

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration**

14 CFR Parts 43, 91, 121, 123, 125, 135, and 145

[Docket No. 19779; Amendments Nos. 43-21, 91-169, 121-164, 123-9, New Parts 125, 135-7, and 145-17]

Certification and Operation Rules for Certain Large Airplanes; Establishment of Part and Miscellaneous Amendments to Existing Regulations

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: These amendments establish a uniform set of certification and operation rules for large airplanes having a seating capacity of 20 or more passengers or a maximum payload capacity of 6,000 pounds or more when used for any purpose other than common carriage. These rules substantially upgrade the level of safety applicable to large airplanes formerly operated under Part 91, which provides basic general operating and flight rules for all operations. The number and types of accidents involving large airplanes operating under Part 91 demonstrate the need for this upgrading. Moreover, because the applicability of these rules does not depend upon a compensation or hire test, they enhance the FAA's capability to ensure that many more members of the public are afforded a higher level of safety. This rule is the final step in a regulatory upgrade and modernization program that has become essential with the continued deregulation of air transportation.

DATES:

Effective Date: February 1, 1981, except that the revocation of Part 123 is effective January 1, 1983.

Compliance with §§ 125.21, 125.35, 125.53, 125.71, 125.249, 125.295, 125.319, 125.323, 125.383, 125.401, 125.403, 125.407, 125.409, and 125.411 is not required until 30 days after a notice of approval of the requirements of those sections by the Office of Management and Budget is published in the Federal Register.

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SUPPLEMENTARY INFORMATION:**Notice of Proposed Rulemaking**

These amendments are based on Notice of Proposed Rulemaking 79-19

(44 FR 60324; November 19, 1979). All interested persons have been given an opportunity to participate in the making of these amendments and due consideration has been given to all matters presented. Except for the changes discussed below, these amendments and the reasons for their adoption are the same as those stated in Notice 79-19.

Background of This Rulemaking Proceeding

This rule culminates an extended effort by the FAA to upgrade and standardize the regulations applicable to certain large airplanes used in noncommon (private) carrier commercial operations (carriage other than common carriage is private carriage). In 1970, the Secretary of Transportation directed the Assistant Secretary for Safety and Consumer Affairs, Office of the Secretary of Transportation, to conduct an in-depth study of charter operations utilizing large airplanes. Notice 79-19 summarizes the recommendations made as a result of that study. In short, the study recommended that new regulations be developed for large airplanes, pressurized airplanes, and turbine-powered airplanes engaged in noncommon carriage. Emphasis was placed on achieving a standard appropriate to the operation of transport category airplanes, including requirements for crew proficiency, operations, and airworthiness, that would provide a level of safety which compares favorably with Part 121. The study also recommended the establishment of a new part in the Federal Aviation Regulations (FAR) which would apply a single set of regulations to large airplanes used for various purposes, including those used for compensation or hire but excluding common carriage which would continue to be regulated under Part 121. One important feature of those recommendations was that "FAA field inspectors would no longer be required to make an economic determination of what constitutes operation 'for compensation or hire.'" The antique nature of the "compensation or hire" test is illustrated by the fact that it originated with the regulation of ground transportation under the Interstate Commerce Act which was enacted in the late 1800's. The test is presently contained in the definition of a "commercial operator" in the FAR and is essentially the same as the definition adopted in 1949 by the Civil Aeronautics Board. Section 1.1 defines "commercial operator" as "a person who, for compensation or hire, engages in the

carriage by aircraft in air commerce of persons or property, other than as an air carrier. . . ." Where it is doubtful whether the operations are "for compensation or hire," the test has been "whether the carriage by air is merely incidental to the person's other business or is, of itself, a major enterprise for profit."

The FAA partially implemented the recommendations of the 1970 Department of Transportation Task Force in 1972 with the adoption of new Subpart D of Part 91, which was the initial step in upgrading the level of safety applicable to large airplanes.

Since 1972 the FAA has carefully monitored the operating experience of large airplanes engaged in noncommon carriage operations. There are a number of significant aspects to this operating experience. First, and perhaps the key aspect, is the fact that the economic test of "compensation or hire" has proved to be a nebulous guide to both the FAA and the aviation community in attempting to determine whether the operations fall within Subpart D of Part 91 or under the commercial operator regulations of Part 121. The agency found that many sham arrangements have been developed by some operators to mask de facto commercial operations so that they can be conducted under Part 91. Despite the FAA's efforts to detect these illegal operations, frequently it is only after an accident or incident that sufficient facts are available to unmask the illegal operator. Once the unfortunate event occurs, the violator is subject to enforcement action. It would be far better, however, for the accident or incident to have been prevented. The difficulties in application of the "compensation or hire" test are not limited to the unscrupulous operator. There have been instances in which a lessee of a large airplane has assumed responsibility unwittingly for its operation without recognizing the obligations. Many operators who desire to comply with the applicable regulations have, in good faith, experienced confusion over whether they are entitled to operate under Part 91 or whether they are required to obtain a commercial operator certificate. Many interpretations have been sought and issued, which require substantial time and effort on the part of the public and FAA personnel.

Another aspect of the operating experience involving U.S.-registered large airplanes, ostensibly operating under Subpart D, is the significant number of accidents which have occurred. Post-accident investigations

Ann. 125
(new part)

indicate a wide range of deficiencies, including defective engines, failure of the crew to hold proper certificates, improper flight planning, improper operating technique, and failure to ascertain weight and balance limitations. This rule should preclude

the occurrence of many of these types of accidents. The following table lists some of the accidents involving large airplanes operating under Part 91 which occurred in the period 1972-1979. This table was developed from National Transportation Safety Board data.

Representative Large Airplane Accidents in Part 91 Operations, 1972-79 (Source—NTSB Data)

Date	Type of airplane	Description of accident	Deficiencies noted in accident investigation
Dec. 31, 1972	Douglas DC-7	Crashed after takeoff—fatalities	Engine failure—maintenance.
Feb. 21, 1973	Curtiss C-46	Forced landing en route—fatalities.	Maintenance.
Apr. 3, 1973	Lockheed 1049	Right gear retracted	Downlock failed—maintenance.
June 21, 1973	Douglas DC-7	Lost control—initial climb—fatalities.	Turbulence and inflight fire—maintenance.
Aug. 5, 1973	Lockheed 1049	Forced landing—en route.	Improper fuel transfer—circuit breaker corroded—maintenance.
Sept. 10, 1973	Convair 880	Landing—stall	Large storm over approach path.
Sept. 24, 1973	Lockheed 1049	Landing gear failure	Maintenance.
Oct. 23, 1973	Curtiss C-46	Forced landing—approach.	Fuel contamination—maintenance.
Dec. 15, 1973	Lockheed 1049	Overshot at liftoff—fatalities.	Unqualified crew—loaded out of center of gravity.
Dec. 27, 1973	Douglas DC-3	Collided with trees	Fuel mismanagement—landed on road.
Dec. 30, 1973	Douglas DC-3	Collided with trees	Engine failure—icing conditions—no deice fluid—maintenance.
Apr. 18, 1974	Douglas DC-3	Forced landing—en route.	Fuel contamination—gear not locked down—maintenance.
Jan. 1, 1975	Douglas DC-3	Forced landing—en route.	Propeller erratic—other engine overheat—maintenance.
Jan. 2, 1975	Douglas DC-4	Collided with fence on takeoff.	Unsuitable terrain—unqualified crew.
Jan. 2, 1975	Douglas DC-3	Collided with wires on approach—fatalities.	Below minimum conditions.
Feb. 9, 1975	BAC-111	Directional control—takeoff.	Hit snow bank—low visibility takeoff.
May 11, 1975	Lockheed 1049	Hit trees—fatalities.	Engine malfunction—maintenance.
June 16, 1975	Martin 404	Forced landing on takeoff.	Engine malfunction—maintenance.
Aug. 23, 1975	Douglas DC-3	Lost directional control—takeoff.	Gusting to 45k—hit fence—ditch.
Sept. 11, 1975	Douglas DC-3	Collided with trees—fatalities.	Oxygen masks used—no oxygen in system.
Jan. 4, 1976	Douglas DC-3	Forced landing—en route.	Engine failure—unauthorized repair.
Feb. 19, 1976	Lockheed 1049	Forced landing—en route.	Malfunction—maintenance.
Apr. 14, 1977	Douglas DC-3	Forced landing after takeoff.	Engine failure—maintenance—adequate flight planning.
Apr. 22, 1976	Boeing 720	Lost control on approach.	Failure to maintain proper airspeed.
Oct. 13, 1976	Boeing 707	Crashed on takeoff—fatalities.	Improper pilot technique—loading.
Mar. 3, 1977	Douglas DC-4	Landing roll gear collapse.	PIC selected unsuitable terrain.
Mar. 17, 1977	Douglas DC-3	Airplane nosed over on landing.	PIC selected unsuitable terrain.
Mar. 18, 1977	Douglas DC-3	Airplane swerved on landing, resulting in collision with fence posts.	PIC lost directional control on landing.
Apr. 9, 1977	Convair 240	Forced landing—en route.	Fuel contamination—adequate maintenance.
Apr. 14, 1977	Douglas DC-3	Overshot landing.	Touchdown on last 1/3 of 7,000-foot runway.
May 6, 1977	Curtiss C-46	Forced landing—en route.	Engine failure—maintenance.
June 13, 1977	Douglas DC-3	Airplane landed long, resulting in gear collapse.	PIC selected unsuitable landing area lighted by flashlights.
Sept. 12, 1977	Douglas DC-7B	Forced landing—takeoff—fatalities.	Over gross—improper fuel—maintenance.
Oct. 13, 1977	Curtis C-46F	Wheels-up landing.	Hydraulic system failure—PIC lacked familiarity with airplane and failed to follow approved procedures.
Oct. 20, 1977	Convair 240	Forced landing—en route—fatalities.	Fuel exhaustion—maintenance.
Mar. 21, 1978	Convair 340	Off airport forced landing.	Oil supply exhaustion caused engine fire and subsequent engine separation from airplane.
May 12, 1978	Convair 440	Forced landing in water.	Power loss due to internal failure of engine—PIC failed to make proper decision.
May 25, 1978	Convair 880	Gear collapse during aborted takeoff.	Takeoff aborted when PIC unable to rotate due to forward center of gravity—improper loading—supervisory error—PIC failed to plan flight properly.
July 22, 1978	Curtiss C-46	Forced landing on approach.	Maintenance.
Sept. 4, 1978	Convair 240	Crash on takeoff—fatalities.	Engine failure due to water in fuel—PIC lacked familiarity with airplane and exercised poor judgment—PIC did not have type rating in CV-240.
Sept. 6, 1978	Douglas DC-7C	Airplane was flown into ground—fatalities.	PIC misjudged distance from ground—PIC failed to plan flight properly.
Oct. 1, 1978	Douglas DC-3	Forced landing in water—fatalities.	Electrical system failure—pilot became lost and fuel supply became low.

Representative Large Airplane Accidents in Part 91 Operations, 1972-79 (Source—NTSB Data)—
Continued

Date	Type of airplane	Description of accident	Deficiencies noted in accident investigation
Oct. 30, 1978	Douglas DC-3	Nose-over on landing	PIC did not have multi-engine rating or type rating—PIC attempted operation which exceeded capability.
Nov. 29, 1978	Convair 240	Lost directional control—fatalities	Improper procedures.
Dec. 2, 1978	Douglas DC-3	Undershot runway	Aircraft landed 300 feet short of runway.
Dec. 5, 1978	Douglas DC-3	Crash on takeoff—fatalities	PIC did not have multi-engine rating or type rating—takeoff attempted with elevator gust lock installed—PIC attempted operation which exceeded capability.
Dec. 11, 1978	Douglas DC-3	Collision with trees during forced landing—fatalities	PIC mismanaged fuel, resulting in fuel starvation and failure of both engines—PIC not qualified to operate airplane.
Dec. 14, 1978	Douglas DC-3	Crash on landing	PIC selected unsuitable landing area and misjudged distance and speed.
Jan. 10, 1979	Douglas DC-3	Crash on landing	Unsuitable terrain—unlighted field.
Jan. 21, 1979	Douglas DC-3	Airplane swerved on landing	PIC did not compensate properly for unfavorable wind conditions.
Apr. 16, 1979	Convair 340	Airplane went off end of runway	Engine failure on takeoff—maintenance.
May 15, 1979	Douglas DC-4	Airplane collided with dirt bank on takeoff	PIC attempted takeoff with gust locks engaged—PIC failed to use checklists and failed to plan flight properly.
June 8, 1979	Douglas DC-6	Overshot runway	Landed long—crashed down embankment.
June 12, 1979	Douglas DC-3	Airplane crashed on takeoff—fatalities	PIC lifted airplane off ground prematurely, causing stall—PIC failed to follow procedures.
June 22, 1979	Douglas DC-7C	Airplane crash landed after power loss on 2 engines—fatalities	Improper grade of fuel used—airplane loaded improperly as to weight and center of gravity—PIC did not plan flight properly.
June 27, 1979	Douglas DC-3	Overshot runway	Landed long in fog—ground looped to stop.
June 29, 1979	Martin 404	Struck terraced ground	Pilot blinded—dirty, coated windshield.
July 13, 1979	Douglas DC-3	Forced landing—en route	Fuel exhaustion.
Aug. 25, 1979	Convair 440	Gear-up landing	Gear and stabilizer parts missing—maintenance.
Sept. 14, 1979	Douglas DC-7B	Collided with trees—fatalities	Night departure—hit trees 24 miles from airport.
Sept. 28, 1979	Curtis C-46	Forced landing—en route	Engine failure—maintenance.
Nov. 19, 1979	Douglas DC-4	Collided with trees—fatalities	Final approach—fog—inadequate ground lights.

Further, the Task Force's recommendation to establish a single set of regulations applicable to large airplanes in noncommon carriage operations is validated by changes in operational concepts which occurred subsequent to the Airline Deregulation Act of 1978. That Act substantially relaxes the statutory economic restrictions on air carrier certification and route authority which existed for many years. It encourages competition in the marketplace. One result is that there is now incentive for persons such as commercial operators to enter common carriage operations as air carriers. FAA records show that four commercial operators of large airplanes have become air carriers since the October 1978 effective date of that Act.

Air travel clubs operate large, airline-type airplanes and, as a group, they have experienced significant changes in the short period of time between the issuance of Notice 79-19 and the issuance of this final rule. There were 11 air travel clubs in November 1979 and on May 20, 1980, there were only 7. This reduction implies that the need for air

travel clubs, as traditionally constituted, is diminishing in today's environment. The FAA's regulatory program, as revised by Part 125, provides meaningful alternatives for travel clubs. They may seek common carrier certification under Part 121 or, if they do not wish to become common carriers, they may operate under Part 125 which does not restrict the charges which may be made. Current Part 123 defines an "air travel club" as "a person who engages in the carriage by airplanes of persons who are required to qualify for that carriage by payment of an assessment, dues, membership fee, or other similar type of remittance." This limitation on compensation, of course, does not apply under Part 125. This is a substantial benefit to travel clubs. One travel club requests a short-term exemption to permit it to operate in the manner contemplated by Part 125 until the Part becomes effective. That club also states that if Part 125 is not adopted, it intends to seek CAB authority to operate as a supplemental carrier.

Similar revenue opportunities exist under Part 125 for corporate transport

and aircraft lease and aviation service operators.

Role of Part 125 in FAA Enforcement Program

Part 125 is an integral part of the FAA's stepped-up enforcement program designed to reduce accidents and enhance compliance with the FAR. Part 125 is aimed primarily at operators who use subterfuges to avoid compliance with appropriate regulations. Part 125 will make it easier to detect these operators and take appropriate enforcement action. It also should serve to deter persons from attempting to evade the regulations because the risk of detection is increased. Other parts of this enforcement program include:

- Numerous large civil penalties collected from large air carriers, commuter/air taxi operators, and manufacturers in 1979.

- Proposed legislation to raise the maximum civil penalty for each FAR violation from \$1,000 to \$25,000 and to authorize the FAA to seek criminal penalties in flagrant cases.

- Issuance of a new enforcement handbook which consolidates all enforcement materials into one source and contains many new provisions for guidance of FAA personnel.

- Agreement with the Department of Justice on a method to speed up processing of enforcement actions in the courts.

- Development of a computer-based system which will give agency personnel prompt access to an airman's or an operator's compliance record.

Highlights of New Part 125

In this discussion of Part 125 some references are made to comments received, but detailed discussion of the comments are covered under the substantive provisions which appear under the discussion of comments.

Effective Date and Application Procedure

Part 125 is effective January 7, 1981. After that date, the owner/operator of an airplane subject to the rule is allowed 120 days to submit an application for certification. To provide for transition to the new rule, persons who file an application for a certificate and operations specifications to operate under Part 125 before expiration of the 120 days must continue to operate under the rules applicable to their operations on the day preceding the effective date of Part 125. These operations may

continue until a certificate and operations specifications are issued or the application is denied. The application must consist of a letter containing the information required by § 125.21, a copy of the manuals required by Subparts C and G, and a copy of all contracts or agreements, if any, they have been entered into for required services provided by other entities. The application should also include a copy of any grant of deviation issued to the applicant. The filing of an application means that the applicant has taken all steps necessary to comply with Part 125 and is ready for FAA inspection to determine compliance with Part 125 for issuance of a certificate and operations specifications. No person may engage in operations governed by this Part subsequent to 120 days after the effective date unless he/she holds a certificate and operations specifications issued by the FAA, has made application as described above, or holds deviation authority from all provisions of Part 125. Requirements for requesting deviation authority are contained in § 125.3. If an owner/operator desires a deviation from all or part of the rule, such request must be made in a timely manner so as to allow time for action on the request and thereafter to allow time to submit an application for certification during the 120-day period if all or part of the deviation request is denied. A person seeking deviation authority from one or several sections of Part 125 must submit all information that the applicant believes will justify the granting of a deviation.

Any person requesting a deviation authority from the entire Part 125 after the 120-day period must file the request at least 60 days prior to the date of intended operations and may not operate unless and until the deviation authority is granted or a certificate is issued.

Subpart A—General

New Part 125 provides a single set of certification and operation rules for U.S.-registered airplanes which have a seating capacity of 20 or more passengers or a maximum payload capacity of 6,000 pounds or more when used in any noncommon carriage operation. Ascertainment of the size of airplane to be covered under the new Part presented a difficult regulatory problem. As noted in the discussion under the heading "Background of this Rulemaking Proceeding," the DOT study included a recommendation that standards be developed that are appropriate to the operation of transport category airplanes engaged in

noncommon carriage operations for inclusion in a single set of regulations. The range of airplanes varied from the relatively small DC-3 to the very large B-747. The FAA's best judgment in developing Notice 79-19 was that airplanes certificated to carry 20 or more passengers or a maximum payload of more than 5,000 pounds should be covered by Part 125. The payload capacity is raised from 5,000 pounds to 6,000 pounds so that most airplanes used by business corporation flight departments are not subject to the new rules unnecessarily since these operations have an excellent safety record.

An operating certificate and operations specifications are required. These are among the most important features of Part 125 because each person operating airplanes subject to the Part must undergo a certification process similar to that applied to air carriers. This process includes the issuance of operations specifications tailored to each operator's circumstances. The requirement is significant because it provides the FAA the opportunity to review and become familiar with a specific operation before flight begins. Thus, the upgrading of safety from Part 91 levels accomplished by this rule will be verified through the certification process which includes in indepth examination of every facet, including operations, airworthiness, and personnel competency, rather than an "after the fact" determination accomplished through routine surveillance. There is no comparable provision in Part 91. To facilitate FAA surveillance and inspection, a copy of the certificate and operations specification and/or any deviation authority must be carried in each airplane subject to Part 125.

Because Part 125 does not allow common carriage operations, a new § 125.11 is added to implement this basic concept. The holder of an Air Carrier Operating Certificate is ineligible for a Part 125 certificate. A Part 125 certificate holder is prohibited from conducting any operation which results directly or indirectly from any person's holding out to the public to furnish transportation. This will help to ensure that no subterfuges are utilized by contract or other means to feed common-carriage-generated transportation to Part 125 certificate holders.

U.S.-registered airplanes of the specified size operated by foreign citizens are subject to Part 125. The entire Part applies if the airplane is operated anywhere within the United

States. This includes operations where the airplane is flown only to a territory, possession, or a coastal city such as Key West or San Juan for a brief stop and is then flown out of the United States. This implements a basic premise of Part 125 that a uniform standard of safety should apply to all U.S.-registered airplanes of the specified size. When a foreign citizen operates a U.S.-registered airplane outside the United States, only § 125.247 applies. This establishes a basic level of airworthiness and should make it unattractive for foreign citizens to use U.S. registration as an "aviation flag of convenience," a situation the FAA has encountered, especially in operations conducted between the southern part of the United States and Central and South America. Foreign citizens operating U.S.-registered airplanes of the covered size may apply to any FAA Flight Standards district office for a special flight permit to allow operation to the United States for the purpose of obtaining Part 125 certification.

Deviation authority is included in response to comments which indicate the need for flexibility to permit adjustments based upon the circumstances of a particular operation. Notice, 79-19 invited consideration of the need for that authority. Accordingly, Part 125 provides that the Associate Administrator for Aviation Standards may grant deviation authority from one or more sections depending upon the circumstances and justification presented. Although it is difficult to foresee more than a few situations in which a deviation from the entire Part could be justified, it is possible. Some examples are an airplane museum operation, a parachute jumping operation, or a corporate flight department operating an airline-type airplane solely for carriage of company executives.

Commercial operators and air travel clubs presently conduct operations under Part 121 or 123, respectively, and may require time for transition to Part 125. They are permitted to continue their operation under Part 121 or 123, respectively, and are not required to comply with Part 125 until January 1, 1983, if they hold a certificate on the effective date of this Part. They may, however, make application for certification under Part 125 at any time. No new applications for certification under Part 123 will be accepted after the effective date of Part 125. No new applications for certification under the commercial operator rules of Part 121 will be accepted after the effective date of Part 125 except for persons who want

to engage solely in intrastate common carriage under Part 121. These intrastate common carriage operators are not subject to the rules of Part 125. The deferred compliance date for air travel clubs is especially important in view of the significant changes which are occurring in those operations. Since the issuance of Notice 79-19, 4 of 11 clubs surrendered their operating certificates. Apparently these actions are a result of the dramatic changes occurring in the aviation industry.

Subpart B—Certification Rules and Miscellaneous Requirements

This subpart contains the certificate and operations specifications concepts used to regulate air carriers in Parts 121 and 135. The applicant must demonstrate that it is properly and adequately equipped to conduct a safe operation in accordance with the requirements of Part 125 and the operations specifications. Specific grounds for denial of a certificate are established.

Other highlights of this subpart include:

- Each exit (other than an over-the-wing exit) that is more than 6 feet from the ground must have an approved means for assisting occupants in descending to the ground.

- At least 8 consecutive hours of rest in any 24 hours is required for each flight crewmember. The Administrator may specify other rest and duty time limitations in the operations specifications if required in the interest of safety. This is necessary to ensure against an unsafe level of fatigue. No comparable provisions are contained in Part 91.

- Each operator is required to have a system for locating flights for which an FAA flight plan is not filed. These requirements are similar to those for air carriers under Part 135 and are not contained in Part 91.

- There must be enough management personnel to ensure that operations comply with the requirements of Part 125. A director of operations is specifically required. These requirements are not contained in Part 91.

Subpart C—Manual Requirements

This subpart requires the certificate holder to establish a manual containing procedures acceptable to the Administrator which must be used by the certificate holder's flight, ground, and maintenance personnel. Some of the important subjects which must be included in the manual are:

- Procedures for ensuring compliance with weight and balance limitations.

- Provisions for ensuring that the pilot in command knows that required airworthiness inspections have been made and that the airplane has been properly approved for return to service.

- Mechanical irregularity reporting and procedures to ensure that the pilot in command determines that mechanical irregularities or defects from previous flights have been corrected or that correction has been properly deferred.

- Refueling procedures, including supervision and protection of passengers during the refueling.

The manual requirements in this subpart have worked satisfactorily in operations under Part 135 and are similar in many respects to those required under Part 121. No comparable provisions exist in Part 91.

Subpart D—Airplane Requirements

This subpart requires airplanes under Part 125 to have appropriate airworthiness certificates and meet applicable airworthiness requirements. In recognition of the importance of accurate empty weight and center of gravity to safety of flight, no airplane may be operated unless the empty weight and center of gravity are calculated from values established by actually weighing the airplane within 36 calendar months preceding any operation. The only exception to this requirement is an airplane on which an original airworthiness certificate has been issued in the 36 months preceding operation. The original certification process ensures that airplane weight and center of gravity are accurately established.

Subpart E—Special Airworthiness Rules

These rules establish minimum standards of airworthiness to ensure adequate protection against fires, suitable ventilation for passengers and crewmembers, and that all cargo is carried safely. They are the same as counterpart requirements which currently exist in Parts 121 and 123.

This subpart also requires satisfactory demonstration by the certificate holder of its ability to evacuate safely the full seating capacity of any airplane used in passenger-carrying operations with a seating capacity of more than 44 passengers. The requirement is similar to air carrier requirements.

Part 91 does not contain requirements similar to those contained in this subpart.

Subpart F—Instrument and Equipment Requirements

This subpart establishes requirements to ensure that each airplane operated under Part 125 contains the instruments and equipment necessary for an adequate level of safety. Specific requirements include certain radio and navigation equipment, instrument flight equipment, emergency and overwater operations equipment, passenger seat, safety belt, and information requirements, rules for use of medical oxygen by passengers, and equipment for operations in icing conditions.

A very significant safety requirement is airborne weather radar similar to that prescribed for large air carriers under Part 121. This facilitates detection and avoidance of thunderstorms and related hazardous conditions such as turbulence.

A minimum equipment list provision is included which provides the operator a flexible procedure under which an airplane may be safely operated when certain instruments and equipment are not operable. The FAA is considering a proposal to amend Part 91 to include a minimum equipment list provision which will apply to all Parts of the FAR.

Subpart G—Maintenance

This subpart contains requirements which ensure that airplanes, airframes, aircraft engines, propellers, appliances, each item of survival and emergency equipment, and components are safely maintained and inspected. Many of the requirements are similar to maintenance rules now prescribed for air travel clubs. The substance of the air travel club rules is upgraded by an aircraft engine overhaul program which includes specific time intervals for performing certain work on the aircraft engines, including replacement of parts and components and accomplishment of overhauls. This feature should reduce accidents caused by engine failure or decreased performance as experienced under Part 91. This subpart also—

- Makes the certificate holder primarily responsible for airworthiness;

- Requires the certificate holder to have a maintenance manual containing procedures to be followed in performing inspections, including safeguards which ensure that work interruptions do not adversely affect required inspections, and to ensure that those inspections are properly completed before the airplane is released to service; and

- Prohibits a person from performing a required inspection if that person performed the item of work required to be inspected.

Subpart H—Airman and Crewmember Requirements

Rules in this subpart ensure that airmen are appropriately certificated and that the composition of the flightcrew complies with the minimum required by the type certificate and the Airplane Flight Manual. On any airplane requiring a flight engineer, one of the other flight crewmembers must be qualified to provide emergency performance of the flight engineer's duties in case of illness or other incapacitation.

In recognition of the necessity for precise navigational capability, a flight navigator or approved long-range navigation equipment is required on any operation outside the 48 conterminous United States and the District of Columbia when the airplane's position cannot be reliably fixed for a period of more than 1 hour.

Since many of the airplanes operated under Part 125 will be large airline-type airplanes, flight attendant requirements are imposed which require at least one attendant on any airplane having more than 19 passengers. The required number of attendants increases as more passengers are carried. During takeoff and landing, required flight attendants must be located as close as practicable to required floor-level exits and must be uniformly distributed throughout the airplane. These requirements are imposed because time is of the essence when an emergency evacuation is necessary. The rule also assigns emergency functions to flight crewmembers and flight attendants and requires the certificate holder to show to the satisfaction of the Administrator that the functions can be practicably accomplished.

Subpart I—Flight Crewmember Requirements

This subpart is designed to ensure a properly qualified crew. Emphasis is placed on required tests and checks instead of the training program concept currently used in Parts 121 and 123. This regulatory philosophy permits a reduction from the requirements in Parts 121 and 123, but provides a satisfactory level of safety under Part 125 which covers a wide range of operations formerly covered under Parts 91, 121, and 123. Again, it should be noted that the DOT Task Force recommended elimination of commercial operator and air travel club rules through establishment of a single set of regulations covering non-air carrier operations.

Specific requirements in this subpart include—

- A pilot in command (PIC) must have at least a commercial pilot certificate, an appropriate category, class, and type rating and instrument rating, and at least 1,200 hours pilot time, including 500 hours cross-country time, 100 hours night time, at least 10 night takeoffs and landings, and at least 75 hours of actual or simulated instrument flight of which at least 50 hours were in actual flight;
- Three takeoffs and landings within the 90 days preceding serving as a pilot;
- Detailed initial and recurrent pilot testing requirements covering a wide range of subjects and procedures;
- Detailed initial and recurrent flight attendant testing requirements; and
- Prohibition on use by any pilot of any type of instrument approach procedure unless the pilot has satisfactorily demonstrated that type procedure within the preceding 6 months and has received a letter of competency.

Airplane simulators approved by the Administrator may be used in checks required by this subpart. This will result in fuel and other cost savings for the operator.

Subpart J—Flight Operations

Various operational rules are included in this subpart to ensure safe operation. They include—

- Requirements for pilots to remain at their duty stations except in limited circumstances;
- Prohibition of unauthorized manipulation of the flight controls;
- Restrictions on admission of persons to the flight deck;
- Requirement for the pilot in command to enter all mechanical irregularities in the maintenance log at the next point of landing after the irregularity comes to the pilot's attention;
- Prohibition on making an instrument approach unless the type of instrument approach procedure to be used is listed in the certificate holder's operations specifications; and
- Minimum altitudes permitted for use of the autopilot.

Subpart K—Flight Release Rules

This subpart prescribes detailed requirements for a flight release system. These are based upon Parts 121 and 123 and represent a significant upgrade from Part 91. They ensure that the necessary preflight steps are taken to ensure a safe flight.

The subpart includes—

- A prohibition on starting a flight unless authorized by the person having operational control authority;

- A requirement for the pilot in command to obtain all additional available information inflight about meteorological conditions and irregularities of facilities and services that may affect the safety of flight;
- A prohibition on release for flight unless required communication and navigation facilities are operating;
- A requirement that a flight cannot be released for IFR or over-the-top flight unless the weather at the time of arrival is forecast to be at or above authorized minimums;
- Alternate airport requirements;
- Safe fuel reserve requirements for piston engine and turbine-powered airplanes;
- Increased landing minimum requirements for a pilot in command who does not have at least 100 hours in operations in the type of airplane being operated; and
- A requirement for completion of a load manifest for each flight, containing detailed information on the load and the center of gravity.

Subpart L—Records and Reports

These requirements are based on those in Parts 121, 123, and 135 and include crewmember qualification records, form of flight release, retention and disposition of flight releases, load manifests, flight plans, use of an airplane maintenance log, and reports of defects or unairworthy conditions. An airworthiness release or entry in the aircraft maintenance records is required before an airplane may be operated after maintenance, preventive maintenance, or alteration work is performed.

These rules represent a significant upgrade from Part 91 but do not include the extensive reporting requirements of Part 121. This is consistent with the DOT Task Force recommendation.

Cost Impact Analysis of Part 125**A. Availability of Impact Report**

In keeping with the agency's policy of making a comprehensive analysis of cost impacts of proposed regulations, the FAA contracted with the Aerospace Corporation to estimate the expected costs that would be incurred by the industry should proposed Part 125 be adopted.

The Aerospace Corporation prepared a report dated January 31, 1979, which sets forth an industry cost impact assessment of Part 125 as it was originally planned. After that report was prepared, certain additional regulatory proposals were developed for which separate industry cost impacts were assessed. An economic impact

assessment covering all regulatory changes in the final rule is available in the FAA Rules Docket for examination by interested persons.

B. Summary of Report

In conducting the initial industry cost assessment, a data base was developed that identified those specific airplanes and operators that could be affected, along with the nature of the cost impact. The total population was divided into a number of categories with similar cost impacts. Representative data and actual anticipated costs were gathered and extrapolated to the total population for these categories for each of the proposed rule changes incorporated in Part 125. For subsequent changes, estimates were developed of the number of specific airplanes that would be subject to a cost impact and representative cost factors were applied to the identified population to determine the likely industry cost impact.

As shown in Tables 1 and 2, the analyses resulted in an estimated initial cost to the industry of \$67.83 million and a recurring annual net cost of \$20.45 million, for a total first-year cost of \$88.28 million. This cost represents an increase of \$6.44 million over the total first-year cost estimated at the time Notice 79-19 was prepared. This is due to the increase in costs to overhaul jet engines on affected aircraft. The rules that would produce the largest industry cost impacts include "Certification Rules and Miscellaneous Requirements" (Subpart B), "Manual Requirements" (Subpart C), "Instrument and Equipment Requirements" (Subpart F), "Maintenance and Inspections" (Subpart G), and "Flight Crewmember Requirements" (Subpart I), with Subpart C producing the greatest cost impact. These rules would mandate obtaining an operating certificate, the preparation of operations specifications and manuals, weather radar equipment, scheduled engine overhauls, limited flightcrew duty time, and certain recurrent testing of flight crewmembers.

As indicated by reference to Table 2, the category of operator that would be most affected would be the 275 aircraft leasing companies and aviation service firms with \$61.76 million of initial cost and \$15.69 million in annual recurring costs. The 258 corporate transport operators would be the next most impacted, with \$4.49 million of initial cost and \$4.27 million in annual recurring costs. The cost estimates in Tables 1 and 2 are conservative, and

will be overstated to the extent that deviation authority is granted. Air travel clubs will have increased annual revenues as a result of the new rules lifting the prohibition of operation for compensation or hire when common carriage is not involved. This annual increase of \$1.35 million for the seven active air travel clubs would be the net gain over the costs estimated for

compliance with the remaining rule changes. Revenue gains are also possible for corporate transport and aircraft lease-aviation service firm operators, but these benefits are not reflected in these industry impact estimates because there is not reliable method for estimating the number of operators who will avail themselves of this opportunity.

Table 1.—Part 125 Cost Impact (Initial and Recurring),¹ by Subpart

[In millions of dollars]

Subpart	Title	Operator category			
		Corporate transport	Lease-service firms	Travel clubs	Total ²
A	General	0	0	0	0
		0	0	³ (1.35)	(1.35)
B	Certification	2.51	3.36	.01	5.88
	Rules	2.04	8.83	.02	10.89
C	Manual	.09	2.25	0	2.34
	Requirements	.51	.69	.01	1.21
D	Airplane	.57	1.26	.02	1.85
	Requirements	.19	.37	.01	.57
E	Airworthiness	0	.24	0	.24
	Requirements	0	0	0	0
F	Equipment	.98	1.87	0	2.85
	Requirements	0	.21	0	.21
G	Maintenance and	.06	52.71	0	52.77
	Inspection	.01	.78	.01	.80
H	Navigator	.25	0	0	.25
	Requirements	.04	0	⁴ (.1)	(.06)
I	Pilot	.03	.02	0	.05
	Qualifications	.83	2.46	0	3.29
J	Flight	0	0	0	0
	Operations	0	.02	0	.02
K	Flight	0	0	0	0
	Release	.15	1.78	0	1.93
L	Records and	0	.05	0	.05
	Reports	.50	.55	0	1.05
Total	All	4.49	61.76	.03	66.28
		4.27	15.69	³ (1.40)	18.56

¹ Upper number is initial cost, lower number is annual recurring cost.

² Does not include unallocated cost attributable to airplanes for which registration status was in transition.

³ Added revenue, shown as cost savings, less increased premiums of insurance for aircraft hull and seat liability.

⁴ Cost savings due to deletion of part 123 training requirements.

Table 2.—Part 125 Initial, Recurring and Total Cost Impact, by Airplane Type

[In millions of dollars]

Airplane type	Type cost ¹	Operator category			
		Corporate transport	Lease-service firms	Travel clubs	Total
Piston	I =	3.33	32.44	0.01	35.78
	R =	2.63	12.54	0	15.17
Turboprop	I =	.88	5.20	0	6.08
	R =	.76	2.05	0	2.81
Turbopjet	I =	.28	24.12	.02	24.42
	R =	.88	1.10	.04	2.02
Total all airplanes	I =	4.49	61.76	.03	66.28
	R =	4.27	15.69	² (1.40)	18.56
Total first year cost, unadjusted	C =	8.76	77.45	(1.37)	84.84
Total industry cost ³	I =				67.83
	R =				20.45
	C =				88.28

¹ I = Initial Cost; R = Annual Recurring Cost beginning with effective date for compliance; C = Total First Year Cost (I + R).

² Net Revenue Gain of \$1.40 million. Airplane mix precludes engine type breakout.

³ Includes unallocated costs attributable to airplanes for which registration status is in transition.

C. Discussion

In analyzing the economic consequences of Notice 79-19, the magnitude of the economic impacts on the national economy and on various general factors were addressed. However, primary emphasis was placed on quantifying the cost impact on the segments of the aviation industry most affected by the proposed rules. For this purpose types of costs and categories of parties impacted were analyzed for each of the relevant subpart paragraphs.

1. *Impact on industry.* In conducting the industry cost impact analysis, the FAA commissioned an independent assessment of the cost impacts likely to result from the proposed rule changes. This assessment was conducted by the Aerospace Corporation during December 1978 and January 1979, and reflects data available at that time. Information on the structure, conduct, and results of this cost impact assessment, along with discussions of data limitations, are provided. Full documentation of the study and its associated data bases are provided in the report, "Industry Cost Impact Assessment of Proposed Part 125," January 31, 1979, The Aerospace Corporation, which is in the docket.

After that report was prepared, certain additional regulatory proposals were developed for which separate cost impacts were assessed. This study presents information on the analytical methods employed and the results obtained from conducting the additional cost assessment and in integrating the results with those from the initial industry cost assessment.

2. *Outline of initial industry study.* The cost impact assessment was structured to include the following major elements for the changes listed in the Part 125 proposals:

- Identification, classification, and characterization of potential cost impact areas through a detailed analysis of the rule changes that were planned to be proposed in Notice 79-19 and by comparison with the existing Part 91 and Part 123 provisions in light of known industry practices and procedures.
- Development of a classification system for operators of airplanes certificated for 20 or more passengers or a maximum payload of 5,000 pounds or more. This system was designed to differentiate the varying levels and

types of cost impacts of the proposed changes across the diverse elements of the industry likely to be affected.

- Identification and classification of the population of airplanes and operators potentially impacted by the proposed rule changes to differentiate cost impact elements.

- Development and implementation of an optimal allocation method for choosing a scientific sample of operators with reasonable assurance of achieving high statistical significance of the results.

- Collection, processing, and analysis of impact estimates to produce assessments of cost impacts on the industry and its constituent parts for individual and aggregated proposed changes compiled under Part 125.

3. *Identification of Part 125 changes.* To begin the initial industry cost impact assessment process, it was necessary to develop an indepth analysis of the planned Part 125 and the changes from the existing rules under Parts 91, 121, and 123. For this purpose, a matrix was prepared to:

- Summarize each subpart of the planned Part 125;
- Identify specific changes to existing Parts 91, 121, and 123 that would be incorporated in the planned new Part 125;
- Assess the potential for cost impacts to the affected population according to type of propulsion of airplanes, type of operator, and type and magnitude of cost impact;
- Define the specific data required to identify, categorize, and quantify the potential operator cost impacts.

To assure that all planned provisions resulting in industry cost impacts were properly identified and interpreted, the draft matrix was reviewed by FAA experts in the office of the Associate Administrator for Aviation Standards and the Office of Aviation Policy.

As a result of this analysis and review process, 20 specific planned Part 125 provisions were identified that were likely to impose cost impacts. These provisions are listed in Table 3. (Two additional items are listed which were the subject of the supplemental analysis.) Preliminary analysis indicated that industry cost impacts for these 20 provisions could be differentiated into the following categories according to the type of cost that would be incurred by the affected Parts 91, 121, and 123 operators:

- Initial cost (the one-time charge for

purchase and installation of equipment, for preparation of manuals, etc.).

Table 3.—Part 125 paragraphs with industry cost impacts

Subpart	Para.	Title
A	125.1	Applicability.
B	125.25	Management Personnel Required.
	125.31	Contents of Certification and Operations Specifications.
C	125.39	Duty Time Limitations.
	125.71	Preparation.
D	125.91	Airplane Requirements.
	125.93	Airplane Limitations.
E	125.119	Fire Precautions.
F	125.207	Emergency Equipment Requirements.
	125.221	Icing Conditions: Operating Limitation.
G	125.223	Airborne Weather Radar Equipment Requirements.
	125.247	Inspection Programs.
H	125.249	Maintenance Manual Requirements.
	125.251	Required Inspection Personnel.
I	125.265	Flight Navigator and Specialized Navigation Equipment.
	125.281	Pilot in Command Qualifications.
J	125.283	Second in Command Qualifications.
	125.287	Initial and Recurrent Pilot Testing Requirements.
K	125.291	Pilot in Command: Instrument Proficiency Check Requirements.
	125.323	Reporting Mechanical Irregularities.
L	125.351-125.383	Flight Release Rules.
	125.401-125.411	Records and Reports.

¹ Cost impacts covered in supplemental analysis.

- Annual recurring cost (continuing costs to maintain additional equipment, for upkeep of manuals, for continuing proficiency checks, for salaries of personnel, etc.), including annual revenue loss or gain.

4. *Industry characterization.* In parallel with the cost impact identification activity, a major effort was undertaken to acquire the data base needed to identify and characterize the Parts 91, 121, and 123 operators and divide them into more definitive subcategories for analytical purposes. The FAA "Aircraft Registration Master File," as of September 30, 1978, was used as the basis for identifying the population of Part 91 airplanes and their associated operators that might be impacted. This computerized data file is compiled from the current registration files on all U.S. civil aircraft. The registration files are maintained by the Data Services Division at the FAA Aeronautical Center in Oklahoma City, Oklahoma. Data on Part 121 commercial operators and on the total population of 11 active Part 123 operators were provided separately by the office of the Associate Administrator for Aviation Standards.

In the case of Part 91 operators, a total of 2,263 airplanes were identified as

meeting the criteria of general aviation "airplanes certificated to carry 20 or more passengers" after the specific deletions were made to conform to the exclusions provided in § 125.1(c). (The data base does not contain values for "maximum payload capacity," so that a large number of small jet turbine-powered airplanes capable of payloads in excess of 5,000 pounds were not included in this count.) Of these airplanes, 2,057 were owned by a total of 942 different individuals or entities, and 206 airplanes were listed in the registration files as "sale reported" or "registration pending" indicating that registration status was in transition.

The potentially affected airplanes of Part 91 operators were categorized according to their type of propulsion and the nature of their ownership characteristics. The propulsion categories used were piston (reciprocating), turboprop, and turbojet. The operators were segmented into the categories of corporate transport, aircraft lease and aviation service firms, certificated commercial operators (Parts 121 and 135), a miscellaneous category encompassing museums, exhibition, educational and other similar owners, aircraft manufacturers, Federal government, and state and local

governments. These categories were determined to group airplanes and owners which could be expected to exhibit similar cost impacts under the planned Part 125, taken as a whole. Results of the categorization are shown in Table 4.

5. *Statistical study design.* A stratified sampling technique was designed in accordance with the categories described above to assure a representative cross-section of the industry. A total of 18 strata were used for the sampling allocation: 6 operator categories with 3 engine types per category. Three other categories of operators were identified but not included in the sampling allocation. These were air travel clubs for whom data on all 11 operators were obtained, aircraft manufacturers for whom data on all 3 operators were obtained, and the 2 unknown operator categories of identified aircraft. The unknown operator category has a population of 206 aircraft, or about 9 percent of the total industry population. For analysis purposes, the cost impact to this group was assumed to be proportional to its representation by airplane type in the total industry population. Actual allocation of the samples was chosen to yield a minimum variance estimate of the overall industry impact.

was more accurate than totally random sampling. First, the sample was divided between the corporate transport and lease-service categories versus the other four categories. It was assumed the variances on each side were equal, so the samples were split directly according to population. Thus, 80 percent of the samples were assigned to the combined corporate and leasing categories, while the remaining 20 percent went to the other four categories. These 20 percent were further divided strictly by population into the 12 strata of the four categories.

As the data acquisition and analysis proceeded, it was determined that operators of a significant unknown fraction of airplanes in the data base would not incur any costs because they did not currently operate under the Part 91 (Subpart D) provisions planned to be covered by the new Part 125. For example, the data base included inactive and public use airplanes as well as airplanes currently and prospectively operated under Part 121, 135, or 137, even though registered as general aviation airplanes. Because these aircraft would continue to be operated in their respective status, no cost impact would result from the Part 125 proposal. Tables 5 and 6 present estimates of those airplanes with confirmed cost impacts according to the stratification described above, along with information on the number of associated operators. This same data base was used for the supplemental analysis of the two additional proposed Part 125 rules regarding weighing of airplanes and engine overhauls. It was considered to be suitable, also, even after the maximum payload capacity was raised from 5,000 pounds to 6,000 pounds under Part 125 because payload capacity was not used as a criterion when the data base was established.

Since the new unknown population factor was equal for each of the strata, the optimal sample allocation for the combined uncertainties shifted toward the equal variance case and this adjustment was made without requiring additional sample selection. This condition was due to the small size of the adjustment: four samples moved from the lease operator-piston stratum to the corporate category. If more samples had been required, the minimum variance strategy could again be updated using the present data to estimate the stratum populations and variances. As it stands, the estimated

Table 4.—Part 125, Airplane Population Data Base (as of Sept. 30, 1978)

	Piston	Turboprop	Turbojet	Total
General aviation airplanes:				
Corporate transport.....	217	66	43	326
Aircraft lease and aviation service firms.....	1,003	108	192	1,304
Certificated commercial operators.....	10	41	124	175
Museums, exhibition, education, miscellaneous.....	67	13	0	100
Aircraft manufacturers.....	0	0	16	16
Federal Government.....	78	17	13	106
State and local government.....	28	2	0	30
Sale reported.....	169	5	15	189
Registration pending.....	17	0	0	17
Subtotal.....	1,607	252	404	2,263
Air travel clubs:				
Part 123 operators.....	3	2	12	17
Total.....	1,610	254	416	2,280

Stratified sampling requires nonoverlapping subpopulations in each matrix cell. Since some operators own airplanes of more than one engine type, the sampling was done on an airplane basis rather than an operator basis. Random sampling by airplane type within a cell also has the benefit that operators with large fleets have a greater chance of being sampled. In effect, fleets of different sizes tend to be sampled in proportion to their fraction of the total airplane population. The

resulting sampled distribution then resembles that from a population stratified by fleet size, even though the explicit sample allocation was based on only the two explicit stratification factors of operator category and engine type. Within each stratum, strictly random sampling was used.

In the analysis, the stratum variances were estimated judgmentally in order optimally to allocate the samples. Because these estimates proved to be valid, the stratified sampling technique

standard deviations proved to be very close to the data actually obtained.

6. *Estimated cost impacts.* Individual estimates were made for each of the sample strata for both initial and annual recurring costs. The product of the population and the cost per airplane

then yields a total cost impact for each stratum, and a sum over all the strata gives the estimated total industry impact. For each stratum, the affected population was estimated as the data base population of the cell multiplied by the fraction of samples in that cell which would be affected by the Part 125 rules.

operator cost multiplied by the number of operators. This was not the case because the operator subpopulations are not disjoint (that is, some operators owned airplanes of all three engine types). As an alternative, the operator data were prorated into airplane data by finding the ratio of airplane operators for each category and dividing the operator costs (of that category) by that ratio. The implicit assumption made in this method is that the ratio is the same for different engine types in the same category; the data base verified that this was approximately true. The total cost within a cell is then equal to the airplane cost plus the prorated operator cost times the number of airplanes. This method allows initial and recurring costs for each subpart in each cell to be consistently combined between cells to yield totals by category and engine type.

Table 5.—Airplanes and Operators With Cost Impacts Attributable to Planned Part 125 (as of Sept. 30, 1978)

	Piston		Turboprop		Turbojet		Total	
	Number of airplanes	Number of operators ¹						
Corporate transport.....	217	181	66	50	43	39	326	258
Aircraft lease and service firms.....	554	257	43	24	38	11	635	275
Museums, exhibition, education, miscellaneous.....	87	46	13	4	0	0	100	48
Aircraft manufacturer.....	0	0	0	0	16	3	16	3
Air travel clubs ²	0	0	3	3	10	5	13	7
Unknown operations ³	97		3		8		108	
Total.....	955		128		115		1,198	

¹ The total data reflects the absolute number of operators even though the same operator may be included in more than one airplane type.
² Data as of May 1980.
³ Identified airplanes listed as "sale reported" or "registration pending" on FAA Aircraft Registration Master File, adjusted for proportional representation of impacted airplanes in total data base.

Table 6.—Estimated Operators and Airplanes Per Operator¹ With Cost Impacts From Planned Part 125 (as of Sept. 30, 1978)

	Piston		Turboprop		Turbojet		Total	
	Number of operators	AC per operator	Number of operators	AC per operator	Number of operators	AC per operator	Number of operators ²	AC per operator
Corporate transport.....	181	1.2	50	1.3	39	1.1	258	1.3
Aircraft lease and service firms.....	257	2.2	24	1.8	11	3.5	275	2.3
Museums, exhibition, education, miscellaneous.....	46	1.9	4	3.3	0	0	48	2.1
Aircraft manufacturers.....	0	0	0	0	3	5.3	3	5.3
Air travel clubs ³	0	0	3	1.0	5	2.0	7	1.9

¹ Does not include 108 identified airplanes with unknown operators where registration was in transition.
² The total data reflects the absolute number of operators even though the same operator may be included in more than one airplane category.
³ Data as of May 1980.

It was found that certain operator categories, namely Federal, state and local governments, and certificated commercial operator, would not experience a cost impact under the new regulations since all these operators are excepted or complying with more stringent FAR Parts. On the other hand, the sample indicated that all of the airplanes in the corporate and miscellaneous categories would be affected. For the most populated "lease and service firm" category, about half of the operators in the data base would be affected.

For the affected operators of all categories, several different types of costs were assessed. An estimate was made of the approximate cost impact of

each proposed subpart paragraph of the proposed new Part 125.

These estimates were for both initial and recurring cost and were assessed as either an operator cost or an airplane specific cost. An operator cost is one remaining nearly constant regardless of the number of aircraft owned; for example, the cost of obtaining an operating certificate or preparing an operations manual. An airplane cost is one which is directly dependent on the number of airplanes, such as added equipment on each airplane. Mean values were determined for the operator and airplane costs in each stratum.

Usually, total cost in a cell would be the mean airplane cost multiplied by the number of airplanes plus the mean

7. *Initial industry cost impact summary.* The extrapolated industry costs estimated to result from the planned Part 125 rules are summarized in Table 7. The information is presented in the table in the same operator categories and airplane type stratification used in the statistical sampling program. For each stratified category, both initial and annually recurring mean costs are indicated along with appropriate totals. A total first year mean cost is also shown that represents the sum of the initial cost and the recurring cost for this first year.

The total industry cost of the planned Part 125 rule changes was computed to be \$16.09 million initial cost and \$19.24 million in annual recurring costs. This resulted in an expected first year cost of \$35.33 million.

The costs that would have been incurred by the industry for individual subparts of the planned Part 125 are summarized in Table 8. Subparts B, C, F, G, and I would have produced the most significant industry cost impacts. These impacts would have been principally due to flight and duty time limits, the documentation and coordination associated with obtaining an operating certificate, the development of operations specifications and manuals, and documentation of an approved airworthiness inspection program. The next major cost element would have involved weather radar requirements, pilot recurrent testing requirements, and semiannual instrument proficiency checks.

Table 7.—Planned Part 125 Initial Industry Cost Impact Summary

		Operator category					Total
Airplane type	Type cost ¹	Corporate transport	Lease-service firms	Museum educ. misc.	Aircraft manuf.	Travel clubs	
Piston	I	2.95	7.99	0.84	0		11.78
	R	2.50	12.22	.08	0		14.80
Turboprop	I	.74	.23	.09	0		1.05
	R	.73	2.01	0	0		2.74
Turbojet	I	.23	.85	0	.72		1.80
	R	.86	1.09	0	.46		2.41
All airplanes	I	3.92	9.07	.92	.72	0	14.63
	R	4.09	15.32	.08	.46	(2.46)	17.49
Total first year cost	C	8.01	24.39	1.00	1.18	(2.46)	32.12
Total industry cost ²	I						16.09
	R						19.24
	C						35.33

¹ I—Initial Cost; R—Annual Recurring Cost; C—Total First Year Cost (I+R)

² Revenue Gain. Airplane mix precludes engine type breakout.

³ Includes 10 percent increase to account for airplanes in process for registration.

Table 8.—Planned Part 125 Cost Impact by Subpart¹

		Operator category					Total ²
Subpart	Title	Corporate transport	Lease-service firms	Museum educ. misc.	Aircraft manuf.	Air travel clubs	
A	General	0	0	0	0	0	0
		0	0	0	0	(2.41)	(2.41)
B	Certification	2.51	3.36	0.08	0.32	.01	6.29
	Rules	2.04	8.83	0	.02	.02	10.91
C	Manual	.09	2.25	0	.20	0	2.54
	Requirements	.51	.69	0	0	.01	1.21
D	Airplane	0	.15	0	0	0	.15
	Requirements	0	0	0	0	0	0
E	Airworthiness	0	.24	.03	0	0	.27
	Requirements	0	0	0	0	0	0
F	Equipment	.99	1.87	.81	0	0	3.66
	Requirements	0	.21	.08	0	0	.29
G	Maintenance and Inspection	.06	1.13	0	.20	0	1.39
	Navigator	.01	.78	0	0	.01	.80
H	Requirements	.25	0	0	0	0	.25
	Pilot	.04	0	0	0	(.1)	.03
I	Qualification	.03	.02	0	0	0	.05
	Flight	.83	2.46	0	.29	0	3.58
J	Operators	0	0	0	0	0	0
	Flight	0	.02	0	0	0	.02
K	Release	0	0	0	0	0	0
	Records and Reports	.15	1.78	0	.10	0	2.03
L	Records and Reports	0	.05	0	0	0	.05
		.50	.55	0	.05	0	1.10

¹ These estimates do not include costs for complying with engine overhaul and aircraft weighing requirements.

² Upper Number is Initial Cost, Lower Number is Annual Recurring Cost.

³ Does not include unallocated cost attributable to airplanes where registration status was in transition.

⁴ Added revenue, shown as cost savings.

⁵ Cost savings due to deletion of Part 123 training requirements.

8. *Supplementary cost impact analysis.* After the initial analysis was completed, two additional Part 125 provisions were introduced. These provisions were § 125.247 relating to engine maintenance and § 125.91 requiring weighing of airplanes. Cost

estimates for these two provisions were developed by determining the number and type of specific airplanes that would be impacted and applying representative cost factors to the identified population.

In the case of weighing of airplanes, the total population of airplanes

identified in Table 5 would have had cost impacts under the NPRM. These 1,198 airplanes were all subject to Part 125 (as proposed in the NPRM) and no exclusions were provided by type of airplane or category of use. A survey of industry sources yielded a representative compliance cost of \$1,750 per airplane, including associated documentation costs. For the purposes of this analysis, the 16 turbojet airplanes operated by airplane manufacturers were excluded on the assumption that they would already be complying with this requirement during normal use. Factual information regarding operation of these 16 airplanes was not readily available during the analysis. Accordingly, this assumption was permitted to stand, recognizing that the maximum possible error related to that assumption was \$28,000. Initial costs were calculated by multiplying the population of each airplane type per operator category by this cost factor. The results of these calculations are presented in Table 9. In fact, these figures are overstated for the final rule; not only may exclusions and deviation authority be allowed which will reduce the number of airplanes subject to the rule, but the requirement was relaxed to permit use of weights measured over the 3 years preceding the effective date of the rule.

For engine overhaul costs associated with § 125.247, the population identified in Table 5 was again determined to have potential impacts. In this case it was assumed, based on a survey of operators, that only the lease-service firm category would have an additional cost impact. The other categories of operators were found to be following the engine manufacturers' recommended overhaul schedules, or it was found that their affected airplanes were not yet due for a scheduled overhaul. For the aviation lease-service firm category, the proportion of airplanes of unidentified operators was allocated, and a breakout between two-engine and four-engine classes based on the distribution observed in the sample operators was made. In addition, a downward adjustment factor of 25 percent was applied to account for the airplanes in this category that are already maintained to the required schedule, may be granted schedule extensions, or

are otherwise not yet due for overhaul. Cost factors for each type of engine, derived from a survey of industry sources, were as follows: Piston—\$20,000; Turboprop—\$50,000; Turbojet—\$150,000. Research for this study (prior to publication of the final rule) revealed

that the only impact of inflation (over the year since the original study) was an increase of 33 percent for turbojet engines, to \$200,000. The other two had not changed. The calculation of cost impacts at the time of this study are set out in Table 10.

regulations with a much larger group of operators, some of whom have had a much poorer safety record. In combination with other factors, this could result in a significant loss of the market now served by the air travel clubs, and could result in their disappearance from the market.

(d) To the extent that deviation authority is granted, the economic impact on individual operators and industry segments will be reduced.

(e) By requiring all commercial operators to be certificated under Part 125, legitimate certificate holders can expect to recover at least some of the market lost to operators now operating illegally for "compensation or hire" under Part 91. The degree to which there is successful enforcement of the regulation will determine how much of the market is recovered.

Table 9.—Estimated Cost of Part 125 Airplane Weighing Requirement
[In millions of dollars]

Airplane type	Operator category					Total
	Corporate transport	Lease-service firm	Museum educ. misc.	Aircraft manuf.	Travel clubs	
Piston	0.38	0.97	0.15	0	0.01	1.51
Turboprop	.12	.08	.02	0	0	.22
Turbojet	.08	.07	0	0	.02	.17
Total first year cost	.58	1.12	.17	0	.03	1.90

9. **Total cost impacts.** Cost impacts from the initial industry assessment were combined with those from the two supplemental assessments according to each of the airplane type/operator category combinations. Subsequent to receipt of comments on the NPRM, some final adjustments were made. The composite, updated cost impacts showing initial and recurring cost details are provided in Tables 1 and 2 in Section B, Summary of Report.

Five final comments regarding total cost impacts are warranted here.

(a) There will be a significant, immediate cost to 275 aircraft lease and service firms amounting to an estimated

\$77.45 million the first year and \$15.69 million each year after the first. Approximately 67 percent of the cost (\$51.58 million) will be due to overhauling engines to meet more stringent requirements in Part 125 that do not exist in Subpart D of Part 91.

(b) Persons certificated under Part 121 for commercial operations (private carriage) using affected airplanes are not required but are expected immediately to obtain certification under Part 125 because of cost savings resulting from changed crew training and airplane maintenance requirements.

Discussion of Comments and Revisions of Sections

Many sections proposed in Notice 79-19 were not the subject of substantive comments and contain no substantive changes from the proposal and, therefore, are not included in the discussion that follows. These sections are §§ 125.21, 125.23, 125.27, 125.33, 125.41, 125.43, 125.47, 125.51, 125.53, 125.111 through 125.187, 125.201, 125.203, 125.205, 125.211, 125.213, 125.217, 125.261, 125.265, 125.271, 125.283, 125.289, 125.295, 125.319, 125.321, 125.323, 125.329, 125.331, 125.351, 125.353, 125.355, 125.357, 125.361, 125.363, 125.367, 125.369, 125.373, 125.375, and 125.377.

Part 43

§ 43.15 Additional performance rules for inspections.

Notice 79-19 proposed amending this section by substituting the words "Part 125" for "Part 123" in § 43.15(a).

Since time to make the change from the provisions of Part 123 to those of Part 125 is included in the final rule for operators holding a Part 123 certificate on the effective date of Part 125, deletion of Part 123, as proposed, is inappropriate. Therefore, § 43.15(a) is amended by adding the words "Part 125" following "Part 123" in the first sentence of the section.

Part 65

The notice proposed revising §§ 65.85 and 65.87 to specifically include the privilege of conducting the inspections required by new Part 125. However, § 65.81 presently includes, as the

Table 10.—Estimated Industry Cost Impacts of Engine Overhaul Requirements, Part 125

	Number lease-service firm airplanes ¹	Number airplanes impacted ²	Impacted airplanes with two engines ²	Impacted aircraft with four engines ²	Total number of engines impacted	Dollars per engine cost factor	Cost impact (in millions of dollars)
Piston	616	462	337	125	1,174	20,000	23.48
Turboprop	44	33	17	16	98	50,000	4.90
Turbojet	39	29	0	29	116	200,000	23.20
Total	699	524	354	170	1,388		51.58

¹ Includes proportional allocation of identified airplanes with unknown operators.

² Reduction factor of 25 percent to account for non-impacted airplanes.

³ Based on distribution observed in sampled operators of initial study.

(c) There will be a large (up to 40 percent) increase in premiums for insurance for the seven air travel clubs currently certificated under Part 123. This increase amounts to an estimated \$140,000 each year, in addition to a current total hull and seat liability premium cost of approximately \$350,000

per year. This increase in premiums results from the sharing of actuarial statistics with all operations to be certificated under Part 125. No bodily injury claim has been filed in 16 years for operations conducted by an air travel club under Part 123. These clubs will now be operating under different

privilege of a certificated mechanic, the performance and supervision of maintenance of an aircraft or appliance for which the mechanic is rated. Since, by definition, inspection is a part of maintenance, these persons may conduct any inspection except those which are excluded by another rule. Further, these persons are authorized by Part 43 to perform maintenance and approve it for return to service. Therefore, revision of §§ 65.85 and 65.87 is not required and the proposed revision is withdrawn.

Part 91

§ 91.54 Truth in leasing clause requirement in leases and conditional sales contracts.

Since Part 123 will not be revoked as proposed, but continues in effect until January 1, 1983, § 91.54 is amended by inserting the number "125" following the number "123" in § 91.54(b)(1)(ii) of the present rule.

§ 91.181 Applicability.

For the same reasons explained in § 91.54, § 91.181 is amended by adding the number "125" after "123" in paragraphs (a) and (b). The number "123" is retained in both paragraphs.

Subpart E, Part 91—Operating Noise Limits

The preamble to Notice 79-19 states that it does not propose to alter the requirements applicable to any particular aircraft under Part 91, Subpart E, even though it would be included in a new class for purposes of Part 125. The preamble also states that necessary editorial changes would be made to Subpart E on the basis of the Part 125 proposal. Those changes are accomplished in a separate rulemaking action.

Part 121

§ 121.1 Applicability.

Section 121.1(a)(5) is amended to require most commercial operators to operate under the rules of Part 125. Some operators, including those operating airplanes with over 30 passenger seats and 7,500 pounds maximum payload capacity as intrastate common carriers and those operating helicopters, will continue to operate under the rules of Part 121. Intrastate common carriers are not within the scope of Part 125. The proposal in the notice is revised to conform to the airplane size dividing line for Parts 121 and 135 which appears at various places in the regulations, including § 121.9,

SFAR 38, and § 135.1. Under the revision, intrastate common carriers operating airplanes having a seating capacity of more than 30 passengers or a maximum payload capacity of more than 7,500 pounds will continue to operate under the rules of Part 121 and those operating airplanes having a seating capacity of 30 passengers or less and a maximum payload capacity of 7,500 pounds or less will continue to operate under the rules of Part 135.

§ 121.53 Duration of certificate.

To allow the timely transition of most commercial operators from § 121.1(a)(5) to Part 125, § 121.53 is amended to allow those operators certificated on the effective date of Part 125 to continue to operate under the rules of Part 121 until January 1, 1983. In addition, it allows certain operators, if they make timely application, to continue to conduct operations under Part 121 after January 1, 1983. This provides time for commercial operators to decide whether they should become common carriers under Part 121 or become certificated under Part 125. Section 121.53(f)(2) is revised to be consistent with the revision discussed under § 121.1.

Part 123

For the reasons expressed regarding § 91.54, the proposal is revised to revoke Part 123 effective January 1, 1983.

Part 135

§ 135.1 Applicability.

Section 135.1 is revised to be consistent with the amendments to §§ 121.1, 121.53, and the applicability of Part 125. Part 135 will continue to apply to commercial operators operating aircraft with a maximum seating capacity of less than 20 passengers or a maximum payload capacity of less than 6,000 pounds. In addition, since Part 125 does not apply to any common carriage operation, persons conducting common carriage operations solely between points entirely within any state of the United States in aircraft having a maximum passenger seating capacity of 30 seats or less and a maximum payload capacity of 7,500 pounds or less will continue to be governed by the rules of Part 135. Appropriate clarifying changes are made in § 135.1 to accomplish the above results and to make it consistent with § 121.9 and SFAR 38.

Part 145

§ 145.2 Performance of maintenance,

preventive maintenance, alterations, and required inspections for an air carrier or commercial operator under the continuous airworthiness requirements of Parts 121 and 127, and for airplanes under the inspection program required by Part 125.

Section 145.2 is amended to include an additional authorization for repair stations to perform maintenance, preventive maintenance, alterations, and inspections of airplanes operated in accordance with Part 125. The existing paragraph is redesignated paragraph (a) and a new paragraph (b) is added which requires repair stations conducting inspections on the aircraft to do the work in accordance with the inspection program approved for the operator of the airplanes involved. Section 145.2 is adopted as proposed.

Part 125; Subpart A—General

§ 125.1 Applicability.

This section prescribes the applicability of Part 125 and contains a significant number of changes from the proposal based upon the comments and subsequent FAA evaluation.

The notice proposed to cover airplanes certificated to carry 20 or more passengers or a maximum payload of 5,000 pounds or more. The payload is changed to 6,000 pounds or more in response to comments from corporate flight departments which point out that airplanes between 5,000 and 6,000 pounds payload capacity would be subject to the rule even though they do not differ significantly from other business jets not covered by the rule. It was also stated that operations of these airplanes have not presented problems in the past. The FAA's own analysis of these assertions confirms that they are valid and that it is possible to meet the needs of the public while at the same time narrowing the scope of the regulation.

The word "capacity" is added to the phrase "or a maximum payload" to clarify that it is the payload capacity of a particular type airplane which governs applicability, not the actual payload being carried. For these same reasons, "having a seating capacity of" is substituted for "certificated to carry." It is recognized that the original seating capacity and payload capacity may be modified by a supplemental type certificate (STC). However, it is not the intent of this rule that an STC be issued to evade the applicability of Part 125.

As stated in the notice, the rule does not apply to airplanes required to be

operated under Parts 121, 135, or 137 of Chapter 1. This excludes air carrier and agricultural operations from Part 125 because those rules provide appropriate regulation of those operators.

In response to several comments, a provision is added which excludes airplanes that have been issued restricted, limited, or provisional airworthiness certificates or experimental certificates. These airplanes are excluded from the applicability of Part 125 since they are operated under special conditions and for special purposes which make compliance with Part 125 impractical. Additionally, §§ 91.39, 91.40, 91.41, and 91.42 specify operating limitations for these airplanes, thereby precluding the need for certification under another rule. Airplanes which have been issued special flight permits are also excluded from the applicability of Part 125 since the flight destination, route, operating limitations, and other limitations deemed appropriate by the Administrator are specified as part of the special flight permit. Certification under Part 125 in these cases would not only be impractical for the industry and administratively burdensome to the FAA, but impossible in most instances since inability to comply with an existing rule is normally the basis for issuing a special flight permit.

Another provision is added, based on the comments, which allows airplanes operating without passengers or cargo for training, ferrying, positioning, or maintenance purposes to operate under Part 91. Because Part 125 operations are based on passenger seating or payload capacity, the proposal, if adopted, would have required training, ferrying, positioning, or maintenance test flights to be operated under the rules of Part 125 even though no passengers or cargo are carried on those flights. Parts 121 and 135 permit such flights to operate under Part 91. The proposed rule would have been more restrictive than those of Parts 121 and 135. The rule, therefore, is modified to allow airplanes to be operated under Part 91 without passengers or cargo for training, ferrying, positioning, or maintenance purposes.

An applicability exclusion similar to that discussed in the preceding paragraph is added to preserve present regulatory concepts which permit operators certificated under Part 121, 135, or 137 to conduct operations such as ferry flights, training flights, positioning flights, maintenance test flights, carriage of company officials, and other operations for which no charge is made, under the rules of Part 91. Operational

experience with respect to those operations is satisfactory and there is no demonstrated need to require them to be conducted under Part 125.

Deviation authority is included. This is more fully discussed under § 125.3.

As proposed in the notice, Part 125 applies to operation of the described airplanes by foreign citizens. The entire Part applies to any operation conducted in the United States. Outside the United States compliance with only the airplane maintenance inspection program is required. Requiring the foreign citizen operator to comply with all of Part 125 for any operation within the United States establishes a level of safety equivalent to that required of U.S. citizens operating airplanes in the United States. Operations to a territory, possession, or a coastal city such as Key West would be an operation in the United States even if the airplane remains only a short time and is then flown outside the United States. Therefore, any foreign citizen intending to operate to a point in the United States is required to complete the entire certification process under Part 125 before the operation can be conducted. Provisions are included for the issuance of a special flight permit to allow operations into the United States for the purpose of becoming certificated under Part 125. Compliance with only § 125.247 is required for operations conducted outside the United States. This ensures a satisfactory level of airworthiness and is responsive to treaty obligations. In addition, there is some indication that U.S. registration is used by some foreign citizens as the aviation counterpart of the maritime "flag of convenience." Part 125 will enable the FAA to monitor and enforce obligations on these operators more effectively than in the past.

The rule provides for deferred compliance dates for persons holding a certificate under Part 123, a certificate under the commercial operator rules of Part 121, or operations specifications under Part 129. Several air travel clubs comment that they oppose being included in Part 125 because the level of safety under Part 125 is lower than under Part 123 and insurance premiums will be higher if operations are conducted under Part 125. Other air travel clubs favor the proposal. This illustrates the difficult regulatory problem which the FAA encounters in carrying out the DOT Task Force recommendation that a single set of rules be developed for all noncommon carrier commercial-in-nature operations of the affected airplanes. As previously discussed in this preamble, the DOT Task Force also recommended

elimination of Part 123. In solving this regulatory problem the FAA used its best judgment in tailoring a set of regulations to arrive at what is considered to be an appropriate level of safety under Part 125. If an air travel club determines that for insurance or other reasons it desires to operate at a level of safety higher than Part 125, it may do so. For example, it may continue to insist that its pilots meet qualifications exceeding the minimum levels specified in the rule. The air travel club may elect to become certificated as an air carrier under Part 121. In some cases it may be appropriate for the air travel club to request amended operations specifications to allow operation under rules differing from Part 125. Use of amended operations specifications would not prove to be unduly burdensome to either the operator or the FAA. The proposal is modified to provide air travel clubs a compliance date of January 1, 1983. This allows air travel clubs now in operation adequate time to decide whether to expand into the air carrier field or operate under Part 125 and, once that decision is made, adequate time to implement it. Since only existing Part 123 operators are covered by the deferred compliance date, no new applications for certification under Part 123 are allowed after the effective date of Part 125.

Certificated Part 121 commercial operators are also allowed until January 1, 1983, to decide whether to seek certification as air carriers or operate under Part 125. With the exception of intrastate common carriers, no new applications for certification as a commercial operator under Part 121 will be allowed after the effective date of Part 125.

Under another modification to the proposal, foreign air carriers holding operations specifications under Part 129 on the effective date of Part 125, and those who obtain operations specifications after that date, are not required to comply with Part 125 until January 1, 1983. This deferred compliance date is included because the agency is considering a regulatory project to revise Part 129. It would not be appropriate to subject foreign air carriers to Part 125 until the agency determines the proper action on Part 129.

§ 125.3 Deviation authority.

Notice 79-19 contains an extensive discussion of possible ways of excluding corporate flight department operations from Part 125. This was in recognition of the fact that these operations have an excellent safety record under Subpart D

and have disclosed no compliance or enforcement problems. The notice preamble suggests that the commenters consider an outright applicability exclusion or deviation authority.

The general thrust of the comments is that the payload capacity "floor" should be raised from 5,000 pounds to 6,000 pounds and that deviation authority should be provided in the rule. The basis for increasing the payload capacity floor to 6,000 pounds is discussed under § 125.1.

Deviation authority is included in the final rule to provide a reasonable degree of flexibility to assess operations otherwise subject to Part 125 which may be safely and satisfactorily conducted without compliance with all or part of Part 125. This is a limited form of deviation authority in the sense that it is expected that, in virtually all cases, the deviation would be sought from a few specific sections. However, the agency recognizes that there may be operators who qualify for a deviation which would require them to comply with another set of rules. Since deviation authority must be the subject of an application in a form and manner acceptable to the Administrator, the FAA will scrutinize closely each operation and the circumstances as part of its decisionmaking process. In addition, if a deviation is warranted, the FAA will fashion appropriate safeguards and limitations. These will be placed in the operations specifications of an operator certificated under Part 125, or in the deviation letter of any operator given a deviation from the entire Part. Consistency in the granting of deviation authority is achieved by the provision that only the Associate Administrator for Aviation Standards may issue letters of deviation authority.

The FAA will prepare an advisory circular which will discuss the deviation authority procedure and those items which must be submitted with each request. For example, it is intended that the facts of each operation be fully disclosed to the FAA. This will ensure that the deviation request is not an attempt, for example, to conduct commercial operations under Part 91 rules.

§ 125.5 Operating certificate and operations specifications required.
(proposed § 125.3)

Section 125.5(b) makes the rules of Part 125 applicable to anyone who engages in operations covered by Part 125 without an appropriate certificate and operations specifications. This is an enforcement tool. The words "or a letter of deviation authority issued under § 125.3" are added after the word "Part"

to make the rules of Part 125 applicable to an operator who does not hold a letter of deviation authority.

§ 125.7 Display of certificate.
(proposed § 125.5)

A provision is added to require that a true copy of the certificate and any letter of deviation authority be carried in each of the operators's airplanes. This permits the Administrator, in any inspection of an airplane, to determine immediately those rules under which the airplane is operating.

§ 125.9 Definitions. (proposed § 125.r)

This section is adopted as proposed except that the word "capacity" is added following the word "payload" in § 125.9(a). This is done to be consistent with the terminology of § 125.1(a). Additionally, the word "rotor" is deleted from paragraph (b) of the section because it is not appropriate in a rule applicable to airplanes only.

§ 125.11 Certificate eligibility and prohibited operations.

Part 125, as proposed in the notice and as adopted in this final rule, does not permit common carriage. To fully implement this basic concept, this section is added.

Paragraph (a) prohibits the issuance of a Part 125 certificate to a person authorized to operate airplanes under any Air Carrier Operating Certificate issued by the FAA. Paragraph (b) prohibits a Part 125 certificate holder from conducting any operation which results directly or indirectly from any person's holding out to the public to furnish transportation. This prohibits a Part 125 certificate holder from receiving referral business originating in a holding out to the public by any person, including holders of an Air Carrier Operating Certificate.

Subpart B—Certification Rules and Miscellaneous Requirements

§ 125.25 Management personnel required.

Three commenters object to § 125.25 as being "too vague" or "not specific" regarding the use of the word "qualified" in describing the management personnel required. The rule specifies the objective that the management must be capable of achieving, that is, that the management personnel are capable of assuring that the certificate holder's operations are conducted in accordance with the requirements of Part 125. Since no specific qualifications were proposed, such as those prescribed in §§ 121.61

and 135.39, the word "qualified" is deleted.

In § 25.25(b)(3), the designation of "one qualified person" is changed to "a person," not only for the aforementioned reasons but also to afford the certificate holder more flexibility by permitting the designation of more than one person when the person primarily designated is absent for reasons such as illness or vacation.

§ 125.29 Duration of certificate.

Two commenters recommend that a certificate issued under Part 125 be for a duration of 1 year, at which time the certificate holder would be required to requalify as is currently required in Part 123 for air travel clubs. This was not proposed for comment in the notice. The FAA will review the need for such a provision as operating experience accrues under Part 125. It also should be noted that the rule authorizes the Administrator to suspend or revoke a certificate for any cause that, at the time of suspension or revocation, is grounds for denying an application for a renewal of certificate. This provision provides a measure of control over certificates issued under Part 125.

§ 125.31 Contents of certificate and operations specifications.

Section 125.31 is revised to delete references to special en route authorizations and limitations because Part 125 operations will not involve fixed or designated routes. References to special airport authorizations and limitations are deleted for the same reason.

§ 125.35 Amendment of operations specifications.

One commenter states that the phrase "the amendment becomes effective not less than 30 days after the holder receives notice of the adoption of the amendment" in § 125.35(d) is not clear in its intent or application. The intent is to require a 30-day lead time for FAA-initiated amendments to existing operations specifications. To clarify the application of the rule, the phrase has been changed to read "that amendment becomes effective. . . ."

Proposed § 125.37 Emergency evacuation.

One commenter states that this item should be amended so that present operators who have already demonstrated emergency evacuation ability will not have to repeat the process. The title of this section, as proposed, is misleading because § 125.189 contains the provisions for emergency evacuation. However, in

considering the comment, the FAA noted that § 125.37 duplicates some aspects of Appendix A. Therefore, proposed § 125.37 is withdrawn and the remaining sections in Subpart B are numbered accordingly.

§ 125.37 Duty time limitations.
(proposed § 125.39)

Several commenters object to this rule as proposed. Some recommend that the rule be made more stringent by using the same language as that contained in the flight time limitations of Part 121. Other commenters consider the rule too restrictive because it severely limits flexibility of operation. The rule, as proposed, is the same as that prescribed for air travel clubs. Consideration was not given in Notice 79-19, however, to providing for augmented crews on extended flights. Proposed § 125.39, therefore, is renumbered § 125.37 and is revised to include an additional provision whereby the Administrator may specify other rest, flight time, and duty time limitations in the operations specifications. In specifying other provisions, the Administrator considers the circumstances of the particular operation.

§ 125.45 Inspection authority.
(proposed § 125.47)

Proposed § 125.47 is renumbered § 125.45 and is revised by appropriate reference to a letter of deviation authority to be consistent with the deviation authority provided for in § 125.3.

§ 125.49 Airport requirements.
(proposed § 125.51)

Proposed § 125.51(c) is amended by substituting the words "their use" for the word "it" to permit approval of the use of flare pots or lanterns. Section 125.51 is renumbered § 125.49.

§ 125.53 Flight locating requirements.
(proposed § 125.55)

One commenter objects because this rule does not propose the requirement to file an FAA flight plan for all flights, as required of air travel clubs under Part 123. This is another example of the difficult regulatory problems encountered by the FAA in tailoring a set of regulations to apply to the diverse types of operations which are included in Part 125. In dealing with that problem, the FAA elected to tailor this section after a Part 135 provision to prescribe those procedures that must be established by the certificate holder for locating each flight for which an FAA flight plan is not filed. This recognizes that operations under Part 125 will involve remote locations where it is not

possible to file a flight plan. The FAA will monitor the operating experience under this regulation and will not hesitate to propose different rules if that is deemed advisable. Section 125.55 is renumbered § 125.53 and is adopted as proposed.

Subpart C—Manual Requirements

The manual requirements in this subpart reflect a methodology to ensure that procedures and policies essential for safe operations are readily available for the guidance of flight, ground, and maintenance personnel. Therefore, with the exception of minor changes, the subpart appears as proposed.

§ 125.71 Preparation.

One commenter states that while § 125.71 requires the certificate holder to prepare and keep current a manual for the guidance of personnel, Part 125, as proposed, did not require the certificate holder to comply with that manual. Compliance with the requirements of the certificate holder's manual is made mandatory by operations specifications. Therefore, § 125.71 is adopted as proposed except the phrase "other than one who is the only pilot used in the certificate holder's operations," is deleted since it is unlikely that airplanes certificated for only one pilot would fall under Part 125.

§ 125.73 Contents.

One commenter notes that, as proposed, this section would delete the requirement for the revision number to appear on each revised page. This was not intentional and the rule, as adopted, includes this requirement. In addition, proposed paragraph (q) is redesignated (r) and a new paragraph (q) is added. It requires inclusion of the identity of each person authorized to administer tests required by this Part and designation of the tests authorized to be given by that person. This is necessary to ensure that responsibility for administering required tests is clearly established.

§ 125.75 Airplane flight manual.

Section 125.75 is changed by deleting "type of transport category" in paragraph (a) and "transport category" in paragraph (b). Part 125 covers operations of airplanes which may not be transport category type airplanes; however, the requirement for carriage of airplane flight manuals or approved equivalent is essential in providing an adequate level of safety in all operations under Part 125.

Sections 125.75 (a) and (b) are revised to allow an approved equivalent of the Airplane Flight manual to be used for those airplanes that were not required

by type certification to have an Airplane Flight Manual. In addition, paragraph (b) is clarified to allow the manuals required by §§ 125.71 and 125.75 to be combined.

Subpart D—Airplane Requirements

§ 125.91 Airplane requirements: general.

This proposal includes a requirement that each airplane be weighed before being placed in service under Part 125 and reweighed every 3 years thereafter. Two commenters object to the requirement because it does not contain an exception for airplanes that have been weighed within the last 3 years. The FAA agrees that if an airplane has been weighed within 3 years of being placed in service under Part 125, it is unnecessary to reweigh the airplane when it enters Part 125 service. The rule is revised accordingly. In addition, a provision is added which states that the empty weight and center of gravity need not be ascertained if an airplane has been issued an original airworthiness certificate within the 36 calendar months preceding the operation. The procedure for issuing an original airworthiness certificate includes satisfactory determination of empty weight and center of gravity.

§ 125.93 Airplane limitations.

One commenter requests that the privileges afforded by Special Civil Air Regulation SR411B, recodified as §§ 121.198 and 129.23 of the Federal Aviation Regulations, be extended to operations conducted under Part 125. The commenter states that this could be accomplished as a second paragraph to § 125.93. The commenter further states that "if this section is not included we will lose an operating privilege that we now enjoy as a commercial operator of large aircraft (Douglas DC-7B)."

The agency did not contemplate that overweight operations would be conducted under Part 125 and hence there were no proposals to permit them. They require special safeguards to ensure an adequate level of safety. The commenter may petition for exemption which, if justified, could include appropriate safeguards.

Subpart E—Special Airworthiness Requirements

Sections 125.111 through 125.187 bring to Part 125 the substance of §§ 121.213 through 121.289. These special airworthiness requirements provide an applicant under Part 125 the privilege of using certain airplanes not certificated under Part 4b of the Civil Air Regulations. Part 25 of the FAR, or

which do not meet Special Civil Air Regulations 422/422A or 422B. Since this privilege is afforded certificate holders under Part 121, it is appropriate that it be afforded certificate holders under Part 125. Further, since carriage of passengers for compensation or hire is permitted under both Parts 121 and 125, it is appropriate that these sections be comparable.

§ 125.189 Demonstration of emergency evacuation procedures.

The specific requirements of Appendix B are applicable to those operators who are required to demonstrate emergency procedures in accordance with § 125.189. Several commenters suggest that airplanes for which emergency evacuation procedures previously have been demonstrated by the manufacturer or other persons satisfy the requirement of this Part. The FAA does not agree. Manufacturers are required by § 25.803(c)(7)(ii) to use airline crews in their demonstrations and the Administrator approves training programs of the airlines. There are no training requirements in Part 125 so the Administrator must ensure that each operator's procedures are satisfactory. Provisions are made in §§ 125.189 (b) and (d), however, to relieve certificate holders who previously have demonstrated required procedures in the same type and model airplanes under Part 121 or 123 from redemonstration for certification under Part 125.

Subpart F—Instrument and Equipment Requirements

§ 125.207 Emergency equipment requirements

Section 125.207(c) is deleted because it duplicates § 125.247(a)(3) which requires that each item of required equipment be regularly inspected.

§ 125.209 Emergency equipment: extended overwater operations.

Section 125.209(a)(2) is revised to require each liferaft to be of an approved type. This is consistent with other provisions of the FAR. This change is based upon the safety consideration that liferafts must be suitable for use in the event of a ditching or other incident.

§ 125.215 Operating information required.

One commenter states that the checklist required by this section is not required to be approved. This is true; however, § 125.215 requires that the checklist be appropriate. This provides an adequate level of safety.

§ 125.219 Oxygen for medical use by passengers.

One commenter indicates that § 125.219(b) is ambiguous or contradictory but did not explain his reasons. The intent of the rule is to prohibit smoking within 10 feet of where medical oxygen is being used or stored. This is a minimum standard and nothing prohibits the pilot in command from prohibiting smoking in the entire airplane when medical oxygen is in use.

§ 125.221 Icing conditions: operating limitations.

Paragraphs (b) and (c) are editorially changed to make it clear that ice protection equipment must meet the requirement of Appendix C of Part 125. The notice erroneously referred to § 34 of Appendix A to Part 135. This does not involve a substantive change.

§ 125.223 Airborne weather radar equipment requirements.

Section 125.223 requires airborne weather radar. One commenter states that this requirement is not needed in its operations which seldom involve flights beyond a radius of 5 miles from takeoff. Section 125.223 provides for situations where radar may not be required and § 125.3 provides for deviations. Operators may be able to justify deviation authority from this requirement.

Subpart G—Maintenance

§ 125.241 Applicability.

No comments were received concerning § 125.241 and, except for editorial changes, § 125.241 appears as proposed in the notice. The editorial changes are not substantive and consist of: the deletion of the words "and inspection" from the title of the subpart; substitution of the words "aircraft engine" for "airplane engine"; and the addition of the phrase "and their component parts" to the text.

The words "and inspection" are redundant since, by definition, inspection is a part of maintenance.

The words "aircraft engine" are substituted for "airplane engine" since "aircraft engine" is defined in Part 1. Further, by definition, an airplane is an aircraft and, therefore, only aircraft engines are eligible for installation on airplanes. Even though Part 125 is applicable to airplanes only, the introduction of a new term might cause confusion and is not required to accomplish the objective of the regulation.

The phrase "and their component parts" is added since, in some instances, parts of airframes, aircraft engines,

propellers, appliances, and survival and emergency equipment may be maintained and approved for return to service when disassociated from the products of which they are a part. The addition clarifies a requirement which has been understood; that is, rules which apply to the whole, apply to the part.

§ 125.243 Certificate holder's responsibilities.

One commenter states that §§ 125.243 and 125.249 are in conflict because the former assigns responsibility for maintenance to the certificate holder, while the latter makes reference only to inspections. Section 125.243 makes the certificate holder primarily responsible for airworthiness, the performance of maintenance, preventive maintenance, alteration, and for ensuring that personnel accomplishing these functions make appropriate entries in the airplane and maintenance records. Section 125.249 deals only with the contents of the certificate holder's manual. However, the manual and its contents are only parts of the holder's responsibility. The sections are not actually in conflict; rather, one supplements the other.

The repetitious language of paragraphs (a) and (b) in the notice is reduced by rearrangement. Additionally, clear standards for entries for which the certificate holder is responsible are substituted for the indefinite term "appropriate" appearing in paragraph (d) of the notice. These editorial changes are not substantive and the requirements of the section are unchanged from those proposed in the notice.

§ 125.245 Organization required to perform maintenance, preventive maintenance, and alteration.

Section 125.245 requires a certificate holder to determine that persons with whom the holder arranges for maintenance, preventive maintenance, or alteration have organizational structures sufficient to reasonably ensure that the work arranged for will be completely and properly accomplished and that required record entries regarding that work will be made. The certificate holder must also determine that the organizational structure is sufficient to support the required inspection provisions of § 125.249(b)(2). This requirement is emphasized because some organizations, while adequate for performance of the work involved, may have insufficient personnel to meet the required inspection provisions of § 125.249(b)(2).

One commenter states that the phrase "enough qualified management personnel" used in § 125.25 affords too much latitude to the FAA regarding the certificate holder's management organization, and that the same is true for § 125.245. The reference to § 125.245 apparently relates to the phrase "organization adequate to perform" which appears in that section. Both phrases, however, have been used in Part 121 for several years without a history to support the commenter's position and, therefore, appear as proposed.

The title of § 125.245 is changed to make clear that the section deals with the organization required to perform specific functions as opposed to the organization of the functions. Additionally, paragraphs (a) and (b) are condensed to eliminate repetitious language appearing in the notice. However, no substantive change to the provisions of the notice is made.

§ 125.247 Inspection programs and maintenance.

Two commenters state that "hard-time overhauls" under § 125.247(e) of the proposal impose unrealistic limitations and an unnecessary economic burden on operators. One of these commenters suggests that "power deterioration criteria" provided by engine manufacturers would be more realistic in determining the need for engine overhauls.

The use of manufacturer's recommended overhaul times establishes a basic requirement for each certificate holder, but does not limit the holder to those times indefinitely. Certificate holders will not be able to use overhaul times established, for example, by a Part 121 operator who may have substantially extended overhaul times based on specific maintenance procedures, tests or checks, and experience which the Part 125 certificate holder may not have. The Part 125 certificate holder, however, will be permitted to extend overhaul times based on the holder's own procedures and experience, since the rule permits the certificate holder to develop its own programs. "Power deterioration criteria" could be a part of such a program if justified by the certificate holder.

A third commenter states that § 125.247 should not apply to U.S.-registered airplanes operated entirely outside the United States by other than U.S. citizens since the section requires the airplane to be inspected and maintained in a manner which may be contrary to the regulations of the governing State. Further, the commenter states that governing States would be

forced to prohibit operations of U.S.-registered airplanes by operators of the governing States in order to fulfill their responsibilities under the Chicago Convention.

The commenter's analysis does not take into consideration the option in § 125.247(e)(3) (paragraph (e) of the notice) which provides that operators may develop their own programs. Such programs can be designed to meet the requirements of both the United States and the governing States.

It should be noted that § 125.247(a)(3) (§ 125.247 (a) and (b) of the notice) speaks to both inspection programs and maintenance, while § 125.247(d)(1) (§ 125.247(e) of the notice) speaks only to maintenance (engine overhaul times). Thus airplanes, including aircraft engines, propellers, appliances, survival and emergency equipment, and their component parts, must be inspected in accordance with an inspection program. Engines, in addition to the inspection requirements, must be maintained in accordance with manufacturer's recommended overhaul periods, or those approved by the Administrator. Both the inspection program required by § 125.247(d)(1) and the maintenance required by § 125.247 (a)(1) and (a)(2) are to be made a part of the manual required by § 125.249.

The changes to § 125.247 clarify the requirements of the section by providing a breakdown of the section's requirements but do not result in substantive changes to the requirements proposed in the notice.

§ 125.249 Maintenance manual requirements.

One commenter recommends that maintenance personnel be permitted to "approve for return to service" by their initials and certificate numbers, rather than their names as required by § 125.249(b)(2) (§ 125.249(c)(3) of the notice). This is a deviation from the requirements of Part 43 and, since Part 125 does not otherwise deviate from Part 43, doing so in this instance would introduce ambiguity in the requirements of the two Parts.

Another commenter objects to the "required inspection" requirements of § 125.249(a)(3)(ii) (§ 125.249(b)(2) of the notice), stating that such inspection does not enhance safety when the work force is small or when shift work is not involved. However, certificate holders will not have control of either the use of shift work or work force size when arrangements are made with others to accomplish maintenance. Further, the privilege of arranging for others to accomplish certain maintenance functions will be used, at one time or

another, by most certificate holders, including those who have maintenance facilities of their own. Additionally, shift work and work force size are only two of many reasons for using required inspection procedures. Therefore, the provisions of § 125.249(b)(2) of the notice are adopted without substantive change as § 125.249(a)(3)(ii). The section is rearranged and, for the purpose of clarity, § 125.249(b) is made specific and consistent with Part 43, since variance from Part 43 is not intended.

§ 125.251 Required inspection personnel.

One commenter states that § 125.251 requires neither a training program nor a determination of qualification for maintenance personnel and thus does not provide the same level of safety as Part 123. However, under Part 125 required inspections may only be accomplished by certificated persons who are authorized by Part 43, while they may be accomplished by repairs or other personnel, after training and a determination of qualification under Part 123. The limitations imposed by Parts 43, 65, and 145, plus the determination of qualification made under § 125.245, will provide a level of safety at least the equivalent of Part 123. The section, therefore, is adopted without change.

Subpart H—Airman and Crewmember Requirements

One commenter recommends that the airman and crewmember requirements be the same as those under Part 123. These were not proposed because the FAA made certain judgments in selecting the provisions for Part 125 and it is not essential to carry over these requirements from Part 123. Operating experience will be closely monitored and more stringent provisions will be proposed if necessary.

§ 125.263 Composition of flightcrew.

One commenter objects to the proposed rule because it lacks the specific training program requirements to be used to qualify a pilot in the performance of flight engineer duties and allows any flight crewmember to perform these duties. The commenter fails to consider that a fully qualified flight engineer will be part of the flightcrew of any airplane for which the type certificate requires a flight engineer. It further provides that a flight crewmember qualified to perform duties of a flight engineer in case of incapacitation must be aboard each flight.

§ 125.267 Flight navigator and long-range navigation equipment.

Section 125.267(a)(2) is revised to require two independent long-range navigation means that are approved. In the present and future navigation of oceanic areas, flight tracks must be maintained within certain limits. If the navigation system failed, it would be impossible to maintain those tracks. Therefore, the requirement is increased to provide a functioning backup system. The wording, "specialized means of navigation," implies that Doppler radar or Inertial Navigation System must be used. This has been changed to read "long-range navigation" to allow use of Omega, "Loran-C," or any other long-range navigation system approved in the future.

One commenter states that the phrase "reliably fixed" is not clear and the requirement for a navigator, when the airplane position cannot be reliably fixed for more than 1 hour, is too restrictive. The term "reliably fixed" has been successfully used in Part 121 and is necessary to provide acceptable accuracy for air traffic control purposes. This section requires a navigator or approved long-range means of navigation which enables a reliable determination of the airplane's location by each pilot seated at the pilot's duty station. The FAA concludes that this requirement is realistic considering the present state-of-the-art of navigation systems and the increase in flights in oceanic and remote areas.

§ 125.269 Flight attendants.

One commenter objects to basing the requirement for flight attendants on the number of passengers carried and not on seating capacity. The commenter also objects because there were no proposed requirements for a flight attendant for less than 19 passengers. The rule is consistent with the flight attendant requirements of § 91.215 which applies to large airplane operations. It bases the flight attendant requirements on the number of passengers on the airplane, and none are required if less than 20 passengers are carried. The FAA considers those requirements to be satisfactory for the noncommon carrier operations which will be conducted under Part 125. Proposed § 125.269 is adopted without change.

Subpart I—Flight Crewmember Requirements

§ 125.281 Pilot-in-command qualifications.

Three commenters recommend that the pilot-in-command qualifications include a requirement for an airline

transport pilot certificate. Other than total flight time as a pilot of at least 1,200 hours rather than 1,500 hours, the aeronautical experience requirements are identical to those required for an airline transport pilot certificate. The primary reason for establishing these standards is because there are highly qualified pilots who do not meet the requirements for a first class medical certificate and therefore do not hold an airline transport pilot certificate. The FAA considers these operations to be commercial in nature which requires a commercial pilot certificate, along with required aeronautical experience, to provide an acceptable degree of safety. Paragraph (c) is deleted because the requirements of Part 61 are applicable and those requirements need not be restated in this section.

§ 125.285 Pilot qualifications: recent experience.

One commenter states that in §§ 125.285 through 125.295, use of the terms "check airman," "approved check airman," "authorized check pilot," and "authorized check airman" require clarification as to whether or not these terms are synonymous. The FAA agrees that this should be clarified; therefore, the term "authorized check airman" is used in place of "check airman," "approved check airman," or "authorized check pilot" where such terms appear in this subpart.

Proposed § 125.285(c)(2), which required a pilot to be currently qualified in another airplane of the same group, is deleted. This is too restrictive because it does not allow a certificate holder operating only one type of airplane in the same group to allow its pilots to use a visual simulator to reestablish recency of experience.

Proposed § 125.285(c)(3) is redesignated (c)(2) and the word "training" is changed to "testing" because Part 125 contains no training requirements. Thus, the landings required in the airplane must be made within 45 days following completion of simulator testing.

§ 125.287 Initial and recurrent pilot testing requirements.

One commenter objects to the absence of a requirement for flightcrew initial or recurrent training. Training programs are required for air carriers because they are required by the Federal Aviation Act of 1958 to provide the highest degree of safety. Under the Part 125 regulatory design, reliance is placed upon required tests and checks to ensure that airmen are proficient. These tests and checks are adequate to

ensure an acceptable level of safety in Part 125.

§ 125.291 Pilot in command: instrument proficiency check requirements.

One corporate flight department states that the required 6-month pilot-in-command instrument proficiency check, as opposed to once each 12 months, is an added requirement "not justified by the excellent safety record of the FAR 91, Subpart D, operator." The FAA does not agree. Corporate operations are only one segment of those covered by Part 125. The regulatory design of Part 125 emphasizes tests and checks in lieu of training requirements. This requirement is part of that philosophy which is applied to all Part 125 operations to ensure pilot competency.

Section 125.291 is changed to require each pilot in command to demonstrate only those instrument approach procedures which the certificate holder desires to use instead of at least one instrument approach using an ILS, VOR, and NDB facility as proposed. The letter of competency will be limited to those facilities and types of procedures satisfactorily demonstrated. This will ensure an adequate level of safety.

§ 125.293 Crewmember: tests and checks, grace provisions, accepted standards.

One commenter asks if this rule means that a person who is unable to demonstrate a satisfactory performance on a pilot-in-command check could serve as a second in command if the tests and checks applicable to a second in command have been satisfactorily demonstrated. The proposal would have precluded serving as second in command. Upon reconsideration, the proposal is revised to provide that the certificate holder may not use the pilot, nor may the pilot serve, in the capacity for which the pilot is being checked in operations under Part 125 until the pilot has satisfactorily completed the check. This permits a pilot in command who fails the pilot-in-command checks to serve as second in command if qualified and if the tests and check applicable to a second in command have been demonstrated satisfactorily.

§ 125.297 Approval of airplane simulators and other training devices.

One commenter recommends that approval of a simulator be automatic if the simulator is already approved under Part 121 for a certificated air carrier. While the simulator is an approved simulator, the use in checks by an operator under this Part must be specifically approved. The reason is that the air carrier that uses a simulator has

an approved training program and the approval of the use of the simulator is predicated on its use in the training program and ensures that all phases of flight are covered. This is not true of a certificate holder under Part 125. For approval to use a simulator, the certificate holder must show the specific procedures and maneuvers that it plans to use in the testing of pilots.

Subpart J—Flight Operations

§ 125.311 *Flight crewmembers at controls.*

One commenter states that the requirements in § 125.311 deletes the provision in Part 91 that one crewmember use an oxygen mask above flight level 350 when one pilot leaves the flight station. The FAA disagrees. The requirement of § 91.32 must be complied with by operators under Part 125 since the rules of Part 125 are requirements in addition to the rules of Part 91, except Subpart D.

§ 125.313 *Manipulation of controls when carrying passengers.*

Several commenters object to the relaxation from Part 121 and 123 rules regarding persons at the controls of revenue passenger flights. In response to their comments, § 125.313 is revised to prohibit any persons from manipulating the controls during passenger flights except qualified pilots employed by the certificate holder operating that airplane.

§ 125.315 *Admission to flight deck.*

This rule prohibits admission of any person to the flight deck except for specific authorized categories. One category is "any person who has the permission of the pilot in command." One commenter expresses concern that this is too lax. The FAA does not agree. A pilot in command is responsible for the operation and safety of an aircraft. This includes the exercise of good judgment. If operating experience indicates the required judgment is not being exercised, appropriate restrictions will then be imposed.

§ 125.317 *Inspector's credentials: admission to pilots' compartment; forward observer's seat.*

Two commenters complain that providing an observer's seat in the cockpit for an FAA inspector is too restrictive for corporate flight department operations and aircraft manufacturers. The FAA considers this provision necessary to observe cockpit operations of the large airplanes which will be operated under Part 125. There may be specific, limited circumstances

in which a deviation may be appropriate.

§ 125.325 *Instrument approach procedures and IFR Landing minimums.*

This section is revised to provide more flexibility for the Part 125 operator. As it was proposed in the notice, each instrument approach procedure for each airport used by the Part 125 operator would be required to be listed in the operations specifications. This is an air carrier requirement and is not necessary for Part 125 operations. The revision requires that each type of instrument procedure to be used, such as ILS, NDB, and VOR, must be listed in the operations specifications. This will reduce the paperwork required of Part 125 operators.

§ 125.327 *Briefing of passengers before flight.*

Paragraph 125.327(e) is deleted because it duplicates the requirement in § 125.327(a) to conduct a briefing before takeoff. Therefore, § 125.327(f) is redesignated (e). The redesignated paragraph is revised to clarify that the "before overwater briefing" need not be given before takeoff but must be given before starting the overwater portion of the flight.

Subpart K—Flight Release Rules

§ 125.359 *Flight release under VFR.*

One commenter states that the proposed rule removes the restriction for commercial operators to fly their airplanes under instrument flight rules (IFR). Present Part 121 does not require visual flight to be conducted under IFR. However, in some cases the operations specifications of Part 121 operators require all flights to be conducted under IFR. There may be circumstances under Part 125 where safety will require that all operations, including those under visual flight conditions, be conducted under IFR. The operations specifications of a Part 125 operator can be amended to impose such a requirement.

§ 125.365 *Alternate airport for departure.*

Reference to the word "dispatch" in the notice is deleted because Part 125 does not contain dispatching requirements.

§ 125.371 *Continuing flight in unsafe conditions.*

One commenter states that it is not appropriate to continue flight in an unsafe condition and suggests that this provision is not necessary if there were a provision for an approved minimum equipment list (MEL) in Part 125. Section 125.201 makes this provision; however,

the FAA does not agree that it eliminates the need for § 125.371. It is necessary to prohibit continuation of a flight toward the destination airport if it cannot be completed safely unless in the pilot's opinion there is no safer procedure. In that event, continuation of flight must be treated as an emergency situation.

§ 125.379 *Landing weather minimums: IFR.*

The requirement that a pilot in command must have 100 hours in operations under this Part is deleted. Under the present Part 91, a pilot in command may use the lowest minimums authorized, and it is not a compromise of safety to allow pilots in command who have conducted operations under Parts 91, 121, 123, and 135 to continue to do so under Part 125. However, because Part 125 allows operation for compensation or hire, there is a need for the pilot in command to have 100 hours in the type airplane before exercising the authority to descend to authorized minimums.

§ 125.381 *Takeoff and landing weather minimums: IFR.*

The reference to radio range is changed to nonprecision approach procedures because there are no longer any radio ranges in the conterminous United States and nonprecision approach describes any procedure that is not a precision approach, that is, any procedure without vertical guidance. In addition, the provision that an approach may be continued if the airplane is on a nonprecision approach and has reached the MDA is changed to the final approach segment. The final approach segment is defined and is pictured on approach charts. This makes nonprecision approaches consistent with precision and PAR approaches. Finally, the missed approach point (MAP) is substituted for the minimum descent altitude (MDA) in the last sentence, because MAP is a defined point and MDA is not a defined point.

One commenter states that § 125.381 prohibits any "look-see" approaches. The FAA agrees that this paragraph prohibits any approach when the weather is reported to be below minimums except in certain cases when the airplane is on the final approach segment. The FAA concludes that instrument approaches of airplanes covered by Part 125, in reported weather conditions below minimums, should be prohibited as part of the selective upgrade of safety from Part 91 levels. This section does not prohibit a "look-see" approach at an airport with an approved instrument approach

procedure when that airport has no weather reporting facility. Descent below minimums is covered by Part 91 which must be complied with by Part 125 operators.

§ 125.383 *Load manifest.*

One commenter states that the requirement concerning landing weights is deleted. This is an inadvertent omission and § 125.383(a)(3), as adopted, includes landing weights. One commenter observes that the flight attendant names were required to appear in two places in accordance with §§ 125.383 and 125.403. The FAA agrees and the requirement for flight attendant names is deleted from § 125.383. The section is revised to require passengers' names on the load manifest. This requirement is the same as that required for supplemental air carriers, commercial operators, and air travel clubs.

Subpart I—Records and Reports

§ 125.401 *Crewmember record.*

One commenter points out that § 125.401, as proposed, eliminates the requirement for maintaining crewmember training records. The commenter is correct. However, Part 125 does not contain training requirements and requiring training records would be inappropriate. Another commenter states that the requirement of § 125.401(a)(1) to maintain mute check and route qualification records is inappropriate since such qualifications are not practical in the types of operations anticipated under Part 125. The FAA agrees that Part 125 will not involve fixed or designated routes and these requirements are deleted. However, the remaining records are considered essential to a certificate holder to ensure that crewmembers meet at least minimum qualifications for the operations conducted and are essential to the FAA in its routine surveillance activities. Except for the noted changes, § 125.401 is adopted as proposed.

§ 125.403 *Flight release form.*

One commenter states that requiring the names of all crewmembers to be included on both the load manifest and the flight release is redundant. The FAA agrees and § 125.403(a)(4) is changed to require the name and duty assignment of each crewmember. Flight releases provide an effective means by which the certificate holder may assign crewmember duties and provide information concerning the anticipated flight in a clear, concise form. Further, they provide a record of specific

responsibilities in the event they come under discussion during or subsequent to the flight.

§ 125.405 *Disposition of load manifest, flight release, and flight plans.*

One commenter points out that requiring the pilot route qualification record to be carried in the airplane is inappropriate since route qualification is not practical under Part 125. The FAA agrees that Part 125 operations will not involve fixed or designated routes. Section 125.405(a)(4) is deleted. Section 125.405(a)(5) is redesignated (a)(4) and the intended route of the flight is made a required part of the flight plan. Except for these changes, the section is adopted as proposed.

§ 125.407 *Maintenance log: airplanes.*

The qualifying phrase "that is critical to the safety of flight" in proposed § 125.407(a) introduces a subjective test regarding action to be taken in response to reported or observed failures or malfunctions. It could result in some failures or malfunctions being repaired without appropriate maintenance entries. Part 43 requires a record of all maintenance or inspection, and since all other maintenance required in Part 125 must be done in accordance with Part 43, the proposal is in conflict with Part 43. Therefore, instead of developing a new system and complicating the regulatory structure, the FAA finds that the provisions of § 135.65 (c) and (d) provide an adequate level of safety. Sections 135.65 (c) and (d) are therefore incorporated as § 125.407 with the following changes: The reference to rotor is deleted from paragraph (c); the phrase "the applicable maintenance requirements of this chapter" is deleted and "in accordance with Part 43" substituted; and "§ 125.249" is substituted for "§ 135.21" in paragraph (d). These changes are in concert with the substance of the notice.

§ 125.409 *Reports of defects or unairworthy conditions.*

No comments were received on this section which is a simplified procedure for the reporting of defects and unairworthy items. FAA Form 8010-7 will normally be used for these reports. However, if a certificate holder desires to use another reporting method, that method may be used provided it is made a part of the certificate holder's manual, required by § 125.249, and is approved by the Administrator. Additional material is added to the proposed section to clarify a time frame for submission of reports and to specify where reports are to be submitted. This permits the FAA to make timely use of

the data in correcting deficiencies which adversely affect safety.

§ 125.411 *Airworthiness release or maintenance record entry.*

One commenter points out that since Part 125 does not provide for certificate holders to use "repairmen," the reference in § 125.411(a)(3) is inappropriate. The commenter is correct and the phrase "authorized in Part 43" is substituted. This eliminates the need for the last paragraph appearing under subparagraph (3) in the notice. The words "60 days" are substituted for "2 months" in paragraph (c) to eliminate the question of calendar months. Except for these minor changes, the section appears as published in the notice.

Federal Reports Act Approvals

As adopted by these amendments, §§ 125.21, 125.35, 125.53, 125.71, 125.249, 125.295, 125.319, 125.323, 125.383, 125.403, 125.407, 125.409, and 125.411 will become effective 30 days after notice is published in the Federal Register that the requirements of these sections are approved by the Office of Management and Budget in accordance with the Federal Reports Act of 1942.

Adoption of the Amendments

Accordingly, 14 CFR Chapter 1 is amended as follows, effective February 1, 1981.

PART 43—MAINTENANCE, PREVENTIVE MAINTENANCE, REBUILDING, AND ALTERATION

§ 43.15 [Amended]

1. By amending § 43.15(a) by adding the words "or Part 125" after the words "Part 123."

PART 91—GENERAL OPERATING AND FLIGHT RULES

§ 91.54 [Amended]

2. By amending § 91.54(b)(1) (i) and (ii) by adding the number "125," after the number "123".

3. By adding a new paragraph (c) to § 91.161 to read as follows:

§ 91.161 *Applicability.*

(c) Section 91.165, 91.169, 91.171, and Subpart D of this Part do not apply to an airplane inspected in accordance with Part 125 of this chapter.

§ 91.181 [Amended]

4. By amending the second sentence of § 91.181(a) by adding "125," after "123".

PART 121—CERTIFICATION AND OPERATIONS: DOMESTIC, FLAG, AND SUPPLEMENTAL AIR CARRIERS AND COMMERCIAL OPERATORS OF LARGE AIRCRAFT

5. By revising § 121.1(a)(5) to read as follows:

§ 121.1 Applicability.

(a) * * *
 (5) Each commercial operator when it engages in the carriage of persons or property in air commerce for compensation or hire—

- (i) With large aircraft other than airplanes; or
- (ii) As a common carrier solely between places entirely within any state of the United States, with airplanes having a seating capacity of more than 30 passengers or a maximum payload capacity of more than 7,500 pounds.

6. By adding a paragraph (f) to § 121.53 to read as follows:

§ 121.53 Duration of certificate.

(f) Each operating certificate with commercial operator authority for the operations of airplanes issued under this Part and in effect January 31, 1981 terminates January 1, 1983, unless the certificate holder applies to:

- (1) Conduct its operations in accordance with the air carrier rules of Part 121; or
- (2) Conduct common carriage operations solely between points entirely within any state of the United States using airplanes having a seating capacity of more than 30 passengers or a maximum payload capacity of more than 7,500 pounds.

If the certificate holder makes timely application in accordance with this paragraph, a certificate continues in effect until final FAA action is taken on the application.

PART 123—CERTIFICATION AND OPERATIONS: AIR TRAVEL CLUBS USING LARGE AIRPLANES

7. By adding a new paragraph (d) to § 123.1 to read as follows:

§ 123.1 Applicability.

(d) The rules of this Part apply only to holders of air travel club operating certificates issued before January 31, 1981, and will continue in effect until January 1, 1983.

8. By revoking Part 123 effective January 1, 1983.

PART 135—AIR TAXI OPERATORS AND COMMERCIAL OPERATORS

9. By amending § 135.1(a)(3) to read as follows:

§ 135.1 Applicability.

- (a) * * *
- (3) The carriage in air commerce of persons or property for compensation or hire as a commercial operator (not an air carrier) in aircraft having a maximum seating capacity of less than 20 passengers or a maximum payload capacity of less than 6,000 pounds, or the carriage in air commerce of persons or property in common carriage operations solely between points entirely within any state of the United States in aircraft having a maximum seating capacity of 30 seats or less or a maximum payload capacity of 7,500 pounds or less; and

PART 145—REPAIR STATIONS

10. In § 145.2 by amending the title of that section, by designating the existing paragraph as (a), and by adding a new paragraph (b) to read as follows:

§ 145.2 Performance of maintenance, preventive maintenance, alterations, and required inspections for an air carrier or commercial operator under the continuous airworthiness requirements of Parts 121 and 127, and for airplanes under the inspection program required by Part 125.

- (a) * * *
- (b) Each repair station that performs inspections on airplanes governed by Part 125 of this chapter shall do that work in accordance with the inspection program approved for the operator of the airplane.

11. Compliance with §§ 125.21, 125.35, 125.53, 125.71, 125.249, 125.295, 125.319, 125.323, 125.383, 125.401, 125.403, 125.407, 125.409, and 125.411 is not required until 30 days after a notice of approval of the requirements of those sections by the Office of Management and Budget is published in the Federal Register.

New Part 125

12. By adding to Subchapter G of 14 CFR Chapter 1 a new Part 125 to read as follows:

PART 125—CERTIFICATION AND OPERATIONS: AIRPLANES HAVING A SEATING CAPACITY OF 20 OR MORE PASSENGERS OR A MAXIMUM PAYLOAD CAPACITY OF 6,000 POUNDS OR MORE

Subpart A—General

- Sec.
- 125.1 Applicability.
- 125.3 Deviation authority.

- Sec.
- 125.5 Operating certificate and operations specifications required.
- 125.7 Display of certificate.
- 125.9 Definitions.
- 125.11 Certificate eligibility and prohibited operations.

Subpart B—Certification Rules and Miscellaneous Requirements

- 125.21 Application for operating certificate.
- 125.23 Rules applicable to operations subject to this part.
- 125.25 Management personnel required.
- 125.27 Issue of certificate.
- 125.29 Duration of certificate.
- 125.31 Contents of certificate and operations specifications.
- 125.33 Operations specifications not a part of certificate.
- 125.35 Amendment of operations specifications.
- 125.37 Duty time limitations.
- 125.39 Carriage of narcotic drugs, marihuana, and depressant or stimulant drugs or substances.
- 125.41 Availability of certificate and operations specifications.
- 125.43 Use of operations specifications.
- 125.45 Inspection authority.
- 125.47 Change of address.
- 125.49 Airport requirements.
- 125.51 En route navigational facilities.
- 125.53 Flight locating requirements.

Subpart C—Manual Requirements

- 125.71 Preparation.
- 125.73 Contents.
- 125.75 Airplane flight manual.

Subpart D—Airplane Requirements

- 125.91 Airplane requirements: general.
- 125.93 Airplane limitations.

Subpart E—Special Airworthiness Requirements

- 125.111 General.
- 125.113 Cabin interiors.
- 125.115 Internal doors.
- 125.117 Ventilation.
- 125.119 Fire precautions.
- 125.121 Proof of compliance with § 125.119.
- 125.123 Propeller deicing fluid.
- 125.125 Pressure cross-feed arrangements.
- 125.127 Location of fuel tanks.
- 125.129 Fuel system lines and fittings.
- 125.131 Fuel lines and fittings in designated fire zones.
- 125.133 Fuel valves.
- 125.135 Oil lines and fittings in designated fire zones.
- 125.137 Oil valves.
- 125.139 Oil system drains.
- 125.141 Engine breather lines.
- 125.143 Firewalls.
- 125.145 Firewall construction.
- 125.147 Cowling.
- 125.149 Engine accessory section diaphragm.
- 125.151 Powerplant fire protection.
- 125.153 Flammable fluids.
- 125.155 Shutoff means.
- 125.157 Lines and fittings.
- 125.159 Vent and drain lines.
- 125.161 Fire-extinguishing systems.
- 125.163 Fire-extinguishing agents.
- 125.165 Extinguishing agent container pressure relief.

- Sec. 125.167 Extinguishing agent container compartment temperature.
- 125.169 Fire-extinguishing system materials.
- 125.171 Fire-detector systems.
- 125.173 Fire detectors.
- 125.175 Protection of other airplane components against fire.
- 125.177 Control of engine rotation.
- 125.179 Fuel system independence.
- 125.181 Induction system ice prevention.
- 125.183 Carriage of cargo in passenger compartments.
- 125.185 Carriage of cargo in cargo compartments.
- 125.187 Landing gear: aural warning device.
- 125.189 Demonstration of emergency evacuation procedures.

Subpart F—Instrument and Equipment Requirements

- 125.201 Inoperable instruments and equipment.
- 125.203 Radio and navigational equipment.
- 125.205 Equipment requirements: airplanes under IFR.
- 125.207 Emergency equipment requirements.
- 125.209 Emergency equipment: extended overwater operations.
- 125.211 Seat and safety belts.
- 125.213 Miscellaneous equipment.
- 125.215 Operating information required.
- 125.217 Passenger information.
- 125.219 Oxygen for medical use by passengers.
- 125.221 Icing conditions: operating limitations.
- 125.223 Airborne weather radar equipment requirements.

Subpart G—Maintenance

- 125.241 Applicability.
- 125.243 Certificate holder's responsibilities.
- 125.245 Organization required to perform maintenance, preventive maintenance, and alteration.
- 125.247 Inspection programs and maintenance.
- 125.249 Maintenance manual requirements.
- 125.251 Required inspection personnel.

Subpart H—Airman and Crewmember Requirements

- 125.261 Airman: limitations on use of services.
- 125.263 Composition of flightcrew.
- 125.265 Flight engineer requirements.
- 125.267 Flight navigator and long-range navigation equipment.
- 125.269 Flight attendants.
- 125.271 Emergency and emergency evacuation duties.

Subpart I—Flight Crewmember Requirements

- 125.281 Pilot-in-command qualifications.
- 125.283 Second-in-command qualifications.
- 125.285 Pilot qualifications: recent experience.
- 125.287 Initial and recurrent pilot testing requirements.
- 125.289 Initial and recurrent flight attendant crewmember testing requirements.
- 125.291 Pilot in command: instrument proficiency check requirements.
- 125.293 Crewmember: tests and checks, grace provisions, accepted standards.

- Sec. 125.295 Check airman authorization: application and issue.
- 125.297 Approval of airplane simulators and other training devices.

Subpart J—Flight Operations

- 125.311 Flight crewmembers at controls.
- 125.313 Manipulations of controls when carrying passengers.
- 125.315 Admission to flight deck.
- 125.317 Inspector's credentials: admission to pilots' compartment: forward observer's seat.
- 125.319 Emergencies.
- 125.321 Reporting potentially hazardous meteorological conditions and irregularities of ground and navigation facilities.
- 125.323 Reporting mechanical irregularities.
- 125.325 Instrument approach procedures and IFR landing minimums.
- 125.327 Briefing of passengers before flight.
- 125.329 Minimum altitudes for use of autopilot.
- 125.331 Carriage of persons without compliance with the passenger-carrying requirements of this part.

Subpart K—Flight Release Rules

- 125.351 Flight release authority.
- 125.353 Facilities and services.
- 125.355 Airplane equipment.
- 125.357 Communication and navigation facilities.
- 125.359 Flight release under VFR.
- 125.361 Flight release under IFR or over-the-top.
- 125.363 Flight release over water.
- 125.365 Alternate airport for departure.
- 125.367 Alternate airport for destination: IFR or over-the-top.
- 125.369 Alternate airport weather minimums.
- 125.371 Continuing flight in unsafe conditions.
- 125.373 Original flight release or amendment of flight release.
- 125.375 Fuel supply: nonturbine and turbopropeller-powered airplanes.
- 125.377 Fuel supply: turbine-engine-powered airplanes other than turbopropeller.
- 125.379 Landing weather minimums: IFR.
- 125.381 Takeoff and landing weather minimums: IFR.
- 125.383 Load manifest.

Subpart L—Records and Reports

- 125.401 Crewmember record.
- 125.403 Flight release form.
- 125.405 Disposition of load manifest, flight release, and flight plans.
- 125.407 Maintenance log: airplanes.
- 125.409 Reports of defects or unairworthy conditions.
- 125.411 Airworthiness release or maintenance record entry.

Appendix A—Additional Emergency Equipment

Appendix B—Criteria for Demonstration of Emergency Evacuation Procedures Under § 125.189.

Appendix C—Ice Protection.

Authority: Secs. 313, 601 through 610, and 1102, Federal Aviation Act of 1958, as amended (49 U.S.C. 1354, 1421-1430 and 1502); Sec. 8(c) Department of Transportation Act (49 U.S.C. 1655(c)).

Subpart A—General

§ 125.1 Applicability.

(a) Except as provided in paragraphs (b), (c), (d), and (e) of this section, this Part prescribes rules governing the operations of U.S. registered civil airplanes which have a seating capacity of 20 or more passengers, or a maximum payload capacity of 6,000 pounds or more.

(b) The rules of this Part do not apply to the operations of airplanes specified in paragraph (a) when—

(1) They are required to be operated under Parts 121, 135, or 137 of this chapter;

(2) They have been issued restricted, limited, or provisional airworthiness certificates, special flight permits, or experimental certificates;

(3) They are being operated without carrying passengers or cargo under Part 91 for training, ferrying, positioning, or maintenance purposes;

(4) They are being operated under Part 91 by an operator certificated to operate those airplanes under Part 121, 135, or 137 of this chapter;

(5) They are being operated under a deviation authority issued under § 125.3 of this chapter;

(c) The rules of this Part, except § 125.247, do not apply to the operation of airplanes specified in paragraph (a) when they are operated outside the United States by a person who is not a citizen of the United States.

(d) An operator who holds a certificate on the effective date of this Part as a commercial operator under Part 121 of this chapter or as an air travel club under Part 123 of this chapter may continue operations under those rules until the expiration of that certificate, but no later than January 1, 1983.

(e) Until January 1, 1983, this Part does not apply to foreign air carriers holding operations specifications issued under Part 129 of this chapter.

§ 125.3 Deviation authority.

(a) The Associate Administrator for Aviation Standards may, upon consideration of the circumstances of a particular operation, issue deviation authority providing relief from specified sections of Part 125. This deviation authority will be issued as a Letter of Deviation Authority.

(b) A Letter of Deviation Authority may be terminated or amended at any time by the Associate Administrator for Aviation Standards.

(c) A request for deviation authority must be submitted to the Department of Transportation, Federal Aviation Administration, Associate

Administrator for Aviation Standards, 800 Independence Ave., S.W., Washington, D.C. 20591, not less than 60 days prior to the date of intended operations. A request for deviation authority must contain a complete statement of the circumstances and justification for the deviation requested.

§ 125.5 Operating certificate and operations specifications required.

(a) After February 1, 1981, no person may engage in operations governed by this Part unless that person holds a certificate and operations specification or appropriate deviation authority.

(b) Applicants who file an application before June 1, 1981 shall continue to operate under the rules applicable to their operations on January 31, 1981 until the application for an operating certificate required by this Part has been denied or the operating certificate and operations specifications required by this Part have been issued.

(c) The rules of this Part which apply to a certificate holder also apply to any person who engages in any operation governed by this Part without an appropriate certificate and operations specifications required by this Part or a Letter of Deviation Authority issued under § 125.3

§ 125.7 Display of certificate.

(a) The certificate holder must display a true copy of the certificate in each of its aircraft.

(b) Each operator holding a Letter of Deviation Authority issued under this Part must carry a true copy in each of its airplanes.

§ 125.9 Definitions.

(a) For the purposes of this Part, "maximum payload capacity" means:

(1) For an airplane for which a maximum zero fuel weight is prescribed in FAA technical specifications, the maximum zero fuel weight, less empty weight, less all justifiable airplane equipment, and less the operating load (consisting of minimum flightcrew, foods and beverages and supplies and equipment related to foods and beverages, but not including disposable fuel or oil);

(2) For all other airplanes, the maximum certificated takeoff weight of an airplane, less the empty weight, less all justifiable airplane equipment, and less the operating load (consisting of minimum fuel load, oil, and flightcrew). The allowance for the weight of the crew, oil, and fuel is as follows:

- (i) Crew—200 pounds for each crewmember required under this chapter
- (ii) Oil—350 pounds.

(iii) Fuel—the minimum weight of fuel required under this chapter for a flight between domestic points 174 nautical miles apart under VFR weather conditions that does not involve extended overwater operations.

(b) For the purposes of this Part, "empty weight" means the weight of the airframe, engines, propellers, and fixed equipment. Empty weight excludes the weight of the crew and payload, but includes the weight of all fixed ballast, unusable fuel supply, undrainable oil, total quantity of engine coolant, and total quantity of hydraulic fluid.

(c) For the purposes of this Part, "maximum zero fuel weight" means the maximum permissible weight of an airplane with no disposable fuel or oil. The zero fuel weight figure may be found in either the airplane type certificate data sheet of the approved Airplane Flight Manual, or both.

(d) For the purposes of this section, "justifiable airplane equipment" means any equipment necessary for the operation of the airplane. It does not include equipment or ballast specifically installed, permanently or otherwise, for the purpose of altering the empty weight of an airplane to meet the maximum payload capacity.

§ 125.11 Certificate eligibility and prohibited operations.

(a) No person is eligible for a certificate under this Part if that person is authorized to operate airplanes under any Air Carrier Operating Certificate.

(b) No certificate holder may conduct any operation which results directly or indirectly from any person's holding out to the public to furnish transportation.

Subpart B—Certification Rules and Miscellaneous Requirements

§ 125.21 Application for operating certificate.

(a) Each applicant for the issuance of an operating certificate must submit an application in a form and manner prescribed by the Administrator to the FAA Flight Standards district office in whose area the applicant proposes to establish or has established its principal operations base. The application must be submitted at least 60 days before the date of intended operations.

(b) Each application submitted under paragraph (a) of this section must contain a signed statement showing the following:

- (1) The name and address of each director and each officer or person employed or who will be employed in a management position described in § 125.25.

(2) A list of flight crewmembers with the type of airman certificate held, including ratings and certificate numbers.

§ 125.23 Rules applicable to operations subject to this Part.

Each person operating an airplane in operations under this Part shall—

(a) While operating inside the United States, comply with the applicable rules in Part 91 of this chapter; and

(b) While operating outside the United States, comply with Annex 2, Rules of the Air, to the Convention on International Civil Aviation or the regulations of any foreign country, whichever applies, and with any rules of Parts 61 and 91 of this chapter and this Part that are more restrictive than that Annex or those regulations and that can be complied with or without violating that Annex or those regulations. Annex 2 is incorporated by reference in § 91.1(c) of this chapter.

§ 125.25 Management personnel required.

(a) Each applicant for a certificate under this Part must show that it has enough management personnel, including at least a director of operations, to assure that its operations are conducted in accordance with the requirements of this Part.

(b) Each applicant shall—

(1) Set forth the duties, responsibilities, and authority of each of its management personnel in the general policy section of its manual;

(2) List in the manual the names and addresses of each of its management personnel;

(3) Designate a person as responsible for the scheduling of inspections required by the manual and for the updating of the approved weight and balance system on all airplanes.

(c) Each certificate holder shall notify the FAA Flight Standards district office charged with the overall inspection of the certificate holder of any change made in the assignment of persons to the listed positions within 10 days, excluding Saturdays, Sundays, and Federal holidays, of such change.

§ 125.27 Issue of certificate.

(a) An applicant for a certificate under this subpart is entitled to a certificate if the Administrator finds that the applicant is properly and adequately equipped and able to conduct a safe operation in accordance with the requirements of this Part and the operations specifications provided for in this Part.

(b) The Administrator may deny an application for a certificate under this subpart if the Administrator finds—

(1) That an operating certificate required under this Part or Part 121, 123, or 135 of this chapter previously issued to the applicant was revoked; or

(2) That a person who was employed in a management position under § 125.25 of this Part with (or has exercised control with respect to) any certificate holder under Part 121, 123, 125, or 135 of this chapter whose operating certificate has been revoked, will be employed in any of those positions or a similar position with the applicant and that the person's employment or control contributed materially to the reasons for revoking that certificate.

§ 125.29 Duration of certificate.

(a) A certificate issued under this Part is effective until surrendered, suspended, or revoked.

(b) The Administrator may suspend or revoke a certificate under section 609 of the Federal Aviation Act of 1958 and the applicable procedures of Part 13 of this chapter for any cause that, at the time of suspension or revocation, would have been grounds for denying an application for a certificate.

(c) If the Administrator suspends or revokes a certificate or it is otherwise terminated, the holder of that certificate shall return it to the Administrator.

§ 125.31 Contents of certificate and operations specifications.

(a) Each certificate issued under this Part contains the following:

- (1) The holder's name.
- (2) A description of the operations authorized.
- (3) The date it is issued.

(b) The operations specifications issued under this Part contain the following:

- (1) The kinds of operations authorized.
- (2) The types and registration numbers of airplanes authorized for use.
- (3) Approval of the provisions of the operator's manual relating to airplane inspections, together with necessary conditions and limitations.
- (4) Registration numbers of airplanes that are to be inspected under an approved airplane inspection program under § 125.247.
- (5) Procedures for control of weight and balance of airplanes.
- (6) Any other item that the Administrator determines is necessary to cover a particular situation.

§ 125.33 Operations specifications not a part of certificate.

Operations specifications are not a part of an operating certificate.

§ 125.35 Amendment of operations specifications.

(a) The FAA Flight Standards district office charged with the overall inspection of the certificate holder may amend any operations specifications issued under this Part if—

- (1) It determines that safety in air commerce requires that amendment; or
- (2) Upon application by the holder, that district office determines that safety in air commerce allows that amendment.

(b) The certificate holder must file an application to amend operations specifications at least 15 days before the date proposed by the applicant for the amendment to become effective, unless a shorter filing period is approved. The application must be on a form and in a manner prescribed by the Administrator and be submitted to the FAA Flight Standards district office charged with the overall inspection of the certificate holder.

(c) Within 30 days after a notice of refusal to approve a holder's application for amendment is received, the holder may petition the Director of Airworthiness or the Director of Flight Operations, as appropriate, to reconsider the refusal to amend.

(d) When the FAA Flight Standards district office charged with the overall inspection of the certificate holder amends operations specifications, that district office gives notice in writing to the holder of a proposed amendment to the operations specifications, fixing a period of not less than 7 days within which the holder may submit written information, views, and arguments concerning the proposed amendment. After consideration of all relevant matter presented, that district office notifies the holder of any amendment adopted, or a rescission of the notice. That amendment becomes effective not less than 30 days after the holder receives notice of the adoption of the amendment, unless the holder petitions the Director of Airworthiness or the Director of Flight Operations, as appropriate, for reconsideration of the amendment. In that case, the effective date of the amendment is stayed pending a decision by the Director. If the Director finds there is an emergency requiring immediate action as to safety in air commerce that makes the provisions of this paragraph impracticable or contrary to the public interest, the Director notifies the certificate holder that the amendment is effective on the date of receipt, without previous notice.

§ 125.37 Duty time limitations.

(a) Each flight crewmember must be relieved from all duty for at least 8

consecutive hours during any 24-hour period.

(b) The Administrator may specify rest, flight time, and duty time limitations in the operations specifications that are other than those specified in paragraph (a).

§ 125.39 Carriage of narcotic drugs, marihuana, and depressant or stimulant drugs or substances.

If the holder of a certificate issued under this Part permits any airplane owned or leased by that holder to be engaged in any operation that the certificate holder knows to be in violation of § 91.12(a) of this chapter, that operation is a basis for suspending or revoking the certificate.

§ 125.41 Availability of certificate and operations specifications.

Each certificate holder shall make its operating certificate and operations specifications available for inspection by the Administrator at its principal operations base.

§ 125.43 Use of operations specifications.

(a) Each certificate holder shall keep each of its employees informed of the provisions of its operations specifications that apply to the employee's duties and responsibilities.

(b) Each certificate holder shall maintain a complete and separate set of its operations specifications. In addition, each certificate holder shall insert pertinent excerpts of its operations specifications, or reference thereto, in its manual in such a manner that they retain their identity as operations specifications.

§ 125.45 Inspection authority.

(a) Each certificate holder shall allow the Administrator, at any time or place, to make any inspections or tests to determine its compliance with the Federal Aviation Act of 1958, the Federal Aviation Regulations, its operating certificate and operations specifications, its letter of deviation authority, or its eligibility to continue to hold its certificate or its letter of deviation authority.

§ 125.47 Change of address.

Each certificate holder shall notify the FAA Flight Standards district office charged with the overall inspection of its operations, in writing, at least 30 days in advance, of any change in the address of its principal business office, its principal operations base, or its principal maintenance base.

§ 125.49 Airport requirements.

(a) No certificate holder may use any airport unless it is adequate for the

proposed operation, considering such items as size, surface, obstructions, and lighting.

(b) No pilot of an airplane carrying passengers at night may take off from, or land on, an airport unless—

(1) That pilot has determined the wind direction from an illuminated wind direction indicator or local ground communications, or, in the case of takeoff, that pilot's personal observations; and

(2) The limits of the area to be used for landing or takeoff are clearly shown by boundary or runway marker lights.

(c) For the purposes of paragraph (b) of this section, if the area to be used for takeoff or landing is marked by flare pots or lanterns, their use must be approved by the Administrator.

§ 125.51 En route navigational facilities.

(a) Except as provided in paragraph (b) of this section, no certificate holder may conduct any operation over a route unless nonvisual ground aids are—

(1) Available over the route for navigating airplanes within the degree of accuracy required for ATC; and

(2) Located to allow navigation to any airport of destination, or alternate airport, within the degree of accuracy necessary for the operation involved.

(b) Nonvisual ground aids are not required for—

(1) Day VFR operations that can be conducted safely by pilotage because of the characteristics of the terrain;

(2) Night VFR operations on routes that the Administrator determines have reliable landmarks adequate for safe operation; or

(3) Operations where the use of celestial or other specialized means of navigation, such as an inertial navigation system, is approved.

§ 125.53 Flight locating requirements.

(a) Each certificate holder must have procedures established for locating each flight for which an FAA flight plan is not filed that—

(1) Provide the certificate holder with at least the information required to be included in a VFR flight plan;

(2) Provide for timely notification of an FAA facility or search and rescue facility, if an airplane is overdue or missing; and

(3) Provide the certificate holder with the location, date, and estimated time for reestablishing radio or telephone communications, if the flight will operate in an area where communications cannot be maintained.

(b) Flight locating information shall be retained at the certificate holder's principal operations base, or at other places designated by the certificate

holder in the flight locating procedures, until the completion of the flight.

(c) Each certificate holder shall furnish the representative of the Administrator assigned to it with a copy of its flight locating procedures and any changes or additions, unless those procedures are included in a manual required under this Part.

Subpart C—Manual Requirements

§ 125.71 Preparation.

(a) Each certificate holder shall prepare and keep current a manual setting forth the certificate holder's procedures and policies acceptable to the Administrator. This manual must be used by the certificate holder's flight, ground, and maintenance personnel in conducting its operations. However, the Administrator may authorize a deviation from this paragraph if the Administrator finds that, because of the limited size of the operation, all or part of the manual is not necessary for guidance of flight, ground, or maintenance personnel.

(b) Each certificate holder shall maintain at least one copy of the manual at its principal operations base.

(c) The manual must not be contrary to any applicable Federal regulations, foreign regulation applicable to the certificate holder's operations in foreign countries, or the certificate holder's operating certificate or operations specifications.

(d) A copy of the manual, or appropriate portions of the manual (and changes and additions) shall be made available to maintenance and ground operations personnel by the certificate holder and furnished to—

(1) Its flight crewmembers; and
(2) The FAA Flight Standards district office charged with the overall inspection of its operations.

(e) Each employee of the certificate holder to whom a manual or appropriate portions of it are furnished under paragraph (d)(1) of this section shall keep it up to date with the changes and additions furnished to them.

(f) Except as provided in paragraph (g) of this section, each certificate holder shall carry appropriate parts of the manual in each airplane when away from the principal operations base. The appropriate parts must be available for use by ground or flight personnel. If a certificate holder carries aboard an airplane all or any portion of the maintenance part of its manual in microfilm, it must also carry a reading device that provides a legible facsimile image of the microfilmed maintenance information and instructions.

(g) If a certificate holder conducts airplane inspections or maintenance at specified stations where it keeps the approved inspection program manual, it is not required to carry the manual aboard the airplane en route to those stations.

§ 125.73 Contents.

Each manual shall have the date of the last revision and revision number on each revised page. The manual must include—

(a) The name of each management person who is authorized to act for the certificate holder, the person's assigned area of responsibility, and the person's duties, responsibilities, and authority;

(b) Procedures for ensuring compliance with airplane weight and balance limitations;

(c) Copies of the certificate holder's operations specifications or appropriate extracted information, including area of operations authorized, category and class of airplane authorized, crew complements, and types of operations authorized;

(d) Procedures for complying with accident notification requirements;

(e) Procedures for ensuring that the pilot in command knows that required airworthiness inspections have been made and that the airplane has been approved for return to service in compliance with applicable maintenance requirements;

(f) Procedures for reporting and recording mechanical irregularities that come to the attention of the pilot in command before, during, and after completion of a flight;

(g) Procedures to be followed by the pilot in command for determining that mechanical irregularities or defects reported for previous flights have been corrected or that correction has been deferred;

(h) Procedures to be followed by the pilot in command to obtain maintenance, preventive maintenance, and servicing of the airplane at a place where previous arrangements have not been made by the operator, when the pilot is authorized to so act for the operator;

(i) Procedures for the release for, or continuation of, flight if any item of equipment required for the particular type of operation becomes inoperative or unserviceable en route;

(j) Procedures for refueling airplanes, eliminating fuel contamination, protecting from fire (including electrostatic protection), and supervising and protecting passengers during refueling;

(k) Procedures to be followed by the pilot in command in the briefing under § 125.327;

(l) Flight locating procedures, when applicable;

(m) Procedures for ensuring compliance with emergency procedures, including a list of the functions assigned each category of required crewmembers in connection with an emergency and emergency evacuation;

(n) The approved airplane inspection program;

(o) Procedures and instructions to enable personnel to recognize hazardous materials, as defined in Title 49 CFR, and if these materials are to be carried, stored, or handled, procedures and instructions for—

(1) Accepting shipment of hazardous material required by Title 49 CFR, to assure proper packaging, marking, labeling shipping documents, compatibility of articles, and instructions on their loading, storage, and handling;

(2) Notification and reporting hazardous material incidents as required by Title 49 CFR; and

(3) Notification of the pilot in command when there are hazardous materials aboard, as required by Title 49 CFR;

(p) Procedures for the evacuation of persons who may need the assistance of another person to move expeditiously to an exit if an emergency occurs;

(q) The identity of each person who will administer tests required by this Part, including the designation of the tests authorized to be given by the person; and

(r) Other procedures and policy instructions regarding the certificate holder's operations that are issued by the certificate holder.

§ 125.75 Airplane flight manual.

(a) Each certificate holder shall keep a current approved Airplane Flight Manual or approved equivalent for each type airplane that it operates.

(b) Each certificate holder shall carry the approved Airplane Flight Manual or the approved equivalent aboard each airplane it operates. A certificate holder may elect to carry a combination of the manuals required by this section and § 125.71. If it so elects, the certificate holder may revise the operating procedures sections and modify the presentation of performance from the applicable Airplane Flight Manual if the revised operating procedures and modified performance data presentation are approved by the Administrator.

Subpart D—Airplane Requirements

§ 125.91 Airplane requirements: general.

(a) No certificate holder may operate an airplane governed by this Part unless it—

(1) Carries an appropriate current airworthiness certificate issued under this chapter; and

(2) Is in an airworthy condition and meets the applicable airworthiness requirements of this chapter, including those relating to identification and equipment.

(b) No person may operate an airplane unless the current empty weight and center of gravity are calculated from the values established by actual weighing of the airplane within the preceding 36 calendar months.

(c) Paragraph (b) of this section does not apply to airplanes issued an original airworthiness certificate within the preceding 36 calendar months.

§ 125.93 Airplane limitations.

No certificate holder may operate a land airplane (other than a DC-3, C-46, CV-240, CV-340, CV-440, CV-580, CV-600, CV-640, or Martin 404) in an extended overwater operation unless it is certificated or approved as adequate for ditching under the ditching provisions of Part 25 of this chapter.

Subpart E—Special Airworthiness Requirements

§ 125.111 General.

(a) Except as provided in paragraph (b) of this section, no certificate holder may use an airplane powered by airplane engines rated at more than 600 horsepower each for maximum continuous operation unless that airplane meets the requirements of §§ 125.113 through 125.181.

(b) If the Administrator determines that, for a particular model of airplane used in cargo service, literal compliance with any requirement under paragraph (a) of this section would be extremely difficult and that compliance would not contribute materially to the objective sought, the Administrator may require compliance with only those requirements that are necessary to accomplish the basic objectives of this Part.

(c) This section does not apply to any airplane certificated under—

(1) Part 4b of the Civil Air Regulations in effect after October 31, 1946;

(2) Part 25 of this chapter; or

(3) Special Civil Air Regulation 422, 422A, or 422B.

§ 125.113 Cabin interiors.

(a) Upon the first major overhaul of an airplane cabin or refurbishing of the

cabin interior, all materials in each compartment used by the crew or passengers that do not meet the following requirements must be replaced with materials that meet these requirements:

(1) For an airplane for which the application for the type certificate was filed prior to May 1, 1972, § 25.853 in effect on April 30, 1972.

(2) For an airplane for which the application for the type certificate was filed on or after May 1, 1972, the materials requirement under which the airplane was type certificated.

(b) Except as provided in paragraph (a) of this section, each compartment used by the crew or passengers must meet the following requirements:

(1) Materials must be at least flash resistant.

(2) The wall and ceiling linings and the covering of upholstery, floors, and furnishings must be flame resistant.

(3) Each compartment where smoking is to be allowed must be equipped with self-contained ash trays that are completely removable and other compartments must be placarded against smoking.

(4) Each receptacle for used towels, papers, and wastes must be of fire-resistant material and must have a cover or other means of containing possible fires started in the receptacles.

§ 125.115 Internal doors.

In any case where internal doors are equipped with louvres or other ventilating means, there must be a means convenient to the crew for closing the flow of air through the door when necessary.

§ 125.117 Ventilation.

Each passenger or crew compartment must be suitably ventilated. Carbon monoxide concentration may not be more than one part in 20,000 parts of air, and fuel fumes may not be present. In any case where partitions between compartments have louvres or other means allowing air to flow between compartments, there must be a means convenient to the crew for closing the flow of air through the partitions when necessary.

§ 125.119 Fire precautions.

(a) Each compartment must be designed so that, when used for storing cargo or baggage, it meets the following requirements:

(1) No compartment may include controls, wiring, lines, equipment, or accessories that would upon damage or failure, affect the safe operation of the airplane unless the item is adequately shielded, isolated, or otherwise

protected so that it cannot be damaged by movement of cargo in the compartment and so that damage to or failure of the item would not create a fire hazard in the compartment.

(2) Cargo or baggage may not interfere with the functioning of the fire-protective features of the compartment.

(3) Materials used in the construction of the compartments, including tie-down equipment, must be at least flame resistant.

(4) Each compartment must include provisions for safeguarding against fires according to the classifications set forth in paragraphs (b) through (f) of this section.

(b) *Class A.* Cargo and baggage compartments are classified in the "A" category if a fire therein would be readily discernible to a member of the crew while at that crewmember's station, and all parts of the compartment are easily accessible in flight. There must be a hand fire extinguisher available for each Class A compartment.

(c) *Class B.* Cargo and baggage compartments are classified in the "B" category if enough access is provided while in flight to enable a member of the crew to effectively reach all of the compartment and its contents with a hand fire extinguisher and the compartment is so designed that, when the access provisions are being used, no hazardous amount of smoke, flames, or extinguishing agent enters any compartment occupied by the crew or passengers. Each Class B compartment must comply with the following:

(1) It must have a separate approved smoke or fire detector system to give warning at the pilot or flight engineer station.

(2) There must be a hand-held fire extinguisher available for the compartment.

(3) It must be lined with fire-resistant material, except that additional service lining of flame-resistant material may be used.

(d) *Class C.* Cargo and baggage compartments are classified in the "C" category if they do not conform with the requirements for the "A", "B", "D", or "E" categories. Each Class C compartment must comply with the following:

(1) It must have a separate approved smoke or fire detector system to give warning at the pilot or flight engineer station.

(2) It must have an approved built-in fire-extinguishing system controlled from the pilot or flight engineer station.

(3) It must be designed to exclude hazardous quantities of smoke, flames, or extinguishing agents from entering

into any compartment occupied by the crew or passengers.

(4) It must have ventilation and draft controlled so that the extinguishing agent provided can control any fire that may start in the compartment.

(5) It must be lined with fire-resistant material, except that additional service lining of flame-resistant material may be used.

(e) *Class D.* Cargo and baggage compartments are classified in the "D" category if they are so designed and constructed that a fire occurring therein will be completely confined without endangering the safety of the airplane or the occupants. Each Class D compartment must comply with the following:

(1) It must have a means to exclude hazardous quantities of smoke, flames, or noxious gases from entering any compartment occupied by the crew or passengers.

(2) Ventilation and drafts must be controlled with each compartment so that any fire likely to occur in the compartment will not progress beyond safe limits.

(3) It must be completely lined with fire-resistant material.

(4) Consideration must be given to the effect of heat within the compartment on adjacent critical parts of the airplane.

(f) *Class E.* On airplanes used for the carriage of cargo only, the cabin area may be classified as a Class "E" compartment. Each Class E compartment must comply with the following:

(1) It must be completely lined with fire-resistant material.

(2) It must have a separate system of an approved type smoke or fire detector to give warning at the pilot or flight engineer station.

(3) It must have a means to shut off the ventilating air flow to or within the compartment and the controls for that means must be accessible to the flightcrew in the crew compartment.

(4) It must have a means to exclude hazardous quantities of smoke, flames, or noxious gases from entering the flightcrew compartment.

(5) Required crew emergency exits must be accessible under all cargo loading conditions.

§ 125.121 Proof of compliance with § 125.119.

Compliance with those provisions of § 125.119 that refer to compartment accessibility, the entry of hazardous quantities of smoke or extinguishing agent into compartment occupied by the crew or passengers, and the dissipation of the extinguishing agent in Class "C" compartments must be shown by tests in

flight. During these tests it must be shown that no inadvertent operation of smoke or fire detectors in other compartments within the airplane would occur as a result of fire contained in any one compartment, either during the time it is being extinguished, or thereafter, unless the extinguishing system floods those compartments simultaneously.

§ 125.123 Propeller deicing fluid.

If combustible fluid is used for propeller deicing, the certificate holder must comply with § 125.153.

125.125 Pressure cross-feed arrangements.

(a) Pressure cross-feed lines may not pass through parts of the airplane used for carrying persons or cargo unless there is a means to allow crewmembers to shut off the supply of fuel to these lines or the lines are enclosed in a fuel and fume-proof enclosure that is ventilated and drained to the exterior of the airplane. However, such an enclosure need not be used if those lines incorporate no fittings on or within the personnel or cargo areas and are suitably routed or protected to prevent accidental damage.

(b) Lines that can be isolated from the rest of the fuel system by valves at each end must incorporate provisions for relieving excessive pressures that may result from exposure of the isolated line to high temperatures.

§ 125.127 Location of fuel tanks.

(a) Fuel tanks must be located in accordance with § 125.153.

(b) No part of the engine nacelle skin that lies immediately behind a major air outlet from the engine compartment may be used as the wall of an integral tank.

(c) Fuel tanks must be isolated from personnel compartments by means of fume- and fuel-proof enclosures.

§ 125.129 Fuel system lines and fittings.

(a) Fuel lines must be installed and supported so as to prevent excessive vibration and so as to be adequate to withstand loads due to fuel pressure and accelerated flight conditions.

(b) Lines connected to components of the airplane between which there may be relative motion must incorporate provisions for flexibility.

(c) Flexible connections in lines that may be under pressure and subject to axial loading must use flexible hose assemblies rather than hose clamp connections.

(d) Flexible hoses must be of an acceptable type or proven suitable for the particular application.

§ 125.131 Fuel lines and fittings in designated fire zones.

Fuel lines and fittings in each designated fire zone must comply with § 125.157.

§ 125.133 Fuel valves.

Each fuel valve must—

- (a) Comply with § 125.155;
- (b) Have positive stops or suitable index provisions in the "on" and "off" positions; and
- (c) Be supported so that loads resulting from its operation or from accelerated flight conditions are not transmitted to the lines connected to the valve.

§ 125.135 Oil lines and fittings in designated fire zones.

Oil lines and fittings in each designated fire zone must comply with § 125.157.

§ 125.137 Oil valves.

- (a) Each oil valve must—
 - (1) Comply with § 125.155;
 - (2) Have positive stops or suitable index provisions in the "on" and "off" positions; and
 - (3) Be supported so that loads resulting from its operation or from accelerated flight conditions are not transmitted to the lines attached to the valve.
- (b) The closing of an oil shutoff means must not prevent feathering the propeller, unless equivalent safety provisions are incorporated.

§ 125.139 Oil system drains.

Accessible drains incorporating either a manual or automatic means for positive locking in the closed position must be provided to allow safe drainage of the entire oil system.

§ 125.141 Engine breather lines.

- (a) Engine breather lines must be so arranged that condensed water vapor that may freeze and obstruct the line cannot accumulate at any point.
- (b) Engine breathers must discharge in a location that does not constitute a fire hazard in case foaming occurs and so that oil emitted from the line does not impinge upon the pilots' windshield.
- (c) Engine breathers may not discharge into the engine air induction system.

§ 125.143 Firewalls.

Each engine, auxiliary power unit, fuel-burning heater, or other item of combusting equipment that is intended for operation in flight must be isolated from the rest of the airplane by means of firewalls or shrouds, or by other equivalent means.

§ 125.145 Firewall construction.

- Each firewall and shroud must—
 - (a) Be so made that no hazardous quantity of air, fluids, or flame can pass from the engine compartment to other parts of the airplane;
 - (b) Have all openings in the firewall or shroud sealed with close-fitting fireproof grommets, bushings, or firewall fittings;
 - (c) Be made of fireproof material; and
 - (d) Be protected against corrosion.

§ 125.147 Cowling.

- (a) Cowling must be made and supported so as to resist the vibration, inertia, and air loads to which it may be normally subjected.
- (b) Provisions must be made to allow rapid and complete drainage of the cowling in normal ground and flight attitudes. Drains must not discharge in locations constituting a fire hazard. Parts of the cowling that are subjected to high temperatures because they are near exhaust system parts or because of exhaust gas impingement must be made of fireproof material. Unless otherwise specified in these regulations, all other parts of the cowling must be made of material that is at least fire resistant.

§ 125.149 Engine accessory section diaphragm.

Unless equivalent protection can be shown by other means, a diaphragm that complies with § 125.145 must be provided on air-cooled engines to isolate the engine power section and all parts of the exhaust system from the engine accessory compartment.

§ 125.151 Powerplant fire protection.

- (a) Designated fire zones must be protected from fire by compliance with §§ 125.153 through 125.159.
- (b) Designated fire zones are—
 - (1) Engine accessory sections;
 - (2) Installations where no isolation is provided between the engine and accessory compartment; and
 - (3) Areas that contain auxiliary power units, fuel-burning heaters, and other combustion equipment.

§ 125.153 Flammable fluids.

- (a) No tanks or reservoirs that are a part of a system containing flammable fluids or gases may be located in designated fire zones, except where the fluid contained, the design of the system, the materials used in the tank, the shutoff means, and the connections, lines, and controls provide equivalent safety.
- (b) At least one-half inch of clear airspace must be provided between any tank or reservoir and a firewall or shroud isolating a designated fire zone.

§ 125.155 Shutoff means.

- (a) Each engine must have a means for shutting off or otherwise preventing hazardous amounts of fuel, oil, deicer, and other flammable fluids from flowing into, within, or through any designated fire zone. However, means need not be provided to shut off flow in lines that are an integral part of an engine.
- (b) The shutoff means must allow an emergency operating sequence that is compatible with the emergency operation of other equipment, such as feathering the propeller, to facilitate rapid and effective control of fires.
- (c) Shutoff means must be located outside of designated fire zones, unless equivalent safety is provided, and it must be shown that no hazardous amount of flammable fluid will drain into any designated fire zone after a shutoff.
- (d) Adequate provisions must be made to guard against inadvertent operation of the shutoff means and to make it possible for the crew to reopen the shutoff means after it has been closed.

§ 125.157 Lines and fittings.

- (a) Each line, and its fittings, that is located in a designated fire zone, if it carries flammable fluids or gases under pressure, or is attached directly to the engine, or is subject to relative motion between components (except lines and fittings forming an integral part of the engine), must be flexible and fire-resistant with fire-resistant, factory-fixed, detachable, or other approved fire-resistant ends.
- (b) Lines and fittings that are not subject to pressure or to relative motion between components must be of fire-resistant materials.

§ 125.159 Vent and drain lines.

All vent and drain lines, and their fittings, that are located in a designated fire zone must, if they carry flammable fluids or gases, comply with § 125.157, if the Administrator finds that the rupture or breakage of any vent or drain line may result in a fire hazard.

§ 125.161 Fire-extinguishing systems.

- (a) Unless the certificate holder shows that equivalent protection against destruction of the airplane in case of fire is provided by the use of fireproof materials in the nacelle and other components that would be subjected to flame, fire-extinguishing systems must be provided to serve all designated fire zones.
- (b) Materials in the fire-extinguishing system must not react chemically with the extinguishing agent so as to be a hazard.

§ 125.163 Fire-extinguishing agents.

Only methyl bromide, carbon dioxide, or another agent that has been shown to provide equivalent extinguishing action may be used as a fire-extinguishing agent. If methyl bromide or any other toxic extinguishing agent is used, provisions must be made to prevent harmful concentrations of fluid or fluid vapors from entering any personnel compartment either because of leakage during normal operation of the airplane or because of discharging the fire extinguisher on the ground or in flight when there is a defect in the extinguishing system. If a methyl bromide system is used, the containers must be charged with dry agent and sealed by the fire-extinguisher manufacturer or some other person using satisfactory recharging equipment. If carbon dioxide is used, it must not be possible to discharge enough gas into the personnel compartments to create a danger of suffocating the occupants.

§ 125.165 Extinguishing agent container pressure relief.

Extinguishing agent containers must be provided with a pressure relief to prevent bursting of the container because of excessive internal pressures. The discharge line from the relief connection must terminate outside the airplane in a place convenient for inspection on the ground. An indicator must be provided at the discharge end of the line to provide a visual indication when the container has discharged.

§ 125.167 Extinguishing agent container compartment temperature.

Precautions must be taken to ensure that the extinguishing agent containers are installed in places where reasonable temperatures can be maintained for effective use of the extinguishing system.

§ 125.169 Fire-extinguishing system materials.

(a) Except as provided in paragraph (b) of this section, each component of a fire-extinguishing system that is in a designated fire zone must be made of fireproof materials.

(b) Connections that are subject to relative motion between components of the airplane must be made of flexible materials that are at least fire-resistant and be located so as to minimize the probability of failure.

§ 125.171 Fire-detector systems.

Enough quick-acting fire detectors must be provided in each designated fire zone to assure the detection of any fire that may occur in that zone.

§ 125.173 Fire detectors.

Fire detectors must be made and installed in a manner that assures their ability to resist, without failure, all vibration, inertia, and other loads to which they may be normally subjected. Fire detectors must be unaffected by exposure to fumes, oil, water, or other fluids that may be present.

§ 125.175 Protection of other airplane components against fire.

(a) Except as provided in paragraph (b) of this section, all airplane surfaces aft of the nacelles in the area of one nacelle diameter on both sides of the nacelle centerline must be made of material that is at least fire resistant.

(b) Paragraph (a) of this section does not apply to tail surfaces lying behind nacelles unless the dimensional configuration of the airplane is such that the tail surfaces could be affected readily by heat, flames, or sparks emanating from a designated fire zone or from the engine from a designated fire zone or from the engine compartment of any nacelle.

§ 12.177 Control of engine rotation.

(a) Except as provided in paragraph (b) of this section, each airplane must have a means of individually stopping and restarting the rotation of any engine in flight.

(b) In the case of turbine engine installations, a means of stopping rotation need be provided only if the Administrator finds that rotation could jeopardize the safety of the airplane.

§ 125.179 Fuel system independence.

(a) Each airplane fuel system must be arranged so that the failure of any one component does not result in the irrecoverable loss of power of more than one engine.

(b) A separate fuel tank need not be provided for each engine if the certificate holder shows that the fuel system incorporates features that provide equivalent safety.

§ 125.181 Induction system ice prevention.

A means for preventing the malfunctioning of each engine due to ice accumulation in the engine air induction system must be provided for each airplane.

§ 125.183 Carriage of cargo in passenger compartments.

(a) Except as provided in paragraph (b) or (c) of this section, no certificate holder may carry cargo in the passenger compartment of an airplane.

(b) Cargo may be carried aft of the foremost seated passengers if it is

carried in an approved cargo bin that meets the following requirements:

(1) The bin must withstand the load factors and emergency landing conditions applicable to the passenger seats of the airplane in which the bin is installed, multiplied by a factor of 1.15, using the combined weight of the bin and the maximum weight of cargo that may be carried in the bin.

(2) The maximum weight of cargo that the bin is approved to carry and any instructions necessary to ensure proper weight distribution within the bin must be conspicuously marked on the bin.

(3) The bin may not impose any load on the floor or other structure of the airplane that exceeds the load limitations of that structure.

(4) The bin must be attached to the seat tracks or to the floor structure of the airplane, and its attachment must withstand the load factors and emergency landing conditions applicable to the passenger seats of the airplane in which the bin is installed, multiplied by either the factor 1.15 or the seat attachment factor specified for the airplane, whichever is greater, using the combined weight of the bin and the maximum weight of cargo that may be carried in the bin.

(5) The bin may not be installed in a position that restricts access to or use of any required emergency exit, or of the aisle in the passenger compartment.

(6) The bin must be fully enclosed and made of material that is at least flame-resistant.

(7) Suitable safeguards must be provided within the bin to prevent the cargo from shifting under emergency landing conditions.

(8) The bin may not be installed in a position that obscures any passenger's view of the "seat belt" sign, "no smoking" sign, or any required exit sign, unless an auxiliary sign or other approved means for proper notification of the passenger is provided.

(c) All cargo may be carried forward of the foremost seated passengers and carry-on baggage may be carried alongside the foremost seated passengers if the cargo (including carry-on baggage) is carried either in approved bins as specified in paragraph (b) of this section or in accordance with the following:

(1) It is properly secured by a safety belt or other tie down having enough strength to eliminate the possibility of shifting under all normally anticipated flight and ground conditions.

(2) It is packaged or covered in a manner to avoid possible injury to passengers.

(3) It does not impose any load on seats or the floor structure that exceeds

the load limitation for those components.

(4) Its location does not restrict access to or use of any required emergency or regular exit, or of the aisle in the passenger compartment.

(5) Its location does not obscure any passenger's view of the "seat belt" sign, "no smoking" sign, or required exit sign, unless an auxiliary sign or other approved means for proper notification of the passenger is provided.

§ 125.185 Carriage of cargo in cargo compartments.

When cargo is carried in cargo compartments that are designed to require the physical entry of a crewmember to extinguish any fire that may occur during flight, the cargo must be loaded so as to allow a crewmember to effectively reach all parts of the compartment with contents of a hand-held fire extinguisher.

§ 125.187 Landing gear: aural warning device.

(a) Each airplane must have a landing gear aural warning device that functions continuously under the following conditions:

(1) For airplanes with an established approach wing-flap position, whenever the wing flaps are extended beyond the maximum certificated approach climb configuration position in the Airplane Flight Manual and the landing gear is not fully extended and locked.

(2) For airplanes without an established approach climb wing-flap position, whenever the wing flaps are extended beyond the position at which landing gear extension is normally performed and the landing gear is not fully extended and locked.

(b) The warning system required by paragraph (a) of this section—

(1) May not have a manual shutoff;

(2) Must be in addition to the throttle-actuated device installed under the type certification airworthiness requirements; and

(3) May utilize any part of the throttle-actuated system including the aural warning device.

(c) The flap position sensing unit may be installed at any suitable place in the airplane.

§ 125.189 Demonstration of emergency evacuation procedures.

(a) Each certificate holder must show, by actual demonstration conducted in accordance with paragraph (a) of Appendix B of this Part, that the emergency evacuation procedures for each type and model of airplane with a seating of more than 44 passengers, that is used in its passenger-carrying operations, allow the evacuation of the

full seating capacity, including crewmembers, in 90 seconds or less, in each of the following circumstances:

(1) A demonstration must be conducted by the certificate holder upon the initial introduction of a type and model of airplane into passenger-carrying operations. However, the demonstration need not be repeated for any airplane type or model that has the same number and type of exits, the same cabin configuration, and the same emergency equipment as any other airplane used by the certificate holder in successfully demonstrating emergency evacuation in compliance with this paragraph.

(2) A demonstration must be conducted—

(i) Upon increasing by more than 5 percent the passenger seating capacity for which successful demonstration has been conducted; or

(ii) Upon a major change in the passenger cabin interior configuration that will affect the emergency evacuation of passengers.

(b) If a certificate holder has conducted a successful demonstration required by § 121.291(a) in the same type airplane as a Part 121 or 123 certificate holder, it need not conduct a demonstration under this paragraph in that type airplane to achieve certification under Part 125.

(c) Each certificate holder operating or proposing to operate one or more landplanes in extended overwater operations, or otherwise required to have certain equipment under § 125.209, must show, by a simulated ditching conducted in accordance with paragraph (b) of Appendix B of this Part, that it has the ability to efficiently carry out its ditching procedures.

(d) If a certificate holder has conducted a successful demonstration required by § 121.291(b) in the same type airplane as a Part 121 or 123 certificate holder, it need not conduct a demonstration under this paragraph in that type airplane to achieve certification under Part 125.

Subpart F—Instrument and Equipment Requirements

§ 125.201 Inoperable instruments and equipment.

(a) No person may take off an airplane unless the following instruments and equipment are in an operable condition:

(1) Instruments and equipment that are either specifically or otherwise required by the airworthiness requirements under which the airplane is type certificated and which are

essential for safe operations under all operating conditions.

(2) Instruments and equipment required by an airworthiness directive to be in operable condition unless the airworthiness directive provides otherwise.

(b) No person may take off any airplane with inoperable instruments or equipment installed, other than those described in paragraph (a) of this section, unless the following conditions are met:

(1) An approved Minimum Equipment List exists for the airplane type.

(2) The airplane has within it a letter of authorization, issued by the FAA Flight Standards district office having certification responsibility for the certificate holder, authorizing operation of the airplane under the Minimum Equipment List. The letter of authorization may be obtained by written request of the certificate holder. The Minimum Equipment List and the letter of authorization constitute a supplemental type certificate for the airplane.

(3) The approved Minimum Equipment List must provide for the operation of the airplane with the instruments and equipment in an inoperable condition.

(4) The airplane records available to the pilot must include an entry describing the inoperable instruments and equipment.

(5) The airplane is operated under all applicable conditions and limitations contained in the Minimum Equipment List and the letter authorizing the use of the list.

(c) Without regard to the requirements of paragraph (a)(1) of this section, an airplane with inoperable instruments or equipment may be operated under a special flight permit under §§ 21.197 and 21.199 of this chapter.

§ 125.203 Radio and navigational equipment.

(a) No person may operate an airplane unless it has two-way radio communications equipment able, at least in flight, to transmit to, and receive from, ground facilities 25 miles away.

(b) No person may operate an airplane over-the-top unless it has radio navigational equipment able to receive radio signals from the ground facilities to be used.

(c) No person may operate an airplane carrying passengers under IFR or in extended overwater operations unless it has at least the following radio communication and navigational equipment appropriate to the facilities to be used which are capable of transmitting to, and receiving from, at

any place on the route to be flown, at least one ground facility:

(1) Two transmitters, (2) two microphones, (3) two headsets or one headset and one speaker (4) a marker beacon receiver, (5) two independent receivers for navigation, and (6) two independent receivers for communications.

(d) For the purposes of paragraphs (c)(5) and (c)(6) of this section, a receiver is independent if the function of any part of it does not depend on the functioning of any part of another receiver. However, a receiver that can receive both communications and navigational signals may be used in place of a separate communications receiver and a separate navigational signal receiver.

§ 125.205 Equipment requirements: Airplanes under IFR.

No person may operate an airplane under IFR unless it has—

- (a) A vertical speed indicator;
 - (b) A free-air temperature indicator;
 - (c) A heated pitot tube for each airspeed indicator;
 - (d) A power failure warning device or vacuum indicator to show the power available for gyroscopic instruments from each power source;
 - (e) An alternate source of static pressure for the altimeter and the airspeed and vertical speed indicators;
 - (f) At least two generators each of which is on a separate engine, or which any combination on one-half of the total number are rated sufficiently to supply the electrical loads of all required instruments and equipment necessary for safe emergency operation of the airplane; and
 - (g) Two independent sources of energy (with means of selecting either), of which at least one is an engine-driven pump or generator, each of which is able to drive all gyroscopic instruments and installed so that failure of one instrument or source does not interfere with the energy supply to the remaining instruments or the other energy source.
- For the purposes of this paragraph, each engine-driven source of energy must be on a different engine.
- (h) For the purposes of paragraph (f) of this section, a continuous inflight electrical load includes one that draws current continuously during flight, such as radio equipment, electrically driven instruments, and lights, but does not include occasional intermittent loads.
- (i) An airspeed indicating system with heated pitot tube or equivalent means for preventing malfunctioning due to icing.
 - (j) A sensitive altimeter.

(k) Instrument lights providing enough light to make each required instrument, switch, or similar instrument easily readable and installed so that the direct rays are shielded from the flight crewmembers' eyes and that no objectionable reflections are visible to them. There must be a means of controlling the intensity of illumination unless it is shown that nondimming instrument lights are satisfactory.

§ 125.207 Emergency equipment requirements.

(a) No person may operate an airplane having a seating capacity of 20 or more passengers unless it is equipped with the following emergency equipment:

- (1) One approved first aid kit for treatment of injuries likely to occur in flight or in a minor accident, which meets the following specifications and requirements:
 - (i) Each first aid kit must be dust and moisture proof and contain only materials that either meet Federal Specifications GCK-391a, as revised, or as approved by the Administrator.
 - (ii) Required first aid kits must be readily accessible to the cabin flight attendants.
 - (iii) At time of takeoff, each first aid kit must contain at least the following or other contents approved by the Administrator:

Contents:	Quantity
Adhesive bandage compressors, 1 in.	16
Antiseptic swabs	20
Ammonia inhalants	10
Bandage compressors, 4 in.	8
Triangular bandage compressors, 40 in.	5
Burn compound, 1/2 oz or an equivalent of other burn remedy	6
Arm splint, noninflatable	1
Leg splint, noninflatable	1
Roller bandage, 4 in.	4
Adhesive tape, 1-in standard roll	2
Bandage scissors	1

- (2) A crash axe carried so as to be accessible to the crew but inaccessible to passengers during normal operations.
- (3) Signs that are visible to all occupants to notify them when smoking is prohibited and when safety belts should be fastened. The signs must be so constructed that they can be turned on and off by a crewmember. They must be turned on for each takeoff and each landing and when otherwise considered to be necessary by the pilot in command.
- (4) The additional emergency equipment specified in Appendix A of this Part.
- (b) *Megaphones.* Each passenger-carrying airplane must have a portable

battery-powered megaphone or megaphones readily accessible to the crewmembers assigned to direct emergency evacuation, installed as follows:

- (1) One megaphone on each airplane with a seating capacity of more than 60 and less than 100 passengers, at the most rearward location in the passenger cabin where it would be readily accessible to a normal flight attendant seat. However, the Administrator may grant a deviation from the requirements of this subparagraph if the Administrator finds that a different location would be more useful for evacuation of persons during an emergency.
- (2) Two megaphones in the passenger cabin on each airplane with a seating capacity of more than 99 and less than 200 passengers, one installed at the forward end and the other at the most rearward location where it would be readily accessible to a normal flight attendant seat.
- (3) Three megaphones in the passenger cabin on each airplane with a seating capacity of more than 199 passengers, one installed at the forward end, one installed at the most rearward location where it would be readily accessible to a normal flight attendant seat, and one installed in a readily accessible location in the mid-section of the airplane.

§ 125.209 Emergency equipment: Extended overwater operations.

- (a) No person may operate an airplane in extended overwater operations unless it carries, installed in conspicuously marked locations easily accessible to the occupants if a ditching occurs, the following equipment:
- (1) An approved life preserver equipped with an approved survivor locator light, or an approved flotation means, for each occupant of the aircraft. The life preserver or other flotation means must be easily accessible to each seated occupant. If a flotation means other than a life preserver is used, it must be readily removable from the airplane.
 - (2) Enough approved life rafts (with proper buoyancy) to carry all occupants of the airplane, and at least the following equipment for each raft clearly marked for easy identification—
 - (i) One canopy (for sail, sunshade, or rain catcher);
 - (ii) One radar reflector (or similar device);
 - (iii) One life raft repair kit;
 - (iv) One bailing bucket;
 - (v) One signaling mirror;
 - (vi) One police whistle;
 - (vii) One raft knife;

(viii) One CO₂ bottle for emergency inflation;

(ix) One inflation pump;

(x) Two oars;

(xi) One 75-foot retaining line;

(xii) One magnetic compass;

(xiii) One dye marker;

(xiv) One flashlight having at least two size "D" cells or equivalent;

(xv) At least one approved pyrotechnic signaling device;

(xvi) A 2-day supply of emergency food rations supplying at least 1,000 calories a day for each person;

(xvii) One sea water desalting kit for each two persons that raft is rated to carry, or two pints of water for each person the raft is rated to carry;

(xviii) One fishing kit; and

(xix) One book on survival appropriate for the area in which the airplane is operated.

(b) No person may operate an airplane in extended overwater operations unless there is attached to one of the life rafts required by paragraph (a) of this section, a survival type emergency locator transmitter that meets TSO-C91. Batteries used in this transmitter must be replaced (or recharged, if the batteries are rechargeable) when the transmitter has been in use for more than 1 cumulative hour, and also when 50 percent of their useful life (or for rechargeable batteries, 50 percent of their useful life of charge), as established by the transmitter manufacturer under TSO-C91 has expired. The new expiration date for the replacement or recharged batteries must be legibly marked on the outside of the transmitter. The battery useful life or useful life of charge requirements of this paragraph do not apply to batteries (such as water-activated batteries) that are essentially unaffected during probably storage intervals.

§ 125.211 Seat and safety belts.

(a) No person may operate an airplane unless there are available during the takeoff, en route flight, and landing—

(1) An approved seat or berth for each person on board the airplane who is at least 2 years old; and

(2) An approved safety belt for separate use by each person on board the airplane who is at least 2 years old, except that two persons occupying a berth may share one approved safety belt and two persons occupying a multiple lounge or divan seat may share one approved safety belt during en route flight only.

(b) During the takeoff and landing of an airplane, each person on board shall occupy an approved seat or berth with a separate safety belt properly secured about that person. However, a person

who is not at least 2 years old may be held by an adult who is occupying a seat or berth. A safety belt provided for the occupant of a seat may not be used during takeoff and landing by more than one person who is at least 2 years old.

(c) Each sideward facing seat must comply with the applicable requirements of § 25.785(c) of this chapter.

(d) No certificate holder may take off or land an airplane unless each passenger seat back is in the upright position. Each passenger shall comply with instructions given by a crewmember in compliance with this paragraph. This paragraph does not apply to seats on which cargo or persons who are unable to sit erect for a medical reason are carried in accordance with procedures in the certificate holder's manual if the seat back does not obstruct any passenger's access to the aisle or to any emergency exit.

(e) Each occupant of a seat equipped with a shoulder harness must fasten the shoulder harness during takeoff and landing, except that, in the case of crewmembers, the shoulder harness need not be fastened if the crewmember cannot perform his required duties with the shoulder harness fastened.

§ 125.213 Miscellaneous equipment.

No person may conduct any operation unless the following equipment is installed in the airplane:

(a) If protective fuses are installed on an airplane, the number of spare fuses approved for the airplane and appropriately described in the certificate holder's manual.

(b) A windshield wiper or equivalent for each pilot station.

(c) A power supply and distribution system that meets the requirements of §§ 25.1309, 25.1331, 25.1351 (a) and (b) (1) through (4), 25.1353, 25.1355, and 25.1431(b) or that is able to produce and distribute the load for the required instruments and equipment, with use of an external power supply if any one power source or component of the power distribution system fails. The use of common elements in the system may be approved if the Administrator finds that they are designed to be reasonably protected against malfunctioning. Engine-driven sources of energy, when used, must be on separate engines.

(d) A means for indicating the adequacy of the power being supplied to required flight instruments.

(e) Two independent static pressure systems, vented to the outside atmospheric pressure so that they will be least affected by air flow variation or moisture or other foreign matter, and

installed so as to be airtight except for the vent. When a means is provided for transferring an instrument from its primary operating system to an alternative system, the means must include a positive positioning control and must be marked to indicate clearly which system is being used.

(f) A placard on each door that is the means of access to a required passenger emergency exit to indicate that it must be open during takeoff and landing.

(g) A means for the crew, in an emergency, to unlock each door that leads to a compartment that is normally accessible to passengers and that can be locked by passengers.

§ 125.215 Operating information required.

(a) The operator of an airplane must provide the following materials, in current and appropriate form, accessible to the pilot at the pilot station, and the pilot shall use them:

(1) A cockpit checklist.

(2) An emergency cockpit checklist containing the procedures required by paragraph (c) of this section, as appropriate.

(3) Pertinent aeronautical charts.

(4) For IFR operations, each pertinent navigational en route, terminal area, and approach and letdown chart;

(5) One-engine-inoperative climb performance data and, if the airplane is approved for use in IFR or over-the-top operations, that data must be sufficient to enable the pilot to determine that the airplane is capable of carrying passengers over-the-top or in IFR conditions at a weight that will allow it to climb, with the critical engine inoperative, at least 50 feet a minute when operating at the MEA's of the route to be flown or 5,000 feet MSL, whichever is higher.

(b) Each cockpit checklist required by paragraph (a)(1) of this section must contain the following procedures: (1) Before starting engines; (2) Before takeoff; (3) Cruise; (4) Before landing; (5) After landing; (6) Stopping engines.

(c) Each emergency cockpit checklist required by paragraph (a)(2) of this section must contain the following procedures, as appropriate:

(1) Emergency operation of fuel, hydraulic, electrical, and mechanical systems.

(2) Emergency operation of instruments and controls.

(3) Engine inoperative procedures.

(4) Any other emergency procedures necessary for safety.

§ 125.217 Passenger information.

(a) No person may operate an airplane carrying passengers unless it is equipped with passenger information

signs that meet the requirements of § 25.791 of this chapter. The signs must be constructed so that the crewmembers can turn them on and off. They must be turned on for each takeoff and each landing and when otherwise considered to be necessary by the pilot in command.

(b) No passenger or crewmember may smoke while the no smoking sign is lighted and each passenger shall fasten that passenger's seat belt and keep it fastened while the seat belt sign is lighted.

§ 125.219 Oxygen for medical use by passengers.

(a) Except as provided in paragraphs (d) and (e) of this section, no certificate holder may allow the carriage or operation of equipment for the storage, generation or dispensing of medical oxygen unless the unit to be carried is constructed so that all valves, fittings, and gauges are protected from damage during that carriage or operation and unless the following conditions are met—

- (1) The equipment must be—
 - (i) Of an approved type or in conformity with the manufacturing, packaging, marking, labeling, and maintenance requirements of Title 49 CFR Parts 171, 172, and 173, except § 173.24(a)(1);
 - (ii) When owned by the certificate holder, maintained under the certificate holder's approved maintenance program;
 - (iii) Free of flammable contaminants on all exterior surfaces; and
 - (iv) Appropriately secured.
 - (2) When the oxygen is stored in the form of a liquid, the equipment must have been under the certificate holder's approved maintenance program since its purchase new or since the storage container was last purged.
 - (3) When the oxygen is stored in the form of a compressed gas as defined in Title 49 CFR § 173.300(a)—
 - (i) When owned by the certificate holder, it must be maintained under its approved maintenance program; and
 - (ii) The pressure in any oxygen cylinder must not exceed the rated cylinder pressure.
 - (4) The pilot in command must be advised when the equipment is on board and when it is intended to be used.
 - (5) The equipment must be stowed, and each person using the equipment must be seated so as not to restrict access to or use of any required emergency or regular exit or of the aisle in the passenger compartment.
- (b) When oxygen is being used, no person may smoke and no certificate holder may allow any person to smoke

within 10 feet of oxygen storage and dispensing equipment carried under paragraph (a) of this section.

(c) No certificate holder may allow any person other than a person trained in the use of medical oxygen equipment to connect or disconnect oxygen bottles or any other ancillary component while any passenger is aboard the airplane.

(d) Paragraph (a)(1)(i) of this section does not apply when that equipment is furnished by a professional or medical emergency service for use on board an airplane in medical emergency when no other practical means of transportation (including any other properly equipped certificate holder) is reasonably available and the person carried under the medical emergency is accompanied by a person trained in the use of medical oxygen.

(e) Each certificate holder who, under the authority of paragraph (d) of this section, deviates from paragraph (a)(1)(i) of this section under medical emergency shall, within 10 days, excluding Saturdays, Sundays, and Federal holidays, after the deviation, send to the FAA Flight Standards district office charged with the overall inspection of the certificate holder a complete report of the operation involved, including a description of the deviation and the reasons for it.

§ 125.221 Icing conditions: Operating limitations.

- (a) No pilot may take off an airplane that has—
- (1) Frost, snow, or ice adhering to any propeller, windshield, or powerplant installation, or to an airspeed, altimeter, rate of climb, or flight attitude instrument system;
 - (2) Snow or ice adhering to the wings or stabilizing or control surfaces; or
 - (3) Any frost adhering to the wings, or stabilizing or control surfaces, unless that frost has been polished to make it smooth.
- (b) Except for an airplane that has ice protection provisions that meet Appendix C of this Part or those for transport category airplane type certification, no pilot may fly—
- (1) Under IFR into known or forecast light or moderate icing conditions; or
 - (2) Under VFR into known light or moderate icing conditions, unless the airplane has functioning deicing or anti-icing equipment protecting each propeller, windshield, wing, stabilizing or control surface, and each airspeed, altimeter, rate of climb, or flight attitude instrument system.
- (c) Except for an airplane that has ice protection provisions that meet Appendix C of this Part or those for transport category airplane type

certification, no pilot may fly an airplane into known or forecast severe icing conditions.

(d) If current weather reports and briefing information relied upon by the pilot in command indicate that the forecast icing condition that would otherwise prohibit the flight will not be encountered during the flight because of changed weather conditions since the forecast, the restrictions in paragraphs (b) and (c) of this section based on forecast conditions do not apply.

§ 125.223 Airborne weather radar equipment requirements.

(a) No person may operate an airplane governed by this Part in passenger-carrying operations unless approved airborne weather radar equipment is installed in the airplane.

(b) No person may begin a flight under IFR or night VFR conditions when current weather reports indicate that thunderstorms, or other potentially hazardous weather conditions that can be detected with airborne weather radar equipment, may reasonably be expected along the route to be flown, unless the airborne weather radar equipment required by paragraph (a) of this section is in satisfactory operating condition.

(c) If the airborne weather radar equipment becomes inoperative en route, the airplane must be operated under the instructions and procedures specified for that event in the manual required by § 125.71.

(d) This section does not apply to airplanes used solely within the State of Hawaii, within the State of Alaska, within that part of Canada west of longitude 130 degrees W, between latitude 70 degrees N, and latitude 53 degrees N, or during any training, test, or ferry flight.

(e) Without regard to any other provision of this Part, an alternate electrical power supply is not required for airborne weather radar equipment.

Subpart G—Maintenance

§ 125.241 Applicability.

This subpart prescribes rules, in addition to those prescribed in other Parts of this chapter, for the maintenance of airplanes, airframes, aircraft engines, propellers, appliances, each item of survival and emergency equipment, and their component parts operated under this part.

§ 125.243 Certificate holder's responsibilities.

(a) With regard to airplanes, including airframes, aircraft engines, propellers, appliances, and survival and emergency equipment, operated by a certificate holder, that certificate holder is primarily responsible for—

- (1) Airworthiness;
- (2) The performance of maintenance, preventive maintenance, and alteration in accordance with applicable regulations and the certificate holder's manual;
- (3) The scheduling and performance of inspections required by this Part; and
- (4) Ensuring that maintenance personnel make entries in the airplane maintenance log and maintenance records which meet the requirements of Part 43 of this chapter and the certificate holder's manual, and which indicate that the airplane has been approved for return to service after maintenance, preventive maintenance, or alteration has been performed.

§ 125.245 Organization required to perform maintenance, preventive maintenance, and alteration.

The certificate holder must ensure that each person with whom it arranges for the performance of maintenance, preventive maintenance, alteration, or required inspection items identified in the certificate holder's manual in accordance with § 125.249(a)(3)(ii) must have an organization adequate to perform that work.

§ 125.247 Inspection programs and maintenance.

(a) No person may operate an airplane subject to this Part unless—

- (1) The replacement times for life-limited parts specified in the aircraft type certificate data sheets, or other documents approved by the Administrator, are complied with;
- (2) Defects disclosed between inspections, or as a result of inspection, have been corrected in accordance with Part 43 of this chapter; and
- (3) The airplane, including airframe, aircraft engines, propellers, appliances, and survival and emergency equipment, and their component parts, is inspected in accordance with an inspection program approved by the Administrator.

(b) The inspection program specified in paragraph (a)(3) of this section must include at least the following:

- (1) Instructions, procedures, and standards for the conduct of inspections for the particular make and model of airplane, including necessary tests and checks. The instructions and procedures must set forth in detail the parts and areas of the airframe, aircraft engines, propellers, appliances, and survival and emergency equipment required to be inspected.
- (2) A schedule for the performance of inspections that must be performed under the program, expressed in terms of the time in service, calendar time,

number of system operations, or any combination of these.

(c) No person may be used to perform the inspections required by this Part unless that person is authorized to perform maintenance under Part 43 of this chapter.

(d) No person may operate an airplane subject to this Part unless—

- (1) The installed engines have been maintained in accordance with the overhaul periods recommended by the manufacturer or approved by the Administrator; and
 - (2) The engine overhaul periods are specified in the inspection programs required by § 125.247(a)(3).
- (e) Inspection programs which may be approved for use under this Part include, but are not limited to—
- (1) A continuous inspection program which is a part of a current continuous airworthiness program approved for use by a certificate holder under Part 121 or 135 of this chapter;
 - (2) Inspection programs currently recommended by the manufacturer of the airplane, aircraft engines, propellers, appliances, or survival and emergency equipment; or
 - (3) An inspection program developed by a certificate holder under this Part.

§ 125.249 Maintenance manual requirements.

(a) Each certificate holder's manual required by § 125.71 of this Part shall contain, in addition to the items required by § 125.73 of this Part, at least the following:

- (1) A description of the certificate holder's maintenance organization, when the certificate holder has such an organization.
- (2) A list of those persons with whom the certificate holder has arranged for performance of inspections under this Part. The list shall include the persons' names and addresses.
- (3) The inspection programs required by § 125.247 of this Part to be followed in the performance of inspections under this Part including—
 - (i) The method of performing routine and nonroutine inspections (other than required inspections);
 - (ii) The designation of the items that must be inspected (required inspections), including at least those which if improperly accomplished could result in a failure, malfunction, or defect endangering the safe operation of the airplane;
 - (iii) The method of performing required inspections;
 - (iv) Procedures for the inspection of work performed under previously required inspection findings ("buy-back procedures");

(v) Procedures, standards, and limits necessary for required inspections and acceptance or rejection of the items required to be inspected;

(vi) Instructions to prevent any person who performs any item of work from performing any required inspection of that work; and

(vii) Procedures to ensure that work interruptions do not adversely affect required inspections and to ensure required inspections are properly completed before the airplane is released to service.

(b) In addition, each certificate holder's manual shall contain a suitable system which may include a coded system that provides for the retention of the following:

- (1) A description (or reference to data acceptable to the Administrator) of the work performed.
- (2) The name of the person performing the work and the person's certificate type and number.
- (3) The name of the person approving the work and the person's certificate type and number.

§ 125.251 Required inspection personnel.

(a) No person may use any person to perform required inspections unless the person performing the inspection is appropriately certificated, properly trained, qualified, and authorized to do so.

(b) No person may perform a required inspection if that person performed the item of work required to be inspected.

Subpart H—Airman and Crewmember Requirements

§ 125.261 Airman: Limitations on use of services.

(a) No certificate holder may use any person as an airman nor may any person serve as an airman unless that person—

- (1) Holds an appropriate current airman certificate issued by the FAA;
- (2) Has any required appropriate current airman and medical certificates in that person's possession while engaged in operations under this Part; and
- (3) Is otherwise qualified for the operation for which that person is to be used.

(b) Each airman covered by paragraph (a) of this section shall present the certificates for inspection upon the request of the Administrator.

§ 125.263 Composition of flightcrew.

(a) No certificate holder may operate an airplane with less than the minimum flightcrew specified in the type certificate and the Airplane Flight Manual approved for that type airplane

and required by this Part for the kind of operation being conducted.

(b) In any case in which this Part requires the performance of two or more functions for which an airman certificate is necessary, that requirement is not satisfied by the performance of multiple functions at the same time by one airman.

(c) On each flight requiring a flight engineer, at least one flight crewmember, other than the flight engineer, must be qualified to provide emergency performance of the flight engineer's functions for the safe completion of the flight if the flight engineer becomes ill or is otherwise incapacitated. A pilot need not hold a flight engineer's certificate to perform the flight engineer's functions in such a situation.

§ 125.265 Flight engineer requirements.

(a) No person may operate an airplane for which a flight engineer is required by the type certification requirements without a flight crewmember holding a current flight engineer certificate.

(b) No person may serve as a required flight engineer on an airplane unless, within the preceding 6 calendar months, that person has had at least 50 hours of flight time as a flight engineer on that type airplane, or the Administrator has checked that person on that type airplane and determined that person is familiar and competent with all essential current information and operating procedures.

§ 125.267 Flight navigator and long-range navigation equipment

(a) No certificate holder may operate an airplane outside the 48 conterminous States and the District of Columbia when its position cannot be reliably fixed for a period of more than 1 hour, without—

(1) A flight crewmember who holds a current flight navigator certificate; or

(2) Two independent, properly functioning, and approved long-range means of navigation which enable a reliable determination to be made of the position of the airplane by each pilot seated at that person's duty station.

(b) Operations where a flight navigator or long-range navigation equipment, or both, are required are specified in the operations specifications of the operator.

§ 125.269 Flight attendants.

(a) Each certificate holder shall provide at least the following flight attendants on each passenger-carrying airplane used:

(1) For airplanes having more than 19 but less than 51 passengers—one flight attendant.

(2) For airplanes having more than 50 but less than 101 passengers—two flight attendants.

(3) For airplanes having more than 100 passengers—two flight attendants plus one additional flight attendant for each unit (or part of a unit) of 50 passengers above 100 passengers.

(b) The number of flight attendants approved under paragraphs (a) and (b) of this section are set forth in the certificate holder's operations specifications.

(c) During takeoff and landing, flight attendants required by this section shall be located as near as practicable to required floor level exits and shall be uniformly distributed throughout the airplane to provide the most effective egress of passengers in event of an emergency evacuation.

§ 125.271 Emergency and emergency evacuation duties.

(a) Each certificate holder shall, for each type and model of airplane, assign to each category of required crewmember, as appropriate, the necessary functions to be performed in an emergency or a situation requiring emergency evacuation. The certificate holder shall show those functions are realistic, can be practically accomplished, and will meet any reasonably anticipated emergency including the possible incapacitation of individual crewmembers or their inability to reach the passenger cabin because of shifting cargo in combination cargo-passenger airplanes.

(b) The certificate holder shall describe in its manual the functions of each category of required crewmembers under paragraph (a) of this section.

Subpart I—Flight Crewmember Requirements

§ 125.281 Pilot-in-command qualifications.

No certificate holder may use any person, nor may any person serve, as pilot in command of an airplane unless that person—

(a) Holds at least a commercial pilot certificate, an appropriate category, class, and type rating, and an instrument rating; and

(b) Has had at least 1,200 hours of flight time as a pilot, including 500 hours of cross-country flight time, 100 hours of night flight time, including at least 10 night takeoffs and landings, and 75 hours of actual or simulated instrument flight time, at least 50 hours of which were actual flight.

§ 125.283 Second-in-command qualifications.

No certificate holder may use any person, nor may any person serve, as second in command of an airplane unless that person—

(a) Holds at least a commercial pilot certificate with appropriate category and class ratings, and an instrument rating; and

(b) For flight under IFR, meets the recent instrument experience requirements prescribed for a pilot in command in Part 61 of this chapter.

§ 125.285 Pilot qualifications: recent experience.

(a) No certificate holder may use any person, nor may any person serve, as a required pilot flight crewmember unless within the preceding 90 days that person has made at least three takeoffs and landings in the type airplane in which that person is to serve. The takeoffs and landings required by this paragraph may be performed in a visual simulator approved under § 125.297 to include takeoff and landing maneuvers.

However, any person who fails to qualify for a 90-consecutive-day period following the date of that person's last qualification under this paragraph must reestablish recency of experience as provided in paragraph (b) of this section.

(b) A required pilot flight crewmember who has not met the requirements of paragraph (a) of this section may reestablish recency of experience by making at least three takeoffs and landings under the supervision of an authorized check airman, in accordance with the following:

(1) At least one takeoff must be made with a simulated failure of the most critical powerplant.

(2) At least one landing must be made from an ILS approach to the lowest ILS minimums authorized for the certificate holder.

(3) At least one landing must be made to a complete stop.

(c) A required pilot flight crewmember who performs the maneuvers prescribed in paragraph (b) of this section in a visual simulator must—

(1) Have previously logged 100 hours of flight time in the same type airplane in which the pilot is to serve; and

(2) Be observed on the first two landings made in operations under this Part by an authorized check airman who acts as pilot in command and occupies a pilot seat. The landings must be made in weather minimums that are not less than those contained in the certificate holder's operations specifications for Category I operations and must be made within 45 days following completion of simulator testing.

(d) An authorized check airman who observes the takeoffs and landings prescribed in paragraphs (b) and (c)(3) of this section shall certify that the person being observed is proficient and qualified to perform flight duty in operations under this Part, and may require any additional maneuvers that are determined necessary to make this certifying statement.

§ 125.287 Initial and recurrent pilot testing requirements.

(a) No certificate holder may use any person, nor may any person serve as a pilot, unless, since the beginning of the 12th calendar month before that service, that person has passed a written or oral test, given by the Administrator or an authorized check airman on that person's knowledge in the following areas—

(1) The appropriate provisions of Parts 61, 91, and 125 of this chapter and the operations specifications and the manual of the certificate holder;

(2) For each type of airplane to be flown by the pilot, the airplane powerplant, major components and systems, major appliances, performance and operating limitations, standard and emergency operating procedures, and the contents of the approved Airplane Flight Manual or approved equivalent, as applicable;

(3) For each type of airplane to be flown by the pilot, the method of determining compliance with weight and balance limitations for takeoff, landing and en route operations;

(4) Navigation and use of air navigation aids appropriate to the operation of pilot authorization, including, when applicable, instrument approach facilities and procedures;

(5) Air traffic control procedures, including IFR procedures when applicable;

(6) Meteorology in general, including the principles of frontal systems, icing, fog, thunderstorms, and windshear, and, if appropriate for the operation of the certificate holder, high altitude weather;

(7) Procedures for avoiding operations in thunderstorms and hail, and for operating in turbulent air or in icing conditions; and

(8) New equipment, procedures, or techniques, as appropriate.

(b) No certificate holder may use any person, nor may any person serve, as a pilot in any airplane unless, since the beginning of the 12th calendar month before that service, that person has passed a competency check given by the Administrator or an authorized check airman in that type of airplane to determine that person's competence in practical skills and techniques in that

airplane or type of airplane. The extent of the competency check shall be determined by the Administrator or authorized check airman conducting the competency check. The competency check may include any of the maneuvers and procedures currently required for the original issuance of the particular pilot certificate required for the operations authorized and appropriate to the category, class and type of airplane involved. For the purposes of this paragraph, type, as to an airplane, means any one of a group of airplanes determined by the Administrator to have a similar means of propulsion, the same manufacturer, and no significantly different handling or flight characteristics.

(c) The instrument proficiency check required by § 125.291 may be substituted for the competency check required by this section for the type of airplane used in the check.

(d) For the purposes of this Part, competent performance of a procedure or maneuver by a person to be used as a pilot requires that the pilot be the obvious master of the airplane with the successful outcome of the maneuver never in doubt.

(e) The Administrator or authorized check airman certifies the competency of each pilot who passes the knowledge or flight check in the certificate holder's pilot records.

(f) Portions of a required competency check may be given in an airplane simulator or other appropriate training device, if approved by the Administrator.

§ 125.289 Initial and recurrent flight attendant crewmember testing requirements.

No certificate holder may use any person, nor may any person serve, as a flight attendant crewmember, unless, since the beginning of the 12th calendar month before that service, the certificate holder has determined by appropriate initial and recurrent testing that the person is knowledgeable and competent in the following areas as appropriate to assigned duties and responsibilities:

(a) Authority of the pilot in command;

(b) Passenger handling, including procedures to be followed in handling deranged persons or other persons whose conduct might jeopardize safety;

(c) Crewmember assignments, functions, and responsibilities during ditching and evacuation of persons who may need the assistance of another person to move expeditiously to an exit in an emergency;

(d) Briefing of passengers;

(e) Location and operation of portable fire extinguishers and other items of emergency equipment;

(f) Proper use of cabin equipment and controls;

(g) Location and operation of passenger oxygen equipment;

(h) Location and operation of all normal and emergency exits, including evacuation chutes and escape ropes; and

(i) Seating of persons who may need assistance of another person to move rapidly to an exit in an emergency as prescribed by the certificate holder's operations manual.

§ 125.291 Pilot in command: instrument proficiency check requirements.

(a) No certificate holder may use any person, nor may any person serve, as a pilot in command of an airplane under IFR unless, since the beginning of the sixth calendar month before that service, that person has passed an instrument proficiency check and the Administrator or an authorized check airman has so certified in a letter of competency.

(b) No pilot may use any type of precision instrument approach procedure under IFR unless, since the beginning of the sixth calendar month before that use, the pilot has satisfactorily demonstrated that type of approach procedure and has been issued a letter of competency under paragraph (g) of this section. No pilot may use any type of nonprecision approach procedure under IFR unless, since the beginning of the sixth calendar month before that use, the pilot has satisfactorily demonstrated either that type of approach procedure or any other two different types of nonprecision approach procedures and has been issued a letter of competency under paragraph (g) of this section. The instrument approach procedure or procedures must include at least one straight-in approach, one circling approach, and one missed approach. Each type of approach procedure demonstrated must be conducted to published minimums for that procedure.

(c) The instrument proficiency check required by paragraph (a) of this section consists of an oral or written equipment test and a flight check under simulated or actual IFR conditions. The equipment test includes questions on emergency procedures, engine operation, fuel and lubrication systems, power settings, stall speeds, best engine-out speed, propeller and supercharge operations, and hydraulic, mechanical, and electrical systems, as appropriate. The flight check includes navigation by instruments, recovery from simulated emergencies,

and standard instrument approaches involving navigational facilities which that pilot is to be authorized to use.

(1) For a pilot in command of an airplane, the instrument proficiency check must include the procedures and maneuvers for a commercial pilot certificate with an instrument rating and, if required, for the appropriate type rating.

(2) The instrument proficiency check must be given by an authorized check airman or by the Administrator.

(d) If the pilot in command is assigned to pilot only one type of airplane, that pilot must take the instrument proficiency check required by paragraph (a) of this section in that type of airplane.

(e) If the pilot in command is assigned to pilot more than one type of airplane, that pilot must take the instrument proficiency check required by paragraph (a) of this section in each type of airplane to which that pilot is assigned, in rotation, but not more than one flight check during each period described in paragraph (a) of this section.

(f) Portions of a required flight check may be given in an airplane simulator or other appropriate training device, if approved by the Administrator.

(g) The Administrator or authorized check airman issues a letter of competency to each pilot who passes the instrument proficiency check. The letter of competency contains a list of the types of instrument approach procedures and facilities authorized.

§ 125.293 Crewmember: tests and checks, grace provisions, accepted standards.

(a) If a crewmember who is required to take a test or a flight check under this Part completes the test or flight check in the calendar month before or after the calendar month in which it is required, that crewmember is considered to have completed the test or check in the calendar month in which it is required.

(b) If a pilot being checked under this subpart fails any of the required maneuvers, the person giving the check may give additional training to the pilot during the course of the check. In addition to repeating the maneuvers failed, the person giving the check may require the pilot being checked to repeat any other maneuvers that are necessary to determine the pilot's proficiency. If the pilot being checked is unable to demonstrate satisfactory performance to the person conducting the check, the certificate holder may not use the pilot, nor may the pilot serve, in the capacity for which the pilot is being checked in operations under this Part until the pilot has satisfactorily completed the check.

§ 125.295 Check airman authorization: application and issue.

Each certificate holder desiring FAA approval of a check airman shall submit a request in writing to the FAA Flight Standards district office charged with the overall inspection of the certificate holder. The Administrator may issue a letter of authority to each check airman if that airman passes the appropriate oral and flight test. The letter of authority lists the tests and checks in this Part that the check airman is qualified to give, and the category, class and type airplane, where appropriate, for which the check airman is qualified.

§ 125.297 Approval of airplane simulators and other training devices.

(a) Airplane simulators and other training devices approved by the Administrator may be used in checks required in this subpart.

(b) Each airplane simulator and other training device that is used in checks required under this subpart must meet the following requirements:

(1) It must be specifically approved for—

(i) The certificate holder;
(ii) The type airplane and, if applicable, the particular variation within type for which the check is being conducted; and

(iii) The particular maneuver, procedure, or crewmember function involved;

(2) It must maintain the performance, functional, and other characteristics that are required for approval.

(3) It must be modified to conform with any modification to the airplane being simulated that changes the performance, functional, or other characteristics required for approval.

Subpart J—Flight Operations

§ 125.311 Flight crewmembers at controls.

(a) Except as provided in paragraph (b) of this section, each required flight crewmember on flight deck duty must remain at the assigned duty station with seat belt fastened while the airplane is taking off or landing and while it is en route.

(b) A required flight crewmember may leave the assigned duty station—

(1) If the crewmember's absence is necessary for the performance of duties in connection with the operation of the airplane;

(2) If the crewmember's absence is in connection with physiological needs; or

(3) If the crewmember is taking a rest period and relief is provided—

(i) In the case of the assigned pilot in command, by a pilot qualified to act as pilot in command.

(ii) In the case of the assigned second in command, by a pilot qualified to act as second in command of that airplane during en route operations. However, the relief pilot need not meet the recent experience requirements of § 125.285.

§ 125.313 Manipulation of controls when carrying passengers.

No pilot in command may allow any person to manipulate the controls of an airplane while carrying passengers during flight, nor may any person manipulate the controls while carrying passengers during flight, unless that person is a qualified pilot of the certificate holder operating that airplane.

§ 125.315 Admission to flight deck.

(a) No person may admit any person to the flight deck of an airplane unless the person being admitted is—

- (1) A crewmember;
- (2) An FAA inspector or an authorized representative of the National Transportation Safety Board who is performing official duties; or
- (3) Any person who has the permission of the pilot in command.

(b) No person may admit any person to the flight deck unless there is a seat available for the use of that person in the passenger compartment, except—

- (1) An FAA inspector or an authorized representative of the Administrator or National Transportation Safety Board who is checking or observing flight operations; or
- (2) A certificated airman employed by the certificate holder whose duties require an airman certificate.

§ 125.317 Inspector's credentials: admission to pilots' compartment: forward observer's seat.

(a) Whenever, in performing the duties of conducting an inspection, an FAA inspector presents an Aviation Safety Inspector credential, FAA Form 110A, to the pilot in command of an airplane operated by the certificate holder, the inspector must be given free and uninterrupted access to the pilot compartment of that airplane. However, this paragraph does not limit the emergency authority of the pilot in command to exclude any person from the pilot compartment in the interest of safety.

(b) A forward observer's seat on the flight deck, or forward passenger seat with headset or speaker, must be provided for use by the Administrator while conducting en route inspections. The suitability of the location of the seat and the headset or speaker for use in conducting en route inspections is determined by the Administrator.

§ 125.319 Emergencies.

(a) In an emergency situation that requires immediate decision and action, the pilot in command may take any action considered necessary under the circumstances. In such a case, the pilot in command may deviate from prescribed operations, procedures and methods, weather minimums, and this chapter, to the extent required in the interests of safety.

(b) In an emergency situation arising during flight that requires immediate decision and action by appropriate management personnel in the case of operations conducted with a flight following service and which is known to them, those personnel shall advise the pilot in command of the emergency, shall ascertain the decision of the pilot in command, and shall have the decision recorded. If they cannot communicate with the pilot, they shall declare an emergency and take any action that they consider necessary under the circumstances.

(c) Whenever emergency authority is exercised, the pilot in command or the appropriate management personnel shall keep the appropriate ground radio station fully informed of the progress of the flight. The person declaring the emergency shall send a written report of any deviation, through the operator's director of operations, to the Administrator within 10 days, exclusive of Saturdays, Sundays, and Federal holidays, after the flight is completed or, in the case of operations outside the United States, upon return to the home base.

§ 125.321 Reporting potentially hazardous meteorological conditions and irregularities of ground and navigation facilities.

Whenever the pilot in command encounters a meteorological condition or an irregularity in a ground or navigational facility in flight, the knowledge of which the pilot in command considers essential to the safety of other flights, the pilot in command shall notify an appropriate ground station as soon as practicable.

§ 125.323 Reporting mechanical irregularities.

The pilot in command shall ensure that all mechanical irregularities occurring during flight are entered in the maintenance log of the airplane at the next place of landing. Before each flight, the pilot in command shall ascertain the status of each irregularity entered in the log at the end of the preceding flight.

§ 125.325 Instrument approach procedures and IFR landing minimums.

No person may make an instrument approach at an airport except in accordance with IFR weather minimums and unless the type of instrument approach procedure to be used is listed in the certificate holder's operations specifications.

§ 125.327 Briefing of passengers before flight.

(a) Before each takeoff, each pilot in command of an airplane carrying passengers shall ensure that all passengers have been orally briefed on—

- (1) Smoking;
- (2) Use of seat belts;
- (3) The placement of seat backs in an upright position before takeoff and landing;
- (4) Location and means for opening the passenger entry door and emergency exits;
- (5) Location of survival equipment;
- (6) If the flight involves extended overwater operation, ditching procedures and the use of required flotation equipment;
- (7) If the flight involves operations above 12,000 feet MSL, the normal and emergency use of oxygen; and
- (8) Location and operation of fire extinguishers.

(b) Before each takeoff, the pilot in command shall ensure that each person who may need the assistance of another person to move expeditiously to an exit if an emergency occurs and that person's attendant, if any, has received a briefing as to the procedures to be followed if an evacuation occurs. This paragraph does not apply to a person who has been given a briefing before a previous leg of a flight in the same airplane.

(c) The oral briefing required by paragraph (a) of this section shall be given by the pilot in command or a member of the crew. It shall be supplemented by printed cards for the use of each passenger containing—

- (1) A diagram and method of operating the emergency exits; and
- (2) Other instructions necessary for the use of emergency equipment on board the airplane.

Each card used under this paragraph must be carried in the airplane in locations convenient for the use of each passenger and must contain information that is appropriate to the airplane on which it is to be used.

(d) The certificate holder shall describe in its manual the procedure to be followed in the briefing required by paragraph (a) of this section.

(e) If the airplane does not proceed directly over water after takeoff, no part of the briefing required by paragraph (a)(6) of this section has to be given before takeoff but the briefing required by paragraph (a)(6) must be given before reaching the overwater part of the flight.

§ 125.329 Minimum altitudes for use of autopilot.

(a) Except as provided in paragraphs (b), (c), and (d) of this section, no person may use an autopilot at an altitude above the terrain which is less than 500 feet or less than twice the maximum altitude loss specified in the approved Airplane Flight Manual or equivalent for a malfunction of the autopilot, whichever is higher.

(b) When using an instrument approach facility other than ILS, no person may use an autopilot at an altitude above the terrain that is less than 50 feet below the approved minimum descent altitude for that procedure, or less than twice the maximum loss specified in the approved Airplane Flight Manual or equivalent for a malfunction of the autopilot under approach conditions, whichever is higher.

(c) For ILS approaches when reported weather conditions are less than the basic weather conditions in Section 91.105 of this chapter, no person may use an autopilot with an approach coupler at an altitude above the terrain that is less than 50 feet above the terrain, or the maximum altitude loss specified in the approved Airplane Flight Manual or equivalent for the malfunction of the autopilot with approach coupler, whichever is higher.

(d) Without regard to paragraph (a), (b), or (c) of this section, the Administrator may issue operations specifications to allow the use, to touchdown, of an approved flight control guidance system with automatic capability, if—

(1) The system does not contain any altitude loss (above zero) specified in the approved Airplane Flight Manual or equivalent for malfunction of the autopilot with approach coupler; and

(2) The Administrator finds that the use of the system to touchdown will not otherwise adversely affect the safety standards of this section.

§ 125.331 Carriage of persons without compliance with the passenger-carrying provisions of this Part.

The following persons may be carried aboard an airplane without complying with the passenger-carrying requirements of this Part:

- (a) A crewmember.

(b) A person necessary for the safe handling of animals on the airplane.

(c) A person necessary for the safe handling of hazardous materials (as defined in Subchapter C of Title 49 CFR).

(d) A person performing duty as a security or honor guard accompanying a shipment made by or under the authority of the U.S. Government.

(e) A military courier or a military route supervisor carried by a military cargo contract operator if that carriage is specifically authorized by the appropriate military service.

(f) An authorized representative of the Administrator conducting an en route inspection.

(g) A person authorized by the Administrator.

Subpart K—Flight Release Rules

§ 125.351 Flight release authority.

(a) No person may start a flight without authority from the person authorized by the certificate holder to exercise operational control over the flight.

(b) No person may start a flight unless the pilot in command or the person authorized by the certificate holder to exercise operational control over the flight has executed a flight release setting forth the conditions under which the flight will be conducted. The pilot in command may sign the flight release only when both the pilot in command and the person authorized to exercise operational control believe the flight can be made safely, unless the pilot in command is authorized by the certificate holder to exercise operational control and execute the flight release without the approval of any other person.

(c) No person may continue a flight from an intermediate airport without a new flight release if the airplane has been on the ground more than 6 hours.

§ 125.353 Facilities and services.

During a flight, the pilot in command shall obtain any additional available information of meteorological conditions and irregularities of facilities and services that may affect the safety of the flight.

§ 125.355 Airplane equipment.

No person may release an airplane unless it is airworthy and is equipped as prescribed.

§ 125.357 Communication and navigation facilities.

No person may release an airplane over any route or route segment unless communication and navigation facilities

equal to those required by § 125.51 are in satisfactory operating condition.

§ 125.359 Flight release under VFR.

No person may release an airplane for VFR operation unless the ceiling and visibility en route, as indicated by available weather reports or forecasts, or any combination thereof, are and will remain at or above applicable VFR minimums until the airplane arrives at the airport or airports specified in the flight release.

§ 125.361 Flight release under IFR or over-the-top.

Except as provided in § 125.363, no person may release an airplane for operations under IFR or over-the-top unless appropriate weather reports or forecasts, or any combination thereof, indicate that the weather conditions will be at or above the authorized minimums at the estimated time of arrival at the airport or airports to which released.

§ 125.363 Flight release over water.

(a) No person may release an airplane for a flight that involves extended overwater operation unless appropriate weather reports or forecasts, or any combination thereof, indicate that the weather conditions will be at or above the authorized minimums at the estimated time of arrival at any airport to which released or to any required alternate airport.

(b) Each certificate holder shall conduct extended overwater operations under IFR unless it shows that operating under IFR is not necessary for safety.

(c) Each certificate holder shall conduct other overwater operations under IFR if the Administrator determines that operation under IFR is necessary for safety.

(d) Each authorization to conduct extended overwater operations under VFR and each requirement to conduct other overwater operations under IFR will be specified in the operations specifications.

§ 125.365 Alternate airport for departure.

(a) If the weather conditions at the airport of takeoff are below the landing minimums in the certificate holder's operations specifications for that airport, no person may release an airplane from that airport unless the flight release specifies an alternate airport located within the following distances from the airport of takeoff:

(1) *Airplanes having two engines.* Not more than 1 hour from the departure airport at normal cruising speed in still air with one engine inoperative.

(2) *Airplanes having three or more engines.* Not more than 2 hours from the departure airport at normal cruising

speed in still air with one engine inoperative.

(b) For the purposes of paragraph (a) of this section, the alternate airport weather conditions must meet the requirements of the certificate holder's operations specifications.

(c) No person may release an airplane from an airport unless that person lists each required alternate airport in the flight release.

§ 125.367 Alternate airport for destination: IFR or over-the-top.

(a) Except as provided in paragraph (b) of this section, each person releasing an airplane for operation under IFR or over-the-top shall list at least one alternate airport for each destination airport in the flight release.

(b) An alternate airport need not be designated for IFR or over-the-top operations where the airplane carries enough fuel to meet the requirements of §§ 125.375 and 125.377 for flights outside the 48 conterminous States and the District of Columbia over routes without an available alternate airport for a particular airport of destination.

(c) For the purposes of paragraph (a) of this section, the weather requirements at the alternate airport must meet the requirements of the operator's operations specifications.

(d) No person may release a flight unless that person lists each required alternate airport in the flight release.

§ 125.369 Alternate airport weather minimums.

No person may list an airport as an alternate airport in the flight release unless the appropriate weather reports or forecasts, or any combination thereof, indicate that the weather conditions will be at or above the alternate weather minimums specified in the certificate holder's operations specifications for that airport when the flight arrives.

§ 125.371 Continuing flight in unsafe conditions.

(a) No pilot in command may allow a flight to continue toward any airport to which it has been released if, in the opinion of the pilot in command, the flight cannot be completed safely, unless, in the opinion of the pilot in command, there is no safer procedure. In that event, continuation toward that airport is an emergency situation.

§ 125.373 Original flight release or amendment of flight release.

(a) A certificate holder may specify any airport authorized for the type of airplane as a destination for the purpose of original release.

(b) No person may allow a flight to continue to an airport to which it has

been released unless the weather conditions at an alternate airport that was specified in the flight release are forecast to be at or above the alternate minimums specified in the operations specifications for that airport at the time the airplane would arrive at the alternate airport. However, the flight release may be amended en route to include any alternate airport that is within the fuel range of the airplane as specified in § 125.375 or § 125.377.

(c) No person may change an original destination or alternate airport that is specified in the original flight release to another airport while the airplane is in route unless the other airport is authorized for that type of airplane.

(d) Each person who amends a flight release en route shall record that amendment.

§ 125.375 Fuel supply: nonturbine and turbopropeller-powered airplanes.

(a) Except as provided in paragraph (b) of this section, no person may release for flight or takeoff a nonturbine or turbopropeller-powered airplane unless, considering the wind and other weather conditions expected, it has enough fuel—

(1) To fly to and land at the airport to which it is released;

(2) Thereafter, to fly to and land at the most distant alternate airport specified in the flight release; and

(3) Thereafter, to fly for 45 minutes at normal cruising fuel consumption.

(b) If the airplane is released for any flight other than from one point in the conterminous United States to another point in the conterminous United States, it must carry enough fuel to meet the requirements of subparagraphs (1) and (2) of paragraph (a) of this section and thereafter fly for 30 minutes plus 15 percent of the total time required to fly at normal cruising fuel consumption to the airports specified in subparagraphs (1) and (2) of paragraph (a) of this section, or fly for 90 minutes at normal cruising fuel consumption, whichever is less.

(c) No person may release a nonturbine or turbopropeller-powered airplane to an airport for which an alternate is not specified under § 125.367(b) unless it has enough fuel, considering wind and other weather conditions expected, to fly to that airport and thereafter to fly for 3 hours at normal cruising fuel consumption.

§ 125.377 Fuel supply: Turbine-engine-powered airplanes other than turbopropeller.

(a) Except as provided in paragraph (b) of this section, no person may release for flight or takeoff a turbine-

powered airplane (other than a turbopropeller-powered airplane) unless, considering the wind and other weather conditions expected, it has enough fuel—

(1) To fly to and land at the airport to which it is released;

(2) Thereafter, to fly to and land at the most distant alternate airport specified in the flight release; and

(3) Thereafter, to fly for 45 minutes at normal cruising fuel consumption.

(b) For any operation outside the 48 conterminous United States and the District of Columbia, unless authorized by the Administrator in the operations specifications, no person may release for flight or take off a turbine-engine powered airplane (other than a turbopropeller-powered airplane) unless, considering wind and other weather conditions expected, it has enough fuel—

(1) To fly to and land at the airport to which it is released;

(2) After that, to fly for a period of 10 percent of the total time required to fly from the airport of departure and land at the airport to which it was released;

(3) After that, to fly to and land at the most distant alternate airport specified in the flight release, if an alternate is required; and

(4) After that, to fly for 30 minutes at holding speed at 1,500 feet above the alternate airport (or the destination airport if no alternate is required) under standard temperature conditions.

(c) No person may release a turbine-engine-powered airplane (other than a turbopropeller airplane) to an airport for which an alternate is not specified under § 125.367(b) unless it has enough fuel, considering wind and other weather conditions expected, to fly to that airport and thereafter to fly for at least 2 hours at normal cruising fuel consumption.

(d) The Administrator may amend the operations specifications of a certificate holder to require more fuel than any of the minimums stated in paragraph (a) or (b) of this section if the Administrator finds that additional fuel is necessary on a particular route in the interest of safety.

§ 125.379 Landing weather minimums: IFR.

(a) If the pilot in command of an airplane has not served 100 hours as pilot in command in the type of airplane being operated, the MDA or DH and visibility landing minimums in the certificate holder's operations specification are increased by 100 feet and one-half mile (or the RVR equivalent). The MDA or DH and visibility minimums need not be increased above those applicable to the

airport when used as an alternate airport, but in no event may the landing minimums be less than a 300-foot ceiling and 1 mile of visibility.

(b) The 100 hours of pilot-in-command experience required by paragraph (a) may be reduced (not to exceed 50 percent) by substituting one landing in operations under this Part in the type of airplane for 1 required hour of pilot-in-command experience if the pilot has at least 100 hours as pilot in command of another type airplane in operations under this Part.

(c) Category II minimums, when authorized in the certificate holder's operations specifications, do not apply until the pilot in command subject to paragraph (a) of this section meets the requirements of that paragraph in the type of airplane the pilot is operating.

§ 125.381 Takeoff and landing weather minimums: IFR.

(a) Regardless of any clearance from ATC, if the reported weather conditions are less than that specified in the certificate holder's operations specifications, no pilot may—

(1) Take off an airplane under IFR; or

(2) Except as provided in paragraph (c) of this section, land an airplane under IFR.

(b) Except as provided in paragraph (c) of this section, no pilot may execute an instrument approach procedure if the latest reported visibility is less than the landing minimums specified in the certificate holder's operations specifications.

(c) If a pilot initiates an instrument approach procedure when the latest weather report indicates that the specified visibility minimums exist, and a later weather report indicating below minimums conditions is received after the airplane—

(1) Is on an ILS final approach and has passed the outer market,

(2) Is on final approach, using a segment/nonprecision approach procedure, or

(3) Is on PAR final approach and has been turned over to the final approach controller, the approach may be continued and a landing may be made if the pilot in command finds, upon reaching the authorized MAP or DH, that actual weather conditions are at least equal to the minimums prescribed in the operations specifications.

§ 125.383 Load manifest.

(a) Each certificate holder is responsible for the preparation and accuracy of a load manifest in duplicate containing information concerning the loading of the airplane. The manifest

must be prepared before each takeoff and must include—

- (1) The number of passengers;
- (2) The total weight of the loaded airplane;
- (3) The maximum allowable takeoff and landing weights for that flight;
- (4) The center of gravity limits;
- (5) The center of gravity of the loaded airplane, except that the actual center of gravity need not be computed if the airplane is loaded according to a loading schedule or other approved method that ensures that the center of gravity of the loaded airplane is within approved limits. In those cases, an entry shall be made on the manifest indicating that the center of gravity is within limits according to a loading schedule or other approved method;

- (6) The registration number of the airplane;
 - (7) The origin and destination ; and
 - (8) Names of passengers.
- (b) The pilot in command of an airplane for which a load manifest must be prepared shall carry a copy of the completed load manifest in the airplane to its destination. The certificate holder shall keep copies of completed load manifests for at least 30 days at its principal operations base, or at another location used by it and approved by the Administrator.

Subpart L—Records and Reports

§ 125.401 Crewmember record.

- (a) Each certificate holder shall—
- (1) Maintain current records of each crewmember that show whether or not that crewmember complies with this chapter (e.g., proficiency checks, airplane qualifications, any required physical examinations, and flight time records); and
 - (2) Record each action taken concerning the release from employment or physical or professional disqualification of any flight crewmember and keep the record for at least 6 months thereafter.
- (b) Each certificate holder shall maintain the records required by paragraph (a) of this section at its principal operations base, or at another location used by it and approved by the Administrator.
- (c) Computer record systems approved by the Administrator may be used in complying with the requirements of paragraph (a) of this section.

§ 125.403 Flight release form.

- (a) The flight release may be in any form but must contain at least the following information concerning each flight:
- (1) Company or organization name.

- (2) Make, model, and registration number of the airplane being used.
 - (3) Date of flight.
 - (4) Name and duty assignment of each crewmember.
 - (5) Departure airport, destination airports, alternate airports, and route.
 - (6) Minimum fuel supply (in gallons or pounds).
 - (7) A statement of the type of operation (e.g., IFR, VFR).
- (b) The airplane flight release must contain, or have attached to it, weather reports, available weather forecasts, or a combination thereof.

§ 125.405 Disposition of load manifest, flight release, and flight plans.

(a) The pilot in command of an airplane shall carry in the airplane to its destination the original or a signed copy of the—

- (1) Load manifest required by § 125.383;
- (2) Flight release;
- (3) Airworthiness release; and
- (4) Flight plan, including route.

(b) If a flight originates at the principal operations base of the certificate holder, it shall retain at that base a signed copy of each document listed in paragraph (a) of this section.

(c) Except as provided in paragraph (d) of this section, if a flight originates at a place other than the principal operations base of the certificate holder, the pilot in command (or another person not aboard the airplane who is authorized by the operator) shall, before or immediately after departure of the flight, mail signed copies of the documents listed in paragraph (a) of this section to the principal operations base.

(d) If a flight originates at a place other than the principal operations base of the certificate holder and there is at that place a person to manage the flight departure for the operator who does not depart on the airplane, signed copies of the documents listed in paragraph (a) of this section may be retained at that place for not more than 30 days before being sent to the principal operations base of the certificate holder. However, the documents for a particular flight need not be further retained at that place or be sent to the principal operations base, if the originals or other copies of them have been previously returned to the principal operations base.

- (e) The certificate holder shall:
- (1) Identify in its operations manual the person having custody of the copies of documents retained in accordance with paragraph (d) of this section; and
 - (2) Retain at its principal operations base either the original or a copy of the

records required by this section for at least 30 days.

§ 125.407 Maintenance log: airplanes.

(a) Each person who takes corrective action or defers action concerning a reported or observed failure or malfunction of an airframe, aircraft engine, propeller, or appliance shall record the action taken in the airplane maintenance log in accordance with Part 43 of this chapter.

(b) Each certificate holder shall establish a procedure for keeping copies of the airplane maintenance log required by this section in the airplane for access by appropriate personnel and shall include that procedure in the manual required by § 125.249.

§ 125.409 Reports of defects or unairworthy conditions.

(a) Each certificate holder shall report the occurrence or detection of each failure, malfunction, or defect, in a form and manner prescribed by the Administrator.

(b) The report must be made within 72 hours to the FAA Flight Standards district office in whose area the certificate holder has its principal operations base. The procedures to be used in complying with this section must be made a part of the manual procedures required by § 125.73(f).

§ 125.411 Airworthiness release or maintenance record entry.

(a) No certificate holder may operate an airplane after maintenance, preventive maintenance, or alteration is performed on the airplane unless the person performing that maintenance, preventive maintenance, or alteration prepares or causes to be prepared—

- (1) An airworthiness release; or
- (2) An entry in the aircraft maintenance records in accordance with the certificate holder's manual.

(b) The airworthiness release or maintenance record entry required by paragraph (a) of this section must—

(1) Be prepared in accordance with the procedures set forth in the certificate holder's manual;

(2) Include a certification that—

- (i) The work was performed in accordance with the requirements of the certificate holder's manual;
- (ii) All items required to be inspected were inspected by an authorized person who determined that the work was satisfactorily completed;

(iii) No known condition exists that would make the airplane unairworthy; and

(iv) So far as the work performed is concerned, the airplane is in condition for safe operation; and

(3) Be signed by a person authorized in Part 43 of this chapter to perform maintenance, preventive maintenance, and alteration.

(c) When an airworthiness release form is prepared, the certificate holder must give a copy to the pilot in command and keep a record of it for at least 60 days.

(d) Instead of restating each of the conditions of the certification required by paragraph (b) of this section, the certificate holder may state in its manual that the signature of a person authorized in Part 43 of this chapter constitutes that certification.

Appendix A—Additional Emergency Equipment

(a) *Means for emergency evacuation.* Each passenger-carrying airplane emergency exit (other than over-the-wing) that is more than 6 feet from the ground with the airplane on the ground and the landing gear extended must have an approved means to assist the occupants in descending to the ground. The assisting means for a floor level emergency exit must meet the requirements of § 25.809(f)(1) of this chapter in effect on April 30, 1972, except that, for any airplane for which the application for the type certificate was filed after that date, it must meet the requirements under which the airplane was type certificated. An assisting means that deploys automatically must be armed during taxiing, takeoffs, and landings. However, if the Administrator finds that the design of the exit makes compliance impractical, the Administrator may grant a deviation from the requirement of automatic deployment if the assisting means automatically erects upon deployment and, with respect to required emergency exits, if an emergency evacuation demonstration is conducted in accordance with § 125.189. This paragraph does not apply to the rear window emergency exit of DC-3 airplanes operated with less than 36 occupants, including crewmembers, and less than five exits authorized for passenger use.

(b) *Interior emergency exit marking.* The following must be complied with for each passenger-carrying airplane:

(1) Each passenger emergency exit, its means of access, and means of opening must be conspicuously marked. The identity and location of each passenger emergency exit must be recognizable from a distance equal to the width of the cabin. The location of each passenger emergency exit must be indicated by a sign visible to occupants approaching along the main passenger aisle. There must be a locating sign—

(i) Above the aisle near each over-the-wing passenger emergency exit, or at another ceiling location if it is more practical because of low headroom;

(ii) Next to each floor level passenger emergency exit, except that one sign may serve two such exits if they both can be seen readily from that sign; and

(iii) On each bulkhead or divider that prevents fore and aft vision along the passenger cabin, to indicate emergency exits beyond and obscured by it, except that if this

is not possible the sign may be placed at another appropriate location.

(2) Each passenger emergency exit marking and each locating sign must meet the following:

(i) For an airplane for which the application for the type certificate was filed prior to May 1, 1972, each passenger emergency exit marking and each locating sign must be manufactured to meet the requirements of § 25.812(b) of this chapter in effect on April 30, 1972. On these airplanes, no sign may continue to be used if its luminescence (brightness) decreases to below 100 microlamberts. The colors may be reversed if it increases the emergency illumination of the passenger compartment. However, the Administrator may authorize deviation from the 2-inch background requirements if the Administrator finds that special circumstances exist that make compliance impractical and that the proposed deviation provides an equivalent level of safety.

(ii) For an airplane for which the application for the type certificate was filed on or after May 1, 1972, each passenger emergency exit marking and each locating sign must be manufactured to meet the interior emergency exit marking requirements under which the airplane was type certificated. On these airplanes, no sign may continue to be used if its luminescence (brightness) decreases to below 250 microlamberts.

(c) *Lighting for interior emergency exit markings.* Each passenger-carrying airplane must have an emergency lighting system, independent of the main lighting system. However, sources of general cabin illumination may be common to both the emergency and the main lighting systems if the power supply to the emergency lighting system is independent of the power supply to the main lighting system. The emergency lighting system must—

(1) Illuminate each passenger exit marking and locating sign; and

(2) Provide enough general lighting in the passenger cabin so that the average illumination, when measured at 40-inch intervals at seat armrest height, on the centerline of the main passenger aisle, is at least 0.05 foot-candles.

(d) *Emergency light operation.* Except for lights forming part of emergency lighting subsystems provided in compliance with § 25.812(g) of this chapter (as prescribed in paragraph (h) of this section) that serve no more than one assist means, are independent of the airplane's main emergency lighting systems, and are automatically activated when the assist means is deployed, each light required by paragraphs (c) and (h) must comply with the following:

(1) Each light must be operable manually and must operate automatically from the independent lighting system—

(i) In a crash landing; or
(ii) Whenever the airplane's normal electric power to the light is interrupted.

(2) Each light must—

(i) Be operable manually from the flightcrew station and from a point in the passenger compartment that is readily accessible to a normal flight attendant seat;

(ii) Have a means to prevent inadvertent operation of the manual controls; and

(iii) When armed or turned on at either station, remain lighted or become lighted upon interruption of the airplane's normal electric power.

Each light must be armed or turned on during taxiing, takeoff, and landing. In showing compliance with this paragraph, a transverse vertical separation of the fuselage need not be considered.

(3) Each light must provide the required level of illumination for at least 10 minutes at the critical ambient conditions after emergency landing.

(e) *Emergency exit operating handles.*

(1) For a passenger-carrying airplane for which the application for the type certificate was filed prior to May 1, 1972, the location of each passenger emergency exit operating handle and instructions for opening the exit must be shown by a marking on or near the exit that is readable from a distance of 30 inches. In addition, for each Type I and Type II emergency exit with a locking mechanism released by rotary motion of the handle, the instructions for opening must be shown by—

(i) A red arrow with a shaft at least 3/4 inch wide and a head twice the width of the shaft, extending along at least 70 degrees of arc at a radius approximately equal to 3/4 of the handle length; and

(ii) The word "open" in red letters 1 inch high placed horizontally near the head of the arrow.

(2) For a passenger-carrying airplane for which the application for the type certificate was filed on or after May 1, 1972, the location of each passenger emergency exit operating handle and instructions for opening the exit must be shown in accordance with the requirements under which the airplane was type certificated. On these airplanes, no operating handle or operating handle cover may continue to be used if its luminescence (brightness) decreases to below 100 microlamberts.

(f) *Emergency exit access.* Access to emergency exits must be provided as follows for each passenger-carrying airplane:

(1) Each passageway between individual passenger areas, or leading to a Type I or Type II emergency exit, must be unobstructed and at least 20 inches wide.

(2) There must be enough space next to each Type I or Type II emergency exit to allow a crewmember to assist in the evacuation of passengers without reducing the unobstructed width of the passageway below that required in paragraph (f)(1) of this section. However, the Administrator may authorize deviation from this requirement for an airplane certificated under the provisions of Part 4b of the Civil Air Regulations in effect before December 20, 1951, if the Administrator finds that special circumstances exist that provide an equivalent level of safety.

(3) There must be access from the main aisle to each Type III and Type IV exit. The access from the aisle to these exits must not be obstructed by seats, berths, or other protrusions in a manner that would reduce the effectiveness of the exit. In addition—

(i) For an airplane for which the application for the type certificate was filed prior to May 1, 1972, the access must meet the requirements of § 25.813(c) of this chapter in effect on April 30, 1972; and

(ii) For an airplane for which the application for the type certificate was filed on or after May 1, 1972, the access must meet the emergency exit access requirements under which the airplane was certificated.

(4) If it is necessary to pass through a passageway between passenger compartments to reach any required emergency exit from any seat in the passenger cabin, the passageway must not be obstructed. However, curtains may be used if they allow free entry through the passageway.

(5) No door may be installed in any partition between passenger compartments.

(6) If it is necessary to pass through a doorway separating the passenger cabin from other areas to reach any required emergency exit from any passenger seat, the door must have a means to latch it in open position, and the door must be latched open during each takeoff and landing. The latching means must be able to withstand the loads imposed upon it when the door is subjected to the ultimate inertia forces, relative to the surrounding structure, listed in § 25.561(b) of this chapter.

(g) *Exterior exit markings.* Each passenger emergency exit and the means of opening that exit from the outside must be marked on the outside of the airplane. There must be a 2-inch colored band outlining each passenger emergency exit on the side of the fuselage. Each outside marking, including the band, must be readily distinguishable from the surrounding fuselage area by contrast in color. The markings must comply with the following.

(1) If the reflectance of the darker color is 15 percent or less, the reflectance of the lighter color must be at least 45 percent. "Reflectance" is the ratio of the luminous flux reflected by a body to the luminous flux it receives.

(2) If the reflectance of the darker color is greater than 15 percent, at least a 30 percent difference between its reflectance and the reflectance of the lighter color must be provided.

(3) Exits that are not in the side of the fuselage must have the external means of opening and applicable instructions marked conspicuously in red or, if red is inconspicuous against the background color, in bright chrome yellow and, when the opening means for such an exit is located on only one side of the fuselage, a conspicuous marking to that effect must be provided on the other side.

(h) *Exterior emergency lighting and escape route.*

(1) Each passenger-carrying airplane must be equipped with exterior lighting that meets the following requirements:

(i) For an airplane for which the application for the type certificate was filed prior to May 1, 1972, the requirements of § 25.812(f) and (g) of this chapter in effect on April 30, 1972.

(ii) For an airplane for which the application for the type certificate was filed on or after May 1, 1972, the exterior emergency lighting requirements under which the airplane was type certificated.

(2) Each passenger-carrying airplane must be equipped with a slip-resistant escape route that meets the following requirements:

(i) For an airplane for which the application for the type certificate was filed prior to May

1, 1972, the requirements of § 25.803(e) of this chapter in effect on April 30, 1972.

(ii) For an airplane for which the application for the type certificate was filed on or after May 1, 1972, the slip-resistant escape route requirements under which the airplane was type certificated.

(i) *Floor level exists.* Each floor level door or exit in the side of the fuselage (other than those leading into a cargo or baggage compartment that is not accessible from the passenger cabin) that is 44 or more inches high and 20 or more inches wide, but not wider than 46 inches, each passenger ventral exist (except the ventral exits on M-404 and CV-240 airplanes) and each tail cone exit must meet the requirements of this section for floor level emergency exits. However, the Administrator may grant a deviation from this paragraph if the Administrator finds that circumstances make full compliance impractical and that an acceptable level of safety has been achieved.

(j) *Additional emergency exits.* Approved emergency exits in the passenger compartments that are in excess of the minimum number of required emergency exits must meet all of the applicable provisions of this section except paragraph (f), (1), (2), and (3) and must be readily accessible.

(k) On each large passenger-carrying turbojet powered airplane, each ventral exit and tailcone exit must be—

(1) Designed and constructed so that it cannot be opened during flight; and

(2) Marked with a placard readable from a distance of 30 inches and installed at a conspicuous location near the means of opening the exit, stating that the exit has been designed and constructed so that it cannot be opened during flight.

Appendix B—Criteria for Demonstration of Emergency Evacuation Procedures Under § 125.189

(a) *Aborted takeoff demonstration.*

(1) The demonstration must be conducted either during the dark of the night or during daylight with the dark of the night simulated. If the demonstration is conducted indoors during daylight hours, it must be conducted with each window covered and each door closed to minimize the daylight effect. Illumination on the floor or ground may be used, but it must be kept low and shielded against shining into the airplane's windows or doors.

(2) The airplane must be in a normal ground attitude with landing gear extended.

(3) Stands or ramps may be used for descent from the wing to the ground. Safety equipment such as mats or inverted life rafts may be placed on the ground to protect participants. No other equipment that is not part of the airplane's emergency evacuation equipment may be used to aid the participants in reaching the ground.

(4) The airplane's normal electric power sources must be deenergized.

(5) All emergency equipment for the type of passenger-carrying operation involved must be installed in accordance with the certificate holder's manual.

(6) Each external door and exit and each internal door or curtain must be in position to simulate a normal takeoff.

(7) A representative passenger load of persons in normal health must be used. At least 30 percent must be females. At least 5 percent must be over 60 years of age with a proportionate number of females. At least 5 percent, but not more than 10 percent, must be children under 12 years of age, prorated through that age group. Three life-size dolls, not included as part of the total passenger load, must be carried by passengers to simulate live infants 2 years old or younger. Crewmembers, mechanics, and training personnel who maintain or operate the airplane in the normal course of their duties may not be used as passengers.

(8) No passenger may be assigned a specific seat except as the Administrator may require. Except as required by item (12) of this paragraph, no employee of the certificate holder may be seated next to an emergency exit.

(9) Seat belts and shoulder harnesses (as required) must be fastened.

(10) Before the start of the demonstration, approximately one-half of the total average amount of carry-on baggage, blankets, pillows, and other similar articles must be distributed at several locations in the aisles and emergency exit access ways to create minor obstructions.

(11) The seating density and arrangement of the airplane must be representative of the highest capacity passenger version of that airplane the certificate holder operates or proposes to operate.

(12) Each crewmember must be a member of a regularly scheduled line crew, must be seated in that crewmember's normally assigned seat for takeoff, and must remain in that seat until the signal for commencement of the demonstration is received.

(13) No crewmember or passenger may be given prior knowledge of the emergency exits available for the demonstration.

(14) The certificate holder may not practice, rehearse, or describe the demonstration for the participants nor may any participant have taken part in this type of demonstration within the preceding 6 months.

(15) The pretakeoff passenger briefing required by § 125.327 may be given in accordance with the certificate holder's manual. The passengers may also be warned to follow directions of crewmembers, but may not be instructed on the procedures to be followed in the demonstration.

(16) If safety equipment as allowed by item (3) of this section is provided, either all passenger and cockpit windows must be blacked out or all of the emergency exits must have safety equipment to prevent disclosure of the available emergency exits.

(17) Not more than 50 percent of the emergency exits in the sides of the fuselage of an airplane that meet all of the requirements applicable to the required emergency exits for that airplane may be used for the demonstration. Exits that are not to be used in the demonstration must have the exit handle deactivated or must be indicated by red lights, red tape or other acceptable means, placed outside the exits to indicate fire or other reason that they are unusable. The exits to be used must be representative of all of the emergency exits on the airplane and must be designated by the certificate

holder, subject to approval by the Administrator. At least one floor level exit must be used.

(18) All evacuees, except those using an over-the-wing exit, must leave the airplane by a means provided as part of the airplane's equipment.

(19) The certificate holder's approved procedures and all of the emergency equipment that is normally available, including slides, ropes, lights, and megaphones, must be fully utilized during the demonstration.

(20) The evacuation time period is completed when the last occupant has evacuated the airplane and is on the ground. Evacuees using stands or ramps allowed by item (3) above are considered to be on the ground when they are on the stand or ramp: *Provided*, That the acceptance rate of the stand or ramp is no greater than the acceptance rate of the means available on the airplane for descent from the wing during an actual crash situation.

(b) *Ditching demonstration.* The demonstration must assume that daylight hours exist outside the airplane and that all required crewmembers are available for the demonstration.

(1) If the certificate holder's manual requires the use of passengers to assist in the launching of liferafts, the needed passengers must be aboard the airplane and participate in the demonstration according to the manual.

(2) A stand must be placed at each emergency exit and wing with the top of the platform at a height simulating the water level of the airplane following a ditching.

(3) After the ditching signal has been received, each evacuee must don a life vest according to the certificate holder's manual.

(4) Each liferaft must be launched and inflated according to the certificate holder's manual and all other required emergency equipment must be placed in rafts.

(5) Each evacuee must enter a liferaft and the crewmembers assigned to each liferaft must indicate the location of emergency equipment aboard the raft and describe its use.

(6) Either the airplane, a mockup of the airplane, or a floating device simulating a passenger compartment must be used.

(i) If a mockup of the airplane is used, it must be a life-size mockup of the interior and representative of the airplane currently used by or proposed to be used by the certificate holder and must contain adequate seats for use of the evacuees. Operation of the emergency exits and the doors must closely simulate that on the airplane. Sufficient wing area must be installed outside the over-the-wing exits to demonstrate the evacuation.

(ii) If a floating device simulating a passenger compartment is used, it must be representative, to the extent possible, of the passenger compartment of the airplane used in operations. Operation of the emergency exits and the doors must closely simulate operation on that airplane. Sufficient wing area must be installed outside the over-the-wing exits to demonstrate the evacuation. The device must be equipped with the same survival equipment as is installed on the airplane, to accommodate all persons participating in the demonstration.

Appendix C—Ice Protection

If certification with ice protection provisions is desired, compliance with the following must be shown:

(a) The recommended procedures for the use of the ice protection equipment must be set forth in the Airplane Flight Manual.

(b) An analysis must be performed to establish, on the basis of the airplane's operational needs, the adequacy of the ice protection system for the various components of the airplane. In addition, tests of the ice protection system must be conducted to demonstrate that the airplane is capable of operating safely in continuous maximum and intermittent maximum icing conditions as described in Appendix C of Part 25 of this chapter.

(c) Compliance with all or portions of this section may be accomplished by reference, where applicable because of similarity of the designs, to analyses and tests performed by the applicant for a type certificated model. (Secs. 313, 601 through 610, and 1102, Federal Aviation Act of 1958, as amended (49 U.S.C. 1354, 1421-1430 and 1502); sec. 6(c), Department of Transportation Act (49 U.S.C. 1655(c)))

Note.—The FAA has determined that this document involves a regulation which is significant under Executive Order 12044, as implemented by DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). A copy of the final regulatory evaluation prepared for this action is contained in the regulatory docket. A copy of it may be obtained by contacting the person identified under the caption "For Further Information Contact."

Issued in Washington, D.C., on October 2, 1980.

Langhorne Bond,
Administrator.

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BILLING CODE 4910-13-M

14 CFR Part 91

[Docket No. 20813; Amendment No. 91-170]

Aircraft Operating Noise Limits for Airplanes Operating Under New Part 125

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: These amendments make necessary changes to apply to new Part 125 operators the aircraft operating noise limits rules of Part 91, Subpart E. Part 125 establishes a uniform set of operating certification and operation rules for U.S. registered, large airplanes having a seating capacity of 20 or more passengers or a maximum payload capacity of 6,000 pounds or more when used for any purpose other than common carriage. The operation of some

of those airplanes prior to the effective date of Part 125 is governed by the noise limit rules applicable to their operation under Parts 91, 121, 123, 129, or 135. The Part 125 notice proposed not to change the applicability of the noise rules to the operation of the affected airplanes after they become subject to Part 125. It stated that necessary editorial changes would be made to the noise rules on the basis of the Part 125 proposal. These amendments are part of the implementation of new Part 125 and are necessary to ensure that the noise control and abatement benefits of Part 91, Subpart E, are not reduced or lost through the adoption of new Part 125.

EFFECTIVE DATE: February 1, 1981.

FOR FURTHER INFORMATION CONTACT: Mr. Richard N. Tedrick, Noise Policy and Regulatory Branch (AEE-110), Noise Abatement Division, Office of Environment and Energy, 800 Independence Ave., SW., Washington, D.C. 20591; Telephone: (202) 755-9027.

SUPPLEMENTARY INFORMATION:

Background of this Rulemaking Proceeding

These amendments result from a notice of proposed rulemaking (Notice No. 79-19; 44 FR 66324; November 19, 1979). That notice proposed a new Part 125 to provide a uniform set of operating certification and operation rules for all U.S. registered large airplanes certificated to carry 20 or more passengers or a maximum payload of more than 5,000 pounds other than when engaged in common carriage or agricultural aviation operations. In response to comments, the proposed 5,000 pound payload applicability base has been revised to 6,000 pounds, as discussed in the amendment adopting new Part 125. A full statement of the need for new Part 125 is contained in Notice No. 79-19 and also in the amendment adopting new part 125 which is issued simultaneously with these amendments to Part 91, Subpart E.

In short, new Part 125 substantially upgrades the level of safety formerly applicable to the affected airplanes under Part 91. It also achieves regulatory simplification and ease of enforcement by applying a single set of regulations to the specified size of airplanes without regard to how they are used, except that common carriage operations are not covered. It is intended that new Part 125 will eliminate difficulties in regulatory interpretation which have been experienced by members of the public, operators, and FAA inspectors, particularly with respect to application of the "compensation or hire" test which is eliminated by new Part 125 with

respect to airplanes subject to its provisions. The adoption of new Part 125 is the final step in a regulatory upgrade and modernization program recommended by the Secretary of Transportation.

Relationship of Subpart E to Part 125

Part 91, Subpart E prescribes among other things, aircraft operating noise limits rules applicable to certain civil subsonic turbojet powered airplanes with maximum weights over 75,000 pounds and to certain civil supersonic airplanes that are operated in air commerce in the United States. Some of the airplanes subject to new Part 125 are airplanes covered by Subpart E. However, the applicability of Subpart E is keyed, in part, to that part of the Federal Aviation Regulations under which the airplane is operated, that is, Parts 91, 121, 123, 129, and 135. Some airplanes previously operated under those parts are subject to Part 125 on its effective date in accordance with compliance dates which it establishes.

Notice No. 79-19 proposed not to alter applicable operating noise limits rules for airplanes proposed to be covered under new Part 125. That notice stated that "... necessary editorial changes will be made to Subpart E on the basis of the [Part 125] proposal." One person commented on the noise aspects of the Part 125 proposal and concurred that the final rule should accomplish the result quoted above from the notice.

Description of Amendments

Necessary amendments are made to Part 91, Subpart E, to specify its applicability to operations of affected airplanes under Part 125. These airplanes are governed by a new § 91.302 which designates the applicable regulations. Airplanes already subject to requirements in Parts 91, 121, 123, 129, and 135 before November 1, 1980, remain subject to those requirements, including phased compliance for subsonic airplanes operated under Part 121 and 135. Subsonic airplanes not operating in the United States under either of those parts before November 1, 1980, are subject to the same requirements as those previously applicable to Part 91 and 123 operators, including the timely submission of compliance plans under § 91.308. Phased compliance requirements do not apply to those airplanes. Supersonic airplanes operated under Part 125 must comply with the provisions of §§ 91.309 and 91.311.

November 1, 1980, is the operative for designation of applicable regulations under Subpart E of Part 91 in order to preclude changes in operations between

that date and the Part 125 effective date which would have the effect of evading the specified requirements.

Notwithstanding the provisions of Part 125 permitting the approval of deviations from the other requirements of that part, the noise requirements applicable to the operation of affected airplanes would not be changed by that approval. It should be noted that some of the amendments to Subpart E, which will implement the Aviation Safety Noise Abatement Act of 1979, apply to all aircraft, when adopted, regardless of the part under which they are operated.

Adoption of the Amendment

Accordingly, Part 91, Subpart E, is amended as follows effective February 1, 1981:

§ 91.301 [Amended]

1. By amending § 91.301(a) of subpart E as follows:

a. By amending paragraphs (a)(1) and (a)(3) in each case after the first word "Sections" by adding the word "91.302" followed by a comma and in the last sentence by deleting the words "Parts 121, 123, 129, and 135 of this chapter" and substituting for them the words "Parts 121, 123, 125, 129, and 135 of this chapter."

b. By amending paragraph (a)(2) by deleting the words "Parts 121, 123, and 135" and substituting for them the words "Parts 121, 123, 125, and 135."

2. By adding a new § 91.302 to Subpart E to read as follows:

§ 91.302 Part 125 operators: designation of applicable regulations.

For airplanes covered by this subpart and operated under Part 125, the following regulations apply as specified:

(a) For each airplane operation to which requirements prescribed under this subpart applied before November 1, 1980, those requirements of this subpart continue to apply.

(b) For each subsonic airplane operation to which requirements prescribed under this subpart did not apply before November 1, 1980, because the airplane was not operated in the United States under this part or Part 121, 123, 129 or 135, the requirements prescribed under §§ 91.303, 91.306, 91.307, and 91.308 of this subpart apply.

(c) For each supersonic airplane operation to which requirements prescribed under this subpart did not apply before November 1, 1980, because the airplane was not operated in the United States under this part or Part 121, 123, 129, or 135, the requirements of §§ 91.309 and 91.311 of this subpart apply.

(d) For each airplane required to operate under Part 125 for which a deviation under that Part is approved to operate, in whole or in part, under this part or Parts 121, 123, 129, or 135, notwithstanding the approval, the requirements prescribed under paragraphs (a), (b), and (c) of this section continue to apply.

3. By amending § 91.305 of Subpart E as follows:

a. By revising the heading to read as follows:

§ 91.305 Phased compliance under Parts 121, 125, and 135: subsonic airplanes.

b. By amending paragraph (a) after the words "under Parts 121 or 135 of this chapter" by inserting the words "or under Part 125 of this chapter, as prescribed under § 91.302 of this subpart."

(Secs. 307, 313(a), 601, 603, 604, and 611, Federal Aviation Act of 1958 (49 U.S.C. 1348, 1354(a), 1421, 1423, 1424 and 1431); sec. 6(c), Department of Transportation Act (49 U.S.C. 1655(c)); Title III, Aviation Safety and Noise Abatement Act of 1979 (94 Stat. 50))

Note.—The FAA has determined that this document involves a regulation which is not significant under Executive Order 12044, as implemented by DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). A copy of the regulatory evaluation prepared for this action is contained in the regulatory docket. A copy of it may be obtained by contacting the person identified above, under the caption "For Further Information Contact."

Issued in Washington, D.C., on October 2, 1980.

Langhorne Bond,
Administrator.

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