport shall use a preferential runway when it has been assigned by the airport traffic control tower; *Provided,* That pilots shall retain final authority and responsibility for the operational safety of the aircraft and if a pilot determination is made to use another runway on the basis of safety, such other runway shall be authorized by air traffic control, traffic and other conditions permitting. When such authorization is given, the pilot retains responsibility for deviation from the provisions of the preferential runway system.

(ii) When a runway other than the originally assigned preferential runway is used, the pilot shall file, if requested by air traffic control, a written report of the reasons therefor, including a full description of the safety basis for his determination to use such other runway. This report shall be forwarded within 48 hours to the Chief, Airport Traffic Controller, Federal Aviation Agency, located at that airport at which the report is required.

SPECIAL CIVIL AIR REGULATION NO. SR–454A

Effective: November 23, 1962
Issued: November 23, 1962

Amendment of Special Operating Rule Within Certain Areas of the State of Florida and Over Waters Adjacent Thereto

On October 23, 1962, this Agency adopted Special Civil Air Regulation No. SR–454 (27 F.R. 10444) in the interests of National defense and for the safety of air commerce. SR–454 prohibited the operation of civil aircraft, in specified areas of the State of Florida and over the waters adjacent thereto, unless certain aircraft equipment and operational limitations were satisfied.

After consultation with the Department of Defense, I have determined that the circumstances which generated the need for this regulation now permit its relaxation for the area over the land mass of the Florida peninsula north of latitude 25°10′ North subject to the inclusion, however, of a provision for reinstatement of its effect for that area, if required by changes in the situation. Accordingly, I find that Special Civil Air Regulation No. SR–454 should be rescinded and Special Civil Air Regulation No. SR–454A adopted.

Since this action relaxes an existing restriction, compliance with the notice, public procedure and effective date requirements of the Administrative Procedure Act is unnecessary.

In consideration of the foregoing, SR–454 is hereby rescinded and the following Special Civil Air Regulation is adopted:

Section 1. No person may operate any civil aircraft within the area described in Section 2 of this Regulation:

(1) Over water and outside the land mass of the State of Florida or over land South of 25°10′ North latitude, unless:

(a) It is operated under a flight plan that has been approved by appropriate military authority acting through an FAA air traffic control facility; and

(b) The aircraft possesses functioning navigation equipment and functioning communications equipment necessary to maintain two-way radio contact with air traffic control facilities at all times during the operation, and the pilot in command monitors the radio frequencies specified by air traffic control.

(2) Over the land mass of the State of Florida North of 25°10′ North latitude whenever a NOTAM has been issued by the Administrator which specifies this Regulation applies thereto, unless:

(a) It is operated under a flight plan that has been approved by appropriate military authority acting through an FAA air traffic control facility; and

(b) The aircraft possesses functioning navigation equipment, and functioning communications equipment necessary to maintain two-way radio contact with air traffic control facilities at all times during the operation, and the pilot in command monitors the radio frequencies specified by air traffic control.

Section 2. **This Regulation applies within the following area within the State of Florida and over waters adjacent thereto, from the surface upward:**

Beginning at 29 degrees North latitude, 85 degrees West longitude; thence clockwise to 29 degrees North latitude, 79 degrees 30 minutes West longitude, to 24 degrees North latitude, 79 degrees 30 minutes West longitude, to 24 degrees North latitude, 85 degrees West longitude, to the point of beginning.

This regulation becomes effective immediately.

(Sections 306, 307(a), 307(c), and 1202 of the Federal Aviation Act of 1958; 48 U.S.C. 1347, 1348 (a) and (c) and 1522).

(6) *Final approach.*

(i) When approaching to land on a runway served by a functioning instrument landing system (ILS), large fixed-wing aircraft equipped with a functioning ILS instrumentation shall be flown so as to remain at or above the glide slope between the outer marker and the middle marker; *Provided,* That when the VFR distance-from-cloud criteria require interception of the glide slope between the outer marker and the middle marker, large fixed-wing aircraft shall be flown so as to remain at or above the glide slope altitude between the point of interception and the middle marker.

(ii) When approaching to land on a runway served by visual glide slope devices, fixed-wing aircraft shall be flown so as to remain at or above the glide slope until arrival at the runway threshold.

(7) *Departures.* Aircraft taking off shall be operated as follows:

(i) Pilots shall, prior to departure, familiarize themselves with any departure procedures established by the Federal Aviation Agency and shall comply with such procedures upon departure.

(ii) When departure procedure altitudes for a particular airport are not specified and unless otherwise required by the VFR distance-from-cloud criteria, large fixed-wing aircraft shall be flown so that a climb is made as rapidly as practicable to at least 1,500 feet above the surface; *Provided,* That the Federal Aviation Agency may specify a different rate of climb for a particular type of aircraft when a greater advantage in noise reduction can thereby be achieved with no derogation of safety.

(c) *Airports without control tower.* Aircraft being operated to or from an airport not served by a control tower shall be operated in accordance with the following rules:

(1) *Approaching to land.* When approaching for landing, fixed-wing aircraft shall be flown so that all turns are made to the left unless the airport displays light signals or standard visual markings of a type approved by the Federal Aviation Agency and which indicate that all turns are to be made to the right. When approaching for landing, helicopters shall be flown in a manner which avoids the flow of fixed-wing aircraft.

(2) *Departures.* Pilots of aircraft operating from an airport shall conform to the traffic patterns established for that airport.

(3) *Communications.* Aircraft being operated to or from an airport not served by a control tower, but at which an operative Federal Aviation Agency Flight Service Station is located and so depicted on the current appropriate Sectional Aeronautical Chart of the U.S. Coast and Geodetic Survey, shall be operated in accordance with the following:

(i) Pilots of aircraft having radio equipment permitting two-way radio communications with the Flight Service Station shall maintain such commmunications when within 5 statute miles of the uncontrolled airport for purposes of receiving airport advisory information; *Provided,* That for instrument flight rules operations, air traffic control may require otherwise.

(ii) Pilots of aircraft having radio equipment permitting reception only from the Flight Service Station shall maintain a listening watch on the appropriate frequency when within 5 statute miles of the uncon-

trolled airport for purposes of receiving airport advisory information.

2. By amending section 60.60 to add the following definitions:

Airport traffic area. An airport traffic area is that 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 upwards from the surface to, but not including 2,000 feet above the surface.

Large aircraft. Aircraft of more than 12,500 pounds maximum certificated take-off weight.

Person. Means an individual, firm, copartnership, corporation, company, association, joint-stock association, or body politic; and includes any trustee, receiver, assignee, or other similar representative thereof.

This amendment shall become effective December 26, 1961.

(Section 307 of the Federal Aviation Act of 1958 [72 Stat. 749; 49 U.S.C. 1348])

N. E. Halaby
Administrator.

Issued in Washington, D.C., on September 22, 1961.
(Published in the Federal Register [26 F.R. 9069], on September 27, 1961.)

Civil Aeronautics Manual 60

Air Traffic Rules

General

60.1–1 *Conditions for issuance of a certificate of waiver (FAA policies which apply to sec. 60.1 (b)).*

(a) *General.* A Certificate of Waiver or Authorization, Form FAA–663, will be issued to authorize noncompliance with any section of this part for a special flight operation when the operation can be conducted under the terms and conditions of a certificate which will provide a reasonable degree of safety to other air traffic and to persons and property on the ground. Deviations from the following sections of this part for special flight operations are considered routine and generally require the approval of only the local Bureau of Flight Standards Inspector:

(1) Section 60.16 *Acrobatic flight.*
(2) Section 60.17 *Minimum safe altitudes.*
(3) Section 60.18 *Operation on and in the vicinity of an airport.*
(4) Section 60.23 *Aircraft lights.*

Deviations from other sections of this part are normally not considered routine and may require consideration and approval of authority higher than the local Bureau of Flight Standards Inspector. The application for deviations should be submitted sufficiently in advance of the contemplated operation to allow time for the approval procedure to be completed. Normally, 10 days is sufficient advance time to complete the approval procedure for issuance of a certificate of waiver, but requests for deviation from sections not listed above may require a longer period of time.

(b) *Application for waiver.* An applicant for a Certificate of Waiver or Authorization for any special flight operation should comply with the following Procedure:

(1) Obtain three copies of an Application for Certificate of Waiver, Form FAA–400 (see pages 51 and 52) from the local Bureau of Flight Standards District Office.[1]

(2) Fill out copies of the application, as follows:

(i) Type or print in ink.

(ii) Give complete information on all applicable items 1 through 13.

(iii) In item 1, fill in complete name and name of company, if operations has a company name, e. g., John B. Jones d/b/a Jones Dusting Service.

(iv) List, under item 3, all sections of this Part for which a waiver is requested.

(v) Sign all copies of the completed application on the reverse side in the space provided for the applicant's signature.

(3) Submit all copies of the application to the local Bureau of Flight Standards Inspector.

(4) Arrange with the local Bureau of Flight Standards Inspector for inspection of aircraft, aircraft records, personnel, etc., as appropriate for the operation involved.

(c) *Authorization.* The certificate will authorize noncompliance with only those sections of the Air Traffic Rules listed on the certificate. It will not relieve the holder from compliance with any State, or local law or ordinance which may apply to the operation, or from obtaining prior permission from owners over whose property the operation may be conducted.

(d) *Duration.* The certificate will contain an expiration date to allow ample time for completion of the operation, not to exceed 1 year. It may be surrendered by the holder or cancelled by the Administrator at any time for noncompliance with provisions of the Certificate of Waiver or Authorization, for operation in a careless or reckless manner, or at any time a need no longer exists for the certificate.

(e) *Special provisions.* The certificate will contain such special provisions or conditions as

[1] See Appendix A.

the approving inspector may deem necessary in the interest of safety or appropriate to good operating practices.

In addition, specific instructions or precautions will be required where they are deemed necessary to insure safety during the use of special equipment, or are necessary for the particular areas or types of operation involved.

(f) *Operation outside the United States.* A Certificate of Waiver or Authorization is valid only within the continental limits of the United States, its Territories and possessions. It is the responsibility of the holder to obtain prior clearance from the foreign country for operation within that country.

(Published in 20 F. R. 2513, Apr. 16, 1955, effective Apr. 15, 1955.)

60.1–2 *Certificate of waiver or authorization for aerial application and industrial operations (FAA policies which apply to sec. 60.1 (b)).* Operators or individuals engaging in agricultural (aerial application operations) or in industrial operations [2] may obtain a certificate of waiver or authorization, when such operations involve noncompliance with provisions of this part. However, private pilots will be issued such certificate of waiver or authorization only if the operation is to be conducted over his own property, when such property is located in a noncongested area, and subject to the conditions listed in section 60.1–2 (a). Application for a certificate of waiver or authorization should be made in accordance with section 60.1–1 (b).

(a) *Aerial application and industrial operations over other than congested areas.*

(1) *Conditions of waiver.* A certificate of waiver or authorization issued to operators or individuals to permit aerial application and industrial operations in a noncongested area will contain the following conditions:

(i) *Right-of-way rules.* Operations shall be conducted in accordance with the right-of-way rules of Part 60, except that any operation conducted under a waiver authorizing a deviation from the traffic pattern for an airport shall remain clear of, and shall give way to, other aircraft in the pattern.

(ii) *Operations on and in the vicinity of an airport.* Notwithstanding the waiver of section 60.18, when operating on or near an airport within a control zone, the operator of the aircraft shall give prior notice of the proposed operations to Air Traffic Control; operations on or near a military airport shall be coordinated with the appropriate military authority; and, when operating on or near other airports, prior written permission shall be obtained from the authorized official of the airport for any deviation from the traffic pattern for the airport.

(iii) *Pilot qualifications.* Each pilot-in-command shall hold at least a commercial pilot certificate with the appropriate category and class rating, except that a private pilot may be issued a waiver if the operation will be conducted over his own property and he meets the flight experience and skill requirements of a commercial pilot.

(iv) *Record of pilots and aircraft used.* The holder of this waiver shall establish and maintain at the home base a current list of pilots and aircraft authorized under the terms of this certificate of waiver.

(2) *Operations before sunrise and after sunset.* When early morning and late evening aerial application operations are to be conducted without navigation lights, the following special provisions will apply:

(i) Prominent unlighted objects must be visible for a distance of 3 miles.

(ii) All flights are to be restricted to local areas where the dusting or spraying is to be performed.

(iii) Landings and takeoffs being made at uncontrolled airports must have the prior consent of the airport manager.

(iv) Takeoffs and landings shall not be conducted when other types of operations which require position lights are in progress.

(v) Clearance from Air Traffic Control must be obtained before taking off and landing at controlled airports.

(vi) No other aerial applicator aircraft is to be operated in the immediate area.

(b) *Aerial application operations over congested areas.* A certificate of waiver or authorization issued to operators to permit aerial application over congested areas will contain the

[2] When practicable, aircraft should be plainly marked "survey," "patrol," etc., appropriate to the operation conducted. See appendix B for list of various types of operations.

FEDERAL AVIATION AGENCY

APPLICATION FOR CERTIFICATE OF WAIVER

FORM APPROVED
BUDGET BUREAU NO. 04-R073

APPLICANTS—DO NOT USE THESE SPACES

REGION NO.	DATE

ACTION

☐ APPROVED ☐ DISAPPROVED (*Explain under "Remarks"*)

SIGNATURE OF AUTHORIZED FAA REPRESENTATIVE

To: FEDERAL AVIATION AGENCY.

INSTRUCTIONS

Submit this application in triplicate (3) to your local FAA General Aviation District Office.

Applicants requesting a Certificate of Waiver for an air meet will complete all items and certification on this form and will attach a properly marked map or diagram of the operations area. This map or diagram must be to scale, and distances must be shown. It must include race courses, obstructions, grandstands; congested areas, parking areas, dead lines, police stations; ambulance, fire-truck, crash-wagon, and control stations.

Applicants requesting a Certificate of Waiver, for activities other than an air meet, will complete items 1 through 7 only and the certification on the reverse.

1. NAME (FIRST, MIDDLE, AND LAST)

2. PERMANENT MAILING ADDRESS	HOUSE NUMBER AND STREET, OR ROUTE NUMBER	POST OFFICE	STATE	TELEPHONE

3. TO AUTHORIZE NONOBSERVANCE OF CIVIL AIR REGULATIONS, SECTION (INDICATE SECTIONS WHICH PROHIBIT PROPOSED OPERATION)

4. IN PERFORMANCE OF (DESCRIBE PROPOSED OPERATION AND PURPOSE THEREOF IN DETAIL)

(IF NECESSARY, ATTACH SUPPLEMENT TO CONTINUE)

5. AREA OF OPERATION

6. FOR THE PERIOD OF—				BEGINNING (*Date*)	ENDING (*Date*)	BETWEEN THE HOURS OF—
HOURS	DAYS	WEEKS	MONTHS			

7. AIRCRAFT MAKE AND MODEL	IDENTIFICATION MARK	OWNER	ADDRESS (STREET, CITY, STATE)

WHILE BEING FLOWN BY THE FOLLOWING PILOTS:

NAME	ADDRESS (STREET, CITY, STATE)	CERTIFICATE NUMBER AND RATING

Form FAA-400 (1-48)

Sample Form FAA-400, Application for Certificate of Waiver.

8. THE AIR MEET WILL BE SPONSORED BY—

9. PERMANENT MAILING ADDRESS	HOUSE NUMBER AND STREET OR ROUTE NUMBER	POST OFFICE	CITY	STATE

10. POLICING (WHAT PROVISION WILL BE MADE FOR POLICING THE MEET?)

11. EMERGENCY FACILITIES

☐ PHYSICIAN ☐ AMBULANCE ☐ FIRE TRUCK ☐ CRASH WAGON

☐ OTHER (*Specify*) _____

12. AIR TRAFFIC CONTROL (DESCRIBE METHOD OF CONTROLLING TRAFFIC, INCLUDING PROVISION FOR ARRIVAL AND DEPARTURE OF SCHEDULED AIRCRAFT)

13. SCHEDULE OF EVENTS (INCLUDE ARRIVAL AND DEPARTURE OF SCHEDULED AIRCRAFT AND OTHER OPEN PORT PERIODS; UNFORESEEN CHANGES AND REVISIONS TO BE SUBJECT TO APPROVAL OF LOCAL INSPECTOR)

HOUR	DATE	EVENT	PILOT RATING

(If sufficient space is not available, the entire schedule of events may be submitted on separate sheets, in the order and manner indicated above.)

The undersigned applicant accepts full responsibility for the strict observance of the terms of the Certificate of Waiver, and understands that the authorization contained in such certificate will be strictly limited to the above-described operations.

I CERTIFY that the foregoing statements are true.

_____ (DATE) _____ (SIGNATURE OF APPLICANT)

REMARKS:

Form FAA-400 (1-48)

Sample Form FAA–400, Application for Certificate of Waiver (reverse).

following conditions, appropriate to the particular operations:

(1) *Aircraft airworthiness.* No aircraft shall be operated except in accordance with the operating limitations prescribed for the aircraft. Certificated aircraft whose operating limitations state that the aircraft is not eligible for a waiver under section 8.31 cannot be used.

(2) *Right-of-way rules.* Operations shall be conducted in accordance with the right-of-way rules of Part 60, except that any operation conducted under a waiver authorizing a deviation from the traffic pattern for an airport shall remain clear of, and give way to, other aircraft in the pattern.

(3) *Operations on and in the vicinity of an airport.*

(i) Notwithstanding the waiver of section 60.18 when operating on or near an airport within a control zone, the operator of the aircraft shall give prior notice of the proposed operations to Air Traffic Control; operations on or near a military airport shall be coordinated with the appropriate military authority; and, when operating on or near other airports, prior written permission shall be obtained from the authorized official of the airport for any deviation from the traffic pattern for the airport.

(ii) *Two-way radio.* No swath runs or turnarounds shall be flown within a mile of the boundary of an airport having an operating control tower unless the aircraft is equipped with a functioning two-way radio capable of communicating with the appropriate airport traffic control tower. Prior to entering such an area, the pilot of the aircraft shall notify the control tower of his proposed operation and thereafter he shall maintain a continuous listening watch on the appropriate radio frequency of such tower to receive any pertinent air traffic control information or instructions which may be issued.

(4) *Operations.* Notwithstanding the waiver of the area operating limitations of section 8.31, the operator shall comply with the following operating limitations in addition to those prescribed in special provisions (1) through (3) above:

(i) Prior to commencing any spraying or dusting operation over a congested area the operator shall:

(*a*) Contact an inspector of the FAA district in the area involved or the Bureau of Flight Standards Inspector responsible for the operation to present this waiver. The inspector will be apprised in detail of the intended operation. Written clearance must be obtained for the proposed operation from an inspector;

(*b*) Submit a written statement from the appropriate officials of the political subdivision of the area involved that such operation is in the public interest and is authorized by such officials; and

(*c*) Give public notice of the operation to the persons residing in such area by an appropriate notice in a local daily newspaper; if there is no local newspaper, other equivalent publicity media shall be used.

(ii) *Aircraft.* No aircraft other than those listed in the application for this waiver shall be used.

(iii) *Single-engine aircraft.* Single-engine aircraft shall not take off nor make turnarounds over congested areas. Swath runs may be flown over congested areas if they are traversed in a manner so that at all times the aircraft, in the event of an emergency, can land without jeopardy to persons or property on the ground. However, before the operation can start, the operator must present satisfactory evidence to the inspector that he can comply with the above.

(iv) *Equipment—Emergency load-dumping equipment.* All aircraft shall be equipped with operational nonleaking emergency dump valves having not greater than a 10 to 1 ratio between the total tank capacity in gallons and the cross sectional area of the dump valves in square inches.

Such emergency systems shall have vents that satisfy the formulated dump ratio, and be so installed as to prevent blowback into the fuselage area, or spillage in normal flight conditions.

$$\text{Vent size in sq. in.} = \frac{\text{the dump rate in GPM}}{150}$$

(v). *Daily aircraft inspections.*

(*a*) The pilot-in-command of the aircraft or a certificated A and P mechanic will conduct a thorough visual inspection of the

aircraft and its components for general safe flight operations, its chemical-carrying and dispensing equipment, and make a functional check of all controls, powerplants, propellers, instruments, and emergency-dumping equipment to determine that the aircraft is in condition for safe flight operations prior to commencing each day's operation.

(*b*) The person making this inspection shall record the results of his inspection in the permanent aircraft records, stating whether or not the aircraft and equipment is in condition for safe flight operations, and sign his name, placing date and certificate number after this entry.

(vi) *Operations procedures.* Prior to commencing any spraying or dusting operation, the operator shall prepare, and secure the issuing inspector's approval of, an overall basic operational procedure for the use and guidance of the flight crews. Such procedure shall include basic emergency situations which may occur during the spraying or dusting operations. The flight crews shall be trained in the use of such procedures and shall utilize them under the appropriate circumstances.

(vii) *Pilot qualifications.*

(*a*) *Certificate and rating.*

(*1*) Each pilot-in-command shall hold at least a commercial pilot certificate with the appropriate category and class rating. In the case of aircraft exceeding 12,500 lbs. maximum certificate weight, he shall also hold a type rating for the aircraft.

(*2*) No pilots will be used except those listed in the application for certificate of waiver.

(*b*) *Experience.* In addition to the requirements of subparagraph (*1*) above, each pilot shall meet the following experience requirements:

(*1*) *Single-engine aircraft.* Each pilot-in-command shall have logged at least 100 hours as pilot-in-command of aircraft engaged in aerial application, and have at least 25 hours as pilot-in-command in the type of aircraft to be used.

(*2*) *Multiengine aircraft.* Each pilot-in-command shall have logged at least 100 hours of pilot-in-command time in multiengine aircraft which shall include 100 hours as pilot-in-command in aircraft engaged in aerial application. In lieu of the 100 hours of aerial application experience such pilot may substitute an additional 25 hours of pilot-in-command time on the type of aircraft to be used and at least 5 hours of dual flight instructions as pilot in actual or simulated aerial application in the type of aircraft to be used.

(viii) *Weight and balance data for all multiengine aircraft.*

(*a*) Current weight and balance data shall be provided for each multiengine aircraft used. Such data shall include:

(*1*) Basic empty weight of the aircraft, including chemical-dispensing equipment, the residual oil and fuel tanks empty;

(*2*) Maintenance of a continuous and current record of all changes affecting the basic weight and c. g. of the aircraft; and

(*3*) A means of determining various operating gross weights and corresponding c. g. ranges of the aircraft for all operating weights authorized.

(ix) *Gross weight limitations over congested areas.*

(*a*) The gross weight limitations imposed by the FAA on multiengine and large single-engine aircraft for operations over congested areas will not be exceeded.

(*b*) Only those single-engine aircraft which can operate at a weight which will permit the aircraft to climb at a rate of at least 300 feet per minute under existing conditions will be authorized by the inspector in the area involved to operate over the congested areas.

(c) *Industrial operations*[3] *over congested areas.* A certificate of waiver or authorization issued to operators to permit industrial operations over congested areas will contain the following conditions, appropriate to the particular operation:

(*1*) *Aircraft airworthiness.* No aircraft shall be operated except in accordance with the operating limitations prescribed for the aircraft. Certificated aircraft whose operating limitations state that the aircraft is not eligible for a waiver under section 8.31 cannot be used.

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[3] A waiver will not be issued for a photographic operation when it can be satisfactorily accomplished by the use of a telescopic lens at the altitude required by Part 60 or by the use of a telescopic lens while flying over sparsely populated areas.

(2) *Right-of-way rules.* Operations shall be conducted in accordance with the right-of-way rules of Part 60, except that any operation conducted under a waiver authorizing a deviation from the traffic pattern for an airport shall remain clear of, and give way to other aircraft in the pattern.

(3) *Operations on and in the vicinity of an airport.*

(i) Notwithstanding the waiver of section 60.18 when operating on or near an airport within a control zone, the operator of the aircraft shall give prior notice of the proposed operations to Air Traffic Control; operations on or near a military airport shall be coordinated with the appropriate military authority; and, when operating on or near other airports, prior written permission shall be obtained from the authorized official of the airport for any deviation from the traffic pattern for the airport.

(ii) *Two-way radio.* The aircraft will not be operated within a mile of the boundary of an airport having an operating control tower unless the aircraft is equipped with a functioning two-way radio capable of communicating with the appropriate airport traffic control tower. Prior to entering such an area, the pilot of the aircraft shall notify the control tower of his proposed operation and thereafter he shall maintain a continuous listening watch on the appropriate radio frequency of such tower to receive any pertinent air traffic control information or instructions which may be issued.

(4) *Operations.* Notwithstanding the waiver of the area operating limitations of section 8.31, the operator shall comply with the following operating limitations in addition to those prescribed in special provisions (1) through (3) above:

(i) Prior to commencing any industrial operation over a congested area the operator shall:

(*a*) Contact an inspector of the FAA district in the area involved or the Bureau of Flight Standards Inspector responsible for the operation to present this waiver. The Bureau of Flight Standards Inspector will be apprised in detail of the intended operation. Written clearance must be obtained for the proposed operation from an inspector;

(*b*) Submit a written statement from the appropriate officials of the political subdivision of the area involved that such operation is in the public interest and is authorized by such officials; and

(*c*) Give public notice of the operation to the persons residing in such area by an appropriate notice in a local daily newspaper; if there is no local newspaper, other equivalent publicity media shall be used.

(ii) *Aircraft.* No aircraft other than those listed in the application for this waiver shall be used.

(iii) *Single-engine aircraft.* Single-engine aircraft shall not take off over congested areas. They may be flown over congested areas if they are traversed in a manner so that at all times the aircraft, in the event of an emergency, can land without jeopardy to persons or property on the ground. However, before the operation can start, the operator must present satisfactory evidence to the inspector that he can comply with the above.

(iv) *Daily aircraft inspections.*

(*a*) The pilot-in-command of the aircraft or a certificated A and P mechanic will conduct a thorough visual inspection of the aircraft and its components for general safe flight operations, and make a functional check of controls, powerplants, propellers, and instruments to determine that the aircraft is in condition for safe flight operations prior to commencing each day's operation.

(*b*) The person making this inspection shall record the results of his inspection in the aircraft's permanent records, stating whether or not the aircraft and equipment is in condition for safe flight operations, and sign his name, placing date and certificate number after this entry.

(v) *Operations procedures.* Prior to commencing any operation, the operator shall prepare, and secure the issuing inspector's approval of, an overall basic operational procedure for the use and guidance of the flight crews. Such procedure shall include basic emergency situations which may occur. The flight crews shall be trained in the use of such procedures and shall utilize them under the appropriate circumstances.

(vi) *Pilot qualifications.*

(*a*) *Certificate and rating.*

(*1*) Each pilot-in-command shall hold at least a commercial pilot certificate with the appropriate category and class rating. In the case of aircraft exceeding 12,500 lbs. maximum certificate weight, he shall also hold a type rating for the aircraft.

(*2*) No pilots will be used except those listed in the application for certificate of waiver.

(vii) *Weight and balance data for all multiengine aircraft.*

(*a*) Current weight and balance data shall be provided for each multiengine aircraft used. Such data shall include:

(*1*) Basic empty weight of the aircraft, including permanent special equipment, the residual oil and fuel tanks empty.

(*2*) Maintenance of a continuous and current record of all changes affecting the basic weight and c. g. of the aircraft; and

(*3*) A means of determining various operating gross weights and corresponding c. g. ranges of the aircraft for all operating weights authorized.

(viii) *Gross weight limitations over congested areas.*

(*a*) The gross weight limitations imposed by the FAA on multiengine and large single-engine aircraft for operations over congested areas will not be exceeded.

(*b*) Only those single-engine aircraft which can operate at a weight which will permit the aircraft to climb at a rate of at least 300 feet per minute under existing conditions will be authorized by the inspector in the area involved to operate over congested areas.

(Published in 20 F. R. 2513, Apr. 16, 1955, effective Apr. 15, 1955; amended in 22 F. R. 2312–14, Apr. 6, 1957, effective Apr. 6, 1957.)

60.1–3 *Certificate of waiver for an air show, meet, race, etc. (FAA policies which apply to sec. 60.1 (b)).* A Certificate of Waiver or Authorization is issued only when the air show, meet, race, or other aeronautical demonstration can be conducted in a manner which will not subject spectators and other nonparticipating persons or property in the air or on the ground to aircraft hazards. The certificate is issued to the person or persons directly in charge of the conduct of the show and who are responsible for compliance with all applicable portions of the waiver.

All acrobatics as well as other potentially hazardous acts are to be conducted at a distance of not less than 500 feet from the grandstand or spectators. Such acts may be required to be performed at greater distances when the experience of the pilot, the terrain, location, or type of act require a greater distance for reasons of safety. Applicants for a specific act may be required to demonstrate the act, or maneuvers, to the satisfaction of the agent issuing the certificate, so that a proper determination of the safe distance from the grandstand or spectators can be made.

Where a demonstration is required, it will conform as closely as possible to the act which will be performed at the air show. Demonstration of normal flying acts which do not constitute a potential hazard are not usually required.

The demonstration of an act may be waived when a performer has been actively engaged in performing at air shows during the previous year and can present evidence of previous authorization. This may be a copy of the most recent certificate of waiver issued by the FAA which indicates the names of the performers and the minimum distances authorized, or it may be a letter from an inspector who authorized the most recent performance of the act.

Acrobatic flights are expected to be under direct control provided by the holder of the certificate of waiver. The method of communication should insure that the pilot can be informed of any hazardous situation which may occur during the flight, or informed that the air show or his act has been stopped.

The Certificate of Waiver or Authorization may contain any or all of the following provisions:

(a) All acts shall be approved in writing by the local inspector before they may be performed.

(b) Participants in a specific act shall, if required by the local inspector, demonstrate competency to perform the act prior to approval.

(c) First-aid and fire-fighting equipment shall be immediately available at the location of the demonstration.

(d) Provisions shall be made for control of spectators.

(e) The applicant shall establish a central operations point from which activities will be directed, and he or his representatives shall be immediately available at this point during activities.

(f) The applicant shall provide means to advise all participants that an activity has been halted.

(g) An activity shall be halted when unauthorized persons enter the operations area, or for any other reason in the interest of safety.

(h) No aircraft will be flown closer than (specified distance) horizontally to spectators.

(i) Acrobatics or inverted flight will not be demonstrated lower than (specified altitude).

(j) No object will be dropped from an aircraft if the object will land within (specified distance) from spectators.

(k) A closed field signal, readily seen from an altitude of 3,000 feet (large white "X"), shall be displayed on the landing area when the activities are in progress.

(l) A physical barrier shall be provided to confine spectators to designated areas.

(m) A deadline readily visible to the participants shall be provided to insure that aircraft will maintain the approved horizontal distance from the spectators.

(n) The holder shall notify the nearest FAA Flight Service Station of the date, time, place, nature, and duration of the operations and request that an appropriate Notice to Airmen be disseminated.

(o) The course and pylons for races shall be located and spaced to provide protection to persons and property on the ground.

(p) The holder shall, prior to beginning activities, submit to the approving agent a written statement, signed by all participants that they have read and understand the conditions of the certificate of waiver.

(q) All participants shall be briefed on special field rules, and the manner and order of events before beginning activities.

(r) Clearance for all participating pilots and aircraft shall be obtained from the approving inspector before beginning activities.

(s) All aircraft and special equipment shall be inspected prior to each day's operation.

(t) Any other special provisions which the approving inspector may deem necessary in the interest of safety.

(Published in 20 F. R. 2513, on Apr. 16, 1955, effective Apr. 15, 1955.)

60.2–1 *Emergency situation, report required within 48 hours (FAA policies which apply to sec. 60.2).* When a pilot has been involved in a situation for which a report must be submitted within 48 hours to the nearest regional office of the Administrator, he should describe the incident in detail and forward the report to the regional office [4] having jurisdiction over the area in which the incident occurred.

(Published in 20 F. R. 2514, on Apr. 16, 1955, effective Apr. 15, 1955.)

General Flight Rules (GFR)

60.13–1 *Appropriate authority (FAA interpretations which apply to sec. 60.13).*

(a) Appropriate authority to issue permission for aircraft operation within a Prohibited or Restricted Area will mean the "Using Agency" (Controlling Agency) as shown on radio facility charts and sectional and world aeronautical charts published by the U.S. Coast and Geodetic Survey.

(b) Application for permission to operate aircraft within a Prohibited or Restricted Area will be made to the "Using Agency" (Controlling Agency).

(c) Application for permission to operate within the Washington, D. C., prohibited area will be made to the Federal Aviation Agency, Bureau of Flight Standards, Washington 25, D.C.

(Published in 20 F. R. 5676 on Aug. 6, 1955, effective Sept. 1, 1955.)

60.16–1 *Issuance of a waiver or authorization (FAA policies which apply to sec. 60.16).*

(a) No Certificate of Waiver or Authorization will be issued for acrobatic flights over congested areas, cities, towns, settlements, or open air assembly of persons.

(b) A waiver may be issued for acrobatic flight within a civil airway premised on a satisfactory showing by the applicant that the flight or flights will be conducted at such altitudes, locations, and times as not to be a hazard to other traffic using the airway.

A waiver may be issued for acrobatic flight within a control zone only after concurrence of

[4] See appendix A.

the appropriate traffic control authority, and on a showing by the applicant that the flight or flights will be conducted at such altitudes, locations, and times as not to be a hazard to other known traffic. Any waiver issued for such flight will stipulate ceiling and visibility minimums to insure safety to air traffic.

(c) A Certificate of Waiver or Authorization for acrobatic flight under 1,500 feet altitude will be restricted to air meets, air shows, and related activities.

(d) The policies and procedures of section 60.1–1 apply to an application for a Certificate of Waiver or Authorization.

60.17–1 *Minimum en route instrument altitudes (FAA rules which apply to sec. 60.17 (d)).* Minimum en route instrument altitudes prescribed by the Administrator are published in Part 610 of Regulations of the Administrator.

(Published in 16 F. R. 7351, July 27, 1951, effective upon publication.)

60.18–1 Vacant.

60.18–2 *Right-turn indicators (FAA rules which apply to sec. 60.18 (a)).* (a) Daytime operations. The L-shaped marker described in this paragraph is approved as a standard visual marker which indicates that turns are to be made to the right.[5] The marker shall be prepared in such size and color, and located in such area, that when displayed between sunrise and sunset it will be readily visible to pilots using the airport. The marker shall be placed in such position that the short member of the L will show the direction of the traffic in the air, the long member of the L will point out the landing strip to be used, and the entire L will indicate the course of the turn to be executed by pilots using the landing strip.

[5] The L-shaped marker is applied to the Segmented Circle Airport Marker System in Technical Standard Order TSO–N5, available free of charge from Aeronautical Reference Branch, Washington 25, D.C.

(b) *Night-time operation.* A flashing amber light shall mean that a clockwise flow of traffic around the airport is required unless otherwise authorized by the control tower operator.

(Published in 16 F. R. 6829, July 17, 1951, effective 0001 A. S. T. July 14, 1951.)

60.18–3 *Light signals (FAA rules which apply to sec. 60.18 (e)).* Light signals used for the control of air traffic shall be of the color and shall mean the following:

Color and type of signal	On the ground	In flight
Steady green	Cleared for take-off.	Cleared to land.
Flashing green	Cleared to taxi.	Return for landing (to be followed by steady green at proper time).
Steady red	Stop	Give way to other aircraft and continue circling.
Flashing red	Taxi clear of landing area (runway) in use.	Airport unsafe—do not land.
Flashing white	Return to starting point on airport.	
Alternating red and green.	General warning signal—exercise extreme caution.	

(Published in 16 F. R. 6829, July 17, 1951, effective 0001 A. S. T., July 14, 1951.)

60.18–4 [Deleted]

60.18–5 *Traffic patterns for Anchorage Airport and Lake Hood-Lake Spenard Landing Area (FAA rules which apply to sec. 60.18 (d)).* Aircraft taking off from or landing at the Anchorage Airport or the Lake Hood-Lake Spenard Landing Area, shall adhere to the following traffic patterns and the altitudes made a part thereof, unless otherwise author-

ized by Air Traffic Control. The subject traffic patterns shall be contained within the air space described by a 5-mile horizontal radius of the Anchorage Airport and extending vertically to 2,000 feet mean sea level.

(a) *Anchorage Airport.*

(1) *General.*

(i) Traffic patterns at the Anchorage Airport shall be rectangular and, for each runway, the traffic pattern shall lie to the side of the runway opposite Lake Hood and Lake Spenard.

(ii) Light and heavy aircraft shall follow their respective patterns as indicated by the diagrams set forth below. The differentiation between light and heavy aircraft shall be:

(*a*) *Light aircraft.* Aircraft which normally use a final approach true air speed of 100 m. p. h. or less.

(*b*) *Heavy aircraft.* Aircraft which normally use a final approach true air speed greater than 100 m. p. h.

(2) *Takeoff.*

(i) *Aircraft remaining in the traffic pattern—(a) Runway 6 and 13.* Aircraft remaining in the traffic pattern shall execute a turn of 90° to the right at or before reaching an altitude of 500 feet mean sea level, and follow the rectangular patterns for runways 6 and 13 respectively.

(*b*) *Runway 24 and 31.* Aircraft remaining in the traffic pattern shall execute a turn of 90° to the left at or before reaching an altitude of 500 feet mean sea level and follow the rectangular patterns for runways 24 and 31 respectively.

(ii) *Departing aircraft.*

(*a*) *Runway 6 and 13.*

(*1*) *Light aircraft.* Execute a turn of 90° to the right at or before reaching 500 feet mean sea level, and at the approximate midpoint of the initial crosswind leg, execute a turn of 45° to the left.

(*2*) *Heavy aircraft.* Execute a turn of 45° to the right from the takeoff leg at or before reaching an altitude of 500 feet mean sea level.

(*b*) *Runway 24 and 31.*

(*1*) *Light aircraft.* Execute a turn of 90° to the left at or before reaching 500 feet mean sea level, and at the approximate midpoint of the initial crosswind leg, execute a turn of 45° to the right.

(*2*) *Heavy aircraft.* Execute a turn of 45° to the left from the takeoff leg at or before reaching an altitude of 500 feet mean sea level.

(3) *Traffic pattern entry.*

(i) *Light aircraft.* Enter the traffic pattern at an altitude of 900 feet mean sea level and at an angle of 45° to the approximate midpoint of the downwind leg.

(ii) *Heavy Aircraft.* Enter the traffic pattern at an altitude of 1,400 feet mean sea level and at an angle of 45° to the approximate midpoint of the downwind leg.

(4) *Landing.*

(i) *Light aircraft.* Aircraft shall be operated so as to enter the final approach at a distance of at least 1,000 feet from the approach end of the runway.

(ii) *Heavy aircraft.* Aircraft shall be operated so as to enter the final approach at a distance of at least 1,500 feet from the approach end of the runway.

(b) *Lake Hood-Lake Spenard Landing Area.*

(1) *Landing area.*

(i) *East or west wind.* The landing area shall be defined by the projection of the shore lines of the canal through Lake Spenard and a projection of the south shore line of the canal through Lake Hood and a parallel projection from Sea Airmotive Hangar extending to the west shore line of Lake Hood as shown by the diagrams set forth below.

(ii) *North or south wind.* The landing area shall be defined as the area extending 500 feet west of a line connecting the most northern and most southern points of the Lake Hood shore line as shown by the diagrams set forth below.

(2) *Traffic control.*

(i) Traffic control instructions issued by the Anchorage Tower to aircraft landing at or taking off from the Lake Hood-Lake Spenard Landing Area will be issued only with respect to existing traffic at the Anchorage Airport. Separation of surface traffic, therefore, will be the responsibility of the aircraft operator.

(ii) In the absence of an air traffic control facility at Lake Hood or Lake Spenard, aircraft shall be operated so as to conform to

595003 O—61——5

the taxiing routes as shown by the diagrams set forth below.

(3) *Traffic patterns.*

(i) *East or west takeoff or landing.* The traffic pattern shall lie to the side of the Lake Hood-Lake Spenard canal opposite the Anchorage Airport.

(ii) *North or south takeoff or landing.* The traffic pattern shall lie to the side of the east side of Lake Hood.

(4) *Limitations.*

(i) Only aircraft equipped with fully functioning two-way radio will be authorized to make a south takeoff from Lake Hood or to enter the traffic pattern for a north landing on Lake Hood.

(ii) No aircraft shall make a takeoff to the south from Lake Hood or enter traffic for a landing to the north at Lake Hood without having received a traffic clearance by radio from the Anchorage tower.

(iii) No aircraft shall enter the landing area in use while taxiing "on the step."

(5) *Takeoff.*

(i) A pilot shall not begin a takeoff run until he has determined that the landing area and the final approach are clear of traffic.

(ii) Aircraft remaining in the traffic pattern:

(*a*) *East or south takeoff.* Execute a turn of 90° to the left at or before reaching an altitude of 500 feet mean sea level, and follow the rectangular pattern for an east or south wind respectively.

(*b*) *West or north takeoff.* Execute a turn of 90° to the right at or before reaching an altitude of 500 feet mean sea level and follow the rectangular pattern for a west or north wind respectively.

(iii) Departing aircraft:

(*a*) *East takeoff.* Execute a turn of 90° to the left at or before reaching an altitude of 500 feet mean sea level, and at the approximate midpoint of the initial crosswind leg, execute a turn of 45° to the right.

(*b*) *South takeoff.* Execute a turn of 180° to the left at or before reaching an altitude of 500 feet mean sea level, and at the approximate midpoint of the downwind leg, execute a turn of 45° to the right.

(*c*) *West or north takeoff.* Execute a turn of 90° to the right at or before reaching an altitude of 500 feet mean sea level, and at the approximate midpoint of the initial crosswind leg, execute a turn of 45° to the left.

(6) *Landing.*

(i) *Traffic pattern entry.* Enter the traffic pattern at an altitude of 600 feet mean sea level and at an angle of 45° to the approximate midpoint of the downwind leg.

(7) *Taxiing route for takeoff.*

(i) *Taxiing for a west takeoff from Lake Spenard.* All aircraft maneuvering from parking areas in Lake Hood for a west takeoff from Lake Spenard shall follow a counter-clockwise flow of taxiing traffic in Lake Hood until the pilot has determined that the canal, landing approach, and landing area is clear of traffic, then proceed through the canal in an expeditious manner. All taxiing in Lake Spenard shall be confined to the area south of a projection of the north shore line of the canal.

(ii) *Taxiing for an east takeoff from Lake Hood.* Aircraft maneuvering from parking areas for an east takeoff from Lake Hood through the canal, shall follow a counter-clockwise flow of taxiing traffic in Lake Hood until the pilot has determined that the canal is clear of all taxiing traffic.

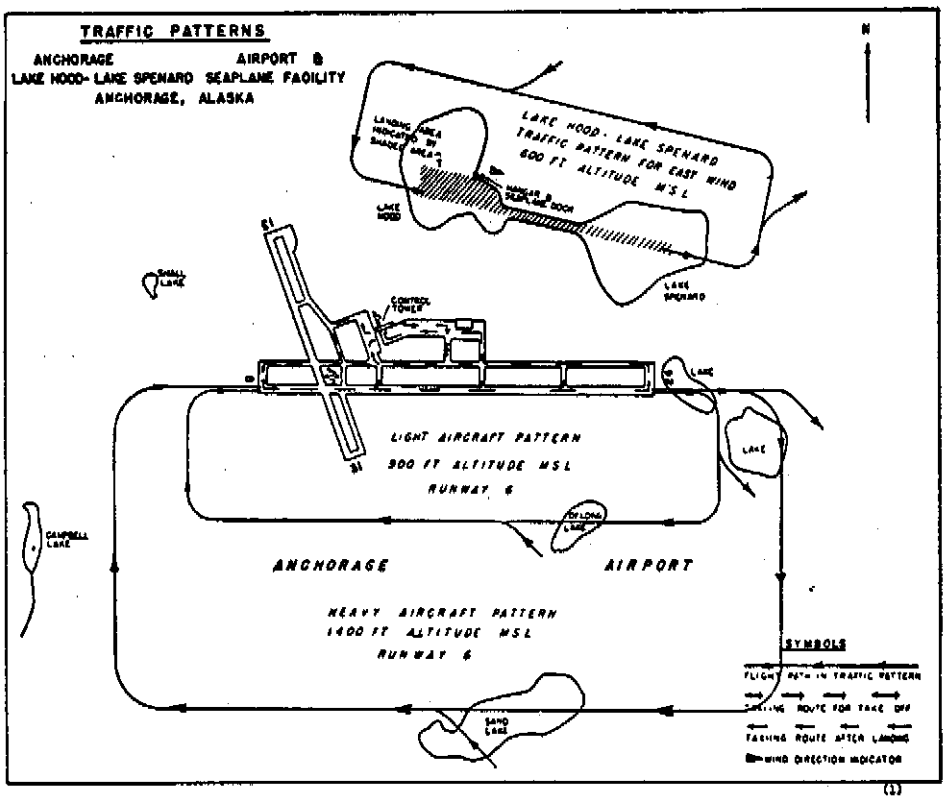
(iii) *Taxiing for a south takeoff from Lake Hood.* Aircraft maneuvering from parking areas for a south takeoff from Lake Hood shall follow a counter-clockwise flow of taxiing traffic in Lake Hood to a takeoff position near the north shore of Lake Hood.

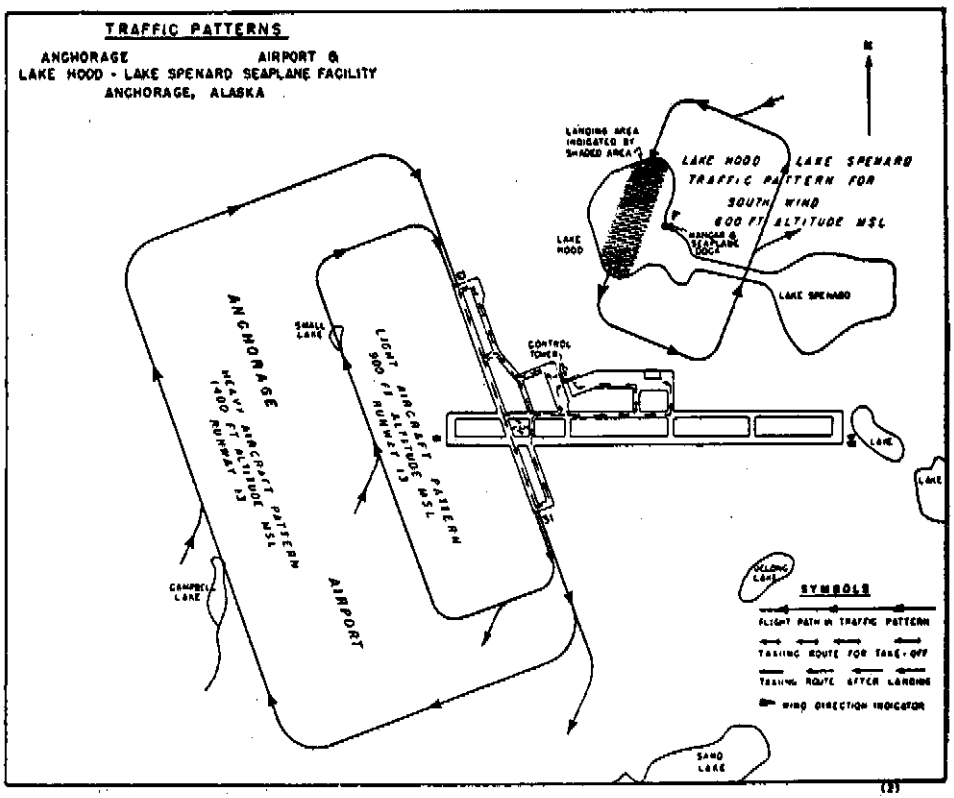
(iv) *Taxiing for a north takeoff from Lake Hood.* Aircraft maneuvering from parking areas for a north takeoff from Lake Hood shall follow a clockwise flow of taxiing traffic in Lake Hood to a takeoff position near the south shore of Lake Hood.

(8) *Taxiing route following landing.*

(i) *Taxiing route after landing to the south on Lake Hood.* At the completion of the landing run, the aircraft shall be operated so as to join a counter-clockwise flow of traffic to the aircraft parking area.

(ii) *Taxiing route after landing to the north on Lake Hood.* At the completion of the landing run, the aircraft shall be operated so as to join a clockwise flow of traffic to the aircraft parking area.


TRAFFIC PATTERNS
ANCHORAGE AIRPORT ⑥
LAKE HOOD- LAKE SPENARD SEAPLANE FACILITY
ANCHORAGE, ALASKA
N
LAKE HOOD - LAKE SPENARD
TRAFFIC PATTERN FOR EAST WIND
600 FT ALTITUDE M.S.L
LANDING AREA INDICATED BY SHADED AREA
LAKE HOOD
HANGAR & SEAPLANE DOCK
LAKE SPENARD
SMALL LAKE
CONTROL TOWER
LIGHT AIRCRAFT PATTERN
900 FT ALTITUDE MSL
RUNWAY 6
CAMPBELL LAKE
ANCHORAGE AIRPORT
HEAVY AIRCRAFT PATTERN
1400 FT ALTITUDE MSL
RUNWAY 6
SAND LAKE
SYMBOLS
FLIGHT PATH IN TRAFFIC PATTERN
TAXIING ROUTE FOR TAKE OFF
TAXIING ROUTE AFTER LANDING
WIND DIRECTION INDICATOR
(1)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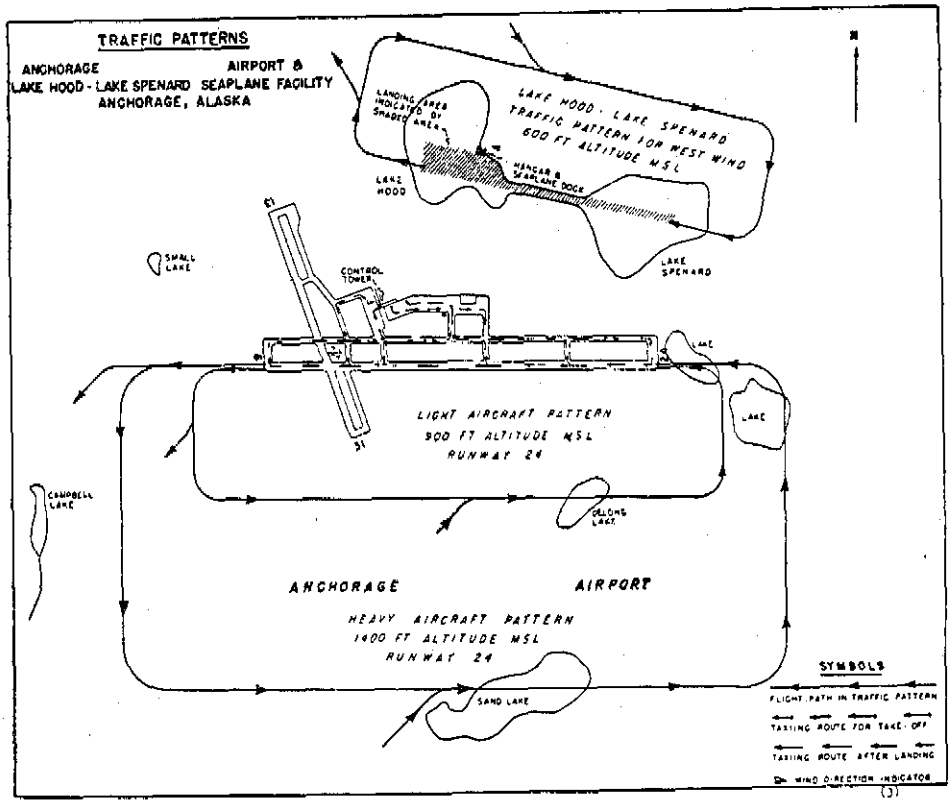
ANCHORAGE AIRPORT ⑥
LAKE HOOD - LAKE SPENARD SEAPLANE FACILITY
ANCHORAGE, ALASKA
N
LANDING AREA INDICATED BY SHADED AREA
LAKE HOOD LAKE SPENARD
TRAFFIC PATTERN FOR
SOUTH WIND
600 FT ALTITUDE MSL
LAKE HOOD
HANGAR & SEAPLANE DOCK
LAKE SPENARD
SMALL LAKE
CONTROL TOWER
ANCHORAGE
HEAVY AIRCRAFT PATTERN
1400 FT ALTITUDE MSL
RUNWAY 13
LIGHT AIRCRAFT PATTERN
900 FT ALTITUDE MSL
RUNWAY 13
CAMPBELL LAKE
AIRPORT
SAND LAKE
SYMBOLS
FLIGHT PATH IN TRAFFIC PATTERN
TAXIING ROUTE FOR TAKE-OFF
TAXIING ROUTE AFTER LANDING
WIND DIRECTION INDICATOR
(2)


TRAFFIC PATTERNS
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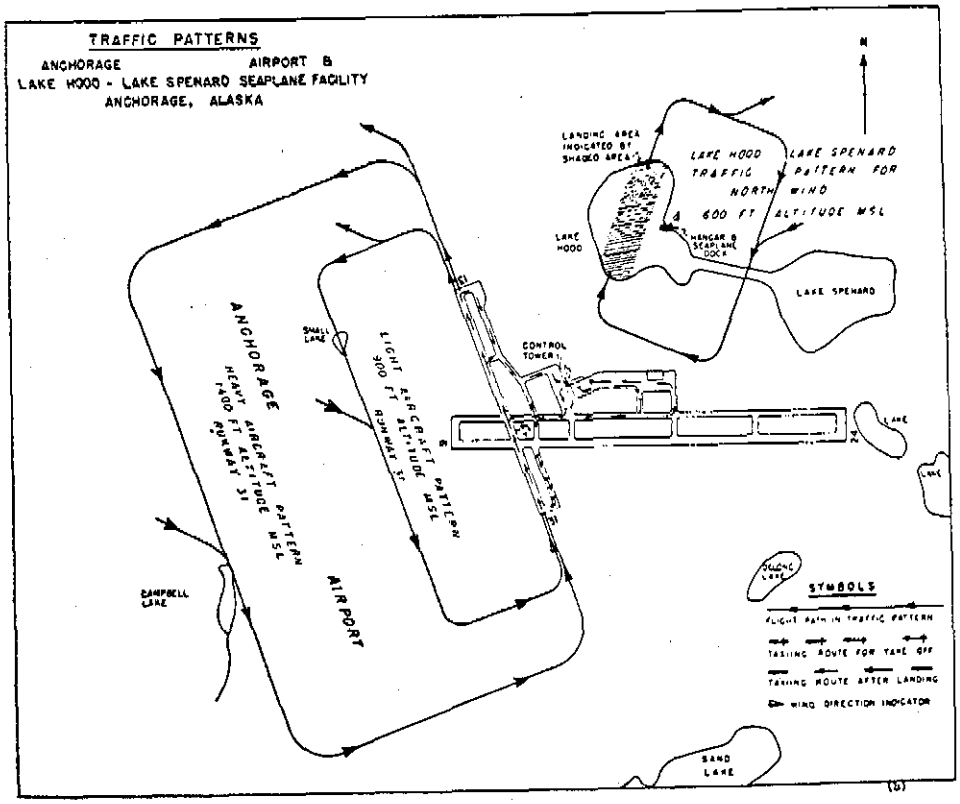
LAKE HOOD - LAKE SPENARD SEAPLANE FACILITY
ANCHORAGE, ALASKA
LAKE HOOD - LAKE SPENARD
TRAFFIC PATTERN FOR WEST WIND
600 FT ALTITUDE M.S.L.
LANDING AREA INDICATED BY SHADED AREA
HANGAR & SEAPLANE DOCK
LAKE HOOD
LAKE SPENARD
SMALL LAKE
CONTROL TOWER
LIGHT AIRCRAFT PATTERN
900 FT ALTITUDE M.S.L.
RUNWAY 24
CAMPBELL LAKE
DELONG LAKE
ANCHORAGE AIRPORT
HEAVY AIRCRAFT PATTERN
1400 FT ALTITUDE M.S.L.
RUNWAY 24
SAND LAKE
SYMBOLS
FLIGHT PATH IN TRAFFIC PATTERN
TAXIING ROUTE FOR TAKE-OFF
TAXIING ROUTE AFTER LANDING
WIND DIRECTION INDICATOR
(J)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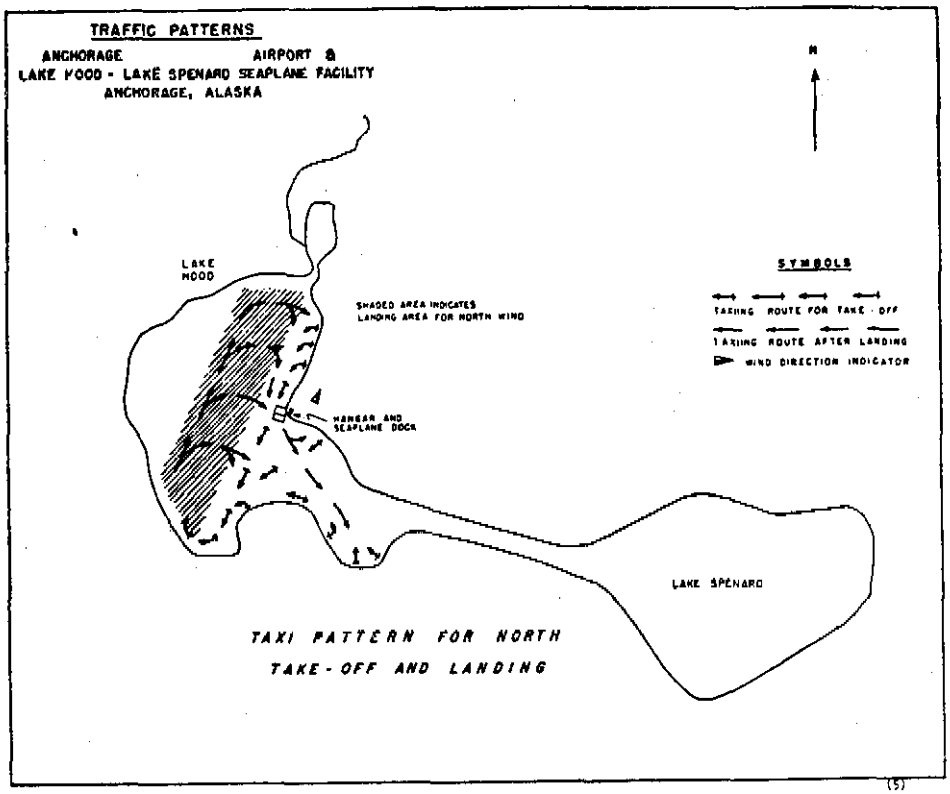
ANCHORAGE, ALASKA
LANDING AREA INDICATED BY SHADED AREA
LAKE HOOD TRAFFIC PATTERN FOR NORTH WIND
600 FT ALTITUDE M.S.L.
LAKE SPENARD
HANGAR & SEAPLANE DOCK
LAKE HOOD
SMALL LAKE
CONTROL TOWER
ANCHORAGE AIRPORT
HEAVY AIRCRAFT PATTERN
1400 FT ALTITUDE M.S.L.
RUNWAY 31
LIGHT AIRCRAFT PATTERN
900 FT ALTITUDE M.S.L.
RUNWAY 31
CAMPBELL LAKE
DELONG LAKE
SAND LAKE
SYMBOLS
FLIGHT PATH IN TRAFFIC PATTERN
TAXIING ROUTE FOR TAKE OFF
TAXIING ROUTE AFTER LANDING
WIND DIRECTION INDICATOR
(G)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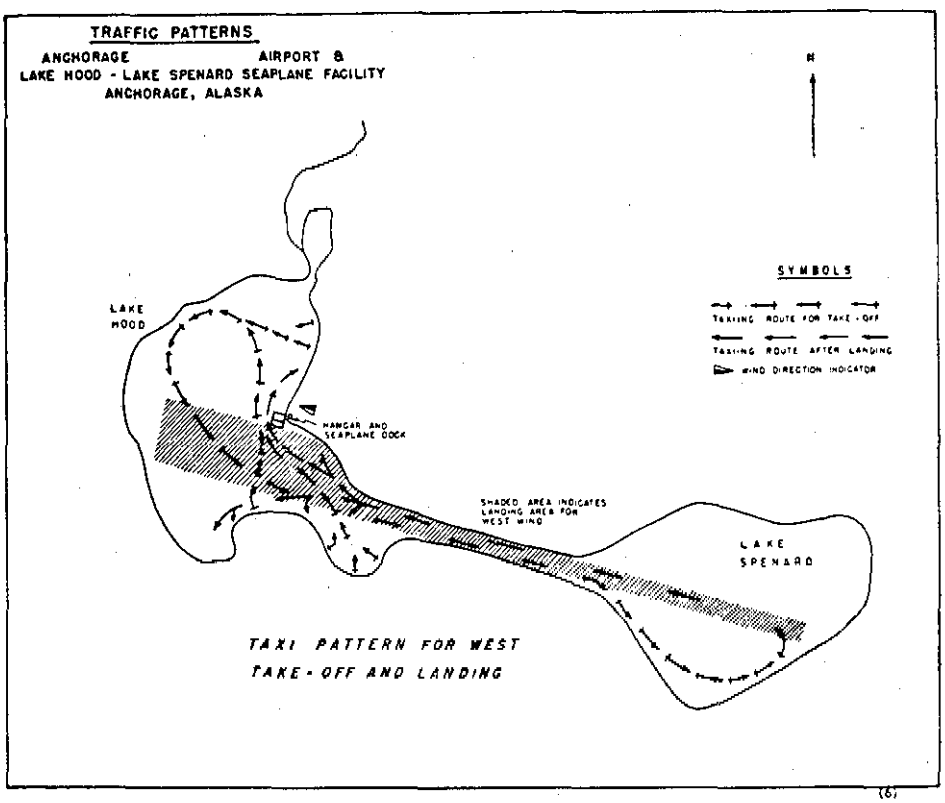
LAKE HOOD - LAKE SPENARD SEAPLANE FACILITY
ANCHORAGE, ALASKA
N
LAKE HOOD
SHADED AREA INDICATES LANDING AREA FOR NORTH WIND
HANGAR AND SEAPLANE DOCK
LAKE SPENARD
SYMBOLS
TAXIING ROUTE FOR TAKE-OFF
TAXIING ROUTE AFTER LANDING
WIND DIRECTION INDICATOR
TAXI PATTERN FOR NORTH
TAKE-OFF AND LANDING
(5)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ANCHORAGE, ALASKA
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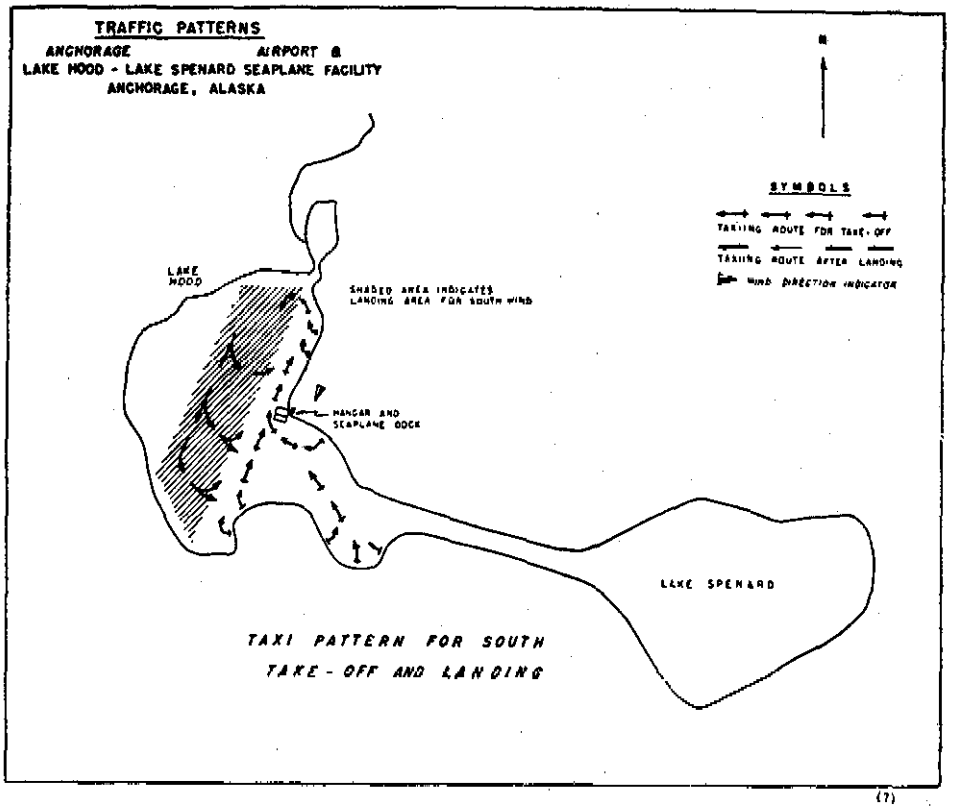
LAKE HOOD
HANGAR AND SEAPLANE DOCK
SHADED AREA INDICATES LANDING AREA FOR WEST WIND
LAKE SPENARD
SYMBOLS
TAXIING ROUTE FOR TAKE-OFF
TAXIING ROUTE AFTER LANDING
WIND DIRECTION INDICATOR
TAXI PATTERN FOR WEST
TAKE-OFF AND LANDING
(6)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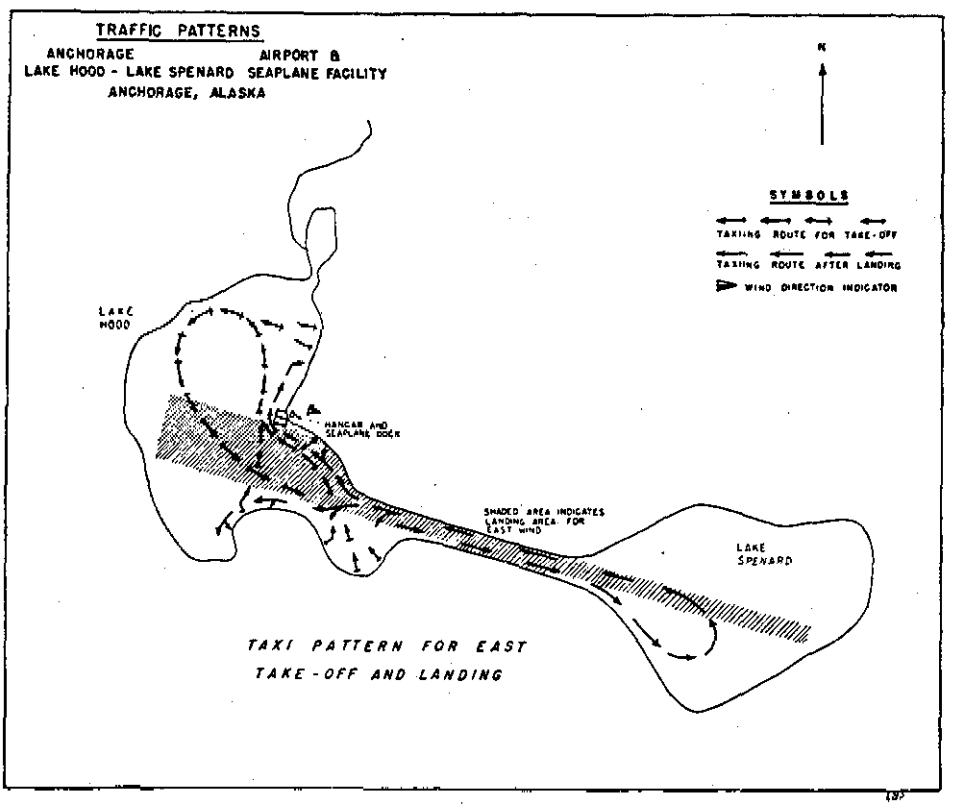
ANCHORAGE, ALASKA
N
SYMBOLS
TAXIING ROUTE FOR TAKE-OFF
TAXIING ROUTE AFTER LANDING
WIND DIRECTION INDICATOR
LAKE HOOD
SHADED AREA INDICATES LANDING AREA FOR SOUTH WIND
HANGAR AND SEAPLANE DOCK
LAKE SPENARD
TAXI PATTERN FOR SOUTH
TAKE-OFF AND LANDING
(7)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ANCHORAGE, ALASKA
N
SYMBOLS
TAXIING ROUTE FOR TAKE-OFF
TAXIING ROUTE AFTER LANDING
WIND DIRECTION INDICATOR
LAKE HOOD
HANGAR AND SEAPLANE DOCK
SHADED AREA INDICATES LANDING AREA FOR EAST WIND
LAKE SPENARD
TAXI PATTERN FOR EAST
TAKE-OFF AND LANDING

(iii) *Taxiing after landing to the east on Lake Hood.*

(*a*) If the landing run is completed prior to entering the canal, the aircraft may be taxied direct to the aircraft parking area.

(*b*) If the landing run continues into the canal, proceed through the canal in an expeditious manner, following a counter-clockwise flow of traffic in Lake Spenard until it has been determined that the landing approach and the canal are clear of traffic, then proceed expeditiously through the canal to the aircraft parking area.

(iv) *Taxiing after landing to the west on Lake Spenard or Canal.* At the completion of the landing run, proceed expeditiously through the canal and direct to the aircraft parking area.

(Published in 16 F. R. 6829, July 17, 1951, effective 0001 A. S. T., July 14, 1951.)

60.23–1 *Aircraft lights in Alaska (FAA rules which apply to sec. 60.23).* In Alaska the lights required by this section shall be displayed when any unlighted aircraft or other unlighted prominent objects cannot readily be seen

(*Note:* Pages 66 through 68 deleted by Supplement No. 11 dated March 15, 1963. The next page is 69.)

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beyond a distance of 3 miles, or when the sun is more than 6° below the horizon. [6]

(Published in 14 F. R. 38, Jan. 5, 1949, effective upon publication.)

60.23–2 *Operations before sunrise and after sunset (FAA policies which apply to sec. 60.23).* It is the policy of the Administrator to issue a Certificate of Waiver or Authorization for operation before sunrise and after sunset without lights only for agricultural or industrial operations, in accordance with section 60.1–2(b).

60.24–1 *Approval of flight test areas (FAA policies which apply to sec. 60.24).* Flight test areas will be approved only over open water or sparsely populated areas where the conduct of tests will be a minimum hazard to persons or property. In approving a flight test area, consideration will be given to such factors as the type of flying, air speeds, altitudes involved, the amount of traffic being operated in the area and any other factors essential to safety.

(Published in 22 F. R., Mar. 1, 1957, effective Mar. 1, 1957.)

60.24–2 *Application for approval of flight test area (FAA policies which apply to sec. 60.24).* Any person may apply for approval of a test area [7] by making application in triplicate by letter addressed to the local district office. The application is to contain the following information:

(a) Aeronautical chart showing geographical boundaries of the area to be used (latitude, longitude, highways, railroads, or similar landmarks, readily discernible from operating altitudes).

(b) Hours during which operations are to be conducted.

(c) Conditions for operating: VFR, ceiling, visibility, altitudes, etc.

(d) Nature of flight tests to be performed (production, experimental, prototype, etc.).

(Published in 22 F. R., Mar. 1, 1957, effective Mar. 1, 1957; amended in 22 F. R. 5541, effective Aug. 1, 1957.)

60.24–3 *Duration and renewal of test area approval (FAA policies which apply to sec. 60.24).*

(a) Approval of a flight test area will be given for a period not to exceed 24 months subject to earlier cancellation where the Administrator finds that changed conditions would not justify original approval. Cancellation will be effective upon receipt of written notice from the Administrator or his representatives.

(b) Approval of a flight test area may be renewed by making application in the form prescribed in section 60.24–2. The renewal request need contain only changes made in the original application. Items unchanged should be incorporated by reference.

(Published in 22 F. R., Mar. 1, 1957, effective Mar. 1, 1957; amended in 22 F. R. 5541, effective Aug. 1, 1957.)

60.24–4 *Traffic rules for flight test areas designated by the Administrator (FAA rules which apply to sec. 60.24).* No person shall flight test an aircraft within an area *designated* [8] by the Administrator for such purposes except in accordance with the following:

(a) *Filing of flight plan.* A flight plan shall be filed with Air Traffic Control and shall contain at least the following information:

(1) Aircraft identification and type.

(2) Proposed departure time.

(3) Estimated duration of flight.

(4) Altitude or altitudes to be used within the test area.

(5) Proposed time of entry into and egress from test area.

(b) *Filing of position reports.* IFR flights (in addition to those reports normally required of IFR operations within controlled airspace), and VFR flights with a functioning two-way radio, shall report actual time of entry and egress of the test area.

(c) *Deviations from flight plan.* No person shall deviate from the provisions of his flight plan unless Air Traffic Control is advised in advance.

[6] The duration of civil twilight is the interval in the evening from sun set until the time when the center of the sun is 6° below the horizon; or the corresponding interval in the morning between sunrise and the time at which the sun was still 6° below the horizon. "Tables of Sunrise, Sunset, and Twilight," United States Naval Observatory, 1946, p. 9.

[7] Aircraft having experimental airworthiness certificates shall operate in accordance with the area limitations prescribed within their respective airworthiness certificates.

[8] Designated flight test areas are those areas, other than approved flight test areas, which are designated after appropriate hearings are conducted through the Airspace Subcommittee of the Air Coordinating Committee, and may be used by any person in accordance with the rules set forth herein.

NOTE: In addition to special traffic rules or procedures prescribed for operations within approved or designated flight test areas, the provisions of CAR 60 are applicable.

(Published in 22 F. R., Mar. 1, 1957, effective Mar. 1, 1957.)

60.24–5 *Sparsely populated areas having light air traffic (FAA policies which apply to sec. 60.24 (a) (1)).*

(a) For the purpose of approving flight test areas, sparsely populated areas are areas in which cities, towns, and villages are sufficiently widely scattered to permit the users to avoid all congested areas when conducting flight test operations; and light air traffic areas [9] are those areas not located within (1) main arterial airways (colored and VOR), (2) control zones, (3) high density traffic zones, and (4) portions of control areas used for VFR departures and arrivals, such as areas used for noise abatement procedures.

(Published in 22 F. R. 5541, effective Aug. 1, 1957.

Visual Flight Rules (VFR)

60.30–1 *Authorization by Air Traffic Control (FAA policies which apply to sec. 60.30).* Authorization by Air Traffic Control to enter or depart control zones under VFR when the ceiling is less than 1,000 feet, and to fly closer to clouds than 500 feet vertically below, 1,000 feet vertically above, and 2,000 feet horizontally within a control zone will be issued in the form of an air traffic clearance. This clearance may be obtained by contacting the Flight Service Station or airport control tower in the control zone concerned. An appropriate clearance for such flight should conform closely to the following example:

> ATC clears (aircraft ident.) out of/to enter control zone (number of) miles (direction) of (airport) cruise not above (altitude) while in control zone.

60.31–1 *Air traffic clearance for takeoff or landing (FAA policies which apply to sec. 60.31).* A VFR takeoff or landing may be made at an airport within a control zone when the flight or ground visibility is less than 3 miles only if an air traffic clearance has been received. A takeoff or departure clearance will normally contain specific instructions as to the direction of takeoff, turn after takeoff, track and altitude to be maintained, and any other necessary maneuver.

60.32–1 Deleted

(Deletion published in 24, F. R. 7253, Sept. 9, 1959, effective Sept. 9, 1959.)

60.32–2 Deleted

(Deletion published in 24, F. R. 7253, Sept. 9, 1959, effective Sept. 9, 1959.)

60.33–1 *VFR flight plans (FAA policies which apply to sec. 60.33).* VFR flight plans may be filed in person or by telephone or radio with any Flight Service Station or control tower operator.

Good operating practices in connection with planning a flight, filing flight plan, flying the flight plan, carrying out radio communications procedures for all purposes can be found in the FAA Technical Manual No. 102, "Pilots' Radio Handbook." [10]

Instrument Flight Rules (IFR)[11]

60.46–1 *Standard instrument approach procedures (FAA rules which apply to sec. 60.46).* Standard instrument approach procedures prescribed by the Administrator are published in Part 609 of Regulations of the Administrator.

(Published in 16 F. R. 7351, July 27, 1951, effective upon publication.)

60.46–2 *Instrument approach ceiling and visibility minimums (FAA policies which apply to sec. 60.46).* Authorization for lower instrument approach ceiling and visibility minimums than those prescribed by the Administrator in

[9] Areas above 25,000 feet above the surface under certain stipulated circumstances, dictated by local conditions, may be considered as being light traffic areas.

[10] For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D. C. The price of the manual is 60 cents.

[11] For information concerning instrument flight operations, see the following:

(1) The Flight Information Manual which may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

(2) Instrument Approach and Landing Charts which may be purchased from the U.S. Coast and Geodetic Survey, Department of Commerce, Washington 25, D.C., at 10 cents each.

(3) Air Traffic Control Procedures, ATM-2-A, November 1, 1960, may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C. The price including supplementary revision service is $2.00 domestic; $2.75 foreign.

Part 609 of the Regulations of the Administrator may be issued for approaches at those airports where the minimums have not been revised in accordance with the new policy.[12] The issuance of an authorization is subject to the following conditions:

(a) *Application.*

(1) Application will be made on Form ACA–400, Application for Certificate of Waiver. The application, in triplicate, will be submitted to any local Bureau of Flight Standards District Office.

(2) Arrange with Bureau of Flight Standards District Office for inspection of the aircraft equipment and instrument competency flight test for each pilot in command who will operate the aircraft under the lower ceiling and visibility minimums.

(b) *Issuance requirements.* The authorization for lower minimums may be issued to the owner of the aircraft, the operator, individual pilot, or pilots employed by the owner or operator, upon compliance with the following:

(1) *Aircraft.* Aircraft must be equipped with approved type radio equipment appropriate for the types of approaches requested.

(2) *Pilots.* Each pilot-in-command will be properly certificated, hold a currently valid instrument rating, and demonstrate to an inspector his competency to execute safely the approach procedures for each type of approach to the minimums requested. This flight test will be conducted by an inspector and will include pertinent items of the standard instrument rating test on the systems to be used.

(3) *Aircraft more than 12,500 pounds.* When aircraft of more than 12,500 pounds are used, each pilot-in-command and copilot will be required to successfully complete an equipment check to determine his familiarity with the aircraft. The equipment check is to be conducted by a representative of the Administrator, and based on the aircraft manufacturer's specifications.

(4) *Pilot training program.* The applicant should provide a pilot training program which should include training on instrument approach procedures, air traffic control procedures, and other subjects deemed necessary by the inspector to assure continuing proficiency on the types of instrument approaches involved; and at least two instrument approaches, actual or hooded flight, every 30-day period on each type of approach for which authority is requested. Approaches made to the minimums authorized during the course of regular trips can be counted toward meeting these requirements.

(c) *Operational requirements.*

(1) Instrument approach may not be conducted below the minimums established for air carrier use, and never lower than the minimums to which the pilots have demonstrated their competency.

(2) Current information on scheduled air carrier minimums for the airports into which operations are to be conducted are to be readily available in the cockpit at all times during flight.

(3) Each pilot-in-command is expected to successfully complete requalifying instrument competency checks within 6 months prior to exercising the authority for lower minimums. The recheck is to be conducted by a representative of the Administrator. When aircraft of over 12,500 pounds are utilized, each pilot in command and copilot is expected to successfully complete an equipment check each 6 months prior to exercising authority for lower minimums.

(4) There is expected to be available in the cockpit at all times during flight, current flight information data, such as Radio Facility Guide, Airman's Guide, Approach Procedures, and maps.

(5) Special provisions applicable to the type of operation and aircraft equipment may be entered on and become a part of the authorization. These may include any or all, but are not limited to, those listed in appendix C.

(d) *Duration.*

(1) The authorization is valid for a period of 12 months, but may be surrendered by the holder or terminated by the Administrator at any time.

[12] In accordance with the present policy, ceiling and visibility minimums for approaches are being revised for all airports. Such minimums are based on obstruction clearance criteria and are the lowest minimums which can be used by anyone. Ultimately all airports will have the revised minimums in effect. During the interim period minimums established under the old policy will exist at some airports. Authorization to use lower minimums may be granted for these airports.

(2) Failure to comply with any of the conditions under section 60.46–1 (b) and (c), or the Special Provisions appended to the authorization, is considered sufficient grounds for terminating the authorization for lower minimums.

(e) *Reissuance.*

(1) The authorization may be reissued for a period of 12 months, upon application.

(2) Requirements for reissuance are identical to those for original issuance.

60.47–1 *Route of flight and communications procedures (FAA policies which apply to sec. 60.47).*

(a) *Off-airway operation.* If a flight is to be conducted over an off-airway route which joins or crosses federal airways, or terminates within federal airways, the route of flight should be indicated, and check points within control zones or areas over which the flight will pass are to be selected. The check points selected are to be points over which the position of the aircraft can be accurately determined or regularly designated reporting points.

(b) *Change of flight plan.* Any change of altitude or route of flight from that specified in the traffic clearance, should be reported to the air traffic control center or flight advisory area before the change is made. A change of flight plan should be reported and approval received before the change is made while operating within a control area; or, if outside of control area, prior to entering a control area.

[NOTE: Appendix A was deleted by Supplement No. 7 Appendix B, page 73 follows.]

Appendix B

Agricultural and Industrial Operations

1. Dusting.
2. Spraying.
3. Seeding.
4. Fertilizing.
5. Defoliation.
6. Grasshopper baiting.
7. Spraying towns—pest control.
8. Agitating cherry trees.
9. Antifrost agitation.
10. Knocking ripe fruit from trees.
11. Checking fallow land.
12. Chasing birds from rice fields.
13. Checking crops.
14. Powerline patrol.
15. Pipeline patrol.
16. Telephone line patrol.
17. Fence patrol.
18. Border patrol.
19. Highway patrol.
20. Forestry patrol.
21. Truckline patrol.
22. Log patrol.
23. Game and fish patrol.
24. Game survey.
25. Hunting predatory animals.
26. Hunting eagles.
27. Hunting lost persons.
28. Herding wild game.
29. Herding livestock.
30. Checking livestock.
31. Mapping and survey.
32. Aerial photography.
33. Sign towing (see CAM 43).
34. Glider towing (see CAM 43).
35. Skywriting.
36. Aerial advertising (neon lights).
37. Aerial advertising (loudspeaker).
38. Dropping leaflets.
39. Operation of moored balloons (see CAM 48).
40. Sailplane and water-ski towing (see CAM 43).
41. Transportation of explosives (see CAM 49).
42. Transportation of serum and medical supplies.
43. Transportation of fur.
44. Transportation of food in emergency.
45. Transportation of fishing/hunting parties.
46. Transportation of artificial insemination.
47. Transportation of baby chicks.
48. Transportation of feed and equipment.
49. Oil company transportation.
50. Ambulance service.
51. Air police.
52. Oil well service.
53. Mineral prospecting.
54. Oil research (radar-magnetometer).
55. Range survey.
56. Rainmaking.
57. Determining snowfall, high/low water.
58. Spotting schools of fish.
59. Stocking lakes and streams with fish.
60. Dropping beaver and pheasant.
61. Checking windmills/water holes.
62. Locating dam sites and checking irrigation.
63. Forest fire fighting.
64. Appraising and showing farms/ranches.
65. Radio and TV transmitting.
66. Delivery of mail and newspapers.

Appendix C

Special Provisions

Any or all of the following provisions may be made a part of the waiver issued for instrument approach ceiling and visibility minimums lower than those prescribed in Regulations of the Administrator, Part 609.

I. *Navigation and approach information*

(a) It will be the responsibility of the holder of this authorization to obtain from any recognized source all the pertinent information concerning air carrier minimums for all airports at which instrument approaches will be made under the privileges granted by this waiver.

(b) It will be the responsibility of the holder of this waiver to make arrangements through any recognized source that will assure him that all additions, deletions, or amendments to the air carrier minimums will be furnished immediately.

(c) It will be the responsibility of the holder of this waiver to determine that the information referred to in I. (a) and (b) above is readily available in the cockpit at all times during flight.

(d) It will be the responsibility of the holder of this waiver to determine that there is available in the cockpit at all times during flight, current flight information data such as Radio Facility Guide, Airman's Guide, Approach Procedures, maps, etc. These items must be either the official Government publication, or from some recognized and approved source.

(e) (Types of approaches covered by this waiver will be listed.)

II. *Weather minimums*

(a) Authorization is limited to the lowest ceiling and visibility minimums meeting the obstruction clearance criteria, but in no case lower than the minimums to which the pilot has demonstrated competency.

(b) No instrument approach to an airport shall be started where the reported ceiling and/or visibility is below those published in Regulations of the Administrator, Part 609 unless the pilot in command has the latest air carrier information for the airport to which the approach is being made.

III. *ILS minimums*

ILS minimums above apply only when it has been determined that all units of the ILS, both ground and airborne, are fully functioning and only when the landing can be made straight-in on the designated ILS runway following an ILS standard approach procedure for that airport. Circling is permitted only when existing weather is at or above regular minimums. When the use of automatic approach equipment for ILS is desired, the Special Provision should read as follows:

ILS minimums above apply only when it has been determined that all units of the ILS, both ground and airborne, are fully functioning and only when the landing can be made straight-in on the designated ILS runway using the Sperry A-12 automatic approach equipment throughout the ILS standard approach procedure for that airport. Circling approach is permitted only when the existing weather is at or above regular minimums.

IV. *Radio equipment*

No ILS approaches shall be executed unless the airborne equipment is type certificated and has been calibrated within the last 120 days to the standards prescribed by the Radio Technical Committee for Aeronautics. Where instrument approaches are made, using visual courses of VHF range or instrument landing system facilities, descent below the approved

initial approach altitude is not authorized unless the airborne equipment utilized for the reception of navigational signals is equipped with an approved device to automatically indicate failure or malfunctioning of the system.

V. *Pilots and copilots*

This certificate is valid only when the members of the flight crew are properly certificated. Type rating will also be required for the pilot in command of aircraft certificated for a maximum takeoff weight of 12,500 pounds or more. In addition, the pilot in command shall have successfully accomplished an instrument competency check within the preceding 6 months on the same category and class (and type if over 12,500 lbs.) equipment to be flown, using minimums granted in the waiver. In aircraft over 12,500 pounds, when the aircraft specifications require a copilot, both the pilot in command and the copilot shall have accomplished an equipment check on the aircraft being flown.

VI. *Aircraft*

This certificate is valid only for the operation of the following aircraft: (List pertinent information.)

Aircraft make and model.
Registration number.
Registered owner's name and address.

VII. *Weather report*

No instrument approach procedure shall be executed, or landing made, when the latest U. S. Weather Bureau report for that airport indicates the ceiling or visibility is less than that prescribed in Special Provisions.

VIII. *Checklists*

When operating under the terms of this certificate, a cockpit checklist acceptable to the Administrator shall be appropriately used by physical reference by the flight crews on each flight.

IX. *Training*

An adequate training program must be provided by the holder of this certificate of waiver. Such training program must provide for at least two instrument approaches, actual or hooded, every 30-day period on each type of approach approved, using the facilities at and of the airports covered by this authorization. These approaches shall be flown down to the minimums granted in this certificate of waiver. Approaches made to the minimum granted during the course of regular trips can be counted in meeting these minimum training program requirements.

X. *List of pilots*

(Pilots will be listed by name, certificate number, and ratings.)

U. S. GOVERNMENT PRINTING OFFICE: 1962 O—631279

Addendum

Preambles to amendments to Civil Air Regulations, Part 60

NOTE

Part 60 of the Civil Air Regulations was last reprinted on May 15, 1961. This was not a general revision of the Part, but only a reprint to incorporate outstanding amendments and to make minor editorial changes. Beginning with Amendment 60–25, the preambles to the amendments are being issued along with the page revisions which correct the text. These preambles may be retained in this addendum section or discarded.

Amendment 60–25

Regulation of Aircraft Speed

Adopted: November 13, 1961
Effective: December 19, 1961
Published: November 17, 1961
(26 F.R. 10752)

Draft Release No. 61–9, published in the Federal Register on May 9, 1961 (26 F.R. 4001), gave notice that the Federal Aviation Agency had under consideration a proposal to amend Part 60 of the Civil Air Regulations to prohibit the flight of arriving aircraft at airspeeds in excess of 250 knots indicated airspeed (IAS) while in the airspace below 14,500 feet mean sea level (m.s.l.) within 50 miles of the destination airport. Reasons for the proposal were set forth in Draft Release No. 61–9. In recognition of the significance of a regulatory program to govern aircraft speed, Draft Release No. 61–9A provided additional time for interested persons to study the proposal and develop their comments.

Written comment received in response to Draft Release No. 61–9 revealed both strong endorsement and strong opposition. The Aircraft Owners and Pilots Association, long on record as advocating a speed limit more stringent than the one under consideration, and the General Aviation Council supported the proposed rule, as did most of the comments from general aviation interests. The Air Line Pilots Association agreed with the general principles proposed, but tempered its endorsement with the recommendations that the area of applicability be reduced and that the ceiling of the applicable airspace be established at 10,000 feet m.s.l. Aerospace Industries Association endorsed the proposal but recommended clarification of the term "arriving aircraft." The National Business Aircraft Association also endorsed the proposal, taking the position that its advantages outweigh its disadvantages. The Air Transport Association voiced strong opposition to the proposed rule, emphasizing the economic burden that it feels would be imposed by its adoption and contending also that adoption of the rule would not necessarily increase safety. The Air Line Dispatchers Association commented that publication of the proposed rule appears to be an admission that the air traffic control system cannot cope with the control problems of the jet age.

Due to the significance of the proposal and to obtain as much additional information as possible relative to the subject, it was determined that interested persons should be provided an opportunity to elaborate orally upon their views at an informal conference in an effort to determine an approach which would meet the needs of flight safety while reducing the hardship and inconvenience insofar as possible. Accordingly, an informal conference was held on August 24, 1961, attended by representatives of most of those organizations previously commenting in writing to the Agency.

Very little additional or new argument, either pro or con, was introduced at the conference. Most of the discussion was, in substance, a reiteration of written comment previously considered. One contention was to the effect that to require aircraft to operate at speeds of 250 knots or less would frequently work to the disadvantage of the air traffic control system. While there is some validity in this point and there are undoubtedly occasions when the maintenance of a higher speed would work to the advantage of both pilot and controller, such occasions are considered to be the exception rather than the rule. To permit deviation at the discretion of the controller would shift an undesirable degree of the operational control of the aircraft from the pilot to the air traffic controller.

Some commentators stated that the proposal gave excessive latitude to military operations by permitting flight at speeds above 250 knots IAS under certain conditions. While the requirement for certain aircraft to be operated at higher speeds was not disputed, concern was expressed relative to the language of the rule, specifically with

respect to the term "military normal operating procedures." This term was extracted from the flight operating manuals used by the military to describe maneuvers and operational characteristics of a particular type of aircraft and to specify standard operating practices. It is considered to be an adequate term to describe the speeds specified therein, as well as speeds prescribed for military high altitude instrument approaches and for such operations as overhead approaches and formation flights. In view of the unique operating characteristics and the operational requirements of military tactical aircraft and certain other high performance aircraft, it is considered necessary to provide for certain of those operations since such action is in the public interest by reason of the requirement for an adequate national defense.

Some comments contended that the proposal should limit the speed of departing and en route aircraft. The Agency did not at that time have, nor has it now, a solution to the problem of applicability and degree of restriction which should be applied to these two phases of flight. However, efforts will be continued in the belief that a solution can be found which will serve this purpose without imposing an unreasonable hardship upon users. A speed regulation which would apply to these two phases of flight may well be the subject of a later proposal.

It was suggested that the speed limitation be confined to high activity airports instead of the "across the board" policy as proposed. While it is true that such a limitation is more apparent when applied to areas of dense air traffic, the maneuvering of arriving aircraft in the airspace in the vicinity of an airport makes a speed limit a natural requirement since all aircraft landing at a particular airport are converging into the same general airspace. It is during this phase of flight that the pilot must also be prepared, with little or no notice, to enter a holding pattern, to turn his aircraft to a new course or, in some other way, to adjust flight operations. Obviously, reduced speed affords the pilot more time to scan, react and avoid a potentially hazardous situation. It is the relationship of one aircraft to another, regardless of location or time of day, which creates a potentially hazardous situation. Therefore, the Agency is convinced that regulating the speed of all arriving aircraft is a sound approach to the problem.

It was contended that a new regulation would be unnecessary if section 60.18 were updated to revise the applicable airspeeds and if the size of High Density Air Traffic Zones were increased. The Agency has taken action (Amendment 60-24) to eliminate such zones and to apply communications and speed requirements to a greater number of airports. Since Amendment 60-24 is applicable solely to flight operations conducted in the immediate vicinity of certain airports, it has been concluded that additional speed limitations are required to cope with potential hazards outside these areas.

It was contended that the air traffic control system should be improved to provide unrestrictive service to high speed aircraft. The Agency does not question the validity of this recommendation from the point of view of its proponents. The capacities and limitations of the present day traffic control system are a matter of common knowledge to all users. Existing control procedures have been devised in continuing consultation with the aviation community in the light of these capacities and limitations. Theoretical optimum would, of course, permit unrestricted speeds by all aircraft but the means of achieving this idealized state are not at hand. In the meantime, in order to emphasize safety standards and facilitate their application within the capabilities of the air traffic control service, it is necessary to impose certain restrictions on the flow of air traffic.

It was recommended that the proposal be amended so that speed reduction would be accomplished " . . . within a specified distance not less than 20 nautical miles nor more than 60 nautical miles from the airport of destination and that the points at which aircraft must reach the speed limit be depicted on aeronautical charts . . ." The rule adopted herein specifies that aircraft must be operated at or below 250 knots when within 30 nautical miles of the destination airport but permits the pilot to begin reduction of speed at the point he considers to be best suited to current flight conditions. As a practical matter, some pilots may begin a speed reduction when within 60 nautical miles of the destination; others, however, depending on the equipment being flown, may elect to reduce speed at a greater or lesser distance. The rule is considered to be less restrictive than the recommendation and, therefore, preferable. The feasibility of depicting the area or the point where the speed regulation would apply or begin on aeronautical charts was also considered in the development of the proposal. Analysis of many possibilities indicated that to chart such areas or points would create additional "clutter" to the charts.

The close proximity of airports indicated that it would be impractical to depict the specific points for any given airport. Such action is, therefore, considered inadvisable.

Considerable apprehension was expressed that adoption of speed regulations would impose a severe economic burden upon the air lines and it was stated that adoption of the proposed rule might result in an added annual operating cost to air carrier companies as high as $15,000,000. The Agency appreciates the seriousness of such a consequence; however, it must weigh all safety factors and consider the public interest as the matter of primary concern in making its decisions. It is unfortunate that the intrinsic assets of safety cannot be utilized to balance a monetary deficit. Although the Agency does not wish to penalize the nation's air transportation system, it has no alternative but to select that course which it considers necessary in the interest of safety. This responsibility and authority are exercised only after careful and deliberate judgment.

In this regard, sufficiently persuasive arguments have been presented to convince the Agency that the area in which the speed limitation is applicable should be reduced to the absolute minimum consistent with the requirements of safety. Accordingly, the area of applicability has been reduced to include that airspace below 10,000 feet m.s.l. within 30 nautical miles of the destination airport. While there are various ways whereby this reduction might be accomplished, each has inherent limitations. For example, it was suggested that the altitude of applicability should be established "above terrain" rather than in reference to "mean sea level." This treatment would result in a variable "ceiling" that would follow the contour of the earth's surface. Such a limitation would present obvious compliance difficulties in mountainous areas. While it is equally true that some of the benefits of this rule will be lost in the vicinity of airports located in mountainous areas, due to a "mean sea level" application, it appears that this loss can be countenanced without compromising the rule to an unacceptable degree. Further reduction of the economic impact may be realized from a study currently being conducted to consider the feasibility of permitting the transition of turbojet aircraft from the terminal fixes to final approach courses at altitudes in excess of 10,000 feet m.s.l. Should such procedures prove feasible, a significant reduction in the economic impact of this rule will be realized.

Concern was expressed that the proposal did not clearly indicate the time or place at which a pilot would be required to comply with the speed limitation. The phrase "arriving aircraft" has always, in an aeronautical sense, been used to connote an arrival operation as opposed to any other phase of flight. The exact time at which an aircraft becomes an "arrival aircraft" is entirely dependent upon the intentions of the pilot. The word "arriving" as used in the rule is intended to apply to a pilot operating an aircraft inbound to an airport for the purpose of conducting an actual or simulated approach regardless of whether a landing is effected.

Amendment added a new section 60.27, Aircraft speed.

Amendment 60–26

Operation at Airports

Adopted: December 19, 1961
Effective: January 23, 1962
Published: December 23, 1962 (26 F.R. 12283)

Civil Air Regulations Amendment 60–24, as published on September 27, 1961, (26 F.R. 9069) amends Part 60, section 60.18, *Operation on and in the vicinity of an airport.* As revised, section 60.18(c)(3) establishes certain communications requirements for aircraft operating to or from an airport not served by a control tower, but at which an operative Federal Aviation Agency Flight Service Station (FSS) is located, and so depicted on the current appropriate Sectional Aeronautical Chart of the U.S. Coast and Geodetic Survey.

At the present time, Sectional Aeronautical Charts are not published for the State of Alaska, the Virgin Islands and certain Pacific Ocean islands. Therefore, until such Sectional Charts are published, it will be necessary to depict Flight Service Stations in

these areas on appropriate World Aeronautical Charts. Such depictions will be accomplished no earlier than May 1962.

The Notice of Proposed Rule Making on this subject, Draft Release 60–17, published October 7, 1960 (25 F.R. 9868), had proposed application of this requirement to each airport not served by a control tower but having an FSS, without regard to the FSS being appropriately charted.

Since this amendment is within the scope of the original Notice, further compliance with the notice and public procedures requirements of the Administrative Procedure Act is unnecessary. The amendment will be made effective at least thirty days after publication.

Amendment revised section 60.18(c) (3).

Amendment 60–27

Radio Failure

Adopted: January 19, 1962
Effective: May 1, 1962
Published: January 26, 1962
(27 F.R. 768)

Draft Release No. 61–13 published as a notice of proposed rule making in the Federal Register on June 16, 1961 (26 FR 5404), gave notice that the Federal Aviation Agency proposed to amend section 60.49, Radio Failure, of Part 60 of the Civil Air Regulations. The reasons for the amendment were outlined in detail in the draft release. All comments *received in response to this draft release have been reviewed and given due consideration.* The majority of comments received either endorsed the proposed revisions or recommended certain changes. Only one comment was in opposition to the amendment.

The proposed rule contained the provision that when weather conditions permit, the *pilot shall terminate his flight in VFR conditions and land as soon as practicable. One* organization and one individual tempered their concurrence with the recommendation to delete this mandatory requirement. It was contended that the ATC system either cannot or does not want to cope with aircraft which experience radio communications failure in *VFR conditions. It is emphasized that the question is not whether the system can or cannot* cope with the situation but whether the resultant adverse impact upon other users of the system is reasonable compared to the possible inconvenience to one pilot. Air traffic control provides standard separation to all en route IFR aircraft regardless of weather conditions. *When a radio communications failure occurs, a near emergency situation is sometimes* created, in that it may become necessary for air traffic control to reroute or reclear a substantial number of IFR aircraft in order to maintain proper separation. In essence, air traffic control is often forced, for reasons of safety, to grant priority to the aircraft ex*periencing the failure. It is not considered logical to permit an aircraft which is in VFR* conditions to continue an extended flight to the destination at the possible inconvenience of other aircraft using the system. As stated in the Draft Release, the simplest way to eliminate such a problem is to remove the source, i.e., to require the pilot of the aircraft *experiencing the malfunction to land.*

In the original proposal, the requirement to terminate the flight under VFR would not apply to operations conducted within positive control airspace. Upon consideration of the safety factors involved, it has been determined that the requirement to land VFR *should also apply to this airspace. Therefore, this regulation provides that, regardless* of the airspace involved, when VFR conditions prevail the flight must be terminated as soon as practicable. It should be emphasized the pilot of an aircraft in such circumstances is fully responsible for the separation of his aircraft from all others.

It is not intended that the requirement to "land as soon as practicable" be construed to mean "as soon as possible." The pilot, of course, retains his prerogative of exercising his best judgment and is not required to land at an unauthorized airport, at an airport unsuitable for the type of aircraft flown, or to land only minutes short of his intended *destination. The primary objective of this provision of the rule is to preclude extended* IFR operations in the air traffic control system in VFR weather conditions. The regulation

does not prohibit the pilot experiencing radio communications failure, after landing and cancelling his IFR flight plan, from taking off again and proceeding to the destination in accordance with VFR if he so desires.

The Air Line Pilots Association (ALPA) recommended that in the event of radio communications failure, a pilot would proceed according to the route and altitude filed in the flight plan, rather than via the route and altitude specified by air traffic control. Such a provision would require a pilot to proceed via the filed route which might be a considerable distance away from the route specified in the air traffic control clearance. In a similar manner, a pilot who has been assigned an altitude other than his filed altitude within a route structure would be required to climb or to descend, as might be appropriate, to the filed altitude. Obviously, pilot action which would disregard an ATC clearance and revert to a filed flight plan is not feasible since it is virtually impossible to develop procedures for transition to flight planned route and altitude which would be applicable in all situations.

ALPA also suggested that, when a climb to a higher route structure is necessary, the pilot should climb to the altitude or flight level specified in the flight plan rather than the cardinal altitude at or above the MEA of the filed route structure. Since pilots often may file multiple altitudes or multiple route structures in a single flight plan, such a regulation would only compound the problems and impair the ability of air traffic control to provide proper separation. It is concluded that one easily determined and easily recalled altitude for application during radio communication failure is imperative to meet the needs of the pilot and the air traffic control system.

The Air Traffic Control Association (ATCA) suggested that when a climb to a higher route structure is necessary, the pilot should be required to exercise his emergency authority and initiate climb at his discretion. Such a requirement would eliminate the provision to "initiate climb ten minutes after passing the first compulsory reporting point over which the failure prevented communications with air traffic control." ATCA contended that the controller would not, in all cases, be able to provide standard separation in the event of such a climb. This contention may be valid in some cases; however, the ten minute delay before initiating climb will provide a margin of safety which is considered indispensable. In addition, to require a pilot to use such emergency authority is not feasible since in most cases pilots do not consider radio communications failure to be an emergency situation.

British Overseas Airways Corporation suggested that transponder procedures be developed for use during radio communications failure. While such procedures would be very advantageous, the lack of decoding equipment in ATC facilities at present prohibits the adoption of this suggestion. The implementation of transponder procedures is contemplated when adequate decoding equipment becomes available.

The one comment in opposition to the amendment contended that it would not be possible for military jet aircraft to complete certain flights if radio communication failure provisions require that the operation be conducted at Flight Level 240. It was recommended that the rule be amended to require a cruising altitude advisory prior to take-off in order that the pilot might proceed to his destination at the flight level advised by ATC. Procedures currently in effect provide that when a pilot is not issued a clearance within the filed route structure, the pilot must be issued an advisory as to when he may expect a clearance to an altitude in the requested structure. Since this procedure appears to satisfy the objective of this recommendation, it is not considered necessary to alter the provisions of the rule.

It is virtually impossible to promulgate a rule which provides definitive action for every conceivable eventuality associated with radio communications failure. Such a rule would be too voluminous for ready comprehension and application. Conversely, it is not intended to promulgate a rule so brief or general as to be ambiguous. It is not intended to attempt to regulate emergency or near emergency situations. For example, the rule omits reference to the problems arising from a missed approach. The circumstances would be so unpredictable in such a situation that it is considered that an emergency would exist and, as such, would not be subject to regulation.

Concurrently with the adoption of the rule contained herein, detailed procedures which shall be followed in the event of radio communications failure will be published in the Flight Information Manual. All necessary supplementary data will be consolidated in this publication. The Flight Information Manual will henceforth be the sole source of FAA supplementary material applicable to radio communications failure.

Amendment revised section 60.49

Amendment 60–28

Instrument Flight Rules:	Adopted:	Mar. 21, 1962
Course to be Flown	Effective:	Apr. 26, 1962
	Published:	Mar. 27, 1962

On October 18, 1961, notice was given in Draft Release No. 61–23 (26 F.R. 10307) that the Federal Aviation Agency had under consideration a proposal to amend Civil Air Regulations, Part 60, section 60.45, "Course to be flown." Draft Release 61–23 proposed a restatement of the existing rule to more clearly show the applicability of the section in conjunction with other equally applicable sections of Part 60.

The comments received in response to the Draft Release indicated unanimous concurrence with the concept of the proposal. While a few of the comments contained suggestions to expand the proposal to include certain other deviations, the vast majority agreed with the amendment as proposed.

The National Business Aircraft Association and the Air Transport Association suggested expansion of the rule to permit necessary deviations from the center line when bracketing, turning corners, correcting for wind drift, etc., feeling that the lack of such provision may lead to needless enforcement actions. The Air Transport Association and the Air Line Pilots Association suggested the proposal be expanded to include maneuvering as necessary to avoid areas of turbulence or other undesirable weather. Also, in order to more closely reflect true operating conditions, they suggested the rule be worded so as to require center line flight "within tolerance of the airplane and ground navigation equipment", or, on the "indicated" center line.

Maneuvers necessary in the normal navigation of aircraft were thoroughly considered during the original drafting of this proposal. However, these maneuvers (bracketing, correcting for wind drift, turning corners, etc.) are not deviations in the sense that the maneuvers specified in the proposed rule are deviations. The former are actually maneuvers conducted for the purpose of remaining on, or returning to, the center line, and are therefore conducted in compliance with the basic intent of the rule. The deviations specified in the proposed rule are turns away from the center line which may be necessary for specific purposes as set forth in the rule. Therefore, it is not considered necessary or appropriate to authorize as "deviations", maneuvers conducted in order to remain on the center line.

In regard to the suggestion to specify that flight be conducted on the "indicated" center line, or "within tolerance of the airplane and ground navigation equipment," we feel that this is already clearly understood. The separation standards now in use consider possible equipment errors, and there can be no question of compliance if the aircraft navigation equipment indicates that the aircraft is on the center line.

Where maneuvers to circumnavigate areas of adverse weather are concerned, it is intended that deviations of this type be conducted under the authorization which may be granted by air traffic control, and, where necessary, under the pilot's emergency authority as contained in section 60.2. Deviations to avoid adverse weather may be necessary in IFR conditions, or may be necessary to the extent that a pilot will be unable to return to the center line in VFR conditions. The separation standards being utilized today do not permit deviations to circumnavigate weather without prior authorization from air traffic control.

Amendment revised section 60.45

Amendment 60-29

Definition of Controlled Airspace

Adopted: Apr. 24, 1962
Effective: May 1, 1962
Published: Apr. 27, 1962
(27 F.R. 4012)

Draft Release No. 62-8, published as a Notice of Proposed Rule Making in the Federal Register on March 7, 1962 (27 F.R. 2183), gave public notice that the Federal Aviation Agency proposed to amend the definition of "transition area" contained in CAR 60.60. Under this proposal, transition areas designated to complement control zones would extend upward from 700 feet or higher above the surface in lieu of 1,200 feet or higher above the surface. The reasons for the amendment were outlined in detail in the draft release. All comments received in response to the draft release have been reviewed and have been given due consideration. No comments received indicated opposition to the proposal; however, several persons suggested specific modifications to the phrasing of the definition.

The Aircraft Owners and Pilots Association (AOPA) and three individuals, while concurring with the proposal, recommended that the definition specify that such areas normally be ten statute miles in radius. The AOPA contended that this would preclude the designation of unnecessarily large transition areas and that a circular configuration would simplify charting and promote ease of understanding. The Agency agrees that unnecessarily large transition areas must be avoided and it shall be the policy of the Agency to designate transition areas of minimum lateral dimensions consistent with the requirements of Instrument Flight Rules (IFR) operations. Criteria for use in determining the lateral dimensions of transition areas have been developed. However, since many significant local factors, such as an airport elevation, adjacent terrain and the minimum en route IFR altitudes must be considered, it is not feasible to establish in the definition that transition areas will normally be of a circular configuration and ten miles in radius. A circular configuration would, in some cases, result in the designation of more controlled airspace than is actually needed for IFR operations.

While the position of the AOPA is appreciated, the size and shape of transition areas should be based solely upon the operational considerations unique to specific locations. Sufficient flexibility must be retained for the efficient designation of controlled airspace; however, this policy does not preclude the designation of a circular configuration in those cases where considered practicable. For this reason, the amendment adopted herein does not establish specific lateral limits or configurations for transition areas.

In the implementation of Civil Air Regulations Amendment 60-21 a secondary, though significant, problem has arisen. Application of a transition area overlying an airport without a control zone but for which an instrument approach procedure has been prescribed revealed that, in some cases, the existing definition required the designation of more controlled airspace than required by IFR operations. The definition now provides that the "floor" of such controlled airspace may be designated only at a level of 700 feet above the surface. In certain cases, it has been found that by designating the perimeter portions of the transition area with a floor at 1,200 feet above the surface, significant additional uncontrolled airspace may be released for the use of Visual Flight Rules (VFR) operations with no adverse impact on the IFR user.

In consonance with its policy to designate only that controlled airspace required by IFR operations, the Agency concluded that provision should be made for the designation of transition area floors at higher levels. Accordingly, this proposal was coordinated informally with representatives of the following interested user groups:

Air Transport Association
Aircraft Owners & Pilots Association
Air Line Pilots Association
Air Traffic Control Association
Department of the Air Force
Department of the Army
Department of the Navy
General Aviation Council
National Association of State Aviation Officials
National Aviation Trades Association
National Business Aircraft Association
National Pilots Association

The representatives of all these organizations endorsed this change, with the exception of the National Aviation Trades Association, which did not choose to comment. The Air Transport Association (ATA) expressed concern regarding the retention of the base of the transition area at 700 feet above the surface when required to encompass instrument approach procedures, recommending that the definition provide a specific statement to this effect. A review of the proposed wording indicated it could be interpreted to eliminate the flexibility necessary for the efficient designation of controlled airspace. It is not necessary in all cases to designate the entire transition area with a floor of 700 feet to encompass the instrument approach procedure. It shall be the policy of the Agency to designate the floor of transition areas in conjunction with airports at 700 feet above the surface to the lateral extent dictated by the appropriate criteria for the instrument procedures and then raise the floor to 1,200 feet or higher as appropriate. Since the amendatory language adequately expressed the Agency intent, it is not considered necessary to adopt the specific language recommended by the ATA. This additional change is, therefore, being adopted in conjunction with the proposal contained in Draft Release No. 62–8.

Amendment revised section 60.60

Amendment 60–30

Avoidance of Disaster Areas

Adopted: December 13, 1962
Effective: March 20, 1963
Published: December 20, 1962
(27 F.R. 12614)

On April 6, 1962, notice was given in Draft Release No. 62–17 (27 F.R. 3818), that the Federal Aviation Agency (FAA) had under consideration the addition of section 60.28, "Avoidance of Disaster Areas," to Part 60 of the Civil Air Regulations. The rule would prohibit the flight of nonessential aircraft within disaster areas designated to encompass certain types of aircraft and train accidents, forest fires, earthquakes, floods and similar disasters. The reasons for the proposed amendment were outlined in detail in the draft release.

To ensure that the views of interested persons were fully considered, an informal conference was held in Washington, D.C., on November 14, 1961, prior to the issuance of the Notice of Proposed Rule Making. The majority of the user organizations were represented, as were agencies concerned with search and rescue activities and many news organizations. The comments received at the conference proved extremely valuable in development of the rule proposed in the draft release.

In commenting on the draft release, the news media groups stressed the time critical nature of news reporting. They recommended that the rule or the implementing FAA procedures provide for immediate recourse to higher authority in the event they are denied permission to operate at altitudes which they consider necessary. Denial of entry at altitudes being used by relief aircraft must be based on the objective determination of the person responsible for relief activities. His decision, based on a first-hand knowledge of the situation, should not be open to debate at that point. The Agency will, however, in the course of development of the implementing procedures, recommend guidelines as to when entry should be granted or denied. We will stress the responsibility which news organizations have to the public and will provide for all practicable assistance and cooperation.

One free-lance writer interpreted the proposal as requiring advance accreditation for news media aircraft and suggested that in-flight notification be permitted. The proposal did permit inflight notification and approval, as does the rule adopted herein. We also recognize that most news organizations secure aircraft on an immediate rental basis to cover news incidents. Therefore, all that the rule requires is carriage of accredited newsmen on a bona fide newsgathering mission.

The intent of the proposed rule was supported by most of the aircraft user groups which replied. However, some did recommend certain modification. The Air Transport

Association and the Helicopter Association of America were concerned that pilots might not have Notices to Airmen (NOTAMs) available in all cases and might inadvertently enter a disaster area. The latter group felt that the rule should specifically exempt those pilots who unknowingly enter a disaster area. They said that even though no penalties were assessed for such violations, it would be unfair even to cause the pilot technically to be in violation. The Agency recognizes the possibility of inadvertent entry but considers it undesirable to include these occurrences as exceptions to the rule. All the circumstances would, of course, be weighed in such an event. Certainly, proper discretion and prompt departure of the disaster area when the facts become known to the pilot would serve to mitigate his unintentional entry of the area.

The Aircraft Owners and Pilots Association contends that a disaster area should be established only when aerial relief operations are actually in progress or are imminent. AOPA considers that designation in other cases would be an unwarranted restriction of airspace. The draft release preamble stressed the collision potential that exists even though relief aircraft are not being used. Curiosity seekers often congregate over a disaster site and become a hazard to each other.

There was some comment that such a rule would be self-defeating since it would focus attention on an area which might otherwise go virtually unnoticed. Presently, most pilots voluntarily avoid disaster areas after an informational NOTAM has been issued. Their cooperation has made these voluntary procedures effective to a certain degree. While we recognize that attention will be focused on these disaster sites, we consider that the legal prohibition on entering the disaster area will prove to be a strong deterrent and will result in greater effectiveness.

Two forestry groups recommended that the ceiling of disaster areas be raised to as high as 2,000 feet above the essential air activity. They maintain that greater vertical separation from airborne fire fighting activities is required because of the reduction in visibility from the smoke. A pilot operating under such conditions would still be governed by the visibility minimums of Part 60. Therefore, we consider that the current regulations plus the rule adopted herein will amply prohibit imprudent operations in such areas.

The forestry groups also recommended that disaster areas be designated for all forest fires. The draft release preamble discussed the manner in which a disaster area would be established around a forest fire. That is, the Fire Air Officer would forward his recommendation to the appropriate FAA air route traffic control center which would then establish the area by NOTAM. Decision as to whether a disaster area is warranted would rest with the Fire Air Officer. An area could, therefore, be established around any forest fire where the circumstances justified.

Two comments discussed disasters on or near an airport having a control tower. One suggestion was that the control tower operator be given authority to impose conditions comparable to those proposed in the rule even though a disaster area was not designated. The particular circumstances would dictate whether a disaster area should be created. However, the specific authority is not required in this rule because basically the same results would be obtained through the use of section 60.18, "Operation on and in the Vicinity of an Airport." Section 60.18, among other things, requires aircraft to avoid the five-mile airport traffic area unless operating to or from an airport within the area, requires two-way radio communications with federally operated control towers, imposes a speed limit, and establishes a left-hand traffic pattern direction for fixed-wing aircraft. The control tower can authorize deviation from any of these requirements. Even if the accident should occur on the airport itself, the airport would be kept open to the extent practicable.

Two comments suggested that the Federal Aviation Agency immediately send traffic controllers to the disaster scene to provide air traffic control service. This course has been studied, however, personnel and equipment considerations presently make this impractical in most instances. The Federal Aviation Agency has recently entered into a Memorandum of Agreement entitled, "Airspace Control in Search and Rescue and Disaster Relief Areas" with the Department of Defense, the United States Coast Guard, the Forest Service, and the Office of Emergency Planning. The Agreement sets forth certain actions which will be taken by the signatories in development of the over-all plan. The Federal Aviation Agency has agreed to determine the feasibility of providing airport

traffic control personnel and equipment to designated operating bases when requested by appropriate disaster control authorities.

Amendment added section 60.28.

Rescission of SR–438

Adopted: January 1, 1963
Effective: January 11, 1963
Published: January 11, 1963
(28 F.R. 306)

By Special Civil Air Regulations No. SR–438 (25 F.R. 1764), effective April 4, 1960, special airport traffic pattern rules were established for flight operations conducted within five miles of the Los Angeles International Airport at altitudes extending up to, but not including, 2,000 feet above the surface. SR–438 also established certain traffic pattern rules for the Hughes, Santa Monica, and Hawthorne Airports. It was promulgated to enhance the safety of flight in the Los Angeles area and to provide a measure of relief from aircraft noise to persons on the ground, pending the adoption of a rule of national application for the same purposes.

On September 22, 1961, Amendment 60–24 (26 F.R. 9069), effective December 26, 1961, was adopted. By this action, section 60.18 (Part 60 of the Civil Air Regulations) was amended to establish certain air traffic rules which were designed to standardize flight procedures at controlled airports and, to the extent practicable, provide for a uniform application of traffic pattern rules. Much of the substance of SR–438 was incorporated in these rules. In addition, the amended section 60.18 authorizes the development of mandatory local preferential runway procedures, such as those presently specified in SR–438. Therefore, section 60.18 renders superfluous and unnecessary much of the regulatory content of SR–438.

Provisions of SR–438 not contained in section 60.18 pertain to the directions from which to enter the traffic patterns of those airports located within the Los Angeles airport traffic pattern area. Airport traffic pattern area was a term applied to the Los Angeles terminal area which delineated that airspace in which the special rules of SR–438 were applicable. Amendment 60–24 created the airport traffic area which includes airspace within five statute miles of every controlled airport, extending up to but not including 2,000 feet above the surface. The airport traffic area which now surrounds each of the airports regulated by SR–438 is a change in concept and has substantially altered the configuration of designated traffic areas in the greater Los Angeles terminal area, so that the traffic pattern entry procedures specified in the special rule are ambiguous. As a result, redefinition would be required if other means of providing pilots with this information were not available. However, the communications provisions of section 60.18 require pilots to maintain two-way communications with the airport traffic control tower while operating in the respective airport traffic areas, and will provide adequate means of transmitting this information to any pilots unfamiliar wtih entry procedures. Accordingly, retention of the entry procedures specified in SR–438 is no longer necessary. Any traffic pattern altitudes not specified in section 60.18 can also be provided in a similar manner.

Since this action eliminates duplicative requirements and imposes no additional burden upon any person, compliance with the notice, public procedure and effective date requirements of the Administrative Procedure Act is unnecessary.

Rescinded SR–438.

Amendment 60–31

Operation Rules for Unmanned Rockets

Adopted: January 7, 1963
Effective: March 14, 1963
Published: January 11, 1963
(28 F.R. 305)

On June 7, 1962, notice was given in Draft Release 62–26 (27 F.R. 5402) that the Federal Aviation Agency had under consideration a proposal to amend Part 48 of the Civil Air Regulations to include regulations governing the operation of rockets. The notice also proposed to amend the scope of Part 60 to exclude rockets from the air traffic rules contained therein.

Regulatory action, as proposed, is required to provide the necessary compatibility between rocket operations and other airspace operations. It is also necessary to provide for the protection of persons and property on the ground that are not associated with such rocket activities.

The comments received in response to the draft release generally concurred with the concept and operating limitations. However, some of the comments contained suggestions to modify the proposal in a way which would result in stricter requirements for certain operations. On the other hand, others contended that the Agency was not lenient enough.

Apprehension was expressed in one comment because no limitation as to type was placed on the four ounces of propellant used in model rockets. It was contended that four ounces of nitroglycerin could be considered a likely propellant. Although the use of such a high explosive is highly improbable, the rule being adopted will limit the type of propellant to no more than four ounces of a "slow-burning" propellant.

The Air Line Pilots Association (ALPA) supported the operating limitation that would require the regulated rockets to be operated more than five miles from an airport boundary. However, in the opinion of ALPA, the Agency had created a variance by not imposing this same limitation on the exempted model rockets. The concern of ALPA is appreciated, however, these model rockets are not considered to be a hazard due to their limited size, weight, construction and operational capability. Therefore, no change is made in this portion of the final rule.

Two comments contended that the exemption granted to operations under a written agreement was unnecessary. They stated that section 48.2 of the existing regulation, concerning waivers to the Part, adequately provides for written agreements. We have recognized this contention and deleted the redundant provision which exempts operations conducted under such a written agreement. In doing so, however, we wish to point out certain facts and make certain assurances. Both of the previous draft releases on rockets, Nos. 61–4 and 62–26, excluded rocket operations conducted under a written agreement reached between the operator and the Federal Aviation Agency. This exclusion was intended to encompass the more complicated and large-scale sophisticated programs, such as those of the Department of Defense and the National Aeronautics and Space Administration. In addition, Draft Release No. 62–26 excluded rocket operations in restricted areas—except for the requirement to stay at least 1,500 feet from persons not associated with the operation. As a matter of fact, all of these large-scale programs in the United States are conducted entirely within restricted areas under written agreements. Therefore, even though the proposed rules were directed to all rocket operations, their effect was to principally control amateur rocketry. Deletion of the written agreement provision will not alter this situation. Those agencies operating in restricted areas will still be exempt from the rules proposed herein, with the one exception previously noted regarding distance from persons, and their current Letters of Agreement will remain in effect as waivers to the Part and as conditions attached to the waiver. Any later operations, whether amateur or governmental, requiring deviation from the regulations will be processed as a Certificate of Waiver.

One of the major points that was discussed in the preamble of the draft release was an explanation of the term "controlled airspace." This was considered necessary in order to apprise all rocket operators of the various segments and areas of controlled airspace

from which the operational limitations required avoidance. In supporting this avoidance limitation, the Air Transport Association recommended that the rule clearly state that the Continental Control Area (airspace at and above 14,500 feet mean sea level over the 48 contiguous States and the District of Columbia) is controlled airspace and therefore must be avoided. The merit of this recommendation is recognized. We intend to go further, however, and incorporate a complete explanation of the various types of controlled airspace in the newly adopted Agency Advisory Circular System. This system has been developed to provide the public with nonregulatory guidance and information material that is supplemental to the regulation. Complete knowledge of the types of controlled airspace should provide for a greater understanding and ease of application of the regulation.

Certain exceptions were taken to the provision requiring avoidance of controlled airspace. Several of the comments indicated that the limitation would be unnecessarily restrictive and would create a considerable requirement for the issuance of waivers. This possibility is recognized, especially for operations east of the Mississippi River where uncontrolled airspace is at a premium. However, we intend to closely monitor this program and if it appears that an unrealistic burden is being placed on such operation, modifications will be considered.

The majority of comments concurred with the principal objective of the proposal, that is, to direct rocket operations into areas of minimum aircraft operations. The limitation that would require rockets to be operated more than five miles from an airport boundary did, however, generate a degree of interest. One of the two comments that took exception to this limitation suggested that an airport closed to all but rocket operations conceivably could be the best possible location. The other comment contended the limitation appeared unwise since rocket activity under controlled conditions at a small airport probably would be more desirable because the activity would be under direct observation of local pilots. The merit of these arguments is appreciated; however, we believe the safety of unknowing transient pilots could be jeopardized. Since modification in the manner suggested, even at less active airports, would nullify one of the major safety objectives by allowing potentially hazardous objects in areas of more concentrated air traffic, no change is made in this operating limitation.

The weather requirements of the proposal were generally supported. However, the Department of the Army commented that the weather limits imposed would preclude rocket operations in other than perfect weather conditions. Experience has indicated that the majority of amateur rocketeers desire to operate a rocket only under ideal weather conditions in order to visually judge and observe its performance and impact, thereby facilitating recovery of the rocket for re-use or subsequent operation. Therefore, these limitations are not considered to impose an unreasonable burden. One comment recommended radar surveillance to allow operating in reduced weather conditions. This is a provision that would be considered in any request for a Certificate of Waiver. Other than a minor modification of wording regarding visibility at the altitude at which the rocket is operated, no change is made in the weather requirements.

Amendment revised section 60.1

Amendment 60–32

Operation at Airports

Adopted: January 11, 1963
Effective: January 17, 1963
Published: January 17, 1963
(28 F.R. 443)

Civil Air Regulations (CAR) Amendment 60–24, effective December 26, 1961 (26 F.R. 9069), established the requirement currently contained in section 60.18(b)(6)(ii) that fixed-wing aircraft, approaching to land on a runway served by visual glide slope devices, be flown so as to remain at or above the glide slope until arrival at the runway threshold. Since the adoption of the amendment, experience has indicated that the

requirement is too restrictive and, in certain cases, might have an adverse effect on the safety of flight. Federal Aviation Agency studies, as well as comments received from the Air Transport Association and the Air Line Pilots Association, indicate that by remaining at or above the glide slope until reaching the runway threshold, aircraft may be forced to either descend at an excessive rate in order to effectively utilize the runway, or to touch down at a point considerably farther down the runway than is desirable, depending upon the variables of wind, temperature and aircraft type.

Safety of flight is of paramount consideration, and the Agency, in discharging its regulatory responsibility, is responsive to amendment of its regulations for this reason. Accordingly, section 60.18(b)(6)(ii) is being amended so as to permit flight below the visual glide slope during the final stages of an approach to landing where noise abatement ceases to be a prime consideration. This amendment will permit the maneuvering necessary to touch down near the runway threshold without significant adverse effect upon the basic intent of the rule.

Inasmuch as this amendment relaxes an existing requirement, compliance with the notice, public procedure and effective date requirements of the Administrative Procedure Act is unnecessary.

Amendment revised section 60.18.

U. S. GOVERNMENT PRINTING OFFICE : 1963 O - 675664