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 Greater

This edition incorporates
Changes 1 through 7.

This FAA publication of the basic Part 125, effective February 1, 1981, incorporates Amendments 125–1 through 125–25 with preambles.

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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 Greater

This change incorporates Amendment 125–25, Extended Overwater Operations With a Single Long-Range Communication System (LRCS) and a Single Long-Range Navigation System (LRNS) adopted February 20 and effective February 26, 1996. Section 125.203 is affected by this amendment.

Bold brackets enclose the most recently changed or added material.

Page Control Chart

Remove Pages	Dated	Insert Pages	Dated
P–315 and P–316	Ch. 6	P–315 through P–323	Ch. 7
Subpart F	Ch. 4	Subpart F	Ch. 7

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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 Greater

This change incorporates two amendments:

Amendment 125–23 and SFAR 38–12 (which affects SFAR 38–2), Commuter Operations and General Certification and Operations Requirements, effective January 19, 1996. The heading to Part 125 is revised. Section 125.1(b)(4) is also revised.

Amendment 125–24, Revision of Authority Citations, signed December 20, 1995, and effective December 28, 1995.

Bold brackets indicate the most recently changed or added material.

Page Control Chart

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P–199 and P–200	Ch. 4	P–199 through P–316	Ch. 6
Subpart A	—	Subpart A	Ch. 6
S–22–7 through S–28	Ch. 5	S–22–7 through S–28	Ch. 6

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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

This change incorporates Special Federal Aviation Regulation 38–9, 38–10, and 38–11. SFAR 38–11, Certification and Operating Requirements, adopted May 31, 1995, extends the termination date of SFAR 38–2 to June 1, 1996.

Page Control Chart

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S–21 through S–28	—	S–21 through S–28	Ch. 5

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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

This change incorporates Amendment 125–22, Protective Glove Requirement, adopted September 26, 1994. Section 125.207 is the only section affected. Bold brackets appear around the revised and added material.

Page Control Chart

Remove Pages	Dated	Insert Pages	Dated
P–195 and P–196	Ch. 3	P–195	Ch. 3
		P–196 through P–200	Ch. 4
Subpart F	Ch. 2	Subpart F	Ch. 4

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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

This change incorporates Amendment 125–21, Flight Attendant Duty Period Limitations and Rest Requirements, adopted August 15, 1994. Section 125.37 is the only section affected. Bold brackets appear around the revised material.

Page Control Chart

Remove Pages	Dated	Insert Pages	Dated
P–171	Ch. 2	P–171 through P–196	Ch. 3
Subpart B	—	Subpart B	Ch. 3

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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

This change incorporates Amendment 125–20, Emergency Locator Transmitters, adopted June 10, 1994. Section 125.209 is the only section affected. Bold brackets appear around the revised material.

Page Control Chart

Remove Pages	Dated	Insert Pages	Dated
P–161	Ch. 1	P–161 through P–171	Ch. 2
Subpart F	Ch. 1	Subpart F	Ch. 2

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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

This change incorporates two amendments:

Amendment 125–18, Training and Checking in Ground Icing Conditions, adopted December 27, 1993 (affects §§ 125.221 and 125.287); and

Amendment 125–19, Removal of Burn Compound from First-Aid Kits, adopted January 5, 1994 (affects § 125.207).

Bold brackets appear around revised or added material. The amendment number and effective date of these changes appear in bold brackets at the end of each affected section.

Page Control Chart

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		P–145 through P–161	Ch. 1
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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.

FOR FURTHER INFORMATION CONTACT: Harold E. Smith, Regulatory Projects Branch (AVS–24), Safety Regulations Staff, Associate Administrator for Aviation Standards, 800 Independence Avenue, SW., Washington, D.C. 20591, Telephone (202) 755–8716.

SUPPLEMENTARY INFORMATION:

Notice of Proposed Rule Making

These amendments are based on Notice of Proposed Rule Making 79–19 (44 FR 66324; 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 indepth 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 only 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 commence 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.

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 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*
12/31/72	Douglas DC–7	Crashed after takeoff—fatalities	Engine failure—maintenance
2/21/73	Curtiss C–46	Forced landing en route—fatalities	Maintenance
4/3/73	Lockheed 1049	Right gear retracted	Downlock failed—maintenance
6/21/73	Douglas DC–7	Lost control—initial climb—fatalities	Turbulence and inflight fire—maintenance
8/5/73	Lockheed 1049	Forced landing—en route	Improper fuel transfer—circuit breaker corroded—maintenance
9/10/73	Convair 880	Landing—stall	Large storm over approach path
9/24/73	Lockheed 1049	Landing gear failure	Maintenance
10/23/73	Curtiss C–46	Forced landing—approach	Fuel contamination—maintenance
12/15/73	Lockheed 1049	Overrotated at liftoff—fatalities	Unqualified crew—loaded out of center of gravity
12/27/73	Douglas DC–3	Collided with trees	Fuel mismanagement—landed on road
12/30/73	Douglas DC–3	Collided with trees	Engine failure—icing conditions—no deice fluid—maintenance
4/18/74	Douglas DC–2	Forced landing—en route	Fuel contamination—gear not locked down—maintenance
1/1/75	Douglas DC–3	Forced landing—en route	Propeller erratic—other engine overheat—maintenance
1/2/75	Douglas DC–4	Collided with fence on takeoff	Unsuitable terrain—unqualified crew
1/2/75	Douglas DC–3	Collided with wires on approach—fatalities	Below minimum conditions
2/9/75	BAC–111	Directional control—takeoff	Hit snow bank—low visibility takeoff
5/11/75	Lockheed 1049	Hit trees—fatalities	Engine malfunction—maintenance
6/16/75	Martin 404	Forced landing on takeoff	Engine malfunction—maintenance
8/23/75	Douglas DC–3	Lost directional control—takeoff	Gusting to 45K—hit fence—ditch
9/11/75	Douglas DC–3	Collided with trees—fatalities	Oxygen masks used—no oxygen in system
1/4/76	Douglas DC–3	Forced landing—en route	Engine failure—unauthorized repair
2/19/76	Lockheed 1049	Forced landing—en route	Malfunction—maintenance
4/4/77	Douglas DC–3	Forced landing after takeoff	Engine failure—maintenance—inadequate flight planning
4/22/76	Boeing 720	Lost control on approach	Failure to maintain proper airspeed
10/13/76	Boeing 707	Crashed on takeoff—fatalities	Improper pilot technique—loading
3/3/77	Douglas DC–4	Landing roll gear collapse	PIC selected unsuitable terrain
3/17/77	Douglas DC–3	Airplane nosed over on landing	PIC selected unsuitable terrain

4/14/77	Douglas DC–3	Overshot landing	Touchdown on last ⅓ of 7,000-foot runway
5/6/77	Curtiss C–46	Forced landing—en route	Engine failure—maintenance
6/13/77	Douglas DC–3	Airplane landed long, resulting in gear collapse	PIC selected unsuitable landing area lighted by flashlights
9/12/77	Douglas DC–7B	Forced landing—takeoff—fatalities	Over gross—improper fuel—maintenance
10/13/77	Curtiss C–46F	Wheels-up landing	Hydraulic system failure—PIC lacked familiarity with airplane and failed to follow approved procedures
10/20/77	Convair 240	Forced landing—en route—fatalities	Fuel exhaustion—maintenance
3/21/78	Convair 340	Off airport forced landing	Oil supply exhaustion caused engine fire and subsequent engine separation from airplane
5/12/78	Convair 440	Forced landing in water	Power loss due to internal failure of engine—PIC failed to make proper decision
5/25/78	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
7/22/78	Curtiss C–46	Forced landing on approach	Maintenance
9/4/78	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 CF–240
9/6/78	Douglas DC–7C	Airplane was flown into ground—fatalities	PIC misjudged distance from ground—PIC failed to plan flight properly
10/1/78	Douglas DC–3	Forced landing in water—fatalities	Electrical system failure—pilot became lost and fuel supply became low
10/30/78	Douglas DC–3	Nose-over on landing	PIC did not have multi-engine rating or type rating—PIC attempted operation which exceeded capability
11/29/78	Convair 240	Lost directional control—fatalities	Improper procedures
12/2/78	Douglas DC–3	Undershot runway	Aircraft landed 300 feet short of runway
12/5/78	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
12/11/78	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
12/14/78	Douglas DC–3	Crash on landing	PIC selected unsuitable landing area and misjudged distance and speed
1/10/79	Douglas DC–3	Crash on landing	Unsuitable terrain—unlighted field
1/21/79	Douglas DC–3	Airplane swerved on landing	PIC did not compensate properly for unfavorable wind conditions
4/16/79	Convair 340	Airplane went off end of runway	Engine failure on takeoff—maintenance
5/15/79	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
6/6/79	Douglas DC–6	Overshot runway	Landed long—crashed down embankment
6/12/79	Douglas DC–3	Airplane crashed on takeoff—fatalities	PIC lifted airplane off ground prematurely, causing stall—PIC failed to follow procedures
6/22/79	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
6/27/79	Douglas DC–3	Overshot runway	Landed long in fog—ground looped to stop
6/29/79	Martin 404	Struck terraced ground	Pilot blinded—dirty, coated windshield
7/13/79	Douglas DC–3	Forced landing—en route	Fuel exhaustion
8/25/79	Convair 440	Gear-up landing	Gear and stabilizer parts missing—maintenance
9/14/79	Douglas DC–7B	Collided with trees—fatalities	Night departure—hit trees 24 miles from airport

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 smiliar 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:

- Numberous 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 material 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 airmen'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.

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 lest 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 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 an 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 certification 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

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 situtions 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 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 should 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 applicatons for certification under Part 123 will be accepted after the effective date of Part 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 Roles and Miscellaneous Requirements

This subpart contains the certificate and operatons 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 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 provisons 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:

The manual requirements in this subpart have worked satisfactorily in operatons 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 airworwthiness 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 setting 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 larger 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—

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 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 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;
- 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—

- 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.

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 $20.40 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 G producing the greatest cost impact. These rules would mandate obtaining on 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 no 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

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
Turobjet	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.

• 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;

• Identifying 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 impact.

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 CERTAIN CERTIFICATION & OPERATIONS SPECIFICATIONS
	125.39	DUTY TIME LIMITATIONS
C	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

	125.291	PILOT IN COMMAND: INSTRUMENT PROFICIENCY CHECK REQUIREMENTS
J	125.323	REPORTING MECHANICAL IRREGULARITIES
K	125.351–125.383	FLIGHT RELEASE RECORDS
L	125.401–125.411	RECORDS AND REPORTS

* 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.

Federal Government	76	17	13	106
State & 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 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 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 opeator-piston stratum to the corporate category. If more samples had been required, the minimum variance strategy could again by updated using the present data to estimate the stratum populations and variances. As it stands, the estimated 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 intital 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

Table 5.—*Airplanes and Operators With Cost Impacts Attributable to Planned Part 125*

(As of September 30, 1978)

	Piston		Turboprop		Turbojet		Total	
	#Airplanes	#Opers.	#Airplanes	#Opers.	#Airplanes	#Opers.	#Airplanes	#Opers.[1]
Corporate Transport	217	181	66	50	43	39	326	258
Aircraft Lease & Service Firms	554	257	43	24	38	11	635	275
Museums, Exhibition, Education, Misc.	87	46	13	4	0	0	100	48
Aircraft Manufacturers Air Travel Clubs[2]	0	0	0	0	16	3	16	3
Air Travel Clubs[2]	0	0	3	3	10	5	13	7
Unknown Operators[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 Operator[1] With Cost Impacts From Planned Part 125*

(As of September 30, 1978)

	Piston		Turboprop		Turbojet		Total	
	#Oper.	AC./Oper.	#Oper.	AC./Oper.	#Oper.	AC./Oper.	#Oper.[2]	AC./Oper.
Corporate Transport	181	1.2	50	1.3	39	1.1	258	1.3
Aircraft Lease & Service Firms	257	2.2	24	1.8	11	3.5	275	2.3
Museums, Exhibition, Education, Misc	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.

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 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

a cell is then equal to the airplane cost plus the prorated operater 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.

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 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.

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.

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

($ millions)

Airplane Type	Type Cost[1]		Operator Category					
			Corporate Transport	Lease-Service Firms	Museum Educ. Misc.	Aircraft Manuf.	Travel Clubs	Total
Piston	I	=	2.95	7.99	0.84	0.0	—	11.78
	R	=	2.50	12.22	0.08	0.0	—	14.80
Turboprop	I	=	0.74	0.23	0.08	0.0	—	1.05
	R	=	0.73	2.01	0.0	0.0	—	2.74
Turbojet	I	=	0.23	0.85	0.0	0.72	—	1.80
	R	=	0.86	1.09	0.0	0.46	—	2.41
All Airplanes	I	=	3.92	9.07	0.92	0.72	0.0	14.63
	R	=	4.09	15.32	0.08	0.46	(2.46)[2]	17.49
Total First Year Cost	C	=	8.01	24.39	1.00	1.18	(2.46)	32.12
Total Industry Cost[3]	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 of registration.

		0.0	0.0	0.0	0.0	(2.41)[4]	(2.41)
B	Certification	2.51	3.36	0.08	0.32	0.01	6.29
	Rules	2.04	8.83	0.0	0.02	0.02	10.91
C	Manual	0.09	2.25	0.0	0.20	0.0	2.54
	Requirements	0.51	0.09	0.0	0.0	0.01	1.21
D	Airplane	0.0	0.15	0.0	0.0	0.0	0.15
	Requirements	0.0	0.0	0.0	0.0	0.0	0.0
E	Airworthiness	0.0	0.24	0.03	0.0	0.0	0.27
	Requirements	0.0	0.0	0.0	0.0	0.0	0.0
F	Equipment	0.98	1.87	0.81	0.0	0.0	3.66
	Requirements	0.0	0.21	0.08	0.0	0.0	0.29
G	Maintenance	0.6	1.13	0.0	0.20	0.0	1.39
	and Inspection	0.01	0.78	0.0	0.0	0.01	0.80
H	Navigator	0.25	0.0	0.0	0.0	0.0	0.25
	Requirements	0.04	0.0	0.0	0.0	(0.1)[5]	0.05
I	Pilot	0.03	0.02	0.0	0.0	0.0	0.05
	Qualification	0.83	2.46	0.0	0.29	0.0	3.58
J	Flight	0.0	0.0	0.0	0.0	0.0	0.0
	Operations	0.0	0.02	0.0	0.0	0.0	0.02
K	Flight	0.0	0.0	0.0	0.0	0.0	0.0
	Release	0.15	1.78	0.0	0.10	0.0	2.03
L	Records and	0.0	0.05	0.0	0.0	0.0	0.05
	Reports	0.50	0.55	0.0	0.05	0.0	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.

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 least-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

Airplane Type	Operator Category					
	Corporate Transport	Lease-Service Firm	Museum Educ. Misc.	Aircraft Manuf.	Travel Clubs	Total
Piston	0.38	0.97	0.15	0	0.01	1.51
Turboprop	0.12	0.08	0.02	0	0.00	0.22
Turbojet	0.08	0.07	0.00	0	0.02	0.17
Total First Year Cost	0.58	1.12	0.17	0	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.

(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 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.

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

	No. Lease-Service Firm Airplanes	No. Airplanes Impacted	Impacted Airplanes with 2 Engines	Impacted Aircraft with 4 Engines	Total No. of Engines Impacted	$/Engine Cost Factor	Cost Impact ($ million)
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.

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 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 Janury 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 editiorial changes would be made to Subpart E on the basis of the Part 125 proposal. Those changes are accomplished in a separate rulemaking action.

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 operaate 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 then 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.

§ 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 operator'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 § 125.7)

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 any 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 § 125.25(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 measures of control over certificates issued under Part 125.

after the holder receives notice of the adoption of the amendment" in § 125.35(d) is not clear in its intention 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 renumbered 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.

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 Part 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 rule 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

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 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

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 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

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 person 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.

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 appy 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 thee 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.

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 the 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 repairmen or other personnel, after training

§ 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 preform 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.

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 the tests and check in lieu of training requirements. This requirement is part of that philosophy which is applied to 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-comment check could serve as a second in command if the test 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.

§ 125.313 Manipulation of controls when carrying passengers.

Several commenters object to the relaxation from Part 121 and 123 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.

(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 safe 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 plane 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 L—Records and Reports

§ 125.401 Crewmember record.

One commenter points out that § 125.401, as proposed, eliminates the requirements 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

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.

G of 14 CFR Chapter I a new Part 125.

(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."

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*A notice of approval by the Office of Management and Budget of the recordkeeping and reporting requirements of §§ 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, was published in the Federal Register on December 22, 1980 (45 FR 84020). The notice made these sections effective February 1, 1981.

The effective date of Part 125 and of related Amendments 43–21, 91–169, 91–170A, 121–164, 123–9, 135–7, and 145–17 is changed to February 3, 1981. In addition, in order to preserve the application and compliance procedure timing, certain dates specified in any of the related amendments listed in the preceding sentence are similarly revised.

Need for Immediate Adoption

Since the Office of Management and Budget approval was too late to stop publication of the January 30 Notice and since the Notice must be rescinded, I find that notice and public procedure are impracticable and contrary to the public interest and good cause exists for making these amendments effective in less than 30 days.

Change of Dates

Accordingly, 14 CFR Chapter 1 is changed as follows:

1. By changing the effective date of Part 125 and Amendment Nos. 43–21, 91–169, 91–170A, 121–164, 123–9, 135–7, and 145–17 to read February 3, 1981 in each case.

2. By changing § 125.5 by revising the date "February 1, 1981" in paragraph (a) to read "February 3, 1981" and the dates in paragraph (b) to read "June 1, 1981" and "February 2, 1981" respectively.

(Secs. 307, 313, 601 through 611, and 1102, Federal Aviation Act of 1958, as amended (49 U.S.C. 1348, 1354, 1421–1431 and 1502); 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).

Amendment 125–2

Airplanes; Certification and Operations; Correction

Adopted: April 6, 1981 **Effective: April 30, 1981**

(Published in 46 FR 24409, April 30, 1981)

SUMMARY: This amendment corrects errors made when the final Part 125 regulation was printed in the *Federal Register* (45 FR 67214; October 9, 1980). This amendment is required to ensure that ambiguity resulting from those errors is eliminated.

FOR FURTHER INFORMATION CONTACT: Jean Casciano, Regulatory Projects Branch (AVS–24), Safety Regulations Staff, Associate Administrator for Aviation Standards, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, D.C. 20591; telephone (202) 755–8716.

SUPPLEMENTARY INFORMATION: When Notice of Proposed Rulemaking No. 79–19 was published (44 FR 66324; November 19, 1979), proposed § 125.247(e) read "No person may operate any airplanes unless the installed engines have been maintained in accordance with the overhaul periods recommended by the manufacturer or *a program* approved by the Administrator . . ." (emphasis supplied). However, when the manuscript copy of the final rule was sent to the *Federal Register* for printing, the words "a program" were inadvertently omitted and § 125.247(d)(1) (the subparagraphs were restructured), as submitted and as published, read "The installed engines have been maintained in accordance with the overhaul periods recommended by the manufacturer or approved by the Administrator; and ". The words "a program" are necessary to express the concept that a program approved by the Administrator is a satisfactory alternative to compliance with the overhaul periods recommended by the manufacturer.

In addition, when the final rule was sent to the *Federal Register* for printing § 125.381(c)(2) stated "Is on final approach segment using a non-precision approach procedure, or . . ." It is necessary to

Accordingly, Part 125 of the Federal Aviation Regulations (14 CFR Part 125) is amended effective April 30, 1981.

(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 not a major rule under Executive Order 12291 or a significant regulation under the DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). Since this regulatory action involves an amendment that corrects an inadvertent omission and an editorial error and does not make a substantive change, the anticipated impact is so minimal that it does not warrant preparation of a regulatory evaluation.

Amendment 125–3

Transport Category Airplanes—Pitot Heat Indication Systems

Adopted: August 7, 1981 **Effective: September 30, 1981**

(Published in 46 FR 43804, August 31, 1981)

SUMMARY: These amendments relieve general aviation operators of transport category airplanes that are operated under Part 91 from the requirement to install pitot heat indication systems to indicate to the flightcrew when the pitot heating system is not operating. The amendments are based on a study which indicates that there have not been any general aviation transport category airplane accidents that could be attributed to a pitot heating system failure. The rule change is also in response to a petition for rulemaking dated January 26, 1979, from the National Business Aircraft Association (NBAA).

FOR FURTHER INFORMATION CONTACT: Joseph A. Sirkis, Regulatory Projects Branch (AVS–24), Safety Regulations Staff, Associate Administrator for Aviation Standards, 800 Independence Avenue, SW., Washington, DC 20591; telephone: (202) 755–8716.

SUPPLEMENTARY INFORMATION:

Notice of Proposed Rulemaking

These amendments are based on Notice of Proposed Rulemaking No. 80–27 (46 FR 76; January 2, 1981). All interested persons were given an opportunity to participate in the making of these amendments, and due consideration was given to all matters presented. These amendments and the reasons for their adoption are the same as those stated in Notice 80–27.

Background of This Rulemaking Proceeding

Amendment 91–148

Section 91.50(a), as adopted by Amendment 91–148 (43 FR 10339; March 13, 1978), provided that after April 12, 1981, with certain exceptions, no person may operate a transport category airplane equipped with a flight instrument pitot heating system unless the airplane is also equipped with an operable pitot heat indication system that complies with § 25.1326. Section 25.1326 requires that the indication provided must incorporate an amber light that is in clear view of a flight crewmember and must be designed to alert the flightcrew if either the pitot heating system is switched "off" or the pitot heating system is switched "on" and any pitot tube heating element is inoperative. All flight operations conducted with transport category airplanes must meet this requirement regardless of the type of operation being conducted.

SUMMARY: On January 29, 1981, the President issued a memorandum to certain agency heads directing that they issue a notice in the *Federal Register* postponing for 60 days after January 29, 1981, the effective date of regulations that have already been issued but were scheduled to become effective in the next 60 days. This amendment consistent with the President's directive, postpones the effective date of new Part 125 and related amendments from February 1, 1981, to April 1, 1981.

FOR FURTHER INFORMATION CONTACT: Harold E. Smith, Regulatory Projects Branch (AVS–24), Safety Regulations Staff, Associate Administrator for Aviation Standards, 800 Independence Avenue, SW., Washington, DC 20591, Telephone (202) 755–8716.

SUPPLEMENTARY INFORMATION:

Background

Part 125 was published in the Federal Register on October 9, 1980, (45 FR 67214). That Part, and related amendments to Parts 43, 91, 121, 123, 135, and 145 have an effective date of February 1, 1981. On January 29, 1981, the President issued a memorandum which directs that all agencies, by notice in the *Federal Register,* postpone for 60 days from January 29, 1981, the effective date of all regulations that have been promulgated in final form and that are scheduled to become effective during the 60 day period. Part 125, and regulations adopted with it, fall within the scope of the President's memorandum.

The President stated in his memorandum that the establishment of a new regulatory oversight program that will lead to less burdensome and more rational Federal regulations was among his priorities as President. He indicated that this program was especially important because of the country's economic climate.

In order to give his Administration, through the Task Force on Regulatory Relief, sufficient time to implement that process and to subject to full and appropriate review many recent regulations that would increase rather than relieve the current burden of restrictive regulation, he directed the postponement of pending regulations.

Consistent with this view, I am by this notice postponing for 60 days the effective day of Part 125.

Description of These Amendments

The effective date of Part 125 and of related Amendments 43–21, 91–169, 91–170A, 121–164, 123–9, 135–7, and 145–17 is changed from February 1, 1981, to April 1, 1981. In addition, in order to preserve the application and compliance procedure timing, certain dates specified in any of the related amendments listed in the preceding sentence are revised. However, although the effective date of Amendment 91–170A is changed from February 1, 1981, to April 1, 1981, the designation date of November 29, 1980, for applicable noise rules is unchanged.

Need for Immediate Adoption

The FAA realizes that the postponement of pending regulations may not be viewed by certain persons to be in their best interest. However, in accordance with the President's directive, the economic condition of the nation is such that the government must rethink the need and expense of each new regulation. For a new Administration and any new Department head to effectively accomplish this objective, some time is needed for adequate review. Sixty days is the minimum period to accomplish such a review and the impact of such a delay will be minimal. For these reasons, the FAA is convinced that good cause exists for postponing for up to 60 days this effective date of this rule for 60 days and that the end result of such a delay, a more cohesive and effective regulatory program, is in the public interest. For similar reasons and because this rule is scheduled to become effective very shortly, additional notice and public procedure on this change of effective dates is impracticable, unnecessary and contrary

1. By amending the effective date February 1, 1981, of Part 125 and Amendment Nos. 43–21, 91–169, 91–170A, 121–164, 123–9, 135–7, and 145–17 to read April 1, 1981 in each case.

2. By amending § 125.5 by revising the date "February 1, 1981" in paragraph (a) to read "April 1, 1981" and the dates "June 1, 1981" and "January 31, 1981" in paragraph (b) to read "August 1, 1981" and "March 31, 1981" respectively.

(Secs. 307, 313, 601 through 611, and 1102, Federal Aviation Act of 1958, as amended (49 U.S.C. 1348, 1354, 1421–1431 and 1502); 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).

Additional Actions Pending

In addition to the amendments adopted herein, the Agency has other regulatory actions as to which it has not been able to act to carry out the President's memorandum because they have been issued by the various FAA Regions. These include, but are not limited to, airworthiness directives, airspace actions, and standard instrument approach procedures. Additional postponements of these regulations will be issued in the next several days to comply with the President's memorandum.

Amendment 125–1A

Amendments of Effective Date of Part 125 and Amendments Adopted in Relation to Part 125

Adopted: February 3, 1981 **Effective: February 3, 1981**

(Published in 46 FR 10903, February 5, 1981)

SUMMARY: This document reestablishes the effective date of new Part 125 and related amendments to February 3, 1981. This change in effective date is necessary since the Office of Management and Budget, in accordance with the President's Memorandum dated January 29, 1981, concerning postponement of pending regulations, authorized the FAA to allow Part 125 to become effective without further delay.

FOR FURTHER INFORMATION CONTACT: Edward P. Faberman, Assistant Chief Counsel for Regulations (AGC–200), Regulations and Enforcement Division, Office of the Chief Counsel, Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, DC 20591; telephone (202) 426–3235.

SUMMARY INFORMATION:

Background

Part 125 was published in the Federal Register on October 9, 1980, (45 FR 67214). That Part, and related amendments to Parts 43, 91, 121, 123, 135, and 145 had an effective date of February 1, 1981. On January 29, 1981, the President issued a memorandum which directed that all agencies, by notice in the Federal Register, postpone for 60 days from January 29, 1981, the effective date of all regulations that had been promulgated in final form and that were scheduled to become effective during that 60 day period. Part 125, and regulations adopted with it, fall within the scope of the President's memorandum.

In accordance with the President's memorandum the effective date of Part 125 was postponed by notice which is published in today's Federal Register. That notice was issued on January 30, 1981, and forwarded to the Federal Register for publication. The Department of Transportation asked the Office of Management and Budget to allow Part 125 to become effective without delay. OMB reviewed that request and advised the Department on February 3, 1981, that Part 125 could become effective in accordance

To allow time to consider fully the NBAA petition, in Amendment 91–172 (46 FR 19; January 2, 1981) the FAA suspended the April 12, 1981, compliance date contained in Amendment 91–148 for operators of transport category airplanes used in general aviation operations under Part 91.

Description of Notice 80–27

Notice 80–27 proposed to exclude general aviation operators of transport category airplanes operating under Part 91 from the operating requirement to install pitot heat indication systems to indicate to the flightcrew when the pitot heating system is not operating. The requirement was to be retained for commercial, air carrier, travel club, and air taxi operators of transport category airplanes. The proposal was in response to a petition from the NBAA which stated, in essence, that the cost of a pitot heat indication system is not justified for general aviation operators.

Notice 80–27 proposed a new section, § 125.122, for the pitot heat indication system requirement in Part 125. This has been changed to § 125.206, which appropriately places the requirement in Subpart F—Instrument and Equipment Requirements.

Discussion of Comments

The FAA received 21 public comments in response to Notice 80–27. A majority of commenters, all of whom operate aircraft under Part 91 only, support the proposal. They agree the proposal would provide financial relief from an unnecessary requirement for general aviation, inasmuch as the cost associated with installing a pitot heat indication system cannot be justified by a proven need for such a warning system. One such commenter states, for example, that in almost 19 years of service experience, his company has never experienced a failure of the pitot heating system on any of the company's aircraft. Similarly, the NBAA contends that existing training in the handling of emergency situations such as instrument failure and recognition of that failure, use of checklists, and cross-checking of instruments provide an equivalent level of safety to that provided by the proposal and that the corporate executive fleet safety record bears this out. The NBAA states that, to the best of its knowledge, there has never been a business aircraft accident attributable to pitot heating system failure.

The FAA, in its study of reports of airplane accidents which have occurred over a period from January 1, 1976, through May 28, 1981, finds no evidence that refutes the NBAA's statement that there is no record of any business or corporate (general aviation) transport category aircraft accident that is attributable to pitot heating system failure. The FAA does not suggest here that general aviation operations are less susceptible than operations conducted under Part 121, 123, 125, or 135 to the problems at which Amendment 91–148 is directed. However, where these operations are concerned, the FAA imposes stricter safety standards than are imposed for general aviation operations under Part 91. Since the operating experience of general aviation operators does not support the need to install a pitot heating indication system, the FAA concludes that the general aviation operator should be relieved of the cost burden associated with installing such a system.

Several commenters oppose the proposal. Some state that the requirement for installing a pitot heat indication system should be retained for Part 91 operations as well as for Part 121, 123, 125, and 135 operations; others state that the requirement should be rescinded for Part 121, 123, 125, and 135 operations as well as for Part 91 operations. Several such commenters state that the requirement for installing a pitot heating indication system should apply to all operations they conduct. They believe that safety standards should be the same for operations conducted under Part 91 as for those conducted under Part 121, 123, 125, or 135, and that the cost of installing a pitot heat indication system would not be prohibitive. An airline pilots' union, in its comment, supports the need for a pitot heat indication system in Part 91 operations because it believes that general aviation transport category airplanes are high-performance aircraft subject to precisely the same hazards as commercial transport category aircraft. This same commenter also implies that the installation costs for such a warning system would not be prohibitive. Another commenter questions the need for installing a pitot heat indication system in Part 135 operations, stating that such a warning system cannot substitute for professionalism in the flightcrew, while another commenter states that in aircraft operated under Part 125 (which may be operated for compensation or hire), the warning system should be an optional item.

of a pitot heat indication system, while not guaranteeing against human error, will provide additional assurance that pilots will become aware as early as possible of a potentially dangerous situation.

One commenter suggests that the proposal be revised to allow the use of alternate indicating systems. This was not proposed in Notice 80–27 and cannot be considered as part of this rulemaking proceeding. Similarly, the commenter's point concerning the need for static port heaters is not part of this rulemaking proceeding.

A general aviation manufacturer's association, in its comment, recommends a rule change that would limit the application of § 25.1326, which requires installation of a pitot heat indication system in transport category airplanes, to airplanes used in commercial, air taxi, air travel club, and air carrier operations. This amendment of § 25.1326 was also proposed by the NBAA in its petition. Such a change was not proposed by the FAA in Notice 80–27. Additionally, no justification was offered by the NBAA for deleting the Part 25 requirement which applies to airplanes whose application for type certificate is made after April 11, 1978. Production of these airplanes will not occur until well in the future. Similarly, the manufacturer's association did not address this aspect in suggesting deletion of this Part 25 requirement.

These amendments do not relieve the operators of those transport category airplanes whose basis for certification includes § 25.1326 from the requirement to install a pitot heat indication system. Section 25.1326 applies to airplanes whose application for type certificate is made after April 11, 1978; however, a number of applications for type certificates were made before that date, and the applicants elected or were required under § 21.17 to include the provisions of § 25.1326 in their basis for certification. Some examples of airplanes required to have a pitot heat indication system as part of their basic design approval include the Boeing 757, the Boeing 767, and the Learjet models 54, 55, and 56.

Regulatory Evaluation

The FAA conducted a regulatory evaluation which is included in the regulatory docket for this action. The FAA determined that there is no cost impact on Part 91, 121, 123, 125, or 135 operators of transport category airplanes and only a minimal to negligible cost impact on the Federal Government. Specifically, this rule provides relief to Part 91 operators of certain transport category airplanes manufactured under a type certificate for which application was made before April 12, 1978, by eliminating the requirement to install pitot heat indication systems and imposes no new requirements on such operators. This rule imposes no new requirements on Part 121, 123, 125, or 135 operators. The requirement imposed by § 91.50 to airplanes operated under Parts 121, 123, 125, and 135 remains unchanged although the requirement for installing a pitot heat indication system is now listed separately in Parts 121, 125, and 135. The Federal Government will incur minimal to negligible costs in this revision of Part 91, which is considered to be part of the FAA's ongoing program to revise regulations.

Benefits

Implementing this rule provides benefits in terms of cost savings to Part 91 operators of transport category airplanes. It relieves such operators from the requirement to install pitot heat indication systems in their airplanes. During 1982, which is assumed to be the first effective year of the regulation, FAA estimates equipment, maintenance, installation, and downtime cost savings of at least $7.6 million to $10.9 million for operators of approximately 4,700 Part 91 airplanes. Further, cost savings to Part 91 operators of transport category airplanes of $1.0 million to $1.2 million each year during 1983–1985 are expected. Cost savings will be less during 1983 through 1985 than in 1982 because of the projected limited number of new production Part 91-operated transport category airplanes and because installation of the equipment could be performed during airplane assembly, thereby significantly reducing the costs. The FAA notes again that § 25.1326 requires a pitot heat indication system on those airplanes for which a type certificate application was made after April 11, 1978.

Accordingly, the benefits of this regulation outweigh the costs.

has determined that this document involves a regulation which is not a major rule under Executive Order 12291 or a significant regulation under the DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). A copy of the final 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." It has been determined further that the amendment will not have a significant impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act since it is relieving in nature.

Amendment 125–4

Delay of Part 125 Applicability to Part 129 Operators

Adopted: October 5, 1982 **Effective: October 12, 1982**

(Published in 47 FR 44718, October 12, 1982)

SUMMARY: This amendment to the Federal Aviation Regulations extends the date from January 1, 1983, to September 1, 1984, for foreign air carriers holding Part 129 operations specifications to certificate and comply with Part 125 of the Federal Aviation Regulations. Since the FAA has an active rulemaking project which includes a study of possible changes to Part 129, this action is necessary to avoid requiring foreign air carriers to comply with rules which may be revised by the FAA in the near future.

Comments must be received on or before November 12, 1982.

ADDRESSES: Send comments on the rule in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC–204), Docket No. 23381, 800 Independence Avenue, S.W., Washington, DC 20591; or deliver comments in duplicate to: FAA Rules Docket, Room 916, 800 Independence Avenue, S.W., Washington, D.C. 20591. Comments may be examined in the Rules Docket, weekdays except Federal holidays, between 8:30 a.m. and 5 p.m.

FOR FURTHER INFORMATION CONTACT: Gary Perkins, Operations Branch (AFO–820), General Aviation and Commercial Division, Office of Flight Operations, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, D.C. 20591, telephone: (202) 426–8194.

SUPPLEMENTARY INFORMATION:

Background

Part 125 includes, in the applicability under § 125.1(e), a deferred compliance date of January 1, 1983, for foreign air carriers holding operations specifications issued under Part 129. As stated in the preamble to the adoption of Part 125 (45 FR 67214; October 9, 1980), this deferred compliance date was included because the agency was considering a regulatory project to revise Part 129, and it would not have been appropriate to subject foreign air carriers to Part 125 requirements until the agency could determine the proper action on Part 129. Various revisions to Part 129 are now under active consideration. A rulemaking project is underway at this time, but the FAA foresees that this project and any subsequent rule changes will not be completed until after the compliance date of January 1, 1983.

Foreign air carriers operating U.S.-registered aircraft have already begun to query the FAA concerning the status of the above-mentioned rulemaking project and the necessity for any action on their part. If the January 1, 1983, compliance date is not changed, these carriers would have to begin certification procedures now to meet that compliance date. Therefore, the agency has decided to extend the compliance date to September 1, 1984.

U.S. registered airplanes will be reached before that rulemaking project is completed. The FAA recognizes an urgent need to amend § 125.1(e) to extend the compliance date and defer imposing Part 125 requirements on these carriers until this rulemaking action is completed. Not adopting this amendment immediately would unnecessarily impose a burden, both monetarily and in terms of resource utilization, on the FAA and the concerned foreign air carriers. Therefore, I find that notice and public procedure are impracticable and contrary to the public interest. In addition, since this amendment relieves a restriction, I find that good cause exists for making this amendment effective in fewer than 30 days. However, interested persons are invited to submit such comments as they may desire regarding this amendment. Communications should identify the docket number and be submitted in duplicate to the address specified above. All communications received on or before November 12, 1982, will be considered by the Administrator, and this amendment may be changed in light of the comments received. All comments received will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons.

Adoption of the Amendment

Accordingly, § 125.1(e) of the Federal Aviation Regulations (14 CFR § 125.1(e)) is amended effective October 12, 1982, by removing the date "January 1, 1983," and substituting the date "September 1, 1984," in place thereof.

(Sections 313, 601 through 610, and 1102, Federal Aviation Act of 1958, as amended (49 U.S.C. 1354, 1421 through 1430, and 1502); Section 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).)

NOTE: By extending a compliance date, this amendment allows foreign air carriers regulated by Part 129 to continue operating their U.S.-registered airplanes under that Part. Thus, for the period of the extension, there is no change in their present regulatory status. Therefore, the FAA has determined that this amendment is not major under Executive Order 12291 or significant under the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). For the reasons discussed above, it also has been determined that the anticipated economic impact is so minimal that no regulatory evaluation is necessary.

Amendment 125–5

Delay of Part 125 Applicability to Part 129 Operators

Adopted: August 20, 1984 **Effective: August 31, 1984**

(Published in 49 FR 34815, September 4, 1984)

SUMMARY: This amendment to the Federal Aviation Regulations extends the date from September 1, 1984, to February 28, 1986, for foreign air carriers holding Part 129 operations specifications to comply with Part 125 of the Federal Aviation Regulations. Since the FAA has an active rulemaking project which includes a study of possible changes to Part 129, this action is necessary to avoid requiring foreign air carriers to comply with rules which may be revised by the FAA in the near future.

Comments must be received on or before October 1, 1984.

ADDRESSES: Send comments on the rule in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC–204), Docket No. 23381, 800 Independence Avenue, S.W., Washington, D.C. 20591; or deliver comments in duplicate to: FAA Rules Docket, Room 916, 800 Independence Avenue, S.W., Washington, D.C. 20591. Comments may be examined in the Rules Docket, weekdays except Federal holidays, between 8:30 a.m. and 5 p.m.

the preamble to the adoption of Part 125 (45 FR 67214; October 9, 1980), this deferred compliance date was included because the agency was considering a regulatory project to revise Part 129, and it would not have been appropriate to subject foreign air carriers to Part 125 requirements until the agency could determine the proper action on Part 129. Various revisions to Part 129 are now under active consideration. A rulemaking project is underway at this time, but the FAA foresees that this project and any subsequent rule changes will not be completed until after the compliance date of September 1, 1984.

The FAA is also taking into consideration that proposal of revisions to Part 129 will entail a 120-day comment period to afford all affected persons an opportunity to express their views. With this in mind, the agency has decided to extend the compliance date to February 28, 1986.

Since the deferred compliance date of September 1, 1984, in § 125.1(e) applies only to foreign air carriers holding operations specifications issued under Part 129, the extension of that date applies only to those operators. Other foreign citizen operators of U.S.-registered airplanes covered by Part 125 remain subject to that Part.

Need for Immediate Adoption

The FAA is currently considering a rulemaking project to revise Parts 129 and 125 with regard to foreign air carriers. The present date for these carriers to comply with Part 125 for operation of U.S.-registered airplanes will be reached before that rulemaking project is completed. The FAA recognizes an urgent need to amend § 125.1(e) to extend the compliance date and defer imposing Part 125 requirements on these carriers until this rulemaking action is completed. Not adopting this amendment immediately would unnecessarily impose a burden, both monetarily and in terms of resource utilization, on the FAA and the concerned foreign air carriers. Therefore, I find that notice and public procedure are impracticable and contrary to the public interest. In addition, since this amendment relieves restriction, I find that good cause exists for making this amendment effective in fewer than 30 days. However, interested persons are invited to submit such comments as they may desire regarding this amendment. Communications should identify the docket number and be submitted in duplicate to the address specified above. All communications received on or before October 1, 1984, will be considered by the Administrator, and this amendment may be changed in light of the comments received. All comments received will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons.

Conclusion

By extending a compliance date, this amendment allows foreign air carriers regulated by Part 129 to continue operating their U.S.-registered airplanes under that part. Thus, for the period of the extension, there is no change in their present regulatory status. Therefore, the FAA has determined that this amendment is not major under Executive Order 12291 or significant under the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). For the reasons discussed above, it also has been determined that the anticipated economic impact is so minimal that no regulatory evaluation is necessary.

Adoption of the Amendment

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.

Amendment 125–6

Delay of Part 125 Applicability of Part 129 Operators

Adopted: December 31, 1985 **Effective: February 28, 1986**

(Published in 51 FR 873, January 8, 1986)

SUMMARY: This amendment to the Federal Aviation Regulations extends the date from February 28, 1986, to February 28, 1987, for foreign air carriers holding Part 129 operations specifications to comply with Part 125 of the Federal Aviation Regulations. Since the FAA has an active rulemaking project which includes a study of changes to Part 129, this action is necessary to avoid requiring foreign air carriers to comply with rules which may be revised by the FAA in the near future.

Comments must be received on or before February 10, 1986.

ADDRESSES: Send comments on the rule in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC–204), Docket No. 23381, 800 Independence Avenue, S.W., Washington, D.C. 20591; or deliver comments in duplicate to: FAA Rules Docket, Room 916, 800 Independence Avenue, S.W., Washington, D.C. 20591. Comments may be examined in the Rules Docket weekdays, except Federal holidays, between 8:30 a.m. and 5 p.m.

FOR FURTHER INFORMATION CONTACT: Tom Stuckey, Project Development Branch (AFS–850), General Aviation and Commercial Division, Office of Flight Standards, Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, D.C. 20591, telephone: (202) 426–8150.

SUPPLEMENTARY INFORMATION:

Background

Part 125 includes, in the applicability under § 125.1(e), a deferred compliance date of February 28, 1986, for foreign air carriers holding operations specifications issued under Part 129. As stated in the preamble to the adoption of Part 125 (45 FR 67214; October 9, 1980), this deferred compliance date was included because the agency was considering a regulatory project to revise Part 129, and it would not have been appropriate to subject foreign air carriers to Part 125 requirements until the agency could determine the proper action on Part 129. Various revisions to Part 129 are now under active consideration. A rulemaking project is underway at this time, but the FAA foresees that this project and any subsequent rule changes will not be completed until after the compliance date of February 28, 1986.

The FAA is also taking into consideration that proposal of revisions to Part 129 will entail a 120-day comment period to afford all affected persons an opportunity to express their views. With this in mind, the agency has decided to extend the compliance date to February 28, 1987.

Since the deferred compliance date of February 28, 1986, in § 125.1(e) applies only to foreign air carriers holding operations specifications issued under Part 129, the extension of the date applies only to those operators. Other foreign citizen operators of U.S.-registered airplanes covered by Part 125 remain subject to that Part.

Need for Immediate Adoption

The FAA is currently considering a rulemaking project to revise Parts 129 and 125 with regard to foreign air carriers. The present date for these carriers to comply with Part 125 for operation of U.S.-registered airplanes will be reached before that rulemaking project is completed. The FAA recognizes an urgent need to amend § 125.1(e) to extend the compliance date and defer imposing Part 125 requirements

By extending a compliance date, this amendment allows foreign air carriers regulated by Part 129 to continue operating their U.S.-registered airplanes under that Part. Thus, for the period of the extension, there is no change in their present regulatory status. There, the FAA has determined that this amendment is not major under Executive Order 12291 or significant under the Department of Transportation Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). For the reasons discussed above, it also has been determined that the anticipated economic impact is so minimal that no regulatory evaluation is necessary.

Adoption of the Amendment

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.

Accordingly, § 125.1(e) of the Federal Aviation Regulations (14 CFR § 125.1(e)) is amended effective February 28, 1986, by removing the date "February 28, 1986," and substituting the date "February 28, 1987," in place thereof.

Authority: 49 U.S.C. 1354, 1421 through 1430, and 1502; 49 U.S.C. 106(g) (Revised, Pub. L. 97–449, January 12, 1983).

Amendment 125–7

Delay of Part 125 Applicability of Part 129 Operators

Adopted: March 2, 1987 **Effective: March 4, 1987**

(Published in 52 FR 6956, March 6, 1987)

SUMMARY: This amendment to the Federal Aviation Regulations extends the date from February 28, 1987, to February 29, 1988, for foreign air carriers holding Part 129 operations specifications to comply with Part 125 of the Federal Aviation Regulations. Since the FAA has an active rulemaking project which includes a study of changes to Part 129, this action is necessary to avoid requiring foreign air carriers to comply with rules which may be revised by the FAA in the near future.

Comments must be received on or before April 6, 1987.

ADDRESS: Send comments on the rule in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC–204), Docket No. 23341, 800 Independence Avenue, SW., Washington, DC 20591; or deliver comments in duplicate to: FAA Rules Docket, Room 916, 800 Independence Avenue, SW., Washington, DC. Comments may be examined in the Rules Docket weekdays, except Federal holidays, between 8:30 a.m. and 5 p.m.

FOR FURTHER INFORMATION CONTACT: Thomas E. Stuckey, Manager, Project Development Branch (AFS–850), General Aviation and Commercial Division, Office of Flight Standards, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591, telephone (202) 267–8150.

SUPPLEMENTARY INFORMATION:

this work until after the compliance date of February 28, 1987. With this in mind, the agency has decided to extend the compliance date to February 29, 1988.

Since the deferred compliance date of February 28, 1987, in § 125.1(e) applies only to foreign air carriers holding operations specifications issued under Part 129, the extension of that date applies only to those operators. Other foreign citizen operators of U.S.-registered airplanes covered by Part 125 remain subject to that part.

Need for Immediate Adoption

The FAA is currently considering a rulemaking project to revise Parts 129 and 125 with regard to foreign air carriers. The present date for these carriers to comply with Part 125 for operation of U.S.-registered airplanes will be reached before that rulemaking project is completed. The FAA recognizes an urgent need to amend § 125.1(e) to extend the compliance date and defer imposing Part 125 requirements on those carriers until this rulemaking action is completed. Not adopting this amendment immediately would unnecessarily impose a burden, both monetarily and in terms of resource utilization, on the FAA and the concerned foreign air carriers. Therefore, I find that notice and public procedure are impracticable and contrary to the public interest. In addition, since this amendment relieves a restriction, I find that good cause exists for making this amendment effective in less than 30 days. However, interested persons are invited to submit such comments as they may desire regarding this amendment. Communications should identify the docket number and be submitted in duplicate to the address specified above. All communications received on or before April 6, 1987, will be considered by the Administrator, and this amendment may be changed in light of the comments received. All comments received will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons.

Conclusion

By extending a compliance date, this amendment allows foreign air carriers regulated by Part 129 to continue operating their U.S.-registered airplanes under that part. Thus, for the period of the extension, there is no change in their present regulatory status. Therefore, the FAA has determined that this amendment is not major under Executive Order 12291 or significant under the Department of Transportation Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). For the reasons discussed above, it also has been determined that the anticipated economic impact is so minimal that no regulatory evaluation is necessary.

Adoption of the Amendment

Accordingly, § 125.1(e) of the Federal Aviation Regulation (14 CFR § 125.1(e)) is amended, effective March 4, 1987, by removing the date "February 28, 1987" and substituting the date "February 29, 1988," in place thereof.

The authority citation for Part 125 continues to read as follows:

AUTHORITY: 49 U.S.C. 1354, 1421 through 1430, and 1502; 49 U.S.C. 106 (g) (Revised, Pub. L. 97–449, January 12, 1983).

for airplanes type certificated before 1969 and operated in Part 121 operations. Review of National Transportation Safety Board accident/incident files for January 1983 to February 1986 revealed the high failure rate of the metal foil flight recorders. The data revealed that 37 recorders (48 percent) had one or more malfunctioning parameters preceding the accident/incident preventing the recording or readout of pertinent data. As a result, post-accident flight recorder examination cannot be relied upon to provide accident investigators with sufficient information to accurately assess the causal interrelationship between man, machine, and environment. The requirement of a digital flight recorder with additional data parameters is deemed the minimum standard necessary to ensure that all of the underlying causal factors of an accident are identified. The amendment also requires cockpit voice recorders on newly manufactured multiengine, turbine-powered airplanes certificated to carry six or more passengers, requiring two pilots by type certification or operating rules for those operations conducted under Part 135. The amendment also specifies that for those operators conducting operations under Part 91 and Part 125 that have installed approved cockpit voice recorders, the Administrator will not use the record in any civil penalty or certificate action. These amendments were based on recommendations from a study conducted by Trans Systems Corporation and a number of safety recommendations by the National Transportation Safety Board.

FOR FURTHER INFORMATION CONTACT: Frank Rock, Federal Aviation Administration, Office of Airworthiness, Aircraft Engineering Division, Technical Analysis Branch, AWS–120, 800 Independence Avenue, S.W., Washington, D.C. 20591; telephone (202) 267–9567.

SUPPLEMENTARY INFORMATION:

Regulatory History

These amendments are based on Notice of Proposed Rulemaking (NPRM) No. 85–1, published in the *Federal Register* on January 8, 1985 (50 FR 949). All comments received in response to NPRM No. 85–1 were considered in adopting these amendments.

Background

For those operations conducted under Parts 91 and 125 of the Federal Aviation Regulations (FAR), there are no requirements that either a flight recorder or a cockpit voice recorder (CVR) be installed. However, in the interest of safety, the Federal Aviation Administration (FAA) has always encouraged the installation of approved flight recorders and approved cockpit voice recorders in airplanes used in those operations.

Section 121.343 of the FAR requires operators to equip each turbine-powered airplane and each airplane certificated for operation above 25,000 feet with an approved flight recorder. For airplanes having an original type certificate issued through September 30, 1969, the flight recorder parameters must include time, altitude, airspeed, vertical acceleration, heading, and radio transmission keying. Airplanes having an original type certificate issued after September 30, 1969, are required to have additional flight recorder parameters indicating pitch attitude, roll attitude, side-slip angle or lateral acceleration, pitch-trim position, control column or pitch control surface position, control wheel or lateral control surface position, rudder pedal or yaw control surface position, thrust of each engine, position of each thrust reverser, trailing edge flap, or cockpit flap or cockpit flap control position.

The CVR provisions for Part 121 operators require a CVR for each large turbine-powered or large pressurized airplane with four reciprocating engines.

Part 135 does not require operators to have flight recorders but does require turbojet airplanes configured to carry ten passengers or more to have a cockpit voice recorder installed.

Since these provisions were adopted, there has been a dramatic change in the air carrier industry. Deregulation has contributed to that change by allowing existing Part 121 carriers to pull out of short-to-medium-range markets, thereby creating a demand being filled by a rapidly expanding commuter airline industry. To meet the equipment needs of the expanding commuter airline industry, manufacturers have

This amendment revises a § 91.35 and adds a new § 125.202 that specifies that the Administrator will not use the cockpit voice recorder record in any civil penalty or certificate action. The purpose is to encourage operators to voluntarily install cockpit voice recorders in airplanes that are used in those operations where they are not required. The installed equipment must be approved and must continue to meet the airworthiness requirements under which the airplane is type certificated and operated.

This amendment substantively revises §§ 121.343 and 135.151. For operations conducted under Part 121, this rule requires retrofitting all airplanes type certificated through September 30, 1969 (currently using a six-parameter foil-type flight recorder), with a six-parameter digital flight recorder within 2 years from the effective date of the amendment. In addition, these flight recorders must be upgraded to 11-parameter digital flight recorders within 7 years after the effective date of this amendment. The 11 parameters consist of those currently required plus the following: (1) pitch attitude; (2) roll attitude; (3) longitudinal acceleration; (4) control column or pitch control surface position; and (5) thrust of each engine. They are required to perform within the ranges, accuracies, and recording intervals specified in Appendix B of Part 121.

All newly manufactured airplanes having an original type certificate issued through September 30, 1969, are required to have 17-parameter digital flight recorders installed after 2 years from the effective date of this amendment.

The requirements for airplanes type certificated after September 30, 1969, do not change except for the substitution of longitudinal acceleration for lateral acceleration.

For those operations conducted under Part 135, the amendment requires the installation of a CVR for all multiengine, turbine-powered airplanes certificated to carry six or more passengers and requiring two pilots by certification or operating rules, that are newly manufactured 2 years from the effective date of this amendment.

"Manufactured" means when the airplane inspection acceptance records reflect that the airplane is complete and meets the FAA-approved type design data. An airplane manufactured and then placed into storage prior to sale is considered manufactured on the date it is completed prior to being placed in storage.

Discussion of Comments

In response to NPRM No. 85–1, the FAA received comments from 29 interested persons. The majority of the comments received express opposition to the proposals based upon the costs involved in complying with the proposed requirements. More specifically, most of the opposition is directed to the digital flight data recorder proposals.

The proposals in NPRM No. 85–1 address three issues: (1) recorder information to be used only for accident investigation purposes; (2) digital flight data recorders in specific airplanes operated under Part 121 of the FAR; and (3) cockpit voice recorders in specific newly manufactured airplanes operated under Part 135 of the FAR. For discussion and analysis purposes, each issue will be addressed separately.

In its comments on NPRM No. 85–1, the National Transportation Safety Board (NTSB) states that the FAA has not entirely satisfied the intent of all its safety recommendations made to the FAA concerning enhancement of flight recorder standards required to provide adequate data for accident and incident investigation purposes and identifies six specific shortcomings. All the issues raised by the NTSB in its comments to NPRM No. 85–1 had been forwarded previously to the FAA as NTSB safety recommendations. These issues were considered in the development of the NPRM and have been addressed by FAA formal responses to the recommendations, the NPRM, or the preamble to this rule.

Since 1967, the NTSB has issued a total of 53 recommendations regarding CVR's and flight recorders. Of this total 38 recommendations were forwarded to the FAA. The remaining 15 recommendations were issued to industry groups such as U.S. air carriers, the Air Line Pilots Association, the Allied Pilots

Recommendation A–82–106 recommends the development of a technical standard order (TSO) for CVR's and flight recorders. Proposed TSO-C111, which contains standards for CVR and flight reorders and combined CVR's/flight recorders, was published in the *Federal Register* on April 12, 1985. The final verson of the TSO is presently undergoing internal FAA coordination prior to issuance.

Recommendations A–82–064 through–066 recommend that flight recorders currently required on fixed-wing aircraft operated under Part 121 be improved and that such aircraft manufactured after a certain date be equipped for flight recorders with additional parameters.

Recommendations A–82–107 and–109 through–111 recommend that turbojet fixed-wing aircraft certificated for six or more passengers not now required to have CVR's or flight recorders be required to have CVR's and flight recorders with additional parameters.

In its comments to the docket regarding Recommendations A–82–064 through–066, the NTSB requested that the FAA reconsider its action on Recommendation A–82–066 and require 32 parameters for flight recorders on newly manufactured fixed-wing aircraft operated under Part 121. The FAA has determined that an increase in the required parameters to 17 represents an appropriate balance of costs and benefits.

In its comments to the docket on Recommendations A–82–107 and–109 through–11, the NTSB acknowledged that the FAA has satisfied its recommendation with respect to CVR requirements for aircraft operating under Part 135. The NTSB urged the FAA to require flight recorders for all multiengine turbine-powered aircraft operated under Part 135. The FAA agrees with the NTSB that requiring flight recorders on multiengine turbine-powered aircraft operated under Part 135 would provide helpful accident investigation information. However, the FAA continues to believe that the benefits of such regulation would not be commensurate with the associated costs.

In its comments to the docket, the NTSB states that the rule does not provide flexibility to accommodate advancing technology. The FAA agrees that changes in aeronautical technology may at some future date require changes to this rule. However, to issue a rule that includes the degree of flexibility necessary to accommodate future technology that is not presently defined is impracticable. When new design features are identified, the FAA can and will evaluate them during development of the type certification basis and take whetever actions are necessary to maintain to required safety level. If additional parameters or interfaces between electronic systems call for special requirements, they will be issued as appropriate. Consistent with rulemaking policy and as experience is gained with such future novel technologies, consideration will be given to revising the appropriate rules. In the new, Fly-by-wire aircraft control system design, the one-to-one correlation from crew input to the resulting control system response does not exist. That, and other new design features, may require the FAA to propose and adopt additional parameters to be recorded, over those currently required by the operating rules.

The NTSB continues to urge that the FAA initiate further rulemaking to require flight recorders in multiengine, turbine-powered, fixed-wing airplanes operated under Part 91 or 125. A careful review of the benefits required to offset the cost of requiring flight recorders in the class of airplanes recommended by the NTSB operating under Part 91 or 125 shows that the anticipated benefits will not support such a requirement. The rule does encourage the installation of such equipment by stating that flight recorder records will not be used by the Administrator in any civil penalty or certificate action.

In its comments to the docket, the NTSB stated that it was disturbed that the FAA has not taken the initiative to propose rulemaking consistent with the standards recently adopted by the International Civil Aviation Organization (ICAO). This amendment is consistent with the recent Amendment 17 to ICAO Annex 6, Part I. The NTSB, in its comments, intermingles ICAO "requirements" and ICAO "recommendations." Requirements are binding on the ICAO member states, while recommendations are not. This amendment is in full agreement with the ICAO requirements in Section 6.3 of Annex 6 and in many respects is in agreement with the ICAO recommendations in that section. Attachment D to ICAO Annex 6, Part I, contains detailed flight recorder guidance to member states. In that attachment, ICAO recommends the 32-parameter flight recorders for certain types of airplanes. The FAA agrees with both ICAO and the NTSB that more data is always preferable and also agrees with the ICAO

to voluntarily install cockpit voice recorders in airplanes where they are not required. The information from the record is to determine the cause of the accident and not to place blame. Improvement of piloting skills can be obtained by current requirements, such as the biennial flight checks.

Digital Flight Data Recorder

The FAA received seven comments supporting the notice as it relates to the digital flight data recorder proposals.

One commenter contends that any airline retrofit requirement can be satisfied by equipment currently in production and agrees with the FAA's estimates of equipment costs. This commenter asserts that his estimate of maintenance cost savings to airlines which replace foil recorders with digital flight recorders reflects a savings of $600,000 annually based on a 100-airplane fleet.

Another commenter agrees with the requirement to replace metal foil-type recorders with digital types because accident investigation would be simplified and accomplished with greater accuracy but expresses concern that the 2-year period for replacement of existing metal foil-type recorders with digital types may not be realistic. The commenter asserts that the assumption was make that the new digital recorders would be directly interchangeable with existing foil-type recorders in all installations. Although many metal foil-type recorders in service are packaged in rectangular (standard ½ Air Transport Rated (ATR) long) containers, almost 1,400 Lockheed Model 109C metal foil-type recorders packaged in a spherical container have been delivered to customers, and many are still in service today. This commenter also recommends that the two-phase (2-year/7-year) plan be replace with a single-phase program for incorporation of the 11 parameter recorder and that the time limit for completion be compatible with existing airline maintenance cycles. The FAA recognizes tha the Lockheed Model 109C recorder is configured differently form the standand ½ ATR long container but still believes that the 2-year phase-in period, with proper planning, is sufficient to reconfigure the mounting rack for installation of the new recorder.

Two commenters, while supporting the proposed rule, believe that the requirements should be further expanded to maximize the information available form accident investigations and contend there is sufficient justification to require all aiplanes operated under Part 121 and type certificated through September 30, 1969, to be upgraded to the 17-parameter digital recorder within 2 years from the effective date of the amendment. The FAA agrees that 17 parameters would derive more information from the accident. However, the 11 parameters required for the aircraft type-certificated through September 30, 1969, via the 2-step program will enhance the accident data available to investigators with minimum cost and out-of-service time for the airplane. The FAA does not believe that the additional 6 parameters will provide the safety benefit necessary to offset the additional cost. Both commenters are of the opinion that all airplanes involved in Part 135 operations should be required to carry the digital flight recorders within 2 years from the adoption of the amendment. One of the commenters also questions the use of a single parameter for measuring engine thrust and believes a more accurate method is to measure the N_1 speed and fuel flow for each engine. The FAA considers these issues to be outside the scope of this current rulemaking action.

One other commenter considers the 17-parameter digital recorder as being too limited and not consistent with recently adopted International Civil Aviation Organization (ICAO) requirements (32 parameters) applicable to airplanes over 60,000 pounds. The FAA evaluated these issues in the Trans Systems study while preparing the notice and concluded that based on the information available at that time, the proposals were the most beneficial in terms of accident prevention through accident investigations. It should also be pointed out that the final ICAO document addresses only new certificates of airworthiness issued after 1989. The comment is outside the scope of the notice, and there is insufficient justification by the commenter to issue a supplemental notice that addresses the recent ICAO standards. The FAA concludes that the existing air carrier fleet of 2,000 plus transport category airplanes do need the new digital type 11-parameter recorder, and this regulatory action should proceed.

indicates that 48 percent of the recorders recovered from accidents or incidents were not functioning. The foil-type recorder would likely increase in failure rate over the 7-year period, resulting in increased inspections, decreased time between overhaul, and possible increase in FAR maintenance violations, as well as not having the data available in the event of an accident or incident. There is a definite need to replace the foil recorders as soon as possible.

In addition to the above, the FAA received 18 responses to the notice expressing opposition to the digital flight recorder proposals on the basis of the economic impact of complying with the proposed requirements. Five commenters provided estimated cost figures for retrofitting their CV–580 turbopropeller airplanes to comply with the proposed requirements. These estimates ranged from $14,000 to $50,000 per airplane modification. Estimated cost figures that were provided for other models of airplanes came within the above low and high estimates per airplane modification. In addition one commenter notes that the FAA estimated costs in the notice did not consider the loss of value on currently owned flight recorders, and this commenter estimates this value at $6,000 per recorder. With the loss of $6,000 per recorder added to his estimate, this brings the total estimated cost to approximately $9,500 below the average of the low and high estimates above. Another commenter states that he has observed a price increase per flight recorder of approximately $5,000 to $6,000 since the issuance of NPRM No. 85–1. To properly respond to these comments, the FAA has prepared a detailed cost estimate using the latest available information in its Regulatory Evaluation, and the FAA considers these costs the most realistic in determining the cost of compliance with the final rule.

The NTSB suggests the addition of longitudinal acceleration as a parameter. The NTSB contends that longitudinal aceleration is vital for determining the effect of wind shear, braking, and airplane performance and is a much more significant parameter than some others presently recorded. The NTSB is responsible for determining the probable cause of and contributing factors to an accident and is the prime user of the flight recorder data. The FAA agrees with the NTSB that the longitudinal accelerometer is necessary in identifying the contributing factors to an accident or incident, and has changed the requirements for the 11-parameter recorder by substituting longitudinal acceleration for pitch trim for the post-September 30, 1969, certificated airplanes. In addition, the FAA has substituted longitudinal acceleration in place of lateral acceleration for newly manufactured airplanes. The FAA has reviewed type design data for airplanes affected and finds that other than the reconnection of wiring at the tri-axis accelerometers in the post-September 30, 1969 airplane, and the substitution of a longitudinal accelerometer for a pitch trim synchro or a potentiometer in the 11-parameter airplane type certificated through September 30, 1969, these changes are not signficant.

Another commenter opposes the digital flight recorder proposal but does not operate any airplanes that require modification to comply with the proposal. This commenter did not provide any information or data to support this opposition. The FAA does not agree with this commenter.

One commenter contends the foil-type flight recorders are satisfactory for the older turbopropeller-driven airplanes because their design and operating environment is sufficiently different from that of turbojet-powered airplanes. The FAA does not agree that the foil-type recorder is adequate in the current accident investigation environment because of the inaccuracies that can occur between the routine maintenance times and the operations check before flight. A recent review of NTSB accident files has found the inservice failure rate of the foil recorders to be unacceptable.

Several commenters state that many of the older affected airplanes will likely be retired shortly after the anticipated effective date in early 1987. The FAA does not agree that the older airplanes should be exempted because of a supposed early retirement from service. Certain operators may retire their affected airplanes from their fleets, but these airplanes most likely will be in service with other operators, and the requirements will continue to be applicable. Because the airplanes comply with the new rules, the operator has a more marketable and valuable airplane at the time the airplane is placed on the market. The FAA does agree that an airplane in service for a considerable length of time may be considered to have a low probability of operational and mechanical "surprises." However, unanticipated events such as fatigue may still occur and human factor information is relevant in accident investigations

easily run as high as $450,000. The FAA recognizes that this commenter's contention of $50,000 per airplane for complying with the proposed requirement would be significant. However, no information or data was provided to show how this figure was derived. Most prudent operators will not incur these extremely high costs to comply with this final rule. The basis for this conclusion is explained in the section of the regulatory evaluation discussing FAA's response to these comments. A pilot-induced accident can occur any time with any airplane, and the accident history of a specific airplane type should not be a basis for exclusion from this regulation. Every accident must be evaluated to determine the probable cause and related events, and these types of airplanes are operated in sufficient numbers in passenger service to require the same accident investigation tools as other Part 121 airplanes.

One commenter recommends that airplanes type certificated prior to January 1, 1958, be exempt from the proposed requirements. The FAA does not agree with this recommendation, because every accident must be adequately investigated to determine the probable cause and identify actions to prevent accidents of that nature.

One commenter contends that the estimated nonrecurring cost for the proposed 2-phase retrofit of digital flight recorders on its association's member fleet is $49.5 million for 2,000 airplanes, not counting cash loss due to out-of-service time, and contends that the FAA's cost estimates are inconsistent. Furthermore, this commenter asserts that the FAA's stated basis for the proposed rule is based upon erroneous information and speculative estimates of future "unknown hazards" that would be identified by the expanded parameter digital recorders; that the FAA did not present any data that conclusively shows that the probable cause of any U.S. air carrier accident could not be determined because of the use of 6-parameter foil-type recorders, and that properly maintained 6-parameter flight recorders have not served the industry and Government well in developing accident prevention measures. This commenter recommends the notice be withdrawn because of the lack of adequate justification presented by the FAA. In addition, this commenter recommends that if the FAA decides to require the improved flight recorders regardless of the airline safety record, a single-step program that provides at least 7 years for accomplishment would minimize the impact on the airlines. Furthermore, the FAA should reevaluate its cost versus benefit estimates using economic data presented in this response and by other commenters. The FAA has reevaluated the cost data, and the Regulatory Evaluation reflects these changes. With respect to the basis for this rule change, experience has shown that unexpected accident scenarios and unusual combinations of circumstances will occur.

Another commenter, while not opposing the proposal, recommends deleting the 6-parameter step in the program and recommends going directly to the 11-parameter digital flight recorder requirements, because the 2-year implementation period for retrofit is considered unrealistic. This would permit installations to coincide with maintenance schedules. This commenter also states that the notice assumed that foil-type recorders are apparently interchangeable with digital types in all cases and states that the digital flight recorders and the spherical configured foil-type are not, in fact, directly interchangeable as assumed. As previously stated, the FAA does not agree that the implementation program should be lengthened or that the 2-year implementation program is unrealistic. This commenter presented no information to support this assertion. The FAA has reevaluated the time frames for implementation against the availability of modification kits and/or digital recorders necessary for complying with these requirements and continues to find them achievable and realistic. Further, a slight additional cost for replacing the spherical foil recorder with the rectangular digital recorder is reflected in the revised Regulatory Evaluation.

One commenter recommends that § 121.343(c)(6) and (d)(6) be changed to indicate that radio communication either to or from Air Traffic Control (ATC) is acceptable. The FAA intent was to record the airplane transmitter keying which would be *to* ATC. The rule has been changed accordingly. This commenter also recommends that the word "large" be added before the words "turbine engine powered" in § 121.343(b) to clarify that the requirement applies only to large airplanes. The FAA does not agree this change is necessary, because all airplanes operated under Part 121 must be type certificated in the transport category and the FAA is not aware of any small airplanes, weighing less than 12,500 pounds maximum certificated takeoff weight, being operated under Part 121. If small airplanes do in the future operate under Part 121, the FAA sees no reason to treat them differently from large airplanes.

The Trans Systems study is available in the Public Docket for review. Copies of the FAA replies to NTSB safety recommendations concerning CVR's/flight recorders are available from the FAA Office of Aviation Safety.

Cockpit Voice Recorder

The FAA received 16 comments in response to the cockpit voice recorder proposal, with 9 commenters opposing the proposal and 7 commenters expressing support.

Three commenters contend that the requirements should apply only to those turbined-powered airplanes with a seating configuration of ten or more, excluding pilot seats. One commenter states that no rationale is given to reduce the number to six and that, historically, the dividing line has been ten passenger seats. The FAA does not agree with the increase to ten because of the large number of small airplanes that operate with between six and nine passengers and that are required by Part 135 to have two pilots for conducting Instrument Flight Rules operations with those airplanes.

The NTSB's recommendation, which was used as the basis of the Trans Systems Corporation study, was about the number of accidents involving six-passenger turbine-powered, multiengine airplanes in air taxi and corporate/executive operations in which the accidents circumstances remain unknown.

One commenter asserts that the increased fuel consumption to carry these recorders should be considered in the economic evaluation. The FAA agrees that the increased fuel cost should be added in the analysis, and the economic evaluation addresses the increase.

Another commenter contends that the purpose of cockpit voice recorders is to fix the blame for an accident or incident. The FAA does not agree because the purpose of the recorder is to determine the probable cause of the accident, and this should not be construed to mean "fix the blame." The same commenter asserts that some 80 percent of all accidents are caused by pilot error but provides no basis for this assertion. The FAA does not agree with the 80 percent figure but recognizes that a significant number of accidents can be attributed to pilot error. Finding a pilot's action or inaction as a causal factor in an accident or incident is not intended to be the same as "fixing the blame."

One commenter contends that most of the airplanes to which this rule would apply operate in a very limited environment or portion of the airspace and that there is insufficient time to record much voice communication when a problem arises. The commenter further contends that the cause of most accidents in this area is probably pilot error during takeoff and landing and doubts that the addition of CVR's would shed any new light on the cause or circumstances surrounding any accident. The FAA does not agree that there is insufficient time to record meaningful voice communications. It is not the quantity but rather the quality of such data that may determine the cause in the relationship between the pilots, the airplane, and the operating environment at the time of an accident. Also, it is not just the voice communications that are useful in determining a cause but all recorded noise, i.e. switch actuation, engine revolution, warnings, etc.

One commenter asserts that the cockpit voice recorder would not add to the level of safety of a flight, and its only benefit, that of aiding accident investigation, is abstract and unproven. The FAA agrees that the CVR does not add to the level of safety of a specific flight but does not agree that the usefulness is abstract and unproven. There are years of experience with cockpit voice recorders in Part 121 aircraft that attest to the benefits to be derived from the recorders.

Another commenter contends the proposed rule is discriminatory since many small multiengine airplanes that not turbine powered are certificated to carry more than six passengers. The FAA does not agree that the rule is discriminatory.

One commenter asserts that an operator should be given the option of installing a flight recorder instead of the cockpit voice recorder because more information may be obtained from the former. As a regulatory proposal, this comment is outside the scope of the notice.

the regulatory docket. It is similar in form to the regulatory evaluation of NPRM No. 85–1, but many revisions have been made in response to comments that addressed the notice. The evaluation also incorporates more current cost and fleet forecast information.

The major findings of the evaluation of the final rule are summarized below. However, FAA's response to those comments that addressed the regulatory evaluation of the notice is presented in its entirety.

I. Discussion of Comments Addressing the Regulatory Evaluation of the NPRM

Numerous comments were received to NPRM No. 85–1 that addressed the regulatory evaluation of the proposed rule. These comments have been considered by the FAA and are discussed in this section. The regulatory evaluation of the final rule follows this discussion of comments. The FAA has revised its evaluation in many respects to reflect issues raised by the commenters.

A. Comments on Costs

A.1. Part 121 Proposals

Numerous comments criticize FAA's estimates of the cost to retrofit existing pre-1969 type-certificated airplanes operated under Part 121 with digital flight recorders and to upgrade these airplanes to record 11 parameters of information. In its regulatory evaluation of the notice, FAA considered the costs of various digital flight recorder and flight data acquisition unit equipment combinations that would meet the proposed requirements and estimated that the maximum cost for any of the various options, including labor and signal sources, would be approximately $22,000 per airplane. Comments have been received arguing that FAA's costs were significantly underestimated and that compliance costs could exceed $50,000 per airplane, more than twice FAA's highest estimate. Further, commenters also state that additional costs would result because airplanes would need to be removed from service to accomplish the retrofit; that the two-phase approach (initial digital recorder retrofit within 2 years followed by the upgrade to 11 parameters within 7 years) would result in higher compliance costs than a one-phase approach because airplanes would need to be taken out of service twice; that design certification costs had been omitted; and that many spherical foil recorders were still in service that would create special installation problems when replaced with digital recorders in standard one-half ATR boxes.

The FAA was unable to find evidence that the very high compliance cost estimates of approximately $50,000 would be incurred by cost conscious operators. These high costs could be realized if the equipment were purchased through third parties and if the installation work was not scheduled to coincide with regular maintenance intervals. However, because most prudent operators would negotiate with recorder equipment manufacturers to obtain the best fleet purchase price, reflecting quantity discounts, and because cost-conscious operators can be expected to use scheduled maintenance cycles as efficiently as possible, FAA expects that actual compliance costs will in most cases be similar to those estimated by the FAA. The FAA has raised its equipment cost estimates by 10 percent to reflect inflation in the prices of recorders since the notice was prepared 2 years ago.

To allow for the additional cost which may be incurred by some operators who find it necessary to rely on a modification shop to perform the retrofit as a complete package, including the provision of all necessary equipment, the FAA has added 40 percent to its estimated cost values for recorders, flight data acquistion units (FDAU's), and signal sources. This modification shop markup factor has been applied to 15 percent of the airplanes affected by the retrofit provisions of this final rule.

The FAA also found that air carriers, when performing contract maintenance work for other carriers, and modification shops charge labor rates of approximately $35 to $40 per hour. Further, the contractor's overhead expenses are already included in the labor rates charged to customers.

The FAA maintains its expectation that both the digital retrofit and parameter upgrade work can be completed without requiring airplanes to be removed from service specifically for this purpose. Although it will require careful planning on the part of operators, both the digital recorder retrofit and parameter upgrade work can be completed in steps and integrated into regularly scheduled maintenance intervals over the 2-year digital conversion compliance period and the 7-year parameter upgrade compliance period. Similarly, installation labor costs can be partially reduced by anticipating maintenance procedures involving aircraft disassembly that would also provide an opportunity to install the additional information parameter signal sources and wiring.

Engineering design and certification costs are expected to be relatively minor for each airplane type/ recorder equipment combination that operators elect to install. These costs usually have already been incurred by recorder equipment manufacturers and are reflected in the prices they charge their customers. Further, many of the airplane types affected by the amendments are operated by foreign carriers with similar or more stringent recorder requirements; therefore, the engineering work has, to a large extent, previously been completed. Finally, when prorated over the total number of airplanes converted using a particular equipment combination, the per-airplane cost attributable to design and certification is expected to be an extremely small portion of the overall equipment and installation costs. Nevertheless, a cost sensitivity analysis has been added to the regulatory evaluation, and this should adequately provide for the occasional situation where design and certification costs present a special problem.

The FAA agrees that for those aircraft equipped with the Lockheed spherical foil recorder, a new mounting rack will be required which will add about $500 to the installation costs. However, because of a previous rule change, any spherical recorders that had originally been installed in the wheel wells should have already been relocated to the rear of the airplane. Therefore, no additional installation costs should result form the need to relocate the recorder.

Commenters also question the FAA's estimate of the annual recorder maintenance savings that could be realized of replacing foil recorders with digtal recorders. One commenter states that converting to digital equipment would result in carriers experiencing a range of from $2,400 additional annual maintenance expense per airplane to $1,800 annual maintenance savings per airplane. This compares to the $2,500 annual maintenance savings estimate used by the FAA in the notice, which the FAA considered a conservative reduction of flight recorder manufacturer savings estimates that ranged from $3,000 to $5,000 annually per airplane.

The FAA maintains its expectation that becasue of the higher reliability of digital recorders in comparison to aging foil recorders, and the continuously increasing cost of the foil medium, digital recorders should result in maintenance savings for operators. However, becasue of the concerns raised by commenters, the FAA has reduced its estimate of annual maintenance savings from $2,500 per airplane to only $1,500 per airplane in its analysis of the final rule. Further, the FAA also maintains its original expectation that the additional signal sources will require maintenance only infrequently and that any maintenance costs which may result from the signal sources will be negligible in comparison to savings resulting from the conversion to much more reliable digital equipment.

Similarly, the FAA expects that the relatively higher mean time between failures of digital equipment in comparison to foil recorders should actually reduce the potential for flight delays because of minimum equipment list requirements, rather than increase this possibility, as some commenters state.

Another commenter states that the short remaining life of older airplanes would reduce the maintenance savings attributable to digital recorders well below FAA estimates. However, in its regulatory evaluation of the notice, the FAA allowed for forecast fleet attrition in estimating the total maintenance savings

in the notice, the FAA expects that the availability of hush kits will enable many of these airplanes to remain active after their noise exemption expires. Similarly, Boeing 707 and McDonnell Douglas DC–8 airplanes, other than DC–8–70's retrofitted with noise compliant engines, were excluded from the fleet expected to be affected by the proposed rule because of other Part 36 noise standards that became effective in 1985. However, since the notice was written, hush kits have become available for both DC–8's and Boeing 707's, and a limited number of these airplanes are now expected to remain in service. Therefore, based upon preliminary information prepared by the FAA's Office of Environment and Energy, these types of airplanes have been added to the forecast of the pre-1969 type certificated airplane fleet expected to be affected by the rule.

Other comments state that any additional weight attributable to the digital retrofit and parameter upgrade would result in slightly higher fuel consumption. The FAA agrees and has added a weight penalty cost factor to its analysis.

Comments were received stating that in its cost estimates the FAA did not allow for the lost residual value of foil recorders when the new rule makes them instantaneously obsolete. The FAA recognizes that this is a valid consideration, however, this factor has already been reflected in the analysis. It is the remaining utility or useful life of the foil recorders that will be lost as a result of this rule change, or in other words, the foregone *benefits* that would have been derived from their continued use. (The equipment costs of the old foil recorders are sunken costs that will not affect, or be affected by, any decisions made concerning the new requirements. Therefore, these costs are not relevant for the present analysis and have been excluded.) However, the regulatory evaluations of both the notice and the final rule have assessed the *improvements* in accident investigations and consequently safety which will result from the new requirements, i.e., the *additional* or *incremental* benefits which will be realized over and above the current rule. Therefore, to offset the incremental benefits by the lost benefit of the old recorders (i.e., the lost residual value) would represent double-counting. Further, because the incremental cost of the new requirements is on average only about one or two cents per enplanement over the analysis period (based on *FAA Aviation Forecasts Fiscal Year 1986–1997*), operators should not find it difficult to recover their additional costs in the fares collected from passengers who are the ultimate beneficiaries of the safety improvements.

The NTSB expresses concern in its comments that the longitudinal acceleration parameter had not been included among the additional information parameters proposed in the NPRM. The FAA has reconsidered this question and decided that longitudinal acceleration should be included. Although this change from the original proposal may at first glance appear potentially expensive because it will affect airplanes types certificated after September 30, 1969, as well as those type certificated before that date, it will have a relatively minor cost impact. First, the FAA has determined that virtually all post-1969 type certificated airplanes are equipped with tri-axis accelerometers, capable of sensing longitudinal, vertical, and lateral acceleration; and in most cases the longitudinal axis sensor is wired to the recorder. Second, for airplanes type certificated before 1969, the FAA will allow operators to substitute longitudinal acceleration for the pitch trim parameter orignally proposed for existing airplanes that will be required to upgrade to 11 parameters and to substitute longitudinal for lateral acceleration on newly manufactured airplanes subject to the new 17-parameter requirement. A slight additional signal source expense will be incurred over that estimated in the notice for airplanes upgrading from 6 to 11 parameters, and the regulatory evaluation of the final rule has been revised accordingly.

One commenter states that the 1983 Trans Systems Corporation report entitled "Cockpit Voice and Flight Data Recorder Evaluation" indicated that expanding the retrofit requirement for pre-1969 airplanes from the 6-parameter digital conversion to the 11-parameter upgrade requirement would more than double the total compliance costs of the rule change. The Trans Systems Corporation study did state this. However, the Trans Systems Corporation study presented an overview of numerous cockpit voice recorder and flight recorder options for airplanes operating under various operating regulations of the FAR. The FAA's

countries currently have flight recorder requirements that exceed those of the United States. The new requirements being adopted by this final rule will reduce the difference between the airplanes of U.S. operators and those of many foreign operators. This may in fact facilitate, rather than hamper, the international exchange of aircraft.

Other comments state that the development of new recorder technology and the expense of maintaining old foil recorders would result in the gradual attrition of foil recorders. Therefore, they concluded, this rulemaking action was unnecessary. The FAA disagrees. Voluntary replacement of foil recorders with digital equipment has already occurred in about one-third of the pre-1969 fleet affected by this rulemaking, and in its analysis of the notice the FAA estimated that, in the absence of a new rule, this trend would have continued until about one-half of the pre-1969 fleet had been voluntarily converted at the time the new rule would mandate the conversion. Although attrition could have been expected to continue beyond this deadline in the absence of the rule change (and this has been considered in estimating the compliance costs of the final rule), it alone would not have resulted in a timely replacement of the remaining foil recorders still active in the fleet. Further, attrition would not have resulted in the voluntary upgrade of the safey information parameters that will be required by this final rule.

One commenter states that because his operation intends to purchase new airplanes in the near future, there would not be enough time to fully depreciate the investment in the new flight recorders that would be required by this rule. Although this is true, the resale value of the operator's current fleet should be enhanced because the airplanes have already been equipped with the digital recorders that many potential customers will also require for their operations. The value of these assets should not be lost when the airplanes are placed on the market.

A.2. Part 135 Proposals

Some commenters disagree with the FAA's estimates of the cost to equip newly manufactured airplanes operated under Part 135 with cockpit voice recorders. In NPRM No. 85–1, FAA estimated that the cost would be $7,275 per airplane based upon the least expensive unit available at the time. This estimate was the CVR cost to the airframe manufacturer but did not include any markup by the airfame manufacturer, only installation labor. One commenter obtained a quote from an airframe manufacturer of about $30,000 per airplane. This higher cost could be incurred only if a more expensive model CVR were to be installed in the airplane and if the airframe manufacturer significantly marked up the recorder price over its own acquisition cost. However, the FAA's cost estimates in the final rule are based on the expectation that CVR equipment will be furnished by the airplane customer to the airframe manufacturer for installation. This is the common practice in the industry for avionics equipment because it enables prudent operators to negotiate with equipment manufacturers to obtain the best fleet purchase price and quantity discount.

Another commenter states that the FAA did not consider the reduced complexity and associated costs of recorders meeting the Society of Automotive Engineers Aerospace Standard (AS) 8039, "Minimum Performance Standard—General Aviation Flight Recorder," issued in January 1985. Although this standard was not available in 1983, the original Trans System Corporation study used order of magnitude recorder cost estimates reflective of simpler recorder designs in its evaluation of various Part 135 recorder options. Further, the FAA has contacted various recorder manufacturers and determined that none currently plan to produce a separate CVR unit meeting the AS 8039 standard, although some are considering a combined cockpit voice/flight data recorder unit. Therefore, the FAA has again based its CVR equipment cost estimates for the Part 135 amendment on a realtively inexpensive CVR model that is currently available. The FAA has adjusted its cost estimates in the evaluation of the final rule to reflect 1986 equipment prices.

payload any further than it might already have been impacted by those conditions. Situations where the CVR weight would be critical to conducting an operation with the desired payload are expected to be extremely rare.

A related comment also argues that the added weight of the recorder would result in higher engine operating temperatures and consequently higher engine maintenance costs. The FAA does not agree. The additionl weight of the CVR installation will only be about 30 pounds, and this represents only a very small fraction of a percent of the overall weight for those airplane types that will be effected by the rule. Any possible effect on engine operating temperatures, and consequently engine maintenance costs, will be so slight as to be unmeasurable.

B. Comments on Benefits Analysis

B.1 Part 121 Proposals

Some of the comments addressing the analysis of benefits focus on the particular examples of accident investigations that were cited in the evaluation and on the discussion of advances in understanding wind shear that the FAA attributed to expanded parameter recorders.

One commenter states that the FAA provided no evidence to support its contention that the expanded parameter flight recorder requirements "are necessary to ensure that all of the underlying causal factors of an accident are identified" and that the FAA only referenced two accidents in the notice in discussing the benefits of recorders. The benefits analysis in the complete regulatory evaluation, available in the docket, discussed six accidents or incidents supporting the value of expanded parameter recorders, although only three were referred to in the summary of the regulatory evaluation published in NPRM No. 85–1. The availability in the docket of the complete regulatory evaluation was stated in the notice.

Another commenter states that no benefits would be realized by replacing foil recorders with digital recorders during the first phase of implementation. Airplanes retrofitted with digital recorders would be allowed to operate for at least 5 years before being required to upgrade to 11 parameters. The FAA does not agree with this argument. The FAA reviewed NTSB data from 1983 to early 1986 and found that in about 49 percent of the accident or incident investigations in which foil recorder tracings were read, a recorder malfunction or maintenance deficiency resulted in the partial or compete loss of recorded information. Further, the two-phase approach is intended to allow operators to perform all retrofit work during regularly scheduled maintenance cycles.

One commenter questions specific details of one of the examples. In the notice, the FAA stated that following the May 1979 crash of a DC–10 at Chicago, the expanded 17–parameter digital flight recorder provided evidence that the loss of control was a direct result of the unwanted retraction of the airplane's left leading edge slats, not the separation of the No. 1 engine and pylon assembly itself. The commenter asserts that this statement is erroneous because the recorder did not record slat retraction since power to the recorder was when the engine and pylon separated. Identification, of the unwanted slat retraction was not based on recorded information of the left inboard and outboard slat positions. These parameters were lost when the No. 1 engine and pylon separated, together with certain other parameters that received electrical power from the No. 1 a.c. generator bus. However, the flight recorder continued to record all remaining parameters for approximately one-half of a minute until the recording ended upon impact. It was the *correlation* of the remaining recorded aircraft and flightcrew information, together with simulator tests, knowledge of the DC–10's performance characteristics, and other investigation findings, that resulted in the conclusion that the left leading edge slats had retracted.

Other comments question the validity of the FAA's claim that recorders contributed significantly to a better understanding of wind shear. The comments state that almost all wind shear accidents involved

Comments also state that, because the wind shear problem was well on the way to being solved, the FAA was relying on the detection of other "random unknown safety hazards." The commenter states that the FAA's estimate of a range of between zero and four accidents, distributed around a mean of 2, that might be prevented during the 15-year analysis period as a result of information learned from the expanded parameter recorders was speculation. FAA expects that the information learned from the expanded parameter recorder, especially in the area of human factors, could result in the prevention of a number of accidents in the future. However, because the relationship between accident investigations, increased understanding of potential hazards, improvements in equipment and crew training, and the actual prevention of future accidents is somewhat indirect and cannot be easily measured, the FAA will not attempt to assign a specific probability distribution to the potential number of future accidents that might be prevented, as it did in the evaluation of the notice. Rather, the FAA will show that if just one accident is prevented as a result of this rule, the compliance costs, in terms of costs per fatality avoided, fall well within the range of values generally considered acceptable by various regulatory agencies when implementing safety regulations. It is very reasonable to expect that at least one accident will be prevented as a result of information learned from the expanded parameter recorders required by this final rule.

One commenter states that the Trans Systems Corporation study concluded that because of the well-known and proven characteristics of the pre-1969 airplanes, "the probability of not being able to determine a cause of an accident for these aircraft is considered to be low." The FAA agrees that the basic cause of an accident usually can be detected from limited parameter recorders and other sources of accident information. However, as stated previously, only a limited amount of information concerning airplane performance and flightcrew response during these accident situations can be obtained, and the opportunity to improve flightcrew reactions in potentially survivable situations is lost.

One major point needs to be made concerning those comments that address the analysis of benefits. Comments tend to focus on details of specific examples but miss the more general principles that these examples were attempting to demonstrate. The detailed information that expanded parameter flight recorders make available allows a much more objective accident analysis to be completed. Investigators can compare and correlate the actual performance of the airplane with that intended by the flightcrew, and, most importantly, the numerous assumptions that investigators often must make in determining probable cause can be reduced significantly. Thus, more specific and focused corrective actions can take place, especially in the area of human factors and crew training, than would otherwise be possible in the absence of this additional information. Further, the graphic depiction of an accident senario that can be reconstructed in great detail will leave a much more lasting impression on the part of flightcrews. This concept is very similar to the old maxim "A picture is worth a thousand words." The opportunity that a detailed, specific accident report provides for flightcrews to more thoroughly think through their own possible reactions if they were to find themselves in a similar situation is a learning experience that cannot be obtained from an accident report characterized by more general conclusions based upon numerous assumptions.

B.2 Part 135 Proposals

Comments that address the benefits of the proposal to require that CVR's be installed on newly manufactured turbine-powered airplanes operated under Part 135 generally question the value of such recorders. Commenters state that the safety benefits that the FAA attributed to the CVR's were overstated.

The FAA considers this rule to be a long-term corrective action reflecting recent changes in the structure of the airline industry. Part 135 operations have grown significantly since airline deregulation in 1978 opened up the commuter industry, yet only turbojet airplanes equipped with 10 or more passenger seats are currently required to have CVR's (Section 135.151). Implementation of this final rule will eventually result in all turbine-powered airplanes operated by the communter industry being equipped with a recorder of some type—a CVR for those smaller airplanes with 30 seats or less operated under Part 135, and both a CVR and flight recorder for those larger airplanes with between 31 and 60 seats

prescribed by the Office of Management and Budget.

A. Costs

1. Amendment of the flight recorder requirements for aircraft operating under Part 121. The major cost components of complying with the amendments to the Part 121 flight recorder requirements include the digital flight recorder, an FDAU necessary to convert input signals into a digital format, signal sources (such as transducers, potentiometers, etc.) when none are presently available for the additional parameters to be recorded, labor costs for installation, and ground support equipment to maintain the digital recorders. Offsetting these retrofit and upgrade costs are the present value of the retrofit costs that would have eventually been incurred to replace many foil recorders reaching the end of their economic lives subsequent to the digital conversion deadline established by this final rule, and the reduction in the cost of maintenance for a digital flight recorder in comparison to the older, electromechanical foil recorders.

In response to comments, a cost factor has been added reflecting the fuel penalty resulting from any increase in airplane weight that are attributable to the new rule. Cost estimates have also been modified to reflect substitution of the longitudinal acceleration parameter for other parameters originally proposed in the notice and special retrofit installation requirements for airplanes equipped with older, spherical foil recorders.

Further, the FAA expects that the majority of operators will find it most economical to purchase recorder and FDAU equipment directly from the manufacturers of that equipment, even though the actual installation work may be contracted out. However, in some instances an operator may have a modification shop provide the equipment as well as the labor. This would increase the retrofit costs to the operator because the modification shop marks up the parts it supplies. This additional unit cost in converting some airplanes has been considered in estimating the costs of the final rule. Other cost factors may potentially affect the compliance costs of this rule. These factors include the possiblility that recorder manufacturers might attempt to increase the prices of their equipment following implementation of the rule (which is not expected to be a very significant problem because of competition between manufacturers), that in some special cases design engineering and certification costs may not be fully included in equipment costs, or that installation labor may exceed FAA's estimates, even when the work is carefully planned ahead of time. To allow for these contingencies, the FAA has performed a sensitivity analysis on its cost estimates.

For airplanes operated under Part 121, the present value total cost of the various digital flight recorder requirements in this final rule, after deducting maintenance savings and the present value of costs which would result from the expected future attrition of many foil recorders in the absence of this rule, has been estimated to be approximately $27.6 million. These costs are summarized in Table 1 below:

Table 1

Summary of Part 121 Flight Recorder Costs Present Value—1986 Dollars

(Thousands)

Initial Retrofit with Digital Recorder	$24,870
Upgrade from 6 to 11 Parameters	8,612
Newly Manufactured Aircraft	1,385
Ground Support Equipment	2,504
Fuel Penalty	1,824
Subtotal	$39,195
Less Anticipated Foil Attrition/Digital Replacement	(3,689)
Less Maintenance Savings	(7,928)
Total Cost	$27,578

Summary of Revised Assumptions Used in Estimating Costs of Amendments to Part 121 Flight Recorder Requirements

1. Initial retrofit from foil to digital flight recorder:

Direct replacement, single unit digital flight recorder

Equipment	*Installation*
$15,420 combined FDAU/flight	$0

Separate flight recorder and FDAU

Equipment	*Installation*
	(including 6-to-11 parameter upgrade)
$11,000	$1,400 labor (35 hours @ $40 per hour, FDAU in avionics bay)
$11,000 mini-FDAU	$1,900 signal sources
$22,000	$3,300

2. Upgrade from 6-parameter digital to 11-parameter digital flight recorder:

Direct replacement flight recorder capable of recording 11-parameters as single-unit

Equipment	*Installation*
$2,200 Modification kit (when required)	$2,000 labor (50 hrs. @ $40 per hour, FDAU/recorder in rear of aircraft)
	$1,900 signal sources
	$3,900 Total

Direct replacement flight recorder requiring external mini-FDAU to record 11-parameters

Equipment	*Installation*
$11,000 mini-FDAU	$3,300 (same as separate FDAU and flight recorder installation above)

3. Installation of 17-parameter vs. 6-parameter digital flight recorder during assembly of newly manufactured aircraft:

$4,800	average FDAU/flight recorder cost differential over 6-parameter options
1,400	labor (35 hrs. @ $40 per hour)
2,175	signal sources
$8,375	Total

4. Miscellaneous Costs

a. Recorder, FDAU, and signal source equipment costs increased 40 percent when purchased through modification shop rather than directly from manufacturer.

b. Retrofit of spherical foil recorders—$500 additional cost to install rack for standard ½ ATR long container.

c. Lost asset value of obsolete foil recorders—$4,500 per unit.

d. Fuel penalty 15 gallons annually for each additional pound of weight added to transport category airplane. Current fuel price $0.85 per gallon. Average additional weight estimated at 10 pounds for airplanes subject to retrofit and 25 pounds for newly manufactured airplanes requiring 17 parameters.

e. Digital recorder ground support equipment (maintenance and testing)—$55,000 per set.

5. Maintenance Savings—Foil to Digital Conversion:

the control unit with area microphone, and the vibration mounts, connectors, and other hardware required for installation. The manufacturer of a relatively inexpensive unit currently available indicates that this equipment could be purchased for approximately $9,500 per set. Adding 15 hours of labor at $40 per hour for installation, the total cost of equipping a newly manufactured airplane with a CVR has been estimated to be $10,100.

The maintenance cost of a CVR is approximately $150 per 1,000 hours of operation. The FAA estimates that the Part 135 aircraft affected by this proposal are utilized a maximum of 1,600 hours per year. Annual maintenance costs are therefore estimated to be $240.

The additional airplane weight resulting from the CVR is approximately 30 pounds. Based upon the 14 gallons of fuel estimated to be consumed annually for each pound of weight carried aboard typical commuter airplanes affected by this rule, and current jet fuel prices in the $.80 to $.85 per gallon range, the FAA estimates that the cost of additional fuel attributable to the weight of the CVR will be approximately $350 per year for each airplane.

Estimating the number of multiengine, turbine-powered airplanes certificated to carry six or more passengers and requiring two pilots, which will be manufactured during the 15-year period of this analysis and operated under Part 135, is extremely difficult because the commuter market is undergoing a major transition. A new generation of aircraft developed specifically for the expanding commuter industry has recently begun to enter service. These new aircraft, most of which are large enough to operate under Part 121, are expected to dominate the commuter market in the years to come, but the exact impact that they will have on the future market share of the older generation commuter aircraft which operate under Part 135 is difficult to predict.

Because of the uncertainty characterizing this transitional period, the FAA estimated a range of costs based upon a low delivery rate of 120 aircraft per year and a high delivery rate of 240 aircraft per year in the regulatory evaluation of the notice. However, the FAA has reviewed current trends in the delivery of new turbine-powered airplanes with airframe manufacturers or their representatives and found that its original estimates for Part 135 were somewhat high. Therefore, the FAA has revised its forecast downward for the evaluation of the final rule and estimates that only between 75 and 125 new turbine-powered airplanes for Part 135 operators will be delivered annually during the period of this analysis.

Applying the unit cost values discussed above to these delivery rates and discounting yields present value total costs which range from $8.3 to $13.8 million.

B. Benefits

1. Overview of Benefits Analysis

Estimating the benefits of flight recorders and cockpit voice recorders is difficult because a recorder is an investigative tool, and unlike other airborne safety devices, the absence of a flight recorder or cockpit voice recorder cannot be considered the cause of or a contributing factor to an accident involving that airplane.

Therefore, the benefits of flight recorders and cockpit voice recorders can only be measured in abstract terms; that is, how the recorder's contribution to determining the cause of one accident can lead to corrective measures to prevent other similar accidents, or, in other words, preventing the opportunity cost of lost information. It is not possible to accurately predict the number of accidents that would have occurred had these corrective actions not been taken. Nor is it possible to look at accidents wherein the probable cause remained elusive and state with assurance that the cause would have been postitively determined and corrective action taken if the accident airplane had recorded more information. To demonstrate the utility of flight data and cockpit voice recorders, the benefits analysis of the regulatory evaluation examines the types of accidents in which recorders have been or could have been the key element in determining the cause of an accident.

passengers and carriers alike. Although such costs are difficult to quantify, the benefits of avoiding these costs must be recognized.

Another benefit resulting from the determination of accident cause through expanded parameter flight recorders is the ability to define more precisely hose operational problems that need to be addressed by research and development programs. The most prominent example of this is wind shear. Expanded parameter flight recorders have made, and continue to make, significant contributions towards understanding this hazardous phenomenon and improving pilot training programs so that flightcrews are better able to handle wind sheer encounters. At least one averted accident has been attributed directly to the improved techniques that have resulted from the wind shear program.

In the regulatory evaluation of the notice, the FAA developed a probability distribution of possible future accidents that could be prevented as a result of the expanded parameter recorder requirements. However, the relationship between accident investigations and the actual prevention of future accidents is somewhat abstract and cannot be directly observed. Further, the prevention of accidents is the cumulative result of numerous related learning experiences, only one of which is the feedback made possible through recorded accident information. In most cases it is not possible to link a prevented accident with a specific source of learning, if in fact it is even possible to identify most situations where an accident has been averted. The accident that does not occur often goes unnoticed. For these reasons, the FAA has reconsidered its orginal approach, and has determined that a meaningful probability distribution of the future accidents that may be prevented as a result of this final rule cannot realistically be assigned. Any effort to do so would be an attempt to give the analysis a greater degree of precision than the nature of the problem and the availability of information can support. However because the various arguments presented in the regulatory evaluation demonstrate how expanded parameter recorders enable the detailed correlation of accident investigation information and contribute to much more specific corrective actions, it is highly probable that at least one accident, if not more, will be prevented as a result of information learned because of the amended flight recorder requirements which are being adopted in this final rule. The benefits of flight recorders are realized particularly in the area of human factors analysis providing information on how flightcrews respond to hazardous situations, and this information is valuable for preventing future accidents regardless of whether it is learned from an accident involving an older or newer airplane model.

The FAA estimates that the benefits that will be realized from a typical catastrophic accident that is avoided in the future will be prevention of approximately 110 passenger and crew fatalities, the loss of the airplane, and the associated accident investigation costs. The standard average air carrier hull value of $8.9 million for a destroyed airplane and the standard NTSB major accident investigation cost of $953,000 have been used to estimate the quantifiable benefits for each accident prevented.[1]

Discounting these values as a uniform series of payments over the 15-year period of the analysis (to allow for the random nature of accidents that may be prevented anywhere within that period) at the 10 percent discount rate prescribed by OMB yields an average quantifiable benefit of $5.2 million for each accident prevented. From this information and the previous cost analysis, the cost per fatality avoided has been determined. This is discussed subsequently in subsection C, "Comparison of Costs and Benefits."

3. Amendment requiring cockpit voice recorders on certain newly-manufactured, turbine-powered airplanes operated under Part 135.

The benefits that will result from the Part 135 amendment requiring cockpit voice recorders on all newly manufactured multiengine, turbine powered airplanes certificated to carry six or more passengers and requiring two pilots are similar to those achieved from flight recorders on Part 121 aircraft. Implementa-

[1] See *Economic Values for Evaluation of Federal Aviation Administration Investment and Regulatory Programs (Report* #FAA–APO–81–3), and *Economic Analysis of Investment and Regulatory Decisions*—A Guide (Report #FAA–APO–82–1), FAA Office of Aviation Policy and Plans. Values have been adjusted for inflation as prescribed in these guides.

of this information makes it difficult to develop techniques that could benefit future travelers caught in similar situations. CVR's also can pick up other information useful to investigators, such as engine sounds, audio alarms and signals, and the sounds of some switches and control activation.

There have been a number of recent accidents involving turbine powered airplanes operated under Part 135 in which a CVR would have greatly assisted in the accident investigations. This is especially true of the December 1984 Embraer Bandeirante accident in Jacksonville, Florida. The airplane crashed shortly after takeoff, but the exact cause of this accident has been extremely difficult for investigators to pinpoint. The other fatal accidents include three landing accidents and one training accident. Investigations of all of these accidents would have been enhanced if recorded information were available. Adoption of this final rule will prevent future occurrences of this problem in many newly manufactured airplanes operated under Part 135 and will contribute to the prevention of future accidents.

The FAA estimates that the benefits that will be realized from a typical catastrophic commuter accident that is avoided in the future will be the prevention of approximately 12 passenger and crew fatalities, the loss of the airplane, and the associated accident investigation costs. An average hull value of $1.0 million for a typical used turbine-powered airplane and the previously cited major accident investigation cost of $953,000 have been used to estimate the quantifiable benefits for each accident prevented.

Discounting these values as a uniform series of payments over the 15-year period of the analysis (to allow for the random nature of accidents that may be prevented anywhere within that period) at the 10 percent discount rate prescribed by OMB yields an average quantifiable benefit of $1.0 million for each accident prevented. From this information and the previous cost analysis, the cost per fatality avoided has been determined. This is discussed subsequently in subsection D, "Comparison of Costs and Benefits."

C. Comparison of Costs and Benefits

1. Amendment of the flight recorder requirements for airplanes operating under Part 121.

The FAA has estimated that the total compliance costs of meeting the new Part 121 flight recorder standards will be approximately $27.6 million. The cost sensitivity analysis indicated that this figure could increase to approximately $40.3 million. If one or more catastrophic accidents are prevented which is a highly probable consequence of this rule change, then the loss of at least one transport category airplane and 110 fatalities will be avoided.

This will prevent aircraft hull value and accident investigation costs of $5.2 million (discounted present value). Deducting the prevented hull loss and accident investigation costs from the total compliance costs yields that portion of costs that will go entirely toward saving lives. Based upon the average of 110 fatalities avoided for each accident prevented, the maximum cost per fatality avoided will fall between $203,000 and $319,000, depending on whether the higher costs allowed for in the cost sensitivity analysis are in fact incurred. These are maximum values for the cost per fatality avoided and will be less if more than one accident is prevented as a result of this rule.[2]

2. Amendment requiring cockpit voice recorders on certain newly-manufactured, turbine-powered airplanes operated under Part 135.

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[2] The prevented accidents that may result from this rule could occur at any time during the period of this analysis. Generally, there is a social preference to realize benefits at an earlier rather than later time, and when a specific monetary value has been assigned to a particular benefit, discounting is used to reflect this time preference. Benefits realized earlier will have a higher present value than those realized later. However, when it is difficult to asisgn a specific monetary value to a benefit and it is therefore expressed in other units for comparison to costs (in this case the benefit unit is the number of fatalities avoided), discounting of the benefit units would only serve to introduce an element of specious accuracy into the analysis and is therefore inappropriate. Realistically, the actual benefit units can only be compared to the present value of costs, with the understanding that if it could be measured more precisely, the time preference would be to realize the benefits as early as possible.

the potential benefits as the cost per fatality avoided increases because there will also be more airplanes equipped with CVR's in active service. Further, the cost per fatality avoided will be less if more than one accident is prevented as a result of this rule.

III. International Trade Impact Analysis

The amendments will have little or no impact on trade for either U.S. firms doing business in foreign countries or foreign firms doing business in the United States. The amendments will affect only U.S. air carriers because foreign air carriers are not subject to Part 121 or 135. Foreign air carriers are prohibited from operating between points within the United States; therefore, they will not gain any competitive advantage over the domestic operations of U.S. carriers. In international operations, foreign air carriers are not expected to realize any cost advantages over U.S. air carriers because many foreign countries have even more stringent recorder requirements than those adopted in this final rule. Therefore, there will essentially be no trade impact.

IV. Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily and disproportionately burdened by government regulations. The RFA requires agencies to review rules that may have "a significant economic impact on a substantial number of small entities."

All of the rule changes will directly affect those air carriers operating under Parts 121 and 135 that are classified as small entities. However, with one exception, they are not expected to result in "a significant economic impact on a substantial number" of small entity air carriers.

The following evaluation analysis explains the reasons for this determination. In developing estimates of annualized net compliance costs, uniform annualized costs for capital investments have been determined by multiplying the amount of the investment by a capital recovery factor appropriate for the discount rate and period of the analysis. A capital recovery factor of .125, based upon a 10 percent discount rate over a 15-year period, has been used in this analysis. Threshold cost values and small entity size standards are those stated in FAA Order 2100.14, *Regulatory Flexibility Criteria and Guidance.* Values have been adjusted to 1986 dollars.

The Part 121 amendment requires aircraft to initially equip with 6-parameter digital flight recorders and later increase the number of parameters to 11. The unit investment cost for the most expensive configuration (separate FDAU and separate flight recorder) has been estimated to be $28,000, including a prorated share of the test equipment cost, and assuming that the foil recorder on this airplane would not have been replaced at any time during the analysis period in the absence of this rule. The uniform annualized cost for this investment is $3,508. Adding the annual fuel penalty cost of $128 and deducting the annual maintenance savings of $1,500 from this amount yields an annual net cost of $2,136 per aircraft.

The threshold values defining a significant economic impact for scheduled carriers are $94,094 if the entire fleet has a seating capacity of over 60 seats and $52,546 for other scheduled carriers. A carrier would have to convert 45 or 25 airplanes, respectively, to exceed either of these thresholds. A small entity is defined as one which owns nine or fewer airplanes. Consequently, any scheduled operator exceeding either of the minimum cost thresholds for scheduled operators as a result of this amendment would not be considered a small entity.

However, the threshold value defining a significant economic impact for an unscheduled operator is only $3,666. A carrier would only have to convert two airplanes to exceed this threshold. Data collected by the FAA on Part 121 fleet size distribution indicated that there are 64 unscheduled carriers operating under Part 121 and that 26 of these carriers, or 40 percent, operate 2 or more airplanes. This is more than one-third of the small unscheduled operators subject to the rule. Consequently, the FAA has determined that this amendment may have a significant economic impact on a substantial number of small unscheduled operators, and a regulatory flexibility analysis is required under the terms of the RFA. The regulatory flexibility analysis for these unscheduled operators follows in Section V.

have to buy 29 new aircraft to exceed this threshold, far greater than the 9 aircraft defining a small entity. Therefore, no small entity commuter carriers will be affected by this amendment.

With respect to on-demand air taxis operating under Part 135, the FAA's Aviation Standards National Field Office in Oklahoma City lists approximately 4,000 operators registered as on-demand air taxis. The majority of these are small entities. However, data examined in the *FAA Statistical Handbook of Aviation* indicate that less than 20 percent of all air taxis operate turbine-powered aircraft. Therefore, the criteria for a "substantial number," one-third of the small entities affected, has not been exceeded.

For these reasons, the amendments adopted in this final rule are not expected to have a significant economic impact on a substantial number of small entities for all affected categories other than the small unscheduled Part 121 operators. However, a regulatory flexibility analysis is required under the terms of the RFA for the small unscheduled Part 121 operators.

V. Final Regulatory Flexibility Analysis

As required by Section 604 of the RFA, the following analysis deals with the amended Part 121 flight recorder requirements as they relate to small unscheduled operators.

A. Why Agency Action Is Taken

The reasons for agency action are detailed in the final rule and the regulatory evaluation. Briefly, the amendment upgrades flight recorder standards for airplanes receiving original type certificates before September 30, 1969, and operated under part 121. The expected service life of a pre-1969 type certificated airplane has been prolonged far longer than anticipated at the time higher flight recorder standards were adopted for post-1969 airplanes. The advantages of the additional parameters of recorded information have been demonstrated by those airplanes so equipped, and it is desirable that more specific information be obtained following an accident than is possible under current regulations.

B. Objectives and Legal Basis for the Rule

The objective of the amendment is simply to make commercial air transportation safer. This objective has been thoroughly discussed in the final rule and the regulatory evaluation.

The legal bases of the proposal are Sections 313(a), 314(a), 601 through 610, and 1102 of the Federal Aviation Act of 1958, as amended (49 USC 1354 (a), 1421 through 1430 and 1502); 49 U.S.C. 106(g) (Revised, Pub. L. 97–449, January 12, 1983).

C. Description of Small Entities Affected by the Rule

The entities are unscheduled air carriers subject to Part 121 of the FAR with nine or fewer airplanes. This is covered in detail in Section IV above.

D. Compliance Requirements of the Rule

The amendment requires that pre-1969 type certificated airplanes operated under Part 121 be equipped with digital flight recorders within 2 years of the effective date of the rule and that these recorders be upgraded to record 11 parameters of information within 7 years of the effective date of the rule.

E. Overlap of the Rule with Other Federal Rules

There are no other Federal rules that duplicate, overlap, or conflict with the amended rule.

F. Comments in Response to the Initial Regulatory Flexibility Analysis

In NPRM No. 85–1, the FAA certified that the proposed rule was not expected to have a significant economic impact on a substantial number of small entities for all categories of operators which would

of small entities.

G. Alternatives to the Proposal

The small entity nonscheduled Part 121 operators should be included in the rule, rather than excluded, because they operate the same types of airplanes as those operated by scheduled Part 121 operators. Further, Part 121 operators engage in common, rather than private, carriage of persons and property. The standards should be the same for all operators of similar equipment that hold out to the public as a common air carrier, regardless of whether their operations are scheduled or not. Finally, because unscheduled carriers operate the same types of airplanes as scheduled carriers, their operating costs are very similar for the same scale of operations. The $3,666 threshold value defining a significant economic impact for unscheduled operators is substantially lower than the $52,546 and $94,094 thresholds applicable to scheduled carriers. However, this is because the vast majority of unscheduled operators are air taxis that operate under Part 135 with much smaller and less costly piston-powered airplanes. Although small entity unscheduled Part 121 operators will exceed their low threshold value if they convert two or more airplanes, they should be no more adversely affected than the scheduled small entity Part 121 operators because their costs are much more comparable to those of scheduled Part 121 operators than to those of unscheduled Part 135 operators.

Conclusion

For the reasons discussed in the preamble and based upon the findings in the Regulatory Evaluation, Regulatory Flexibility Determination, and Trade Impact Assessment located in the docket, the FAA has determined that this document: (1) Involves an amended regulation that is not major under Executive Order 12291; and (2) is a significant rule pursuant to the Department of Transportation Regulatory Policies and Procedures (44 FR 11064; February 26, 1979). In addition, it is certified under the criteria of the Regulatory flexibility Act that this rule will not have a significant economic impact on a substantial number of small entities for all the affected categories of small entities other than the small, unscheduled Part 121 operators. A final Regulatory flexibility Analysis has been prepared in accordance with Sections 604 (a) and (b) of the Regulatory Flexibility Act for this category. A copy of the evaluation may be obtained by contacting the person identified in the "FOR FURTHER INFORMATION CONTACT" paragraph.

Adoption of the Amendments

Accordingly, Parts 91, 121, 125, and 135 (14 CFR Parts 91, 121, 125, and 135) are amended effective May 26, 1987.

The authority citation for Part 125 is revised to read as set forth below, and the authority citations following all sections in part 125 are removed:

Authority: 49 U.S.C. 1354, 1421 through 1430, and 1502; 49 U.S.C. 106(g) (Revised, Pub. L. 97–449, January 12, 1983).

SUMMARY: These amendments require that U.S.-registered aircraft leased by foreign persons be maintained in accordance with acceptable maintenance standards and clarify certain rules to preclude the commingling of noncommon (private) and common-carriage operations. These amendments are necessary to upgrade certain regulations regarding the leasing of U.S.-registered aircraft by foreign persons and to clarify the inspection and maintenance requirements applicable to foreign persons conducting private and common-carriage operations with U.S.-registered airplanes.

FOR FURTHER INFORMATION CONTACT: Messrs. David L. Catey, Manager, Project Development Branch (AFS–240), Air Transportation Division, telephone (202) 267–3747, or Bob Baker, Manager, Project Development Branch (AFS–360), Aircraft Maintenance Division, telephone (202) 267–3788, Office of Flight Standards, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, D.C. 20591.

SUPPLEMENTARY INFORMATION:

Background

On October 9, 1980, Part 125 of the Federal Aviation Regulations (FAR) was published in the *Federal Register* (45 FR 67214). With certain exceptions, not germane to the current discussion, Part 125 up to now has applied to the operation of all U.S.-registered airplanes having a passenger seating configuration of 20 or more, or a maximum payload capacity of 6,000 pounds or more, unless they are required to be operated under the rules of Part 121, 135, or 137 of the regulations.

Although Part 125 was not intended to provide acceptable safety levels for common-carriage operations, the inspection programs and maintenance requirements of § 125.247 currently apply to U.S.-registered airplanes operated outside the United States by foreign persons. This results because Part 125 governs operation of a U.S.-registered airplane of the prescribed size unless that operation is required to be conducted under the rules of Parts 121, 135, or 137. Accordingly, up to now there has been no exclusion from Part 125 for operators under Part 129—Operations of Foreign Air Carriers.

At the time Part 125 was published, the FAA was considering rulemaking to revise Part 129 to cover inspection and maintenance requirements for U.S.-registered aircraft. Requiring foreign air carriers to comply with Part 125 immediately was deemed inappropriate in light of the possibility of change to Part 129. Consequently, in adopting Part 125, the agency established a deferred compliance date of January 1, 1983, for foreign air carriers. By Amendments 125–4 (47 FR 44718; October 12, 1982), 125–5 (49 FR 34815; September 4, 1984), 125–6 (51 FR 873; January 8, 1986), and 125–7 (52 FR 6956; March 6, 1987), the agency extended the January 1, 1983, compliance date to September 1, 1984, February 28, 1986, February 28, 1987, and February 29, 1988, respectively, to provide sufficient time for completion of this rulemaking.

Subsequent to the adoption of Part 125, the agency has carefully monitored the operating experience of large U.S.-registered airplanes operated under Part 125. The operating experience can be divided into two main areas of interest. First, the frequency with which foreign air carriers operate U.S.-registered airplanes under lease has shown a marked increase. These lease agreements are desirable since they provide a means for U.S. air carriers to arrange for use of these airplanes during periods of reduced traffic levels. The second area concerns the distinction between common carriage and noncommon carriage operations.

Most foreign air carriers and foreign persons engaged in common-carriage operations have aircraft maintenance program requirements adopted by their domestic governments which are consistent with the international standards in Part I of Annex 6 to the Convention on International Civil Aviation Organization (ICAO). ICAO, Annex 6, requires each operator to comply with the terms of the aircraft's certificate of airworthiness and to maintain the aircraft in an airworthy condition. To meet these requirements, each foreign operator of a U.S.-registered aircraft used in common carriage must ensure that the aircraft is maintained by a qualified organization with a well-trained staff and adequate workshops, equipment, and facilities. That organization must also have appropriate maintenance manuals, records, and procedures

in § 125.11. That section prohibits common carriage by a Part 125 certificate holder and declares that any person holding an air carrier operating certificate is ineligible for a certificate under Part 125. The sole exception to the principle that Part 125 is intended to apply only to noncommon carriage to date has been the case of a foreign person common carrier compelled to operate under the rules of Part 125 by operating a U.S.-registered airplane of the size covered by that part. These amendments eliminate that exception by expanding Part 129 to apply to each foreign operator of a U.S.-registered aircraft engaged in common carriage operating either into and out of or wholly outside the United States.

On December 10, 1985, the FAA published Notice No. 85–24 (50 FR 50588, December 10, 1985) to resolve the issues discussed above. The public comment Period closed on April 10, 1986.

Analysis of Comments

Seven public commenters responded to Notice No. 85–24. Two commenters supported the proposals to preclude the commingling of noncommon (private) and common-carrier operations. No comments were received with respect to the operational as opposed to the airworthiness and maintenance proposals of Notice No. 85–24. Thus, to preclude the commingling of noncommon (private) and common-carriage operations, new §§ 121.3(i), 125.11(c), 129.1(b), 129.11(a)(4) and (c), 135.11(c), and a new paragraph 5 of Section V. A., of paragraph (b) of Appendix A of Part 129 are adopted as proposed. Also, the proposals to revise §§ 125.1(a) and (b)(1), (3) and (4), 129.1(a) and 129.11(a) are adopted as proposed.

Section 125.1(d) is removed because the cutoff date of January 1, 1983, is obsolete, and the reference to paragraph (d) is also removed from § 125.1(a).

Proposed § 125.11(a) is revised by replacing the words "is authorized to operate aircraft under an operating certificate or operations specifications" with the words "holds the appropriate operating certificate and/or operations specifications necessary to conduct operations." This revision is consistent with terminology used in SFAR 38–2. Proposed § 125.11(a) is adopted with this modification.

Several commenters recommend that proposed § 129.14(b) be revised to require a maintenance program that would be equivalent to the continuous maintenance program required for Part 121 air carriers. It was suggested that a more specific reference is needed to address the significant maintenance aspects of Part 121 which would clearly exclude an obligation for the foreign air carrier to follow other certification requirements of Part 121 or 135. To the same general effect is the suggestion of another commenter who proposes a change to language in proposed § 129.14(b) to require that the program selected meet the requirements consistent with § 121.367 or 135.425 as appropriate. The FAA does not agree with these suggestions. A primary objective of the amendment is to require that a U.S.-registered aircraft leased by a foreign person be maintained in accordance with maintenance standards that are consistent with the requirement of the country which is a member of the International Civil Aviation Organization. The FAA considers it would be inappropriate to specify all the applicable FAR sections or to limit an operator's maintenance program requirements to those two sections because an acceptable maintenance program must be in compliance with numerous other sections of Parts 121 and 135, as appropriate.

Another commenter questions who would be responsible for airworthiness control when a foreign operator under Part 129 operates a U.S.-registered aircraft. Proposed § 129.14 (a) and (b) would require each foreign person who operates a U.S.-registered aircraft in common carriage to meet prescribed maintenance requirements. Aircraft maintenance programs which are consistent with the international standards in Part I of ICAO Annex 6 require each operator to comply with the terms of the aircraft's certificate of airworthiness and to maintain the aircraft in an airworthy condition. The Federal Aviation Regulations prescribe airworthiness standards for all U.S.-registered aircraft operating within or outside the United States, irrespective of the person operating the aircraft. This includes U.S.-registered aircraft operated by a foreign air carrier or foreign person.

The FAA has further reviewed the maintenance requirements proposed in § 129.14(b) and the comments received concerning the proposed wording of that paragraph. As written, the proposal creates a misunderstanding as to what would constitute an acceptable maintenance program as required by proposed 129.14(a).

provide guidance as to what would constitute an approved maintenance program. The Advisory Circular will be disseminated to FAA International Field Offices and Flight Standards District Offices.

Two commenters recommended that the maintenance rules of Part 43 be revised to include reference to Part 129. The FAA agrees and has adopted this recommendation by amending § 43.13(c).

Regulatory Evaluation

These amendments clarify the maintenance and minimum equipment list requirements applicable to U.S.-registered aircraft operated by foreign persons. Section 129.11(a)(4) will impose only a minimal cost by requiring that the registration markings of each U.S.-registered aircraft be listed on the foreign carrier's part 129 operations specifications.

Two commenters support the proposed sections that would preclude the commingling of noncommon (private) and common-carriage operations, and no opposing comments were received. A minimal cost may result from the adoption of these amendments. A remote possibility exists that one or several transport category aircraft may be currently listed on both a Part 125 (private-carriage) operations specifications and either a Part 121, Part 129 or Part 135 (common carriage) operations specifications. Although such simultaneous listing of an aircraft on both private- and common-carriage operations specifications is contrary to current FAA administrative practices, a minimal cost may be incurred by the FAA and a few aircraft operators to delist an aircraft from either the private-carriage operations specifications or the common-carriage operations specifications. In addition, the few operators who may be using the same aircraft in private- and common-carriage operations under a simultaneous listing may lose some utilization of their aircraft as a result of this rule. Any costs that would be incurred are expected to be very minor, however, because of the very limited extent of this practice.

New § 129.14(b) provides for the use of a minimum equipment list by a foreign air carrier or foreign person using any U.S.-registered aircraft in common-carriage operations. The provisions of § 129.14(b) are more explicit and appropriate to common-carriage operations than the minimum equipment list requirements provided in § 91.30, which were reinstated effective March 13, 1986 (50 FR 51188, December 13, 1985), in Amendment 91–192. Both Amendment 91–192 and these amendments preclude the necessity for exemptions, thereby reducing the administrative burden of both foreign air carriers and the FAA.

Conclusion

These amendments will facilitate the agency's maintaining distinctions among Parts 91, 121, 125, 129, and 135 of the regulations so that all U.S.-registered aircraft meet appropriate standards applicable to the type of operations (air transportation versus other air commerce) being conducted. They also provide for minimum equipment list use by foreign air carriers and other foreign persons using any U.S.-registered aircraft in common carriage operations without the necessity of obtaining an exemption. These amendments will have either no impact or a small positive impact on trade opportunities of U.S. and foreign persons who may wish to enter into aircraft lease agreements. Accordingly, for these reasons and those discussed under the heading entitled "Regulatory Evaluation," the FAA has determined that these amendments are not considered to be significant under DOT Regulatory Policies and Procedures (44 CFR Part 11034; February 26, 1979) and are not major as defined in Executive Order 12291. For these reasons and because these amendments will result in negligible costs, I certify that, under the criteria of the Regulatory Flexibility Act, the amendments will not have a significant economic impact on a substantial number of small entities. The overall economic impact of this rulemaking is so minimal that it does not require a full regulatory evaluation. In addition, benefits to this agency and some foreign operators are expected to secure from the elimination of the need for certain exemptions.

Adoption of the Amendments

In consideration of the foregoing, Parts 43, 91, 121, 125, 129, and 135 of the FAR (14 CFR Parts 91, 121, 125, 129, and 135) are amended effective August 25, 1987.

(Published in 53 FR 26134, July 11, 1988)

SUMMARY: The FAA amends its regulations to require digital flight data recorders and cockpit voice recorders (CVRs) to be installed in a broad category of airplanes and rotorcraft operated by air carriers and commuters, as well as in selected aircraft operated in general aviation. The amendments are in response to legislation which mandates the FAA to amend its flight recorder and CVR requirements in accordance with recommendations from the National Transportation Safety Board (NTSB). The intent of this rulemaking is to provide more information to accident investigators in determining the causes of accidents and the measures needed to correct the causes. In addition, the FAA also requests additional comments regarding the general aviation requirements.

DATE: *Effective date:* October 11, 1988.

Comments on the Part 91 requirements must be submitted on or before October 11, 1988.

Compliance Date: October 11, 1991.

ADDRESSES: Comments on the Part 91 requirements should be mailed in triplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attention: Rule Docket (AGC–10), Docket No. 25530, 800 Independence Avenue, SW., Washington, DC 20591. Comments delivered must be marked Docket No. 25530. Comments may be examined in Room 915G weekdays between 8:30 a.m. and 5 p.m., except on Federal holidays.

FOR FURTHER INFORMATION CONTACT: Frank Rock, Technical Analysis Branch (AWS–120), Aircraft Engineering Division, Office of Airworthiness, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; Telephone (202) 267–9567.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking on flight recorder and CVR requirements on February 12, 1988 (Notice No. 88–1, 53 FR 4314). The proposed rule was primarily based on recommendations from the NTSB issued on June 19, 1987. FAA rulemaking on these requirements was mandated by legislation on December 22, 1987, in the Appropriations Act, 1988, (Pub. L. 100–202) and on December 30, 1987, under the Airport and Airway Safety and Capacity Expansion Act of 1987, Title III, Section 303(c) (Pub. L. 100–223).

The Appropriations Act required the FAA to expand existing CVR and flight recorder requirements "to smaller sizes of commuter air carrier aircraft" and to require CVR and flight recorder "retrofits on certain type of existing commuter air carrier aircraft. . . ."

The Airport and Airway Safety and Capacity Expansion Act required the FAA to initiate rulemaking "to consider the use of cockpit voice recorders and flight data recorders on commuter aircraft and other aircraft, commensurate with the recommendations of the National Transportation Safety Board."

The NTSB issued its safety recommendations in response to a number of significant events which had occurred since its previous recommendations issued in August 1982. These events were FAA's flight recorder and CVR rule changes issued March 25, 1987; the technological development of solid-state flight data recorders (SFDR); the continued growth of the commuter air carrier industry; revisions to Part 23 of the Federal Aviation Regulations (FAR) (14 CFR Part 23) which defined a commuter category airplane and established certification requirements for commuter category airplanes; and the adoption by the International Civil Aviation Organization (ICAO) of revised flight recorder and CVR standards.

applied to any turbojet airplane having a passenger seating configuration of 10 seats or more to any newly manufactured multiengine, turbine-powered airplane that was certificated to carry six or more passengers and required to have two pilots. The 1987 amendments did not require flight recorders for operations conducted under Part 135. They did not require voice recorders or flight recorders for operations conducted under Parts 91 and 125. They did not require flight recorders for helicopters.

The NTSB wanted broader application of the requirements than those established in the 1987 amendments, and the NTSB recommended that the requirements, including parameter requirements, be updated to cover technological improvements in CVR and flight recorder equipment. Through the aforementioned legislation, Congress agreed.

As stated in the preamble to the proposed rule and in the NTSB recommendations, the need for updated and expanded regulations on the installation and use of flight recorders and voice recorders is twofold. First, technological advances in cockpit equipment have greatly increased the potential for accumulating information on the flight characteristics of an aircraft at the time of an incident or accident. However, unless aircraft equipped with new electronic display systems (i.e., ''glass cockpits'') are also equipped with flight recorders that can capture the flight information and from which investigators can retrieve that information, the information is lost. Therefore, a major objective of this rulemaking is to upgrade the parameters and flight recorder and voice recorder standards to accommodate the most sophisticated systems now being installed in aircraft. Secondly, previous flight recorder and voice recorder requirements have not been applied to significant sectors of air transportation operations.

In recent years the commuter air carrier fleet has grown substantially and its growth is expected to continue. The 1987 annual report of the Regional Airline Association (whose membership consists primarily of commuter air carriers) estimates that more than 61 million passengers will be carried by members of that association in 1997. The growth in commuter air transportation has resulted in newly manufactured aircraft designed specifically for the commuter market. While these new airplanes have a take-off weight in excess of 12,500 pounds, they often have a seating configuration of less than 30 passenger seats and payloads of 7,500 pounds or less, which means they are operated under Part 135. Until now Part 135 has had no flight recorder requirements. Therefore, vital accident data from commuter airline accidents has not been available.

The NTSB safety recommendation cites several recent commuter air carrier accidents in which investigations revealed a lack of information that would have been pertinent to determining the causes. Although the investigations produced a number of safety recommendations based on evidence of potentially hazardous conditions and practices, the specific flight crew actions or inactions, environmental conditions or equipment failures that may have caused the accidents could not be positively determined. Therefore the NTSB's safety recommendations towards preventing recurrence could not be as definitive as possible. The NTSB has indicated that in these accidents if flight recorder information had been available, specific deficiencies in flight crewmembers performance or mechanical failures or malfunctions could have been determined. Without flight recorder information, accident investigators are severely limited in definitively assessing causes. Therefore, the FAA has added flight recorder requirements to Part 135 and extended the voice recorder requirements in Part 135 to specific types of airplanes and rotorcraft.

Part 91 and Part 125 operations have had neither flight nor voice recorder requirements. The lack of information poses the same problem to investigators as in commuter operations. Therefore, this rulemaking extends flight recorder and voice recorder requirements to specific types of airplanes and rotorcraft being operated under Part 91 and specific type of airplanes operated under Part 125.

In addition to the above, the NTSB recommended that all newly manufactured aircraft and new cockpit voice recorder installations be designed to allow for uninterrupted recording from boom or mask microphones and headphones for each flight crewmember station and from an area microphone on dedicated channels of the CVR. The performance of CVR installations of this kind where the audio signal of each crewmember station is continuously recorded on a dedicated channel provides much clearer recorded information for investigators than the standard cockpit area microphone (CAM). Therefore, this rulemaking includes amendments to Parts 23, 25, 121, 125, and 135, to require the NTSB recommended capability

(1) It establishes flight recorder requirements for certain aircraft operated under Parts 91, 125, and 135.

(2) It establishes cockpit voice recorder requirements for certain aircraft operated under Parts 91 and 125, an extends and revises voice recorder requirements under Part 135.

(3) It upgrades the requirements and parameters for flight recorders to the level of the most sophisticated systems installed in aircraft. The new parameters and requirements affect certain aircraft operated under Parts 121, 125, and 135.

(4) It requires uninterrupted sound recording capability in cockpit voice recorders under Parts 23 and 25 and specifies use of this capacity under the operating rules of Parts 121, 125, and 135.

(5) It revises CVR and flight recorder airworthiness standards in part 25; establishes flight recorder installation requirements in parts 23, 27, and 29; and establishes CVR requirements in Parts 23 and 27.

Comment Discussion

The FAA received 52 comments on the NPRM. Thirty-one comments opposed the proposed rule; nine supported it; two supported it with reservations.

The rest of the comments did not express opposition or support. At least 19 comments addressed specific issues raised by the proposed rule. The categories of commenters included airport authorities, state governments, operators of airplanes and helicopters, manufacturers, and foreign air transportation companies. Of the associations representing air transportation interest groups, comments were received from the Air Line Pilots Association (ALPA), the Air Transport Association (ATA), General Aviation Manufacturers Association (GAMA), Airport Operators Council International, the National Air Transportation Association (NATA), and the Regional Airlines Association (RAA). Commenters who opposed the rule were primarily operators conducting operations under Part 135 (or Part 91), particularly operators of helicopters, as well as ATA and NATA. Categories of commenters supporting the rule were manufacturers, state governments, and airport authorities, the National Transportation Safety Board (NTSB), and the RAA.

Several commenters presented recommendations and raised concerns over specific requirements in the rule. The following categories of issues were raised and are discussed separately below:

(1) Part 121 requirements

(2) Part 91 and Part 135 requirements

(3) Specific technical requirements

(4) Comments beyond the Scope of the Notice.

Part 121 Requirements

The Air Transport Association (ATA) on behalf of its member airlines submitted a number of objections to the proposed changes in Part 121 and in some cases to the proposed parallel changes in Part 25. Several of ATA's objections were also raised by other commenters. Overall opposition to the proposed changes was based on two general arguments. First, the ATA argued that the Congressional language cited in the NPRM as a primary basis for the proposed changes did not identify Part 121 air carriers. Second, they argued that "the NTSB and FAA have not adequately justified the Part 121 proposals for further expansion of flight recorder requirements beyond those in Amendment 121–91." ATA also stated that the 45-day comment period was too short for its member airlines to "provide the type of technical and economic impact information needed to develop final credible technical and cost analyses,"

• Notice 88–1 did not include any discussion on "major rule", "significant rule" requirements under Executive Order 12291 and DOT policy, respectively.

• There are significant differences between the FAA/NTSB proposed flight recorder parameters and the ICAO standards which ATA says are "recommended standards only" which are "in the process of being revised."

• Adoption of 32 parameter flight recorder requirements for newly manufactured airplanes rather than last year's requirement for 17 parameter flight recorder for newly manufactured airplanes will create an unnecessary administrative and logistics burden.

• The proposed additional parameters could exceed the capacity of digital flight data acquisition units "denying airline use of flight recorder information for routine maintenance and operations analyses, some of which are required by the FAA."

• The relationship of the proposed requirements to the rules adopted in Amendment 121–191 is confusing and potentially disruptive and costly to airline operations especially when considered with other FAA requirements already adopted or under consideration (e.g. windshear, TCAS requirements). Related to this ATA comment was a comment by McDonnell Douglas Aircraft Co., which indicated that changing "regulatory requirements on systems such as flight recorders on an annual basis . . . makes planning very difficult and expensive."

ATA offered an alternative to the FAA proposal. ATA suggests that for a retrofit, additional parameters be required only when the airplane is already equipped with "an ARINC 717 digital flight data acquisition unit (DFDAU) with the ARINC buses containing the (a number to be later determined) additional parameters *already* converted to it." For newly manufactured airplanes ATA would follow the same pattern except that additional parameters above the 17 parameters of Amendment 121–191 would be recorded "on a space availability basis without impacting existing airline recording programs. . . ."

The FAA's Response:

The FAA does not agree with ATA's interpretation of the Congressional mandate. Given the overall legislative history of Public Law 100–223, FAA believes that the Congressional intent is to ensure safety by making available to the NTSB whatever data is necessary for accident investigation if acquiring that data is technologically feasible. Congress stated this intent by ordering the FAA "to initiate a rulemaking proceeding to consider the use of cockpit voice recorders and flight data recorders on commuter aircraft *and other aircraft, commensurate with the recommendations of the National Transportation Safety Board.*" (Emphasis supplied.) In its June 19, 1987, letter to the FAA, the NTSB stated its requirements which covered 14 CFR Parts 23, 25, 91, 121, and 135. FAA proposed to meet those requirements in Notice 88–1, as directed by Congress. Comments submitted by the Board did not indicate that the proposed Part 121 requirements exceeded the bounds of what the Board determines as necessary information for conducting accurate accident investigations.

ATA is correct that the normal paragraph addressing "major rule" under Executive Order 12291 and "significant rule" under DOT policy was omitted—inadvertently—from the NPRM. Nonetheless, the potential costs were fully discussed in the preamble (and in a full economic evaluation in the docket) and the substance of that discussion indicated that the proposed rule would not be considered major under the Executive Order. Further, the overall preamble discussion made it clear that the proposals were significant within the meaning of the Department of Transportation's Regulatory Policies and Procedures.

The 1987 Amendments to Part 121 did not increase the parameters listed in Appendix B of that part. NTSB has stated in its recent recommendations that Appendix B should be updated to expand the parameters list and define new parameters, improved accuracies, ranges, and sampling intervals so that flight recorder standards are consistent with the capabilities of the most advanced electronic display systems. As stated by NTSB, "The introduction of the Airbus A320 with its fly-by-wire technology

While ATA describes the proposed tie-in with existing ARINC 429 equipment (or an equivalent) as a retrofit requirement, it is not the normal mandatory type retrofit requirement applicable to all or certain specified airplanes operated under Part 121 or Part 135. The final rule clarifies the FAA intent in this regard (discussed under Technical Comments portion of this preamble) and as adopted the rule will apply only where stated equipment is already installed in an airplane and where data is readily available so that it can be accessed with virtually no burden on Part 121 operators, either in lost airplane time or other costs.

In consideration of other objections raised by ATA, that extending the parameters from 17 to 32 (or higher, by ATA's count) is too great a change too soon, that Part 121 operators are being required to make other equipment changes at the same time, and that the proposed parameters were not consistent with those recommended by ICAO, and in consideration of the comments submitted by the NTSB, the FAA has done the following: (1) extended the effective date of the requirements to 3 years instead of the proposed 2 years; and (2) reduced the number of mandatory parameters to 28 and made the other highly desired parameters optional where feasible.

Parts 91 and 135 Requirements

Except for the Regional Airline Association's agreement with most of the proposed Part 135 amendments, virtually all of the operators who commented on these requirements opposed them. Specific technical comments are discussed below. Typical of the more general opposing comments was the comment of the North Dakota Aviation Council which stated that the FAA had "expanded the intent of Congress" in proposing CVR and flight recorder requirements for certain general aviation operations under Part 91 and on-demand operations under Part 135. The National Air Transportation Association (NATA) also accused the FAA of expanding the Congressional mandate and further stated that nowhere in the proposal "can a case be made for a quantitative increase in safety benefit for requiring CVR's in the types of aircraft typically operated in the Part 135 charter fleet."

One commenter pointed out that a 2-year compliance period for the installation of CVR's is inadequate, From the commenter's viewpoint, most of the affected aircraft require a "heavy" inspection only every 5 to 6 years. It is during this inspection that it would be most appropriate to install the CVR.

Several commenters asserted that where an aircraft is newly manufactured to a type design of long standing, the attributes and operational history are already well known and it is unlikely that the NTSB will obtain the kind of information it seeks from accident investigations. These commenters aslo asserted that the past safety record did not justify the new requirements and that because of the nature of on-demand and general aviation operations the costs are disproportionate since they cannot be spread out over thousands of flight hours or hundreds of thousands of passengers boarded each year.

Some of the most vigorous comments adverse to the proposed requirements were received from helicopter operators. They, too, through that the FAA has exceeded the Congressional mandate, that none of the cited accidents or other justification involved helicopters, and that the potential costs for helicopter operators far exceeded any potential benefits to the overall aviation industry.

The Regional Airlines Association stated that there is not justification for requiring retrofit of the 32-parameter flight data recorder on 20–30 seat airplanes under Part 135 when no such retrofit requirement was proposed for Part 121. RAA indicated that while costs would be substantial, it could not provide specific estimates because they would vary from airplane to airplane depending on the amount of wiring already installed in the airplane.

The FAA's Response:

As discussed previously, the FAA does not agree that it has exceeded the Congressional mandate or that the new CVR and flight recorder requirements for Part 91 operators and for non-scheduled Part

operations. Therefore, any accident data collected from an accident of one of these airplane types has application for operations conducted under both parts. Also, an individual airplane may be used in operations conducted under both parts. If an airplane is used in operations under both parts, the Part 91 requirements would not be as burdensome as suggested by some commenters since in many cases the airplane would already be subject to part 135 requirements. Also, because of the potential for use of an airplane type both Parts 91 and 135, the used aircraft market ultimately benefits when airplanes are equipped so that they can move back and forth between different operating rules.

Accidents cited in the NPRM (which included operations conducted under Parts 91 and 135) illustrate the problems accident investigators encounter when aircraft are not equipped with flight or voice recorders. In such cases, investigators rely on interveiws with fellow crewmembers, training records. FAA surveillance, cockpit standardization, and additional operational factors. Although the cause of an accident may be determined through these investigative efforts, the process may be long and costly in term of lives and property. Time may be critical, particularly if the cause of an accident is an airworthiness factor.

The rule does recognize differences in accordance with the seating capacity of the aircraft. In Part 91, flight recorders are required for aircraft (both fixed-wing and rotorcraft) having a passenger seating configuration of 10 or more manufactured after October 11, 1991. The flight recorders must have 17 required parameters for airplanes and 22 for rotorcraft. In Part 135, flight recorders are required for aircraft (both fixed-wing and rotorcraft) having a passenger seating configuration of 10-19 seats that are brought onto the U.S. register after October 11, 1991. The flight recorders must have 17 parameters for airplanes and 22 for rotorcraft. In effect, Part 91 and Part 135 flight recorder requirements for these size aircraft apply only to newly manufactured aircraft of existing U.S. registered aircraft. No retrofit of this size is required for flight recorders.

In Part 135, airplanes having a passenger seating configuration of 20 to 30 and rotorcraft having a passenger seating configuration of 20 or more seats must be equipped with flight recorders after October 11, 1991. This is retrofit as well as a requirement for newly manufactured aircraft. The NTSB in its comment agreed that is might be impractical to require 20–30 passenger airplanes to be retrofitted with 32 parameter flight data recorders, as proposed. In light of all the information received, the FAA has changed § 135.152(b) to require that affected aircraft be retrofitted with either 11-parameter or 17-parameter flight recorders (depending on the type certification date), except that those airplanes manufactured after October 11, 1991, must be upgraded to 28 parameters.

Clearly the flight recorder requirements for the larger aircraft being operated under Part 135 are more stringent than those for the smaller aircraft. Most, if not all, nonscheduled operations conducted under Part 135 use aircraft with a passenger seating configuration of less than 20 seats. Such aircraft are not required to be retrofitted with flight recorders. However, they are required to be equipped with voice recorders. Since the cost of installing voice recorders is substantially less than that of flight recorders, the FAA does not expect the voice recorder requirements to impose a significant burden on small operators.

With regard to comments about the inadequacy of a 2-year period to reasonably accomplish the Part 91 retrofit of CVR's, the FAA concurs. Accordingly, the FAA has provided a 3-year period to effect this retrofit. Recognizing, however, that some operators may not conduct a "heavy" inspection or overhaul in this period, the regulatory language provides that the Administrator, for good cause, may authorize extension of the compliance time to accommodate such maintenance schedules. A request for extension of the compliance time must be accompanied by a demonstration of good cause and must specify a date for the operator's completion of the retrofit of the CVR.

Technical Comments

A number of commenters provided detailed comments on the technical aspects of the new rules. Any such comments that address the substance of the rule are discussed below. Comments that point out printing errors, suggest non-substantive minor language changes, or suggest changes to make the rules internally consistent were considered and the appropriate changes were made. However those changes are not discussed in detail.

The commenter is correct that additional parameters could be proposed as Special Conditions for that aircraft. However, the language is being inserted into § 25.1459 as a rule of general applicability so that as part of a review of airworthiness requirements for initial certification, a review to assess the need for additional parameters will be conducted.

A commenter pointed out that, while proposed § 91.35(b)(1) requires aircraft manufactured after one year after the effective date to be prewired to accept any appropriate flight recorder, the proposed language does not specify the date by which such aircraft must be equipped with flight recorders. The FAA has reviewed proposed 91.35(b)(1) and a parallel requirement proposed in § 135.152(a) and has concluded that, even though the requirement might provide an economic incentive to manufacturers to begin equipping airplanes to accept flight recorders, the safety benefit comes from the installation of the recorders. Therefore proposed §§ 91.35(b)(1) and 135.152(a) have not been included in the final rule.

One commenter questioned the justification for applying the proposed rules to helicopters. This commenter proposed that if CVR and flight recorder requirements are applied to any helicopters, they should be applied only to large helicopters. The FAA does not agree that the large/small dividing line (small = 12,500 pounds or less maximum certificated takeoff weight) is the appropriate determining factor for requiring or not requiring CVR and flight recorder equipment. As with airplanes, the FAA considers passenger seating configuration a more meaningful measure of the need for requiring safety information collection devices such as CVR and flight recorders.

A number of commenters stated that the language of proposed §§ 121.343(e) and 125.225(c) does not accomplish the objective stated in the preamble to Notice 88–1. Some commenters stated that the proposed rule language "equipped with an ARINC 429 digital data bus" is itself inaccurate. Others stated that even if an airplane does have the ARINC 429 equipment, that equipment may be used in such a way that it would not, without a major retrofit, provide access to the information in the additional parameters as suggested in the NPRM. The FAA's intent in following through on this NTSB recommendation was to take advantage of the full capability of more advanced technology equipment when that equipment is already installed. There is no intent to require any retrofitting costs beyond the minimal cost of accessing readily available data. The final rule has been redrafted so that it clearly carries out the original intent. It now states that when a large airplane is equipped with a digital data bus and ARINC digital flight data acquisition unit or equivalent the airplane must be "equipped with one or more approved flight recorders that utilize a digital method of recording and storing data and a method of readily retrieving that data from the storage medium." The rule, as adopted, also clarifies that only those parameters "available on the digital data bus" must be recorded.

As mentioned previously, the ATA and several other commenters questioned the number of new parameters that would be required under Appendix B to Part 121 for newly manufactured aircraft. Commenters suggested that there were inconsistencies between the FAA's proposed parameters, NTSB's recommended parameters, and ICAO recommended standards. Commenters also indicated that to meet the FAA proposed requirement would in many cases overload the system so that operators would have to sacrifice present usage of flight recorder systems to provide them with important safety-related day-to-day operating information. At the same time some commenters suggested additional parameters, not proposed, that normally would be considered beyond the scope of this rulemaking. In order to establish standards that most effectively use flight recorder capability, the FAA has decided to require 28 mandatory parameters under Part 121, Appendix B, Part 125, Appendix D, and Part 135, Appendix D for newly manufactured aircraft. The remaining parameters will be optional, to be accessed if the operator's system has adequate capacity. The non-mandatory parameters include additional parameters that were not proposed, such as TCAS, which were added at the recommendation of the NTSB.

The NTSB and other commenters raised questions concerning the adequacy of existing Technical Standard Orders (TSOs) for both cockpit noise recorders and flight recorders. While TSOs are necessarily relevant, they have not been made a part of this rulemaking. As part of its ongoing TSO program, the FAA will revise TSOs when changes are needed to upgrade the specifications for equipment required

requirements to general aviation operations at minimal cost. Since the technology is already available, the FAA anticipates that reasonably priced CVR and flight recorder equipment for general aviation aircraft will be available for installation well within the 3-year compliance period allowed in this rule.

One commenter objected to the requirement in proposed Appendix E to Part 135 that a rotorcraft with over 20 passengers have flight recorders with a 24-hour recording capacity. The commenter stated that most rotorcraft operate essentially short-haul journeys and that, therefore, an 8 to 10-hour capacity should be adequate. The FAA agrees, but no change is needed since Appendix E does not require a 24-hour recording capacity. In Appendix E, the recorded time requirement is not related to the time of individual flights, but to a 24-hour clock.

Several commenters objected to the requirements in §§ 121.359(e), 125.227(e), and 135.151(c) that when operating aircraft equipped to record uninterrupted audio signals received by a boom or mask microphone, flight crewmembers must use the boom microphone below 18,000 feet. Specific objections were as follows:

(1) The requirement would make better sense elsewhere in Part 121 where it would clarify that the boom microphone rather than the handheld microphone should be used when cockpit workload is high.

(2) Flight crewmembers might not be able to determine whether the CVR in a particular aircraft has a "hot mic" feature.

(3) It requires the boom microphone even though the smoke/oxygen mask microphone might be more appropriate.

(4) It would have an impact on those aircraft which have a separate hand microphone for the public address/cabin interphone systems.

(5) Hot boom microphones are not needed since acceptable recordings are provided by directional fixed mikes and high quality area mikes.

(6) The requirement could affect flight safety by causing fatigue on flight schedules with successive short stops.

The FAA does not agree that area microphones provide recordings that are equal to boom microphones. Boom or mask microphones with uninterrupted signals produce the most audible recordings. The purpose of the requirements is to require boom microphones (or smoke/oxygen mask microphones if needed) at times when the continual recorded information would be most useful if an accident or incident occurred. Flight crewmembers should be able to tell whether CVR in a particular aircraft has a "hot mic" feature. The use of the boom microphone is not likely to be a cause of flight crewmember fatigue in short hop schedules. The causes of such fatigue are well documented—airport congestion, low altitude weather, the number of arrivals and takeoffs—factors which create a need for the use of hot mics. The requirement should not affect public address/cabin interphone communications which have a dedicated channel.

GAMA stated that except for the longitudinal acceleration and stabilizer trim position or pitch central position parameters, proposed Appendix D of Part 91 and Appendix B of Part 135 are consistent with Aerospace Standard AS 8039 which was produced by a Society of Automotive Engineers (SAE) committee formed at the suggestion of the FAA and other government agencies. The committee had concluded that the value of the potential information from the two excepted parameters would not justify the cost. GAMA also pointed out the recommendation of the SAE committee had been unanimous except for the NTSB representative. The FAA has determined that these two parameters are justified, since the NTSB in its June 19, 1987, letter stated a need for the information that would be provided by these additional parameters.

One commenter objected to the requirement in § 91.35(d)(2) that the CVR be operating during the checklist action. The requirement would pose a problem for small aircraft that have no external source of power and that would have to rely on battery power to operate the CVR. The commenter stated

Airplane Flight Recorder Specifications. According to the commenter, these specifications increase resolution requirements beyond the capability of equipment currently being used. The commenter states that "Compliance with the higher orders of resolution will require more complicated software in the recorder system and in the readout equipment, effectively making all current equipment obsolete."

The resolution readout column is included to make the FAA flight recorder appendices consistent with the proposed ICAO recommended standard. However, the resolution readout requirement is intended only for flight recorder equipment installed on newly manufactured airplanes. The final rule has been changed to make this clear by including a footnote to this column in each flight recorder appendix. Also, the new TSO for flight recorder standards will contain resolution requirements.

Comments Beyond the Scope of the Notice

The FAA received several comments which were recommendations or suggestions for considering alternatives or additions to the proposal. Some of these were requests that are beyond the scope of the notice while others appeared to be primarily informational. These types of comments are summarized below and responded to.

Two commenters requested that the rulemaking update maintenance requirements to cover flight recorders and cockpit voice recorders. The FAA does not consider that a specific amendment is needed in this regard because an air carrier's continued airworthiness maintenance program will automatically cover such equipment.

One commenter requested that the cockpit voice recorder requirements under Parts 91 and 135 include a requirement for underwater locator beacons to aid retrieval of the recorders from lakes and rivers. This requirement already exists for aircraft certification requirements.

One commenter requested that the rule include relief for continued aircraft operation if a flight recorder or CVR becomes inoperative. The commenter was concerned that a time lapse may occur between the revisions to the Master Minimum Equipment List (MMEL) and the compliance date, also that MMEL lists may vary depending on who has responsibility for the particular aircraft MMEL. This rulemaking does not deal with minimum equipment lists and the problem suggested by the commenter, if necessary, would be handled under normal MMEL procedures.

A comment from a manufacturer stated that the NPRM implied "different sets of data between engine manufacturers." The commenter suggested additional engine information to be recorded for each engine:

N2 —High Rotor Speed

EGT—Exhaust Gas Temperature

TLA—Throttle Lever Position

N1—Low Rotor Speed

WF—Fuel Low

CLA—Fuel Cutoff Lever Position

The commenter also suggested recording maintenance and status words from the electronic engine controls.

The FAA encourages including these additional parameters, as appropriate, but is not mandating them.

Construcciones Aeronauticas, S.A. (CASA) objected to the reference in the NPRM to two CASA C–212 accidents that occurred in 1987. CASA stated that some facts about the accident were incorrect in the NPRM and that the FAA should publish a correction. The FAA has checked the NTSB June

airport." ALPA stated that this provision "hampers the collection of valuable data which can be used in evaluating the DFDR data." ALPA requested that the language be changed to require recorder operation to begin at the time of engine start to the time of engine shutdown at the end of the flight in order to provide "steady state" information. Two other commenters also requested that recording cover the ground operation phase.

No revisions to § 121.343(e) were requested by NTSB or included in the proposed rule. The present Part 121 requirement was simply carried over to Part 91 and Part 135 requirements. A revision of the requirement is beyond the scope of this rulemaking action and would necessitate additional rulemaking proposal. However, most operators presently activate flight recorders at enginer start and other operators who wish to record "steady state" data are encouraged to consider the ALPA comment.

ALPA also strongly opposes the "use of CVR recordings for any purpose other than pure accident investigation activities" and the "premature release" of CVR information during accident investigations.

One commenter stated a belief that "in recent years, because of the rapid growth of the airlines industry, training and experience levels have dropped. . . ." The commenter stated that the FAA should require additional training and safety measures rather than additional equipment. The FAA does not believe the situation is an either/or; FAA has taken action on training and other safety measures, for example, its windshear training proposal (52 FR 20560, June 1, 1987). In any event, consideration of additional pilot training and safety measures outside the area of recording equipment is beyond the scope of this rulemaking action.

Summary of Rule Changes

Significant changes between the proposed rule and the final rule are summarized below. These changes were discussed in the appropriate sections of the Comment Discussion above:

(1) The compliance dates have been extended from 2 years to 3 years.

(2) Pre-wiring requirements in § 91.35 and § 135.52 have been deleted.

(3) The requirements for airplanes currently equipped with a digital data bus are clarified in §§ 121.343(e) and 125.225(c).

(4) Certain of the parameters in Appendix B of Part 121 have been made optional.

(5) Aircraft required to be upgraded under § 135.152(b) must meet the 11-parameter or 17-parameter flight recorder requirements (currently required of certain airplanes used under Part 121) except those manufactured after October 11, 1991.

(6) Requirements pertaining to the use of boom microphones have been clarified.

(7) The resolution readout column in each of the appendices has been made applicable only to aircraft manufactured after October 11, 1991.

The changes above were coordinated with the NTSB staff who have indicated agreement that this final rule meets the intent of the NTSB recommendations in its letter of June 19, 1987.

In addition to the above changes, Parts 23 and 27 have been revised to include airworthiness requirements for flight and voice recorders. In the proposal such airworthiness requirements were only in Parts 25 and 29, and all operators subject to flight and voice recorder requirements were referred to those parts. In the interest of consistency, the final rule includes airworthiness requirements for flight and voice recorders in Parts 23, 25, 27, and 29. References in the operating rule have been revised accordingly.

Regulatory Evaluation Summary

The complete regulatory evaluation of the final rule is available in the regulatory docket. A discussion of those comments addressing the regulatory evaluation of the notice and a summary of the final regulatory evaluation are presented below.

Comments addressing the regulatory evaluation generally expressed concern about the costs of the proposed regulations, but provided very little detail in support of their conclusions. This was true with respect to both direct acquisition and installation costs, and indirect costs from factors such as reduced payload or aircraft range.

Some commenters stated that the amendments would impose a severe economic burden on small companies operating small aircraft for hire. The FAA is aware that the amendments will result in economic impacts. However, the Department of Transportation has been directed by the Congress to take these actions.

Some commenters misinterpreted the significance of the 10-year analysis period to mean that the FAA expected operators to spread their retrofit costs over 10 years. FAA's cost estimates were for total program costs over 10 years. In developing these estimates, retrofit costs were concentrated in the first two years of the analysis period. However, the FAA has extended the compliance period from the proposed 2-year period to three years in the final rule, which should provide relief to many operators.

Some commenters expressed concern about the high cost of retrofitting their aircraft. However, it appears they misunderstood that certain proposed flight recorder requirements would apply to newly manufactured aircraft only. Further, concerns were expressed that a 32 parameter retrofit requirement for 20 to 30 passenger seat aircraft operated under Part 135 would impose requirements that are more stringent than those requirements applicable to existing Part 121 aircraft. This issue has been resolved in the final rule by adopting requirements for existing 20 to 30 passenger part 135 aircraft that are similar to the current Part 121 requirements.

One commenter stated that the FAA did not consider initial development and certification costs in its regulatory evaluation. However, the FAA did attempt to account for this by adding 10 percent to its equipment and installation cost estimates to provide for certification, start-up, and support equipment costs for proposals affecting aircraft exist operated under Parts 91, 125, and 135. This was not done for Part 121 because aircraft that meet the proposed requirements, and support equipment already is in service because of existing recorder requirements.

The regulatory evaluation of the final rule is very similar to the regulatory evaluation of the notice. Appropriate revisions have been made to reflect the extension of the compliance period from 2 years to 3 years, the easing of the flight recorder retrofit requirements originally proposed for larger Part 135 aircraft, and other minor clarifying changes.

Briefly, the costs of these rules result from the need to acquire, install, and maintain recorder equipment, as well as the cost of additional fuel consumption attributable to the additional weight of this equipment, and miscellaneous costs related to engineering and certification requirements, support equipment, and administrative start-up costs. The FAA estimates that the cost for all categories of aircraft affected by these rules will be approximately $297± million (1987 dollars), or a present value of $207± million when discounted back to the start of the ten-year analysis period using the 10 percent discount rate prescribed by the Office of Management and Budget. Other potential costs of this rule that have not been quantified include diminished payload carrying capability and/or reduced range that may affect some smaller aircraft as a result of the weight and volume of these recorders, as well as possible safety tradeoffs with other equipment, such as traffic alert and collision avoidance systems, ground proximity warning systems, weather radar, etc. Solid state technology potentially could avoid or reduce many of these costs and tradeoffs.

those operational problems that need to be addressed through research and development programs, such as windshear encounters. Further, many lessons learned from flight recorders, especially those concerning human factors and operational problems, are not limited to the particular aircraft type involved in an accident. Rather, they provide safety insights that are beneficial to all pilots operating many different types of aircraft under various operating rules. Additionally, recorders will aid significantly in the analysis of those accidents that will inevitably be experienced by aircraft utilizing new technologies, such as fly-by-wire control systems, canards, and extensive use of composite materials in aircraft structures.

International Trade Impact Assessment

These amendments will have little or no impact on trade for either U.S. firms doing business in foreign countries or foreign firms doing business in the United States. The amendments will affect only U.S. air carriers and operators. Foreign air carriers are prohibited from operating between points within the United States; therefore, they would not gain any competitive advantage over the domestic operations of U.S. carriers. In international operations, foreign air carriers are not expected to realize any cost advantages over U.S. air carriers because many foreign countries have recorder requirements that are as stringent as those adopted in this final rule. Further, general aviation operations conducted in the United States are not in any direct competition with foreign enterprises. For these reasons, the FAA does not expect that these amendments will result in any trade impact.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily and disproportionately burdened by government regulations. The RFA requires agencies to review rules that may have "a significant economic impact on a substantial number of small entities."

Any small entity that operates any aircraft in the categories that are included in the amendments to Parts 91, 121, 125, and 135 would be affected by this rule. Some of these amendments could result in "a significant economic impact on a substantial number" of small entity operators and air carriers. Most manufacturers that certificate aircraft under Parts 25 and 29 are not small entities and therefore are not subject to the RFA.

The following analysis explains the reasons for this determination concerning operators and air carriers. In developing estimates of annualized net compliance costs, uniform annualized costs for capital investments have been determined by multiplying the amount of the investment by a capital recovery factor appropriate for the discount rate and period of the analysis. A capital recovery factor of .155, based upon a 10 percent discount rate over a 10-year period, has been used in this analysis. Threshold cost values and small entity size standards are those stated in FAA Order 2100.14A, *Regulatory Flexibility Criteria and Guidance*. Values have been adjusted to 1987 dollars.

The threshold values defining a significant economic impact for scheduled carriers are $96,200 if the entire fleet has a seating capacity of over 60 seats, and $53,800 for other scheduled carriers. The threshold value for an unscheduled operator is only $3,800. Further, a small entity operator of aircraft for hire is defined as one which owns 9 or fewer aircraft.

The annualized cost for the least expensive requirement adopted in this final rule, a CVR retrofit, is approximately, $3,500 per aircraft. Therefore, an operator owning only one aircraft is very close to the $3,800 threshold for unscheduled operators, and any operator owning more than one aircraft is well over the threshold. This would apply to virtually all small Part 135 operators affected by the rule. A similar argument can be made for Part 125 operators owning only one aircraft because they would be required to retrofit the far more expensive flight recorders as well as CVR's. It is possible that a substantial number of small entities (defined as one-third of the small entities affected by the particular proposal) could incur significant economic impacts, particularly scheduled Part 135 operators (commuters) if they obtain between 6 and 9 new aircraft with 19 or fewer seats, or retrofit between about 4 and 9 aircraft with 20 to 30 seats. Further, any small unscheduled Part 121 operator purchasing one or

Final Regulatory Flexibility Analysis

As required by Section 604 of the RFA, the following analysis deals with the proposed flight recorder requirements as they relate to small operators.

Why Agency Action is Taken

This rulemaking is in response to Congressional action and to several recommendations made by the NTSB. The reasons for agency action are detailed in the preamble and the regulatory evaluation.

Briefly, the advantages of additional recorded information have been demonstrated by those aircraft so equipped, and it is desirable that more specific information be obtained following an accident involving additional categories of aircraft than is possible under current regulations.

Summary of Issues Raised by Public Comments

Comments addressing those issues identified in the initial regulatory flexibility analysis as potentially affecting small entities primarily concerned the impact of the proposals on Part 135 operators. These commenters generally expressed concern that the proposals would impose unreasonable costs on operators in comparison to any safety benefits that might result. (Similar comments were received concerning Part 91 operations. However, those entities that conduct Part 91 operations in aircraft that will be affected by this rule generally are not small entities.)

In view of the data submitted, the final rule has been modified to extend the compliance period from 2 years to 3 years; and the flight recorder retrofit requirements for 20 to 30 passenger seat Part 135 aircraft have been reduced from the 32 parameters proposed, to only 11 or 17 parameters, depending upon the date of type certification (essentially, the same requirements as those currently in Part 121).

Alternatives to the Proposal

Other than those revisions discussed above, no alternatives to these proposals have been considered. The Secretary of Transportation has been directed by Congress to initiate a rulemaking that considers the recommendations of the National Transportation Safety Board to the Federal Aviation Administration concerning the use of cockpit voice recorders and flight data recorders on commuter and other aircraft. The FAA has concluded that Congress intended the NTSB to have available whatever data it needs for accident investigation purposes if acquiring that data is technologically feasible.

Federalism Implication

The regulations set forth in this notice are proposed under the authority in the Federal Aviation Act of 1958, as amended (49 U.S.C. 1301 et seq.). The FA Act has been interpreted to preempt State law regulating the same subject. Thus, in accordance with Executive Order 12612, it is determined that this proposed regulation does not have federalism implications requiring the preparation of a Federalism Assessment.

Conclusion

The FAA has determined that this amendment is not major under Executive Order 12291 but that it is significant under the Department of Transportation Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). For the reasons discussed above, it also has been determined that the rule may have a significant economic impact on a substantial number of small entities.

The Rule

Accordingly, the Federal Aviation Administration amends Parts 23, 25, 27, 29, 91, 121, 125, and 135 of the Federal Aviation Regulations, effective October 11, 1988.

The authority citation for Part 125 is revised to read as follows:

(Published in 54 FR 940, January 10, 1989)

SUMMARY: These amendments require the installation and use of a Traffic Alert and Collision Avoidance System (TCAS) in large transport type airplanes and certain turbine powered smaller airplanes. The TCAS, which uses the Air Traffic Control Radar Beacon System transponder reply from other aircraft, will provide a collision avoidance capability that operates independently of the ground-based Air Traffic Control (ATC) system, and in areas where there is no ATC radar coverage. The Airport and Airway Safety and Capacity Expansion Act of 1987 directs the FAA to require the installation and operation of TCAS in commercial aircraft flying in the United States. The intended effect of this action is to minimize the possibility of midair collisions involving air carrier airplanes.

COMPLIANCE DATES (WHERE LATER THAN EFFECTIVE DATE):

1. Part 121. TCAS II requirement for operations conducted under Part 121 with more than 30 passenger seats: December 30, 1991.

2. Part 125. TCAS II requirement for operations conducted under Part 125 with more than 30 passenger seats: December 30, 1991.

3. Part 129. TCAS I requirement for operations conducted under Part 129 with 10 to 30 passenger seats: February 9, 1995. TCAS II requirement for operations conducted under Part 129 with more than 30 passenger seats: December 30, 1991.

4. Part 135. TCAS I requirement for operations conducted under Part 135 with 10 to 30 passenger seats: February 9, 1995.

FOR FURTHER INFORMATION CONTACT: Frank Rock, Aircraft Engineering Division, AIR–120, FAA, 800 Independence Avenue, SW., Washington, DC 20591; Telephone (202) 267–9567.

SUPPLEMENTARY INFORMATION:

BACKGROUND

Regulatory History

On August 21, 1987, the Federal Aviation Administration (FAA) issued Notice of Proposed Rulemaking (NPRM) No. 87–8 (52 FR 32268; August 26, 1987). The NPRM proposed to amend Parts 91, 121, 125, 129, and 135 to require the installation and use of a family of Traffic Alert and Collision Avoidance Systems (TCAS) onboard certain airplanes, as follows:

14 CFR part	Applicability	Equipment	Compliance
91	All	TCAS	Voluntary
121	Large Airplanes	TCAS II/Mode S	3 years after effective date
125	Large Airplanes	TCAS II/Mode S	3 years after effective date
129	Turbine powered airplanes/10 to 19 passenger seats.	TCAS I	5 years after effective date
	Turbine powered/20 to 30 seats	TCAS II/Mode S	4 years after effective date
	Turbine Powered/30 seats or more	TCAS II/Mode S	3 years after effective date
135	Turbine powered/10 to 19 seats	TCAS I	5 years after effective date
	Turbine powered/20 seats or more	TCAS II/Mode S	4 years after effective date

All comments received in response to NPRM No. 87–8 were considered in adopting these amendments.

On December 30, 1987, the President of the United States signed the Airport and Airway Safety and Capacity Expansion Act of 1987, which, among other amendments, amended the Federal Aviation

(3) the Traffic Alert and Collision Avoidance System promises to reduce the threat to life caused by midair collisions, particularly collisions between general aviation aircraft and commercial aircraft;

(4) the Traffic Alert and Collision Avoidance System will succeed only to the degree that other aircraft posing a collision threat use operating transponders with automatic altitude reporting capability; and

(5) the Federal Aviation Administration should continue at a deliberate pace the development of additional technologies, including the collision avoidance system known as TCAS III, to ensure the safe separation of aircraft.''

''(b) GENERAL RULES.—Section 601 is amended by adding at the end the following new subsection:

(f) COLLISION AVOIDANCE SYSTEMS.—

(1) DEVELOPMENT AND CERTIFICATION.—

(A) STANDARDS.—

The Administrator shall complete development of the collision avoidance system known as TCAS II so that such system will be operable under visual and instrument flight rules and will be upgradeable to the performance standards applicable to the collision avoidance system known as TCAS III.

(B) SCHEDULE.—

The Administrator shall develop and implement a schedule for development and certification of the collision avoidance system known as TCAS II which will result in completion of such certification not later than 18 months after the date of the enactment of this subsection.

(2) INSTALLATION.—

The Administrator shall require by regulation that, not later than 30 months after the date of certification of the collision avoidance system known as TCAS II, such system be installed and operated on each civil aircraft which has a maximum passenger capacity of more than 30 seats and which is used to provide air transportation of passengers, including intrastate air transportation of passengers.''

Airport and Airway Safety and Capacity Expansion Act of 1987, Pub. L. 100–223, section 203 (December 30, 1987).

The FAA has informed Congress that a schedule requiring a ''complete'' certification of TCAS II equipment within 18 months is extremely difficult because of the different equipment manufacturer designs to be approved; the number of different aircraft types and models; and the large number of commercial carriers requesting approval. Currently, the FAR require that operators apply for a separate supplemental type certificate for each equipment manufacturer's design and each type/model aircraft. Since the ultimate goal of Congress is clearly the actual installation of TCAS, the FAA is promulgating this rule to require the air carriers to install the system prior to the 48-month overall deadline. Therefore, after consideration of the legislation and the particular circumstances, the FAA concluded that these amendments requiring certification and installation of TCAS within 48 months from the date of enactment of P.L. 100–223 (December 30, 1987) constitute compliance with that amendment to the FA Act.

Public Law 100–223 also mandated an FAA regulation requiring the use of altitude-encoding transponders in certain airspace and terminal areas. An automatic altitude-encoding transponder, designated as Mode C (or Mode S, since all Mode S transponders incorporate this feature), provides the air traffic controller with aircraft altitude in 100-foot increments. This information is displayed on the controller's radar screen with the data block for each tracked aircraft. The information is transmitted automatically in response to radar interrogations of the aircraft's radar transponder, and no communication with the pilot is required.

to avoid the conflict. Mode C equipment installed on other aircraft is the only source of altitude information for a TCAS unit.

Discussion of Comments

Seventy commenters responded to Notice No. 87–8. Thirty-three respondents favor the proposed rule to require TCAS; however, seventeen from this group expressed reservations about the phase-in period and ten stated that the final rulemaking should be postponed.

A breakout of the respondents showed the following number of commenters by interest category:

Commercial aviation-6 foreign and 13 domestic carriers	19
Public comment-7 general public, 2 state representatives, and 1 consumer group	10
Government agencies-8 foreign and 2 domestic	10
Industry governing bodies	7
Industry/technical groups	9
Associations	8
Research organizations	2
Airframe manufacturers	4
Training/educational group	1
Total	70

Phase-In Period

Thirty-five commenters expressed concern regarding the phase-in period for TCAS. Of these, 12 requested an implementation time of 4 years minimum up to 7 years, with a 5-year period as the most popular timeframe mentioned.

Four commenters wanted a uniform time schedule for installation, instead of the uneven phase-in time proposed in the NPRM.

Only one person, a state government representative, mentioned shortening the phase-in period. That commenter wants TCAS installed as soon as possible.

Three commenters, including two manufacturers, expressed the opinion that the proposed deadline could be met.

Public Law 100–223 mandated the installation and operation of TCAS II on each civil aircraft that has a passenger capacity of more than 30 seats and that is used to provide air transportation of passengers including intrastate air transportation of passengers. The FAA cannot promulgate rulemaking contrary to the Public Law even in response to public comments to the proposed rule. Therefore, those comments proposing an extended phase-in time for aircraft with more than 30 passenger seats will not be addressed here.

The FAA agrees that those aircraft with 30 passenger seats or less and operated under FAR Parts 125 and 135 should not be required to have installed a TCAS II. Part 129 and Part 135 operators of turbinpowered aircraft with 10 to 30 passenger seats will be required to have a TCAS I system installed and operating.

While the technology required to build a TCAS I is fully developed, currently, there is no TCAS I design approved, and no manufacturer has built a TCAS I unit. There are three or four manufacturers considering the merits of developing a TCAS I design. One system is based on a passive design concept, another design is based on active interrogation, and a third concept is a combination of active/passive. These concepts have not been developed to a point where it can be judged whether any of the concepts will function as required. Considering the time required to develop, test, and obtain approval of TCAS I design and the time required to develop production facilities, coupled with user installation and training requirements, the need to allow additional calendar time became apparent. The additional time reflected

International Conference on TCAS Implementation, December 1 and 2, 1987, that their production of TCAS II systems can be adjusted to accommodate any air carrier installation schedules.

Postpone Final Rulemaking

Most commenters stated that the final rulemaking should be postponed until the results of the Limited Installation Program (LIP) system tests could be analyzed. The LIP, which continues the operational evaluation of TCAS II, requires analysis and periodic reporting to the FAA. The primary objective of the LIP is to evaluate the TCAS II preproduction units in air carrier service using line pilots. United Airlines, the first airline to apply for supplemental type certificate for installation of a TCAS II system for the LIP, completed their 6-month evaluation and currently is in the process of completing the data analysis. During the United evaluation a total of 2,066 flight hours were logged on the two TCAS II equipped airplanes. The system generated a total of 933 traffic advisories (TA's) and 68 RA's. Northwest Airlines is scheduled to begin their LIP evaluation on or about September 1, 1988. Northwest will use two MD 80 airplanes for the evaluation.

The FAA believes that any fundamental problem existing would have shown up early in the LIP program. None has to date, nor has any major problem been identified in the Piedmont Phase I or II programs. (The 5-month evaluation of TCAS II on two Piedmont Airlines 8–727 airplanes between November 1981 and May 1982 is referred to as Piedmont Phase I. The primary objectives of this evaluation were to assess the operation of TCAS in an air carrier operational environment and to develop an understanding of the potential effect of alerts on air carrier flight operations, flight crews, and ATC controllers and on the frequency of alerts and the circumstances under which they occur. The operational evaluation of TCAS II on a Piedmont Airlines 8–727 airplane between March 1987 and January 1988 is referred to as Piedmont Phase II. The primary objectives of this operational flight evaluation were to assess the impacts of TCAS operation on flight crew workload; evaluate the impacts of TCAS on the ATC system and individual controllers; and obtain flight crew comments on the system's design parameters, displays, and operational procedures. The evaluation was also designed to provide additional data on the frequency of TCAS alerts and the circumstances under which TCAS alerts occur, evaluate the effectiveness of the flight crew training program, and identify and resolve equipment certification issues. See NPRM 87–8).

Most non-U.S. commenters expressed varying degrees of displeasure at the proposed unilateral action of the United States to mandate the installation and use in U.S. airspace of a collision avoidance system in the absence of internationally agreed-upon technical specifications and operational procedures for such an important system. These international standards, normally developed through the vehicle of the International Civil Aviation Organization (ICAO) for equipment such as this prior to introduction into the international aviation system, are designed to insure equipment interoperability and avoid equipage redundancy. Hence, most foreign observers would like to see the U.S. equipage/use requirement delayed and, at the very least, its application to foreign operators under 14 CFR Part 129 delayed until such international standards are in place (currently expected to occur in late 1990) and a sufficient period of time is permitted for system acquisition and installation.

With regard to the present status of the effort to standardize the Airborne Collision Avoidance System (ACAS-the international equivalent of the U.S. TCAS), ICAO is relying on the services of technical and operational experts provided by 15 countries and 4 international organizations—organized into the Secondary Surveillance Radar Improvements and Collision Avoidance Systems Panel (SICASP)—to develop these important technical equipment specifications and operational procedures, which will result in the safe and efficient use of this system internationally United States participation. In this effort has been very active and has included the FAA, the National Aeronautics and Space Administration (NASA), U.S. industry groups, and FAA's two major TCAS contractors, MITRE and Lincoln Labs. At the behest of U.S. and other participants, a concerted effort is being made by this group to complete its work at a spring 1989 meeting, at which time proposed ACAS international standards will be presented to ICAO's Air Navigation Commission and Council for final review and approval. Assuming no unexpected

by the RTCA Council, the TSO will be revised to reference RTCA DO-185 changes 1 through 6. Change 7 is not required for FAA approval.

One manufacturer recommended delaying the rule and holding the docket open until the LIP is finished and all reports are made available and the MITRE report 87W00157 is released and reviewed. The United Airlines LIP report has been completed and made available in the docket. The Mitre report 87W00157 was revised and adopted in the TSO.

Public Law 100–223, Section 203, does not permit compliance dates for TCAS II later than those adopted in this rule, and the FAA could not consider comments requesting later dates.

Technical Discussion

Thirty-three commenters included a discussion of TCAS, ACAS, Mode 5, Mode C, or ATC technologies in their comments. Many in this group expressed the opinion that the technology still needed to be "fine tuned" before implementation. The FAA has provided for fine tuning of TCAS through the RTCA SC–147 committee working groups. The RTCA MOPS change 6 will contain additional fine tuning features, including simplification of the TCAS-to-TCAS coordination process, elimination of the advisory invalid indication, and many other recommendations.

One commenter postulated that the requirements for all aircraft to have "active TCAS systems would overload and violate the FAA's own requirement of limiting radio use for TCAS purposes to 1 percent of the total usage of the frequency that TCAS would operate on." This issue is not new. It was identified as one of the main development questions when, in 1982–84, the Beacon Collision Avoidance System (BCAS) design was extended to TCAS by increasing the ability to operate effectively under high density conditions. In the Lincoln Laboratory report that documents this development effort, "TCAS II: Design and Validation of the High. Traffic-Density-Surveillance Subsystem," this issue is clearly identified (AT-C126, Feb-85, pages 2–6 to 2–9).

The TCAS II includes a provision called "Interference Limiting," the purpose of which is to insure that TCAS transmissions will not cause any degradation of any other systems operating in the 1030/1090 MHz frequency bands. During the TCAS development, it was recognized that a number of possible interference mechanisms needed to be considered: (1) reception of TCAS interrogations by transponders, (2) reception of TCAS replies by ground-based ATCRBS equipment, and (3) self-suppression of the transponders on the TCAS aircraft. It was decided to place limits on TCAS transmissions in such a way as to give TCAS a low priority in these frequency bands. In doing this, a rather severe limit of 2 percent was adopted as the maximum interference that can be contributed by all of the TCAS transmissions in a given area. The Interference Limiting standards were initially determined analytically from basic principles of physics. It was found that a relatively simple model could be implemented to provide the ability to adapt to any given density of aircraft and any percentage that are TCAS equipped. Subsequently, the interference limiting design was assessed by a large interference simulation of the 1030/1090 MHz bands. This simulation study was conducted by the Electromagnetic Compatibility Analysis Center (ECAC), making use of their experience in assessing many other similar interference issues. The simulation included a large number of aircraft, each with a given flight path, acting together with a large number of ground-based interrogators, with power levels, beamwidths, and other characteristics relating to operating conditions predicted for the 1995 timeframe. Two main conclusions resulted from this study. One was that the 2 percent interference allocation for TCAS was not exceeded. The other was that radio transmissions attributable to TCAS were completely insignificant in their effects on the performance of the ground-based ATCRBS equipment. As a result of this analysis and testing, the FAA concluded that there will not be a frequency interference problem.

One manufacturer submitted the following comments not previously addressed.

Comment:

Equipment designs tested to date have not represented production TCAS II equipment. Representative equipment must be tested so that its acceptability in service can be assessed. Logic included in equipment

FAA response:

The FAA defined and issued display requirements for "Glass Cockpits" in an advisory circular (AC) entitled Airworthiness and Operational Approval of Traffic Alert and Collision Avoidance Systems (TCAS II) and Mode 5 Transponders, AC No. 20–131, October 3, 1988.

Comment:

Certification requirements, analysis, simulation, and flight test are not adequately defined, nor is a flight criticality level for TCAS II certification specified.

FAA response:

As previously mentioned, AC No. 20–131 was published on October 3, 1988. It proposes acceptable certification criteria. The TCAS II system must be certified to the essential level, and the software programs to level 2 of RTCA DO–178A.

Comment:

Certification requirements for compliance with foreign regulatory agency requirements for TCAS deactivation are unknown.

FAA response:

There is a possibility that a foreign government may request a U.S. TCAS-equipped airplane to deactivate the TCAS system, which is provided for in the TCAS equipment standards. Section 91.1 of the FAR's provides for compliance with the foreign government regulatory requirements.

Comment:

Certification requirements for U.S. carriers with airplanes dedicated to service abroad, such as Pan Am, are unknown.

FAA response:

Public Law 100–223 requires installation "on each civil aircraft which has a maximum passenger capacity of more than 30 seats and which is used to provide air transportation of passengers . . ." An air carrier operator who experiences hardship due to this regulation may petition for an exemption under section 601 of the FA Act of 1958.

Comment:

The means of providing integrated TA's and RA's on older airplanes without color weather radar displays has not been economically addressed.

FAA response:

The FAA minimum requirements specified in the TSO will require only a minimum of a three target display. Any display beyond this minimum will be evaluated at the time of certification.

Comment:

Required crew response to TA's and RA's should be specified. For TCAS to be effective, a standard mandatory response is necessary.

FAA response:

The FAA does not believe that a mandatory response to TA's or RA's is necessary or appropriate. The AC for TCAS II certification and operation [AC No. 20–131; October 3, 1988] addresses crew training objectives.

The majority of comments mentioning ICAO (15) suggest that the FAA should coordinate TCAS implementation with Standards and Recommended Practices (SARPS) for international standardization. A standard for an ACAS generated by ICAO is especially important to foreign carriers. The FAA is actively participating with various ICAO technical groups through SICASP in an effort to generate this standard. The SICASP group will have been provided all FAA data concerning TCAS.

Of the comments addressing only the issue of TCAS implementation in Part 129 aircraft, two are against, two are for, and three request additional time to comply. Public Law 100–223 did not exempt foreign air carrier operations, within U.S. airspace, from TCAS II requirements. The Congressional finding states that public health and safety requirements necessitate the timely completion and installation of a collision avoidance system for use by commercial aircraft flying in the United States. However, the FAA is extending the compliance time from 5 to 6 years for airplanes with 10 to 30 seats. These operators may elect to install TCAS I, II, or III. If they install a TCAS II or III unit, it must be compatible with TSO C–119.

Foreign air carrier aircraft with more than 30 passenger seats will be required to have installed and operating a TCAS II system, compatible with TSO C–119, when operating in the United States after December 30, 1991.

Upgrade TCAS II to TCAS III

In responding to the issue of upgrading TCAS II to TCAS III, most comments addressed the need for clarification. The respondents stated that the implied requirement for upgrading was questionable and should be more definitive. The upgrading has the support of one manufacturer, and another is supportive of the idea to require that TCAS III include the same operational criteria that will be used for TCAS II. One manufacturer stated that the "incentive to provide TCAS III growth is too vague to justify economic commitments."

Although the FAA has not required or proposed a compliance date for TCAS III, it will continue to develop, test, and evaluate TCAS III and provide data and technical support to RTCA for development of a TCAS III MOPS. Although the FAA may support a particular design for testing, it is more important that it fosters the development of the MOPS. The FAA continues to support a LIP for TCAS III.

Other than the air-to-air coordination logic, the manufacturer has freedom of design of the TCAS systems. The FAA agrees with the commenter who expressed concerns regarding the interoperability of TCAS II and III. The TCAS II design shall not preclude the upgradeability to, nor the interoperability of, TCAS II and III. This rule does not mandate a TCAS III system. New rulemaking would have to be initiated for the requirement of TCAS III.

Training

Eight commenters were evenly divided concerning the need for standardized training prior to TCAS II implementation. Those who favor training requirements want training to focus on end-level performance, and do not believe that a specific technique is important. Training should focus also on difficulties involving the upgrade from TCAS II to TCAS III. The FAA intended the training requirements proposed in the NPRM to be training objectives, and the training program may not necessarily be limited to the proposed items. The training items, as proposed, appear in AC No. 20–131 dated October 3, 1988. The AC prescribes a means, but not the only means, of complying with the regulatory requirements.

Advisory Circular

Five commenters addressed the need to publish AC's regarding the TCAS system. Domestic industries that responded to this issue requested that such a circular be published 24 months in advance of the rule adoption. The FAA published AC No. 20–131 on October 3, 1988, to provide guidance for the installation and operational approval of TCAS III.

Applicability

Thirty-six commenters addressed this issue. Four of the comments were sent by private individuals, nine were sent by foreign agencies, and the remainder were submitted by domestic (U.S.) industries. The primary concern expressed was that TCAS I should be required for Part 135 operators, but not TCAS II. Many commenters expressed the opinion that there is no justification for the use of the TCAS system over other collision avoidance systems. As previously stated, the FAA relaxed the TCAS requirement and compliance times proposed in the NPRM for Part 135 operators. Additionally, the FAA will evaluate passive/active TCAS I systems.

Foreign operators stated that it was necessary to continue to allow ATCRBS to be used, due to the cost of installing and operating Mode S, and that the installation of the TCAS system should be limited to new U.S.-registered aircraft. Many comments addressed the need for uniform installation of the TCAS system, and a few respondents expressed the opinion that Mode C should be mandatory in all aircraft.

The FAA addressed the Mode C requirement in another rulemaking action, "Transponder with Automatic Altitude Reporting Capability Requirement," Amendment No. 91–203 (53 FR 23356; June 21, 1988). Mode S is a necessary component of TCAS II. The Mode S air-fair data link provides TCAS II with the coordination procedures necessary for the proper RA in a TCAS to TCAS conflict. The TCAS I does not require a Mode S transponder to be installed.

The introduction of TCAS I and II is expected to reduce substantially the threat of midair collision. To equip only new U.S.-registered aircraft would be inconsistent with the requirements of Pub. L. 100–223 and would delay the benefits of a TCAS program. A high degree of protection can be realized for those operators with the expanded requirement for Mode C in general aviation aircraft and TCAS II in air carrier aircraft. Concerns were raised about the size, weight, and interfacing of the new equipment, and some comments cited the need to test representative equipment to assess its service acceptability. Some commenters stated that the display of aircraft was an essential component in the Minimum Equipment List (MEL). The FAA promulgates minimum standards and evaluates manufacturers' designs to those standards. Size, weight, and interface are market place decisions. Service acceptability will be assessed in that the system is compatible with other TCAS designs with respect to coordination logic and human factor considerations. The FAA evaluates the display systems for minimum requirements and functional compatibility during the certification evaluation in the aircraft.

Nine commenters expressed concerns relative to Part 125 aircraft. Four of these respondents stated that Part 125 aircraft should be exempt from the rule or be allowed to maintain the existing ATCRBS system requirements. The Congressional mandate covers all commercial aircraft with passenger seating configuration of more than 30 seats. With respect to aircraft with 30 seats or less, the FAA agrees with the comments. Under the rule adopted, those aircraft operating under the provisions of Part 125 in nonrevenue passenger service, with passenger seat configuration of 30 seats or less, will not to be required to have a TCAS system installed.

Include All Aviation

Fifteen commenters stated that the only way to ensure maximum effectiveness of the proposed TCAS system is to extend the requirement to include Part 125, Part 129, Part 135, and military aviation aircraft. The final rule does include aircraft operating under these parts to varying degrees, but it does not apply to military aircraft. However, the U.S. Navy is studying the feasibility of using TCAS I on military trainers, and the FAA is cooperating with the Navy to pursue certification of a passive/active system for the Navy T–34C trainer aircraft.

One commuter questioned whether the rule is to apply to air cargo carriers. The Part 121 rule specifically addresses aircraft with passenger configuration of more than 30 seats. However, if there is a split cargo/passenger aircraft with more than 30 seats, the airplane must have a TCAS II installed; 10 to 30 seats, the airplane must have at least a TCAS I installed. However, the FAA will not require

Several comments received expressed a desire that configuration of the Collision Avoidance System (CSA) software be the responsibility of the FAA. The FAA does control the configuration of the CAS logic software by requirements in the TSO and subsequent installation approval. To change the software of the CAS logic would require the TSO holder to apply to the FAA for approval of a major change to the original approved design data. Deviations (major changes) to TSO's are only approved by the Aircraft Engineering Division of the Office of Airworthiness in Washington, D.C.

Pilot Immunity for TCAS

There are several commenters who desire the FAA to grant blanket immunity to pilots for following or failing to follow an RA from the TCAS. The FAA cannot support this proposal from the industry for the following reasons:

(a) The pilot will always be ultimately responsible for his/her actions and must be held accountable for them. In the case of TCAS, there is no doubt that there may be instances where the pilot will be "off-altitude" in response to a TCAS-generated RA, and may indeed be involved in a near midair collision or an actual collision. During the review process of the incident, as in all incidents, all factors will be considered, including the factors that are TCAS related, and a determination made. This is the only position that the FAA can take on this matter and it must be made clear to all operators of TCAS.

(b) The FAA has never granted blanket immunity to flightcrews for any operation regardless of the criticality of that operation. There is no legal precedent for granting such broad relief from responsibility. Section 91.3 of the FAR states, "The pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft." Introducing TCAS into the National Airspace System does nothing to change this regulation.

Every consideration will be given to the flightcrew in the review process for TCAS-related incidents. All factors will be thoroughly reviewed and determination made as to responsibility.

Aviation Trust Fund

One commenter expressed the opinion that the FAA would be well advised to use the Aviation Trust Fund to upgrade and improve the existing ATC system. This comment is outside the scope of this NPRM.

Economic Considerations

Of the 32 comments received mentioning economic considerations, only two respondents, both elected government representatives, were of the opinion that the cost involved is minimal. Most commented that the economic impact is not adequately addressed. Specific concerns voiced include those from small operators who believe they will be forced out of business, and large airlines who believe that the upgrade from TCAS II to TCAS III will be costly. As previously mentioned, the FAA relaxed the time for compliance for airplanes having a seating capacity of 10 to 30 passenger seats. This change will definitely reduce the economic impact on small operators. Four commenters proposed less costly alternate systems to TCAS.

In the NPRM the FAA agreed to consider passive versus active TCAS I systems as long as the applicant can demonstrate that the passive system provides the equivalent level of safety as active TCAS I. To date, the FAA has received no valid data to show that a passive TCAS I can meet the safety intent of the rule, so this final action assumes an active TCAS I. If passive TCAS I can be demonstrated to meet the rule, then the FAA would be amenable to follow-on regulatory action to allow its use.

The FAA does not expect to mandate TCAS III at this time. The economic considerations for TCAS II are discussed in the regulatory impact analysis summary.

that indicates there will be any adverse effect of TCAS operation on these aircraft. However, the FAA will conduct in-service evaluations in such aircraft to obtain system performance and aircraft performance information.

One commenter, James Pope, was critical of the FAA's TCAS program and supported an ACAS unit not dependent on radar transponders. Pope alleged that 770 lives have been lost in ACAS-preventable midair collisions during the development of TCAS. This commenter asserts that NPRM 87–8 must be promptly withdrawn and immediate action taken by FAA to certify the proven and ready to-go ACAS.

This commenter has previously made these same allegations to the FAA which were subsequently investigated on two occasions by the General Accounting Office and found to be without basis. The FAA believes that it has previously provided detailed answers to the commenter's allegations, and does not believe it is necessary to give an indepth analysis here. Anyone wishing a copy of the investigative reports can contact the person identified under the section, ''For Further Information Contact.''

Discussion of Rule

The FAA currently operates a complex network of facilities and subsystems designed to ensure the safe and efficient operation of the National Airspace System (NAS). Operations within the NAS and its many components are governed by an array of Federal Aviation Regulations (FAR) and procedures. Consequently, a wide variety of facilities and services are available. Nevertheless, the primary function of separating aircraft is predicated on the fundamental concepts of ground-based control and the see-and-avoid responsibility of the flightcrew.

Under the see-and-avoid concept, the level of safety is related to the ability of pilots, individually and collectively, to detect and avoid encounters with other aircraft. Although common sense and the FAR require continuous adherence to the principles of see-and-avoid, the concept does have limitations. The pilot's ability to acquire aircraft visually on collision courses is reduced under heavy workload conditions, in areas of high traffic densities, and when the aircraft is in conditions of poor visibility.

The second fundamental concept upon which the separation of aircraft is predicated is groundbased control. Through the issuance of instructions, clearances, and advisories, air traffic controllers ensure that prescribed separation standards are applied between aircraft. Since these instructions are based on known and projected flight information, this system does not rely totally on the pilot's ability to acquire traffic visually to achieve acceptable levels of safety. In some segments of the NAS, such as terminal control areas, positive control is exercised, and operations in such airspace are conducted under ATC instructions. A terminal radar service area is an example of upgrading of the see-and-avoid concept and represents a complex control environment, since both controlled and uncontrolled aircraft are operating in the area. The overall collision avoidance system design must address the unique problems of such a mixed traffic environment.

The FAA's approach to TCAS is to encourage the development of a family of onboard collision avoidance systems, to demonstrate the operational and technical feasibility of the concept, and to support the development of national/international standards for the equipment. A principal objective of the TCAS approach is to provide a range of collision avoidance equipment alternatives for the full spectrum of airspace users ranging from small airplanes to large transport category airplane. The TCAS Program consists of the following three program elements: TCAS I, which provides only TA's; TCAS II, which provides TA's and RA's in the vertical plane only; and TCAS III, which provides TA's and RA's in both the vertical and the horizontal planes.

On December 30, 1987, the President of the United States signed Pub. L. 100–223 which, among other provisions, amended the FA Act of 1958, Section 601, by adding a new paragraph (f) entitled ''Collision Avoidance Systems.'' This new section requires TCAS II on ''each civil aircraft which has a maximum passenger capacity of more than 30 seats and which is used to provide air transportation of passengers, including intrastate air transportation of passengers.'' The amendment does not provide for the exception of any class of civil operation or operator, U.S. or foreign, from the basic rule.

TCAS system installed must be shown to operate in the ATC system and in coordination with other FAA approved active TCAS systems.

Part 135 commuter and air taxi operators of turbine powered airplanes with 10 to 30 passenger seats will be required to install a TCAS I system to provide TA's from other transponder-equipped aircraft. These advisories should give bearing and distance from the TCAS-equipped airplane in the case where the other aircraft have only a Mode A transponder (no altitude reporting). If the intruder aircraft is Mode C- or Mode S-equipped, the TCAS I unit should also display altitude, which provides the pilot a sector both in the vertical as well as the horizontal plane to look for the threat aircraft. TCAS I, although not providing an RA, does provide sufficient alerting time for the pilot to visually acquire the threat aircraft and take evasive action if necessary. Although the RTCA MOPS has been approved for TCAS I, no system has been built to date. The FAA believes that development of collision avoidance equipment that can meet the TCAS I MOPS is well within the state of the art for equipment manufacturers and that adequate quantities to supply the commuter/air taxi fleet can be manufactured and installed during the time period prescribed.

Part 135 operators of 10 to 30 passenger seat turbine powered airplanes are required to have installed a TCAS I within 6 years after the effective date of the rule. Installation of TCAS I does not require the installation of a Mode S transponder.

Parts 121 and 125 operators of large airplanes of more than 30 seats are required to have TCAS II and Mode S installed and operating by December 30, 1991. These operators may wish to upgrade to TCAS III units when they become available. Much research is necessary to develop TCAS III to the point that it can be type certificated. The ability to produce operational TCAS III units is many years away.

Part 129 foreign air carrier operators of turbine powered airplanes with passenger seating configurations of 10 to 30 are required to have installed and operating a TCAS I when operating in U.S. airspace 6 years after the effective date of this rule. Foreign air carrier operators of airplanes with more than 30 passenger seats are required to have installed and operating a TCAS II and Mode S transponder when operating in U.S. airspace after December 30, 1991. The FAA believes that this final rule will encourage affected foreign airplane operators, and their airworthiness authorities, to become familiar with the associated TSO's and RTCA documents that form the basis of approval and manufacture of a TCAS approved by the FAA. The TCAS systems approved by foreign airworthiness authorities must be compatible with and perform with the FAA-approved TCAS, transponders, and ATC system when operating in United States airspace.

Where the rules require a TCAS I or II unit, the intended minimum TCAS units are those complying with the requirements of TSO C–118 and TSO C–119 as appropriate, with the exception of Part 129 foreign air carrier operators. Where the rule specifies an approved TCAS, the installer may elect TCAS I, II, or III. Where the rule requires a TCAS II, the installer may elect TCAS II or III. There is no requirement, at this time, for the installation of a TCAS III system. The TCAS III system is being developed to enhance the basic TCAS II system by providing a more accurate surveillance capability and alternative escape maneuver selection in the horizontal plane. The FAA can envision that some operators may want to update their TCAS II units to TCAS III when available. The required TCAS III system design as will be defined in the applicable TSO and MOPS will permit the upgrading of a TCAS II unit to a TCAS III. In the applicable standards for TCAS II, whenever a choice exists between TCAS II and TCAS III elements (i.e., antenna, etc.), the TCAS III element will be specified in the TSO and MOPS. The FAA is committed to support the development of TCAS III. Any rulemaking concerning mandatory use of TCAS III will be handled separately from this rulemaking.

Flight Manual Retirements and Operational Approval

Where the rule requires TCAS to be used in air carrier service, operational approval must be obtained from the FAA at the time that certification (TC or STC) application is made. The applicant must submit for approval flight crew qualification, training program, and TCAS inoperative items to be included in the appropriate Master Minimum Equipment List.

II) Minimum Operational Performance Standards (MOPS) set forth standards for TCAS II equipment. These documents will also form the basis of a TSO to permit manufacturing under the TSO approval system. The TCAS III MOPS will be a new RTCA document separate from DO–185 but will identify a system functionally compatible and interchangeable with TCAS II. The three TCAS systems I, II, and III will be identified under the TSO system by different TSO numbers. Concurrent with the publication of this rule, the FAA is publishing TCAS I and TCAS II TSO's defining the minimum standards for such units.

While FAA research, to date, has focused on an active TCAS I, it has been suggested by some people that a passive (listen only) device may be able to meet the same objective intended by the active TCAS I units. While this regulatory action on a TCAS I TSO presupposes an active TCAS I, the FAA wishes to go on record as not being opposed to a passive TCAS I, as long as it meets the same safety objectives of DO–197.

TCAS Training Requirements

The introduction of TCAS into revenue service need have little impact on the existing regulations regarding required crew training, and therefore should not require a change to the existing training requirements. As specified in § 121.401, a Part 121 certificate holder is required to establish, obtain the appropriate initial and final approval of, and provide a program that meets the requirements of Part 121, Subpart N, and insure that each crewmember is adequately trained to perform his/her assigned duties. Section 121.401 will have the effect of requiring training on TCAS. Section 121.415(g) requires that each crewmember qualify in any new equipment, including modifications to airplanes. Section 121.407(a)(3) requires that each airplane simulator and other training device be modified to conform with any modification to the airplane being simulated.

The pilot training program for TCAS should provide the flightcrew the necessary knowledge, skills, and abilities to safely conduct TCAS operations.

REGULATORY IMPACT ANALYSIS SUMMARY

Introduction

This section summarizes the cost impact and benefit assessment of the final rule to amend Parts 1, 91, 121, 125, 129, and 135 of the Federal Aviation Regulations (FAR) to require the installation and use of a Traffic Alert and Collision Avoidance Systems (TCAS) in large transport airplanes and certain turbine-powered smaller airplanes. TCAS II, which utilizes a signal from existing transponders equipped with altitude encoding capability, provides collision avoidance guidance in the airplane independent of the ground Air Traffic Control (ATC) system. These amendments also require that all operators of TCAS-equipped airplanes have an FAA-approved training program for flight crewmembers. Finally, this rule requires that certain small aircraft be equipped with TCAS I, a simpler system providing collision alert warning but no flight guidance. The amendments are in response to legislation that mandates the FAA to require the installation and operation of TCAS in certain commercial airplanes flying in the United States.

These amendments stem from a Notice of Proposed Rulemaking (NPRM) published in the Federal Register on August 26, 1987. Comments on the proposal were submitted by individuals, foreign and domestic air carriers, air carrier and airline pilot associations, foreign and domestic Government agencies, research and consultant organizations, avionics manufacturers, and the National Transportation Safety Board. Approximately half of the 70 respondents expressed support of the proposed rule to require TCAS. The remaining respondents, however, opposed certain proposed requirements and disagreed with the economic impact estimates presented in the preliminary regulatory analysis. The FAA has evaluated the public comments and made a final determination regarding their impact. The comments have caused the FAA to revise its estimates of economic impacts and increase compliance costs. The final rule amendments to Parts 121, 125, and 129 require that after December 30, 1991, no person may operate a large airplane that has a passenger seating configuration, excluding any pilot seat, of more than 30 seats unless it is equipped with an approved TCAS II and the appropriate class of Mode 5 transponder.

costs. This determination is normally made on the basis of a regulatory evaluation. In this case, however, the Congress may be said to have already determined that this final rule is in the public interest; that is, its collective public benefits outweigh its costs to the public, because Congress has required the rule be promulgated (The Airport and Airway Safety and Capacity Expansion Act of 1987: Public Law 100–223). Nevertheless, the FAA has prepared this conventional regulatory evaluation of the rule. The purpose of this evaluation is not to justify taking this rulemaking action (which has already been done through congressional action), but to estimate dollar costs and benefits to promote understanding of the impact of the rule.

Costs

The FAA finds that the revisions to Parts I and 91 will have no cost impact. The amendments, however, to Parts 121, 125, 129, and 135 will cause affected certificate holders to incur costs.

The FAA recognizes that there will be costs associated with the amendments to Part 129. These costs are likely to be similar to those incurred by affected Parts 121 and 135 certificate holders, but have not been quantified because the burden of compliance will not be directly borne by any sector of U.S. society.

The methods and assumptions used in this analysis to prepare the final cost and benefit estimates for the revisions to Parts 121, 125, and 135 have been developed by the FAA. Data used to develop cost estimates at the NPRM stage of rulemaking were obtained from manufacturers, air carriers, avionics repair facilities, and industry trade associations. The FAA has updated this information and conducted additional research to respond to the comments concerning the economic impact estimates of various proposals. The information obtained has been used to formulate the final cost estimates of the rule. The cost and benefits calculated for the final rule are projected over the estimated 15-year life cycle of TCAS equipment. Therefore, this analysis compares the costs and benefits of TCAS II equipment for Parts 121 and 125 over a 15-year period of 1989 to 2003. To allow sufficient time for the development and certification, this rule does not require the use of TCAS I until 1996. Accordingly, to reflect the longer than normal compliance period, the analysis for Part 135 has been extended over the 15-year period of 1993 to 2007.

New § 121.356 will have an economic impact on the 3,365 existing airplanes expected to be in service in 1989 and 3,100 airplanes expected to be manufactured between 1989 and 2003 because these airplanes will be required to be equipped with a TCAS II system. The estimated cost of this requirement is $806.3 million in 1987 dollars and $543.0 million at a present worth discount rate of 10 percent over the 15-year period of 1989 to 2003.

The amendments to Part 121 will also require that air carriers develop and implement an FAA-approved TCAS II training program for their captains and first officers. The training program will require that air carriers install approved TCAS aerodynamic data programs in their flight simulators and provide an additional one and a half hours of classroom instruction during initial training for their existing and newly-hired flightcrews. As part of the classroom instruction, certificate holders will be required to use a real time interactive device to complete transfer of system knowledge from the classroom to the cockpit. The estimated cost of modifying the 150 flight simulators currently in use by Part 121 certificate holders is $2.2 million in 1987 dollars and $2.0 million discounted at a present worth rate of 10 percent in the first year the rule is in effect. The cost of acquiring the small computers to be used as interactive training devices to transfer and reinforce classroom instruction is estimated to be $462 thousand in 1987 and $420 thousand discounted the first year the rule is in effect.

The estimated cost of requiring captains and first officers of the 149 affected Part 121 certificate holders to undergo additional classroom training is $24.5 million and $13.7 million discounted over the projected time period. Finally, the onetime cost of developing an FAA-approved TCAS II training program is estimated to be $3.7 million in 1987 dollars and $3.4 million discounted at a rate of 10 percent in the first year the rule is in effect. This analysis indicates that the total cost of compliance to Part 121 certificate holders with the equipment acquisition installation, maintenance, and flight crewmember

The estimated cost of equipping 2,772 airplanes with TCAS I units is $34.1 million in 1987 dollars and $14.7 million discounted over the 15-year projected service life of the equipment of 1994 to 2008. The estimated cost of requiring the flightcrews of affected air taxi and commuter operators to undergo additional classroom training during the initial phase of flight training is $1.3 million in 1987 dollars and $0.7 million at a 10 percent present worth rate. Finally, affected Part 135 operators required to have an FAA-approved training program will incur a one-time cost estimated to be $1.0 million in 1987 dollars and $.9 million discounted at 10 percent the first year the rules is in effect. On the basis of the above, the aggregate impact of these amendments on affected air taxi and commuters is $36.5 million in 1987 dollars and $16 million when discounted at 10 percent over the 15-year period of 1993 to 2007.

Benefits

The TCAS rule is expected to provide potential benefits primarily in the form of improved safety to the aviation community and flying public. Such safety, for example, will take the form of reduced casualty losses (namely, fatalities and property damages) as the result of a lowered likelihood of midair collisions.

In general terms, the benefits of an effective airborne traffic alert and collision avoidance system in reducing the risk of midair collisions have been obvious for many years. As air traffic continues to increase and concentrate at terminal areas, the growing consensus of both the general public and most aviation professionals is that such a system would be a valuable safety addition. In 1987, congress determined that requiring TCAS II in most large aircraft is in the public interest. Although experienced airspace system operators also agree that the system would be beneficial, accurately quantifying benefits is difficult because (fortunately) there have been few actual Part 121 midair collisions in recent years. At the time of the notice, the FAA developed a mathematical model to assess the increase in collision risk that would result from the projected growth in aviation traffic activity. The FAA used a ''square law model'' to forecast that four midair collisions involving a large airplane and 24 midair collisions of taxi and commuter airplanes would occur if no additional safety measures were taken to offset the affects of traffic growth. Since that time, the FAA has analyzed the issue further, and has concluded that although the ''square law model'' is simple to apply and yields specific results, the air traffic control system is too complex for the model to be expected to provide reasonably accurate results. For this reason, the FAA has changed the basis of its benefits analysis for the final rule. The fact is, that given the very few midair collisions involving large aircraft that have occurred in recent years, and given the air traffic control improvements that have occurred and will occur shortly (such as new Mode C requirements), it is not possible to reasonably forecast specific numbers of future midair collisions. Also, the FAA is unable to allocate specific numbers of future midair collisions that will be avoided in the future between the new Mode C requirements and this TCAS rule. Instead of attempting to do this, the FAA has chosen to estimate a range of midair collisions that may occur. Currently, the stage is set for a midair collision only when one or both pilots of two aircraft make a mistake and the ATC system fails and TCAS fails. In the enroute system, TCAS plays a somewhat stronger role where ATC radar coverage does not exist.

The above factors tend to reduce the number of future midair collisions. On the other hand, steadily increasing traffic levels tend to increase the risk. In an attempt to estimate the range of midair collisions within which the actual number of future midair collisions of large aircraft will fall, the FAA employed a Poisson distribution. Based on a history of two collisions in the recent past, the Poisson distribution indicates that there is a 60 percent probability of two or more collisions in the future forecast period, and a 95 percent probability that the number will not exceed seven. The FAA believes that the range of two to seven is a reasonable expectation of the number of midair collisions involving a large aircraft during the next 15 years. In monetary terms, over the subject time period, this rule is expected to accrue potential benefits ranging between $207 million and $724 million (discounted, in 1987 dollars).

due to the belief that the benefits of the TCAS and Mode C rules are inextricably linked.

Comparison of Parts 121 and 135 Costs and Benefits

Addressing only 14 CFR Parts 121 and 135 costs and benefits of this TCAS rule, the cost of compliance is estimated to be $563 million and $18 million, respectively (discounted) in 1987 dollars. The benefits of this rule, however, are difficult to quantify for two reasons. The first is associated with the uncertainty of estimating the number of midair collisions that will occur in the future absent any improvements in the airspace system over and above what currently exists. This difficulty has already been discussed at length in the detailed regulatory evaluation and the FAA has chosen to consider ranges of 2 to 7 and 4 to 14 collisions involving Parts 121 and 135 operators, respectively, may occur in the forecast period.

The second reason benefits are difficult to forecast accurately is that at about the same time this rule becomes effective a separate rule will become effective expanding Mode C requirements. Both rules are aimed at reducing the risk of midair collisions and are inextricably linked. The FAA is unable at this time to document the separate impacts of these two rules in reducing the risk.

The FAA made an earlier estimate of the dollar value benefits associated with avoiding future midair collisions as part of its evaluation of the Mode C rule. That estimate was significantly lower than the updated estimate prepared for this rule. The difference is only partly explained by the fact that the Mode C rule estimate was for a 10-year period while the estimate for this rule covers a 15-year period into the future (to allow for the relatively long periods before compliance is required).

Both evaluations used a Poisson distribution model as a basis to estimate the number of future midair collisions that might be expected in the absence of any further airspace system improvements to prevent them. In the Mode C analysis, the FAA very conservatively accepted the low side of the distribution (two accidents) in calculating benefits. However, based on the belief that U.S. commercial aircraft operations are forecast to more than double during the analysis period, the FAA now believes that a better approach is to analyze a range of values.

In view of the difficulties discussed above, the FAA believes that the most realistic approach to comparing benefits and costs is to compare the total Part 121 costs of the TCAS rule plus the Mode C rule with the full estimated range of possible Part 121 benefits. In a similar manner, total Part 135 TCAS rule plus Mode C rule are compared to the total range of Part 135 benefits.

In the case of Part 121 operator, the cost of the Mode C rule is negligible because virtually all Part 121 aircraft are already in compliance with the rule. Table 1 shows the cost of saving one life through the range of estimated Part 121 midair collisions. As indicated in the table, these cost-per-life-saved figures are based on an estimated total Part 121 TCAS cost of $563 million and no attempt was made to allocate some benefits to the Mode C rule. (A similar exercise can be performed for Part 135 from Table 1.)

6	12	621	83	880	20
5	10	517	69	1,120	70
4	8	414	55	1,480	120
3	6	310	42	2,080	290
2	4	207	27	3,280	550
1	2	103	14	6,830	1,360

The FAA concludes that this TCAS rule is warranted because it will contribute to an overall enhancement of transport and commuter categories airplane safety and utility which will both promote and enhance public confidence in, and utilization of, the U.S. air transportation system. Although the FAA has not yet quantified the value of public confidence in air transportation, it believes there is a very real cost to the system when public confidence is reduced through media coverage of each major midair collision tragedy. The fragility of public confidence is difficult to quantify, but the potential benefits in this regard stemming from avoidance of a major midair collision is very real and substantial. For example, the near-to-midair term loss of passenger bookings following the publicity of a midair collision is readily acknowledged within the industry. Even a special Government safety review of a particular air carrier can have a temporary adverse impact on yields. The qualitative nature of this consideration does not render it less significant as a factor in determining to proceed with the TCAS rulemaking action.

The Regulatory Impact Analysis that has been placed in the docket contains detailed information related to the potential costs and benefits of those amendments to Parts 121, 125, and 135 that are expected to accrue from implementation of this rule.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 requires a review of rules to assess their impact on small business. In consideration of the cost information discussion under the Regulatory Impact Analysis, the FAA concludes that these amendments to Parts 121, 125, and 135 will have a significant economic impact on a substantial number of small entities. However, the FAA finds that there are no viable alternatives for small air carriers to adopt that will reduce the cost of compliance yet achieve the levels of protection sought by these amendments. It can be pointed out, however, that the majority of small entities affected by this rule are Part 135 operators (small air taxis and small commuters). These small businesses will have 6 years to comply with this rule (as opposed to 3 years for Parts 121 and 125 operators). The average total cost impact of this rule on a small air taxi operator or small commuter for TCAS I units is estimated at $36,000 (or $4,700 annualized) and $76,000 (or $10,000 annualized), respectively, over the 15-year period 1989 to 2003. For Parts 121 and 125 operators, the average total cost for TCAS 11 units is estimated to be $734,000 (or $96,000 annualized) over the 15-year period.

International Trade Impact Statement

These amendments will have little or no impact on trade opportunities of U.S. firms doing business overseas or for foreign firms doing business in the United States. These rules will impose the same requirements on both domestic operators under Parts 121, 125, and 135 of the FAR and foreign air carriers subject to Part 129. The cost of compliance with these rule amendments to foreign carriers flying into the United States under Part 129 is likely to be very similar to the cost incurred by domestic operators. Thus, neither domestic nor foreign air carriers will be affected disproportionately by these amendments. These rules, therefore, will not cause a competitive fare disadvantage for U.S. carriers operating overseas or for foreign carriers operating in the United States.

Federalism Implications

The regulations adopted herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Thus, in accordance with Executive Order 12612, it is determined

DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). A regulatory impact analysis of this final rule, including a Regulatory Flexibility Determination and International Trade Impact Analysis, has been placed in the docket. A copy may be obtained by contacting the person identified under "FOR FURTHER INFORMATION CONTACT."

The Amendments

In consideration of the foregoing, the Federal Aviation Administration amends Parts 1, 91, 121, 125, 129, and 135 of the Federal Aviation Regulations (14 CFR Parts 1, 91, 121, 125, 129, and 135) effective February 9, 1989.

The authority citation for Part 125 continues to read as follows:

Authority: 49 U.S.C. 1354, 1421 through 1430 and 1502; 49 U.S.C. 106(g) (Revised Pub. L. 97–449, January 12, 1983).

Amendment 125–12

Revision of General Operating and Flight Rules

Adopted: August 7, 1989 **Effective: August 18, 1990**

(Published in 54 FR 34284, August 18, 1989)

SUMMARY: This amendment reorganizes and realigns the general operating and flight rules to make them more understandable and easier to use. Also, several changes are made to provide more flexibility for certain operations. These changes result from comments received from the general public and aviation industry in response to a request for specific comments to help identify substantive areas needing review.

EFFECTIVE DATE: This amendment becomes effective on August 18, 1990, except that § 91.203(a)(2) becomes effective September 18, 1989, and remains numbered as § 91.27(a)(2) until August 18, 1990.

FOR FURTHER INFORMATION CONTACT: William T. Cook (202) 267–3840 or Edna French (202) 267–8150, Project Development Branch (AFS–850), General Aviation and Commercial Division, Office of Flight Standards, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, D.C. 20591.

SUPPLEMENTARY INFORMATION:

Background

On August 9, 1978, the Aircraft Owners and Pilots Association (AOPA) petitioned the Federal Aviation Administration (FAA) to revise Part 91 of the Federal Aviation Regulations (FAR) to make the regulations simpler and more comprehensible. In response to this petition, on January 11, 1979, the FAA issued an Advance Notice of Proposed Rulemaking (ANPRM) No. 79–2 (44 FR 4572; January 22, 1979) consisting of a verbatim publication of AOPA's proposal.

The FAA received 106 comments in response to the ANPRM. An overwhelming majority of the commenters supported the intent of the proposal to reorganize Part 91. However, there were numerous problem areas identified by the commenters relating to the proposed changes that were considered substantive.

On November 18, 1980, the FAA formed a Part 91 Working Group to analyze the AOPA proposal and comments received on the ANPRM. It was determined that certain technical and administrative problems existed and that it was not feasible to undertake a substantive revision of Part 91 at that time. Subsequently,

the FAA considered that notice to be the first step in a regulatory review of Part 91 consistent with the objective of Executive Order 12291. With this in mind, the FAA invited additional specific comments to help identify substantive areas to be reviewed and possibly included in subsequent proposals concerning Part 91. The notice further stated that the FAA would not take final action concerning the reorganization until substantive changes were proposed and the public had been given an opportunity to comment on those proposals.

The FAA published Notice No. 79–2B (46 FR 60461; December 10, 1981) to extend the comment period for Notice No. 79–2A by 120 days. That notice was issued in response to a petition from the National Business Aircraft Association to allow additional time for commenters to prepare substantive comments.

The FAA received 69 comments in response to Notice No. 79–2A. The majority of these comments favored the proposal and were discussed in Notice No. 79–2C (50 FR 11292; March 20, 1985).

Notice 79–2C proposed four substantive changes in addition to the numerous changes made to reorganize and clarity existing rules. Two of these changes were made in response to comments received from the public. These changes are as follows:

(1) Section 91.117—Allows reciprocating-powered aircraft to be operated at 200 knots in an airport traffic area;

(2) Section 91.135—Allows operators desiring authorizations to deviate from positive control area and route segment requirements to utilize a 48-hour oral notification system;

(3) Section 91.409—Allows operators of turbine-powered rotorcraft to use an alternate inspection program, such as an FAA-approved inspection program; and

(4) Sections 91.205, 91.509, and 91.511—Defines "shore" as it is used in these sections to exclude tidal flats.

Public Comments

Forty-seven comments were received in response to Notice No. 79–2C. A number of commenters recommended regulations that were not proposed in the notice. Because such comments discuss matters which the public has not had an opportunity to consider, they are beyond the scope of the notice and cannot be considered without further notice and public participation. Some of these comments concern proposals that will be considered by the FAA in future rulemaking and, therefore, could be published in a future notice.

There were two areas in particular where several proposals were received that are not within the scope of the notice. First, 11 comments specifically request that balloons be excepted from certain requirements now pertaining to aircraft in general. These comments seek substantive change to the existing regulations not proposed in the notice.

Second, a number of commenters propose substantive changes to the regulations with regard to rotorcraft. Although these comments are not within the scope of this rulemaking, they were considered in the Rotorcraft Regulatory Review Program, Notice No. 5.

Two commenters are opposed to changing masculine references to "airman" to read "he or she." One commenter states that this would keep the text shorter and speed up the reading of the text. The other commenter states that § 1.3(a)(3) already provides that "words importing the masculine gender include the feminine," and the better course would be to refer to the "person," or the "pilot." The FAA agrees with these commenters. Accordingly, references throughout Part 91 that use the words "he" or "she" have been changed to refer to the "person," the "pilot," the "crewmember," or the "Administrator."

Several commenters state that the proposed wording for § 91.1 implies that operations of moored balloons, kites, unmanned rockets, and unmanned free balloons are governed by Part 103. This comment has merit and § 91.1 is revised by adding a specific reference to Part 101 after the phrase "unmanned free balloons" to make clear that moored balloons, kites, unmanned rockets, and unmanned free balloons operate under Part 101.

Another commenter requests clarification of the discussion of § 91.7 in Notice No. 79–2C, where the FAA states that there is no provision for the use of an approved Minimum Equipment List (MEL) in Part 91 operations, whereas § 91.213 permits the use of an approved MEL. The FAA points out that at the time Notice No. 79–2C was published, the effective date of current § 91.30 (proposed § 91.213) was stayed indefinitely (44 FR 62884; November 1, 1979). Amendment No. 91–192 (50 FR 51188; December 13, 1985) which took effect on March 13, 1986, terminated the stay.

Section 91.7(b), which was proposed without substantive change from existing § 91.29, provides that a flight should be discontinued when unairworthy mechanical or structural conditions occur. One commenter suggests that this be changed by deleting "mechanical or structural" and making it more general so as to provide for a possible unairworthy electrical system. This suggestion raises a valid point; however, the FAA has determined that the rule should be amended to explicitly reference mechanical, electrical, or structural conditions. Therefore, § 91.7(b) is amended accordingly.

As suggested by one commenter, § 91.21(a)(1) is amended by deleting reference to a "commercial operator." This revision conforms § 91.21(a)(1) with SFAR 38–2 and Part 125 which do not provide for a commercial operator's certificate and, instead, provide for the issuance of either an "air carrier operating certificate" or an "operating certificate."

One commenter states that consideration should be given to better defining "appropriately rated pilot" in § 91.109 and provide a definition. The FAA agrees that the phrase "appropriately rated pilot" should be defined better.

The preamble to Amendment No. 91–36(32 FR 260; January 11, 1967) states that an "appropriately rated pilot" in § 91.21(b) requires a private pilot certificate with an airplane category rating, a multiengine class rating for a small multiengine land plane, and a type rating for a large airplane or a turbojet-powered airplane (large or small).

Accordingly § 91.109(b)(1) is amended to require that the safety pilot hold at least a private pilot certificate with category and class ratings appropriate to the aircraft being flown.

One commenter urges the FAA to reinsert the current rule regarding visual descent points (VDPs) (current § 91.116). VDPs are not an integral part of the approach procedure. An aircraft that is not equipped to identity a VDP has the same approach minima as a similar aircraft that is equipped to identify the VDP.

Mandatory use of VDPs is considered inappropriate for a number of reasons:

(1) VDPs that use Distance Measuring Equipment (DME) fixes may, because of displacement factors and/or fix errors, result in descent angles that are either too shallow or too steep for the approach.

(2) A mandatory VDP rule discourages the purchase and use of the very equipment necessary to identify the VDP. This is so because compliance can only be required of those aircraft that are equipped to identify the VDP.

For these reasons, the final rule, like the NPRM, does not include a mandatory VDP requirement.

Notice No. 79–2C proposed that § 91.175(a) read: "Unless otherwise authorized by ATC, when an instrument letdown to a civil airport is necessary, each person operating an aircraft, except a military aircraft of the United States, shall use a standard instrument approach procedure prescribed for the airport in Part 97 of this chapter." The lead-in clause is changed to read, "Unless otherwise authorized by

temporary certificate of registration.

Another commenter is of the opinion that the FAA has not provided discussion, as requlred by Executive Order 12291, on the economic impacts that would result from the delay between application for an issuance or denial of the registration certificate, under the proposals, in the NPRM. The commenter maintains that future investment purchases and leases would also be adversely affected. Several commenters also question the regulatory consistency that the FAA claims as the basis for the change.

These comments were responded to in full in a Notice of Legal Opinion issued December 1988 (53 FR 50208; December 14, 1988). That Notice of Legal Opinion stated that the limitation of temporary authority to operate an aircraft without registration to domestic operations (as also provided in new § 91.203(a)(2)) reflects current U.S. law and practice. Concerning the economic impact of this ruling, the FAA in that notice of Legal Opinion answered:

> The aviation community has always been able to transfer ownership and register their aircraft with minimal difficulty. In oder to mitigate the potential hardship that could result from grounding an aircraft used in international operations, pending receipt of a registration certificate, the Registry will, upon request, telex a copy of the Certificate of Aircraft Registration to the individual whose name appears on the application as the registered owner of the aircraft. The telex copy is issued after confirmation of the information contained on an Aircraft Registration Application and determination of eligibility for registration. The telex, which reflects critical and verified information resulting from the evaluation by the Registry of an application for aircraft registration, may be used as a temporary Certificate of Aircraft Registration until the original certificate is forwarded for carriage in the aircraft.
>
> This telex certificate will assist owners who submit an application for aircraft registration and who wish to operate the aircraft as soon as possible in international operations. Since the telex, by its terms, is a form of registration certificate, the aircraft may be operated in international air navigation consistent with Article 29 of the Convention [Convention on International Civil Aviation (61 Stat. 1180; T.I.A.S. 1591; 15 U.N.T.S. 295)]. The Registry will telex this copy within a matter of days—often within 48 hours—to be kept in the aircraft until the original Certificate of Aircraft Registration (AC Form 8050–3) is forwarded to the registered owner.

Accordingly, the FAA has determined that the rule should be amended as proposed, and consistent with the Chief Counsel's legal opinion, to provide explicitly that operations of aircraft outside the United States for which an application for registration has been submitted but certificate of registration has not been issued are not authorized under the Federal Aviation Regulations.

Several judicial decisions have defined the "shore" as including tidal flats. In some parts of the United States, these tidal flats can extend for several miles and, because of the extreme tides prevalent in these areas, the land may be submerged under as much as 25 to 35 feet of water during periods of high tide. The intent of the rule is to require operators carrying passengers for hire over these areas to equip their aircraft with the necessary flotation gear and pyrotechnic devices. Therefore, "shore," when it is used in §§ 91.205, 91.509, and 91.511, is defined to exclude land areas, such as tidal flats, which are intermittently under water.

An incorrect reference to "§ 91.169" was used in proposed § 91.409(e), which has been corrected to "§ 91.409" in the final rule.

It was pointed out by several commenters that the word "stop" in § 91.605(c)(2) was inadvertently included in the proposal and should be deleted. The commenters are correct, and the final rule has been amended accordingly. Also, the word "if" following the word "distance" in that same sentence has been corrected to read "is."

In addition to the specific changes discussed above, minor changes have been made in the wording of the regulations proposed in Notice No. 72–2C. In § 91.3(b), the word "in-flight" has been inserted to clarify that the deviation authority of § 91.3 applies only to in-flight emergencies which affect the safe completion of the flight.

the final rule. Where reference to other sections of this part were set forth in an amendment, the references have been changed to reflect the appropriate sections as used in the final rule. Those required changes published in the Federal Register prior to June 19, 1989, are discussed below.

Amendment No. 91–188, (50 FR 15380; April 17, 1985) amended current § 91.11, which governs the use of alcohol or drugs by any crewmember performing duty during the operation of an aircraft. This amendment took effect on June 17, 1985. Subsequently, Amendment No. 91–194 (51 FR 1229; January 9, 1986) amended § 91.11(c) to impose a requirement for a crewmember to furnish the results of any test that indicates percentage by weight of alcohol in a crewmember's blood. This amendment took effect on April 9, 1986. Proposed § 91.17 has been revised accordingly.

Amendment No. 91–189 (50 FR 31588; August 5, 1985) removed references to "expect approach clearance time" in § 91.127. This amendment took effect on September 4, 1985. Section 91.185 reflects this amendment.

Amendment No. 91–190 (50 FR 45602; November 1, 1985) added a new paragraph (c) to current § 91.24. This amendment took effect on December 2, 1985. This new paragraph required all aircraft equipped with an operable radar beacon transponder be turned on while airborne in controlled airspace. Subsequently, § 91.24(c) was amended by Amendment No. 91–203 (53 FR 23374; June 21, 1988). Proposed § 91.215(c) has been redesignated as paragraph (d) and the changes brought about by Amendment Nos. 91–190 and 91–203 have been incorporated into revised § 91.215(c).

Amendment No. 91–191 (50 FR 46877; November 13, 1985) amended current § 91.14 (proposed § 91.107) by revising the title and the section to include reference to shoulder harnesses. This amendment took effect on December 12, 1985. Section 91.107 has been revised accordingly. Amendment No. 91–191 also added a new paragraph to current § 91.33 which requires a shoulder harness for specified seats in normal, utility, and acrobatic category airplanes with a seating configuration, excluding pilot seats, of nine or less, manufactured after December 12, 1986. This paragraph appears as § 91.205(b)(15).

Amendment No. 91–192 (50 FR 51189; December 13, 1985) terminated the suspension of Amendment No. 91–157 (44 FR 43714; July 26, 1979) staying the effective date of current § 91.30. This amendment took effect on March 31, 1986. Subsequently, Amendment No. 206 (53 FR 50195; December 13, 1988) amended § 91.30. Section 91.213 reflects these amendments.

Amendment No. 91–193 (50 FR 51193; December 13, 1985) changed the FAA's description of North Atlantic (NAT) Minimum Navigation Performance Specifications (MNPS) airspace to coincide with the International Civil Aviation Organization's (ICAO's) description of the NAT MNPS airspace. This has been reflected accordingly in Section 1 of Appendix C of this final rule.

Amendment No. 91–195 (51 FR 31098; September 2, 1986) corrects the reference to the Department of Defense office in current § 91.102 restricting the flight of aircraft near space flight operations. This amendment took effect on September 15, 1986. Section 91.143 reflects this amendment.

Amendment No. 91–196 (51 FR 40692; November 7, 1986) upgraded rotorcraft certification and operational requirements, thus effecting amendments to several FARs. This amendment took effect on January 6, 1987. Current § 91.2 was amended to afford small helicopter operators the opportunity to apply for Category II instrument approach authorization. Proposed § 91.193 has been revised accordingly. Current § 91.23 was amended to reduce the IFR reserve fuel requirement for helicopters from 45 to 30 minutes. Proposed § 91.167 has been amended to reflect this change. Current § 91.116 (proposed § 91.175) was amended to establish a separate takeoff minimum for helicopters under IFR, of one-half mile visibility. Current § 91.171 was amended to include helicopters in the altimeter system and altitude reporting equipment tests and inspection requirements. Proposed § 91.411 has been amended to reflect this change. In order to enable rotorcraft to perform Category II operations, Amendment No. 91–196 also amended Appendix A in Part 91 by removing the word "airplane" and replacing it with the word "aircraft" wherever it appears.

Proposed § 91.215 has been revised accordingly. Amendment No. 91–198 also revised paragraph (b)(2)(iii) of current § 91.90 to allow operations conducted prior to December 1, 1987, in Group II TCAs, to be exempt from the new equipment requirements of current § 91.24. Amendment No. 91–203 (53 FR 23374; June 21, 1988) subsequently revised § 91.90, effective July 21, 1988. Amendment No. 91–205 (53 FR 40323; October 14, 1988) further revised § 91.90 in its entirety effective January 12, 1989. Amendment No. 90–209 (54 FR 24883; June 9, 1989) amended § 91.90 by delaying the effective date of the section for helicopter operations. The rule, covering all amendments to date, appears in this revision as § 91.131.

Amendment No. 91–199, (52 FR 9636; March 25, 1987) amended current § 91.35 by renumbering the paragraphs and adding a new paragraph that requires any operator who has installed approved flight recorders and approved cockpit voice recorders to keep the recorded information for at least 60 days, or longer, if requested by the Administrator or the National Transportation Safety Board. This amendment took effect on May 26, 1987. The amended rule now appears as § 91.609.

Amendment No. 91–200, (52 FR 17277; May 6, 1987) amended current § 91.173 by requiring each registered aircraft owner or operator to keep "preventive maintenance" records as well as maintenance, alteration, and records of the 100-hour annual, progressive, and other required or approved inspections, as appropriate, for each engine, propeller, rotor, and appliance of an aircraft. This amendment took effect on June 5, 1987. This amended rule now appears as § 91.417(a)(1).

Amendment No. 91–201, (52 FR 20028; May 26, 1987) adds the reference to Part 129 to the exception in current § 91.161(b) from the requirements of §§ 91.165, 91.169, 91.171, 91.173, and 91.174 for aircraft maintained in accordance with a continuous maintenance program as provided for in Part 129. The amendment took effect on August 25, 1987. This amended rule now appears as § 91.401(b).

Amendment No. 91–202, (52 FR 34102; September 9, 1987 and 52 FR 35234; September 18, 1987) amended current § 91.27 on civil aircraft certification requirements by adding a new paragraph (c) to require that a copy of the form which authorized the alteration of an aircraft with fuel tanks within the passenger or a baggage compartment be kept on board the modified aircraft. This new rule now appears as § 91.203(c). Current § 91.173 on maintenance records was revised by requiring that such records be made available to the Administrator or an authorized representative of the National Transportation Safety Board and when such a fuel tank is installed as set forth in § 91.35 as amended pursuant to Part 43, a copy of the FAA Form 337 be kept on board the modified aircraft. This new rule appears as § 91.417(b) and (c). This amendment took effect on December 8, 1987.

Amendment No. 91–203, (53 FR 23374; June 21, 1988, 53 FR 25050; July 1, 1988, and 53 FR 26592; July 14, 1988) amended or revised § 91.24 (ATC transponder and altitude reporting equipment and use), 91.88 (Airport radar service areas), and 91.90 (Terminal control areas), and by adding a new Appendix D entitled "Airports/Locations Where the Transponder Requirements of § 91.24(b)(5)(ii) Apply," regarding use of transponders with automatic altitude reporting. This amendment took effect on July 21, 1988. Amendment No. 91–205 (53 FR 40323; October 14, 1988) revised § 91.90 in its entirety effective January 12, 1989. Amendment No. 91–209 (54 FR 24883; June 9, 1989) amended § 91.90 by delaying the effective date of the section for helicopter operations. These rules now appear in this revision as §§ 91.215, 91.130, 91.131, and new Appendix D to Part 91, respectively.

Amendment No. 91–204, (53 FR 26145; July 11, 1988) amended current § 91.35 on flight recorders and cockpit voice recorders to require digital flight recorders and voice recorders to be installed on selected aircraft operated in general aviation. The specifications for such recorders are set forth in a new Appendix E to Part 91 for airplanes and in a new Appendix F to Part 91 for helicopters. The amendment is reflected as § 91.609(b), (c), (d), and (e), and new Appendixes E and F to Part 91. This amendment becomes effective on October 11, 1991.

Amendment No. 91–205, (53 FR 40323; October 14, 1988) revised the classification and pilot and equipment requirements for conducting operations in terminal control areas (TCA's) by amending § 91.90

essential for the safe operation of the aircraft. The amendment also permits general aviation operators of small rotorcraft, nonturbine-powered small airplanes, gliders, and lighter-than-air aircraft for which a Master Minimum Equipment List has been developed, the option of operating under the minimum equipment list concept, or under other conditions as set forth in the amendment. Amendment No. 91–206 also amended § 91.165 to require that any inoperative instrument or item of equipment permitted to be inoperative under the new amended § 91.30 to be repaired, replaced, removed, or inspected at the next required inspection for the aircraft. These amendments became effective on December 13, 1988, and appear as §§ 91.213 and 91.405 of this revision to Part 91.

Amendment No. 91–207 (54 FR 265; January 4, 1989) amended §§ 91.1 and 91.61 to extend the controlled airspace and the applicability of certain air traffic rules to coincide with presidential action to extend the territorial sea of the United States for international purposes, from 3 to 12 nautical miles from the U.S. coast. This amendment became effective on December 27, 1988. These amended rules now appear as §§ 91.1 and 91.101.

Amendment No. 91–208 (54 FR 950; January 10, 1989) added a new § 91.26 to require that any traffic alert and collision avoidance system installed in a U.S. registered civil aircraft must be approved by the Administrator, and if installed, must be on and operating during the aircraft's operation. The amendment became effective on February 9, 1989. The amendment appears herein as §§ 91.221.

Amendment No. 91–209 (54 FR 24883; June 9, 1989) delays the effective date of certain navigational equipment requirements of helicopter operations in a Terminal Control Area (TCA) by the amendment of § 91.90(c)(1). The amendment became effective on June 6, 1989. Section 91.131 covers this amendment.

Amendment No. 91–210 (54 FR 25682; June 16, 1989), effective June 16, 1989, amended § 91.24(a) to allow certain aircraft operators to install non-Mode S transponders in aircraft until July 1, 1992, instead of until January 1, 1992, provided that such transponders are manufactured prior to January 1, 1991, instead of prior to January 1, 1990. This amendment appears as § 91.215(a).

References to Part 91 found in other sections of the Federal Aviation Regulations have also been amended to incorporate the revised numbering of Part 91. These miscellaneous amendments are found at the end of the amendments to Part 91.

Furthermore, §§ 91.615 through 91.645 as identified in Notice No. 79–2C (50 FR 11292; March 20, 1985) now appear in this final rule as §§ 91.503 through 91.533.

Regulatory Evaluation

FAA analysis indicates that these amendments will not have a significant impact on the public or any level of government on an annual basis. The final rule includes changes to clarify the existing rules by simplifying the language, deleting obsolete requirements, consolidating similar regulations, updating equipment requirements to reflect the state-of-the-art, and relaxing certain operating and flight rule requirements.

Benefits

Section 91.117 allows reciprocating-powered aircraft to be operated in an airport traffic area at indicated airspeeds not greater than 200 knots. The FAA is unable to determine operator time and fuel cost savings because they will largely depend on the type of aircraft involved, desired speed, and weather and traffic conditions. The aggregate annual cost savings to these operators will not be significant because: 1) the normal cruise speed for most single engine reciprocating-powered aircraft does not exceed 156 knots, and 2) pilots of most multiengine reciprocating-powered aircraft, while operating within an airport traffic area, will not exceed the normal aircraft cruising speed which is not significantly greater than 156 knots in many of these aircraft.

Section 91.135 provides for a 2-day advance oral notification for submitting requests for authorizations to deviate from positive control area and route segment requirements. The old rule required a 4-day

pyrotechnic signaling devices in these instances.

Costs

Any cost associated with defining "shore" in § 91.205 as the high water line is expected to be negligible. The only parties potentially affected are small for-hire operators who do not comply with the obvious intention of the rule as presently worded. The FAA believes these operators are very few (probably less than 20 operators) in number. Such operators are likely to be traversing tidal flats in areas like Alaska. If such operators do not comply with the rule as written now, then the cost of compliance would be a maximum of about $105 per year per aircraft. This assumes a $50 cost for an approved flotation device per seat and a flotation device useful life of 5 years ($10 per passenger seat per year), 10 seats per aircraft for these specific operators, plus $5 per year per aircraft for a pyrotechnic signaling device.

Section 91.409 allows operators of turbine-powered rotorcraft to use alternate inspection programs such as inspections under an FAA-approved continuous airworthiness maintenance program. The operators may now schedule inspections in a manner that allows the highest level of utilization of their rotorcraft.

The FAA estimates that in 1984 there were approximately 3,000 active turbine-powered rotorcraft in non-air taxi use. The FAA assumes that about one-half of the operators of these aircraft would use the new inspection options.

The value of using these options is difficult to estimate. At a minimum, the major effect of this proposed rule would be one additional day per year of rotorcraft utility. The usefulness of this can be set at least at the cost of capital for 1 day. Using an average aircraft value of $300,000 and a use of 250 days per year, the cost of capital can be estimated at $180 per day ($300,000 at 15 percent interest divided by 250 days). Thus, the minimum benefit is approximately $0.27 million per year (half the fleet, 1,500 turbine-powered rotorcraft times $180). As the fleet grows, the value of this benefit also increases.

Because of the reorganization and resulting renumbering of provisions, persons who regularly refer to existing Part 91 must familiarize themselves with the new structure. It is also recognized that many non-regulatory materials containing references to present Part 91 sections may have to be modified. To assist in reference to the new provisions, a redesignation table, similar to the cross-reference table published herein, will be included in subsequent editions of the Code of Federal Regulations. The FAA believes that any short-term costs associated with transition to the reorganized Part 91 will be outweighed by the benefits inherent in a more logically organized set of regulations.

Trade Impact

The FAA has determined that this regulation will have no impact on international trade.

Regulatory Flexibility Determination

The Regulatory Flexibility Act (RFA) of 1980 was enacted by Congress in order to insure, among other things, that small entities are not disproportionately affected by Government regulations. The RFA requires agencies to review rules which may have a "significant economic impact on a substantial number of small entities." As discussed above, the regulatory evaluation for Part 91 indicates that there are no negative or significant economic impacts associated with the proposed rule.

All but four of the changes to Part 91 are editorial or clarifying changes. Three of the four changes result only in minimal benefits being applied. The other is a change to § 91.205 which, while it is basically clarifying, may involve some minimal cost and benefit. Any economic impact would be minor—approximately $100 per aircraft per year, and would affect only a few small for-hire operators in Alaska who do not comply with the intent of the rule as presently worded. Thus, the change could not be construed to cause "significant economic impact on a substantial number" of small entities within the

requirements, relaxing certain operating and flight rule requirements, and updating and clarifying the text. Under the provisions of Executive Order 12291, the amendments in this final rule will not have a major economic effect on consumers; industries; Federal, State, or local government agencies; or geographic regions. There will be no significant effects on competition, employment, investment, productivity, innovations, or the ability of U.S.-based enterprises to compete with foreign-based enterprises in domestic or import markets. It is certified that under the criteria of the Regulatory Flexibility Act this final rule will not have a significant economic impact on a substantial number of small entities. A copy of the full economic evaluation is filed in the public docket and may be obtained by contacting the person listed in the "FOR FURTHER INFORMATION CONTACT" paragraph of this document.

Cross Reference

To identify where present regulations are relocated in the new rule, the following cross-reference lists are provided:

Cross-Reference Table

Old Section	*New Section*
91.1	91.1 and 91.703
91.2	91.193
91.3	91.3
91.4	91.5
91.5	91.103
91.6	91.189
91.7	91.105
91.8	91.11
91.9	91.13
91.10	91.13
91.11	91.17
91.12	91.19
91.13	91.15
91.14	91.107
91.15	91.307
91.17	91.309
91.18	91.311
91.19	91.21
91.20	91.705
91.21	91.109
91.22	91.151
91.23	91.167
91.24	91.215
91.25	91.171
91.26	91.221
91.27	91.203
91.28	91.715
91.29	91.7
91.30	91.213
91.31	91.9
91.32	91.211
91.33	91.205
91.34	91.191
91.35	91.609
91.36	91.217
91.37	91.605
91.38	91.323
91.39	91.313
91.40	91.315
91.41	91.317

91.54	91.23
91.55	91.817
91.56	91.815
91.57	91.25
91.58	91.613
91.59	91.321
91.61	91.101
91.63	91.903
91.65	91.111 and 91.123
91.67	91.113
91.69	91.115
91.70	91.117
91.71	91.303
91.73	91.209
91.75	91.123
91.77	91.125
91.79	91.119
91.81	91.121
91.83	91.153 and 91.169
91.84	91.707
91.85	91.127
91.87	91.129
91.88	91.130
91.89	91.127
91.90	91.131
91.91	91.137
91.93	91.305
91.95	91.133
91.97	91.135
91.100	91.139
91.101	91.709
91.102	91.143
91.103	91.713
91.104	91.141
91.105	91.155
91.107	91.157
91.109	91.159
91.115	91.173
91.116	91.175
91.117	Deleted
91.119	91.177
91.121	91.179
91.123	91.181
91.125	91.183
91.127	91.185
91.129	91.187
91.161	91.401
91.163	91.403
91.165	91.405
91.167	91.407
91.169	91.409
91.170	91.415
91.171	91.411
91.172	91.413
91.173	91.417
91.174	91.419
91.175	91.421
91.181	91.501
91.183	91.503

91.201	91.523
91.203	91.525
91.205	Deleted
91.207	Deleted
91.209	91.527
91.211	91.529
91.213	91.531
91.215	91.533
91.301	91.801
91.302	91.803
91.303	91.805
91.305	91.807
91.306	91.809
91.307	91.811
91.308	91.813
91.309	91.819
91.311	91.821
Appendix A	Appendix A
Appendix B	Appendix B
Appendix C	Appendix C
Appendix D	Appendix D
Appendix E	Appendix E
Appendix F	Appendix F

Cross-Reference Table

New Section	*Old Section*
91.1	91.1
91.3	91.3
91.5	91.4
91.7	91.29
91.9	91.31
91.11	91.8
91.13	91.9 and 91.10
91.15	91.13
91.17	91.11
91.19	91.12
91.21	91.19
91.23	91.54
91.25	91.57
91.101	91.61
91.103	91.5
91.105	91.7
91.107	91.14
91.109	91.21
91.111	91.65
91.113	91.67
91.115	91.69
91.117	91.70
91.119	91.79
91.121	91.81
91.123	91.75 and 91.65
91.125	91.77
91.127	91.85 and 91.89
91.129	91.87
91.130	91.88
91.131	91.90
91.133	91.95

91.159	91.109
91.167	91.23
91.169	91.83
91.171	91.25
91.173	91.115
91.175	91.116
91.177	91.119
91.179	91.121
91.181	91.123
91.183	91.125
91.185	91.127
91.187	91.129
91.189	91.6
91.191	91.34
91.193	91.2
91.201	ewN
91.203	91.27
91.205	91.33
91.207	91.52
91.209	91.73
91.211	91.32
91.213	91.30
91.215	91.24
91.217	91.36
91.219	91.51
91.221	91.26
91.301	New
91.303	91.71
91.305	91.93
91.307	91.15
91.309	91.17
91.311	91.18
91.313	91.39
91.315	91.40
91.317	91.41
91.319	91.42
91.321	91.59
91.323	91.38
91.401	91.161
91.403	91.163
91.405	91.165
91.407	91.167
91.409	91.169
91.411	91.171
91.413	91.172
91.415	91.170
91.417	91.173
91.419	91.174
91.421	91.175
91.501	91.181
91.503	91.183
91.505	91.185
91.507	91.187
91.509	91.189
91.511	91.191
91.513	91.193
91.515	91.195
91.517	91.197
91.519	91.199

91.603	91.49
91.605	91.37
91.607	91.47
91.609	91.35
91.611	91.45
91.613	91.58
91.701	New
91.703	91.1
91.705	91.20
91.707	91.84
91.709	91.101
91.711	91.43
91.713	91.103
91.715	91.28
91.801	91.301
91.803	91.302
91.805	91.303
91.807	91.305
91.809	91.306
91.811	91.307
91.813	91.308
91.815	91.56
91.817	91.55
91.819	91.309
91.821	91.311
91.901	New
91.903	91.63
91.905	New
Appendix A	Appendix A
Appendix B	Appendix B
Appendix C	Appendix C
Appendix D	Appendix D
Appendix E	Appendix E
Appendix F	Appendix F

Newly Established Rules

91.201	91.701
91.301	91.901
91.601	91.905

The Rule

For the reasons set forth above, Part 91 of the Federal Aviation Regulations (14 CFR Part 91) is revised and Parts 1, 21, 23, 25, 27, 31, 33, 35, 36, 43, 45, 47, 61, 63, 65, 71, 93, 99, 103, 121, 125, 127, 133, 135, 137, and 141 of the Federal Aviation Regulations (14 CFR Parts 1, 21, 23, 25, 27, 31, 33, 35, 36, 43, 45, 47, 61, 63, 65, 71, 93, 99, 103, 121, 125, 127, 133, 135, 137, and 141) are amended effective August 18, 1990.

The authority citation for Part 125 continues to read as follows:

Authority: 49 U.S.C. 1354, 1421 through 1430, and 1502; 49 U.S.C. 106(g) (Revised Pub. L. 97–449, January 12, 1983).

that were affected by a recent agency-wide reorganization. These changes are being made to reflect delegations of authority that were changed, as well as offices that were renamed or abolished and replaced with new office designations. These changes are necessary to make the regulations consistent with the current agency structure.

FOR FURTHER INFORMATION CONTACT: Jean Casciano, Office of Rulemaking (ARM–1), Federal Aviation Administration, 800 Independence Ave., SW., Washington, DC 20591; Telephone (202) 267–9683.

SUPPLEMENTARY INFORMATION

Background

On July 1, 1958, the FAA underwent a far-reaching reorganization that affected both headquarters and regional offices. The most significant change is that certain Regional Divisions and Offices, which formerly reported to the Regional Director, are now under ''straight line'' authority, meaning that these units within each Regional Office report to the appropriate Associate Administrator (or Chief Counsel) in charge of the function performed by that unit.

Within Part 11 of the Federal Aviation Regulations (FAR), various elements of the FAA have been delegated rulemaking authority by the Administrator. These delegations need to be updated. In addition, throughout the Federal Aviation Regulations references are made to offices that have been renamed or are no longer in existence as a result of reorganization.

Title 14 of the Code of Federal Regulations must therefore be amended to reflect the reorganizations and changes that have taken place.

Paperwork Reduction Act

The paperwork requirements in sections being amended by this document have already been approved. There will be no increase or decrease in paperwork requirements as a result of these amendments, since the changes are completely editorial in nature.

Good Cause Justification for Immediate Adoption

This amendment is needed to avoid possible confusion about the FAA reorganization and to hasten the effective implementation of the reorganization. In view of the need to expedite these changes, and because the amendment is editorial in nature and would impose no additional burden on the public, find that notice and opportunity for public comment before adopting this amendment is unnecessary.

Federalism Implications

The regulations adopted herein will not have substantial direct effects on the states, on the relationship between the National government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Conclusion

The FAA has determined that this document involves an amendment that imposes no additional burden on any person. Accordingly, it has been determined that: The action does not involve a major rule under Executive Order 12291; it is not significant under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and because it is of editorial nature, no impact is expected to result and a full regulatory evaluation is not required. In addition, the FAA certifies that this amendment will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

Amendment 125–14

TCAS II Implementation Schedule

Adopted: April 3, 1990 **Effective: May 9, 1990**

(Published in 55 FR 13242, April 9, 1990)

SUMMARY: This rule revises the schedule for installing Traffic Alert and Collision Avoidance Systems (TCAS II) on airplanes with more than 30 passenger seats. The TCAS II system will provide a collision avoidance capability that operates independently of the ground-based Air Traffic Control (ATC) system and in areas where there is no ATC coverage. Congress recently passed legislation permitting an extension of the schedule. This action implements the legislation, reduces the prospect that carriers will divert critical maintenance and modification resources away from other safety programs to meet the TCAS II schedule, and allows the FAA to evaluate the operation of TCAS II in the total ATC environment.

Compliance Dates (Where Later Than Effective Date):

1. *Part 121*. TCAS II requirement for operations conducted under Part 121 with more than 30 passenger seats as follows:

DATE	*REQUIRED*
December 30, 1990	At least 20% of all covered airplanes, if the certificate holder operates more than 30 such airplanes
December 30, 1991	50% of all covered airplanes
December 30, 1993	100% of all covered airplanes

2. *Part 125*. TCAS II requirement for operations conducted under Part 125 with more than 30 passenger seats: December 30, 1993.

3. *Part 129*. TCAS II requirement for operations conducted under Part 129 with more than 30 passenger seats: December 30, 1993.

FOR FURTHER INFORMATION CONTACT: Frank Rock, Aircraft Engineering Division, AIR–120, FAA, 800 Independence Avenue SW, Washington, DC 20591, Telephone (202) 267–9567.

SUPPLEMENTARY INFORMATION:

Background

The Airport and Airway Safety and Capacity Expansion Act of 1987 directed the Federal Aviation Administration (FAA) to require the installation and operation of TCAS II in commercial airplanes operating in the United States that have a passenger capacity of more than 30 seats. Under a provision in the Act, 100 percent of this fleet was to be equipped with TCAS II by December 30, 1991. On January 10, 1989, the FAA promulgated the Traffic Alert and Collision Avoidance System rules [54 FR 940] requiring installation of TCAS II on civil airplanes, with more than 30 passenger seats, that operate in the United States. Before the final rule was published, however, the Subcommittee on Aviation of the U.S. Senate Committee on Commerce, Science, and Transportation questioned whether the aviation community had the capability to comply with the statutory schedule for TCAS II equipage. The Subcommittee asked the Office of Technology Assessment (OTA) to investigate this question, to identify other important issues raised by the fir ! rule, and to present its findings in a report.

DATE	REQUIRED EQUIPAGE
December 30, 1990	20% of all civil aircraft with more than 30 passenger seats operated by airlines that operate more than 30 such airplanes under the provisions 14 CFR Parts 121 and 129.
December 30, 1991	50% of all civil aircraft with more than 30 passenger seats operated by airlines that operate under the provisions of 14 CFR Parts 121 and 129.
December 30, 1993	100% of all civil aircraft with more than 30 passenger seats operating in the United States.

Extending the implementation schedule enhances air safety because it helps minimize the prospect that carriers will have to choose between installing TCAS II and performing other critical fleet maintenance procedures. Further, the extension means that a carrier may install TCAS II during its regular maintenance cycle; an economic benefit will accrue to carriers as a result of reduced downtime.

On July 10, 1989, the agency published a document in the *Federal Register* [54 FR 28978] announcing a public meeting and inviting written submissions on these issues. On December 15, 1989, the President signed Public Law 101–236, which allows the Administrator to extend the deadline for a period not to exceed 2 years.

Discussion of Comments

The agency received 21 comments addressing the implementation schedule for installing TCAS II and the propriety of an operational evaluation program.

Modified TCAS III Installation Schedule.

Deadline for 100 percent equipage. Several commenters endorsed extending the deadline for 100 percent equipage to December 30, 1993. The agency agrees that the 1993 date will accomplish several important objectives recognized in the OTA report. First, it will give TCAS II equipment manufacturers time to produce and deliver necessary equipment under the revised technical standard order (TSO), TSOC–119(a), which references Radio Technical Commission for Aeronautics, Minimum Operational Performance Standard, DO–185, Changes 1 through 6. Second, extending the deadline for 100 percent equipage will give airlines and fuselage manufacturers time to redesign and modify airplanes. Third, it will give the agency time to perform a thorough evaluation of TCAS II equipment and altered airplanes in the total ATC environment. Further, extending the deadline will minimize the economic consequences of taking part of a carrier's fleet out of service to install TCAS II, and reduce the prospect that other critical maintenance and modification programs will suffer as operators endeavor to meet the TCAS II deadline.

Part 129 Operators. Commenters representing Part 129 operators (foreign air carriers) opposed the 20 percent and 50 percent phase-in for installing TCAS II on foreign airplanes operating in the United States. These commenters argued that Part 129 carriers do not dedicate specific airplanes to U.S. routes. Therefore, the only way to guarantee that a given percentage of the foreign fleet would meet the TCAS II phase-in requirements is to install the system in 100 percent of the fleet, or dedicate a part of the fleet to U.S. service. They suggested further that the FAA TCAS II rule did not conform with the International Civil Aviation Organization (ICAO) schedule because the rule called for installation outside of the ICAO schedule. These commenters suggested either that ICAO set the schedule for installing TCAS II in non-U.S. registered airplanes, or that Part 129 operations be exempted from the phase-in schedule and be compelled to meet only the deadline for 100 percent equipage.

For the reasons stated by the commenters, FAA agrees that a mandatory phase-in schedule is inappropriate for Part 129 operators and has deleted this requirement from the rule. The agency has no authority, however, to exempt these operators from the 100 percent equipage deadline, because there is no discretion

a process that should result in a uniform ICAO/FAA TCAS II standard. The United States is committed to this effort. In the meantime, FAA invites and encourages Part 129 operators to participate voluntarily in the operational evaluation program so that TCAS II may be assessed with a number and variety of airplanes sufficient to provide useful safety data.

Quantity of Airplanes Requirement. Two commenters questioned whether it was practicable for smaller 121 operators whose fleets contain foreign-made airplanes to comply with the phase-in schedule given that data necessary to retrofit their airplanes with TCAS II may not be available in time to meet the 20 percent and 50 percent deadlines. These commenters suggested that the modified schedule be amended so that an operator must have at least 50 subject airplanes (rather than the 30 in the proposed schedule) to trigger the phase-in requirement. The effect of such an amendment for some domestic carriers would be to exclude them completely from the phase-in requirements.

In its Report to the Senate Subcommittee on Aviation, OTA states that airlines that complete TCAS II installation on time face indirect cost penalties if their competitors do not commit similar resources to the installation of TCAS II and are granted extensions from the time deadline. FAA does not wish to penalize complying operators by effectively granting a general exemption from the phase-in requirements to some Part 121 operators. Further, in order to evaluate TCAS as a complement of the ATC system, there must be a critical number and variety of commercial airplanes equipped with TCAS II operating in all types of airspace. Because TCAS II engineering technology is developed, FAA wishes to encourage operators to obtain the necessary technical support to facilitate its installation. Most importantly, Congress has expressed its belief that aviation safety will be served best by installing TCAS II on commercial airplanes as soon as practically possible.

If the agency followed the commenters' suggestion, for some carriers, the change would amount to a general exemption from the phase-in requirements. That action would place complying carriers at an economic disadvantage by compelling them to incur costs that their exempt competitors could avoid. FAA believes that economic equity, an effective evaluation of TCAS II in the ATC environment, and Congressional objectives weigh in favor of maintaining the schedule for all subject Part 121 operators. On the other hand, the agency acknowledges that there may be circumstances where an operator cannot achieve full compliance with the phase-in requirements for reasons of impracticability. Therefore, the agency is amending the TCAS II phase-in requirements to permit waivers from full compliance where the operator makes a showing that it is impracticable to install TCAS II on each airplane falling under the phase-in percentages. *Quantity of Seats Requirement.* One commenter suggested that carriers operating airplanes having less than 60 seats operating "exclusively in areas . . . which are free of congestion problems" be required to meet only the 100 percent equipage deadline. As this commenter suggests, however, determining what constitutes uncongested air space is difficult at best. The agency declines to introduce ambiguity into this critical program. Setting the TCAS II installation schedule by fleet facilitates program administration and adequately informs operators of whether and how they must comply.

Operational Evaluation Program

Five commenters endorsed the need for an operational evaluation program. One commenter suggested, however, that the evaluation consist of a minimum 25 percent of each operator's fleet, and that a required "representative" number and variety of airplanes be included in the evaluation phase.

Following the recommendation of the OTA Report, FAA intends to conduct a program during 1990, collecting approximately six months of in-use data to ensure that TCAS II will be safely and efficiently integrated into the ATC system. However, the agency declines to dictate which specific numbers and types of airplanes the carrier must equip for the TCAS II evaluation. Further, there is no need to engage in more specific instructions in order to accomplish the goal that this commenter suggests. First, a carrier logically will install TCAS II as its fleet comes in for service. Second, different operators use different types of airplanes. Therefore, both the structure of airplanes maintenance and the variety of airplanes in the commercial carrier market naturally will produce the representative mix this commenter advises. Finally, FAA used the OTA report recommendation in arriving at 20 percent as the portion of the fleet that should be equipped for the evaluation. The agency believes that this number will present

both written and oral comments to the FAA's proposal to extend the compliance date. At the public meeting held on August 16, 1989, all interested parties were given the opportunity to comment on the subject matter of this rule and address the issues raised by the schedule modification and operational evaluation. Written comments were also accepted. Finally, many of the technical and economic issues raised by the revised implementation schedule are substantially the same as those involved in the original notice and the agency has considered those comments in adopting this rule. Accordingly, I find that the notice and public procedure requirements of 5 U.S.C. 556(b) have been satisfied and that further notice is unnecessary and contrary to the public interest.

The Rule

Paragraph (a) of § 121.356 is being revised to include the compliance schedule presented above for equipping airplanes with more than 30 passenger seats with TCAS II and the appropriate class of Mode S transponder. In Part 125, § 25.224(a) is being revised to extend the compliance date from December 30, 1991 to December 30, 1993; the same revision is being made to § 129.18(a). The effect of all of these revisions is to extend the compliance schedule for 100 percent installation of TCAS II to December 30, 1993. The more detailed schedule for Part 121 certificate carriers will permit the FAA to evaluate the impact of TCAS II equipment on the total air traffic system as the equipment is being phased into that system.

REGULATORY EVALUATION SUMMARY

Benefit-Cost Analysis

Executive Order 12291 dated February 17, 1981, directs Federal agencies to promulgate new regulations or modify existing regulations only if the potential benefits to society for the regulatory change outweigh the potential costs to society. The order also requires the preparation of a Regulatory Impact Analysis of all "major" rules except those responding to emergency situations or other narrowly defined exigencies. A "major" rule is one that is likely to result in an annual effect on the economy of $100 million or more, a major increase in consumer costs, a significant adverse effect on competition, or is highly controversial.

This final rule is determined to not be "major" as defined in the executive order, so a full Regulatory Evaluation of alternative approaches has not been prepared. The FAA has, however, prepared a more concise Regulatory Evaluation, which includes an analysis of the safety and economic consequences of this rule. This analysis is included in the docket, and it quantifies, to the extent practicable, estimated costs to the private sector, consumers, Federal, State and local governments, as well as anticipated benefits and impacts.

A summary of the Regulatory Evaluation is contained in this section. For a more detailed analysis, the reader is referred to the full evaluation contained in the docket.

Costs

This rule extends the date by which air carrier airplanes with a passenger capacity of more than 30 seats flying in the United States must be equipped with TCAS II. Instead of all such airplanes being required to be so equipped by December 30, 1991, this amendment extends the existing deadline as follows:

- 20 percent of all such airplanes operating under 14 CFR Part 121 by airlines that operate more than 30 such airplanes must be equipped by December 30, 1990.
- 50 percent of all such airplanes operating under 14 CFR Part 121 must be equipped by December 30, 1991.
- 100 percent of all such airplanes (Parts 121, 125, and 129) must be equipped by December 30, 1993.

The OTA report states the following:

> Most airlines, domestic and foreign, view the deadline as difficult at best and unachievable at worst, since installing TCAS II will double the rate at which airlines ground their aircraft for heavy maintenance. The major U.S. airlines should be able to meet the deadline if required, although other maintenance and modifications may suffer. However, those airlines late in planning or those with limited facilities and financial resources are likely to be unable to meet the deadline for the following reasons. Additional technicians will be needed for the installation work force, and the supply of trained technicians will probably not be adequate to meet all the needs for every airline. Limited ramp and hangar space and other maintenance requirements may compound the labor shortage. Additionally, support equipment that could help speed installation, such as ground testing equipment, is still being developed.

Based on the above statements from the OTA report, it appears that some carriers (especially, the smaller ones) would have been forced to request exemptions from the original deadline. The FAA cannot quantify what safety reduction may occur as a result of these air carriers who could have met the 1991 deadline delaying for up to 2 years equipping the fleets with TCAS II. When evaluating the original TCAS rule, the FAA did not separate the expected benefits of TCAS from those of the recently expanded Mode C requirements, but estimated that the future benefits over the next 15 years of the two rules together will be the prevention of a range of 2 to 7 midair collisions involving Part 121 airplanes. Two actual midair collisions involving large air carriers actually occurred in the U.S. during the past 15 years in the absence of TCAS II and the expanded Mode C requirements. Under this amendment to the initial TCAS rule, 50 percent of the Part 121 Fleet will still meet the original December 30, 1991, deadline for becoming TCAS II equipped, the other 50 percent will become equipped over the following 2 years. The expanded Mode C requirements remain in effect. The FAA expects that whatever small safety reduction may occur because of extending the deadline for one half of the Part 121 fleet will be more than compensated for by safety increases as discussed in the "Benefits Section" of this regulatory evaluation summary. Even in the unlikely event that all of the air carriers would have been able to meet the deadline, the FAA cannot estimate in definitive terms what aviation safety reduction would have resulted because of this rule.

A potential secondary cost of this rule is its impact on TCAS II manufacturers. Again, quoting from the OTA report:

> The TCAS II installation requirement has a different effect on the various U.S. TCAS manufacturers. Expecting over 6,000 orders from domestic and foreign airlines by the end of 1991, these companies have invested accordingly. Under the current schedule, airlines may postpone taking delivery of equipment until late in 1991 to allow modifications to be made before their purchases are effective. Equipment manufacturers that were not early supporters of TCAS II development may reap benefits from such postponements, while those that invested heavily in development and testing programs will face cash flow problems as they gear up for production. A simple extension of the deadline could heighten cash flow problems by further postponing purchases.

While acknowledging that TCAS manufacturers may experience some costs as a result of this rule, the FAA is unable to estimate these costs and assumes them to be minor because no TCAS manufacturers objected to the rule at the public hearing or submitted comments to the docket on the notice.

Benefits

This rule is expected to generate potential benefits in the forms of enhanced safety and operational efficiency.

This rule will enhance aviation safety in two ways. First, it will ensure that at least 20 percent of the airplanes in the Part 121 air carrier fleet have TCAS II installed by December 30, 1990. Under the old schedule (or in the absence of this rule), air carrier operators (with more than 30 passenger seats) had until December 30, 1991, to install TCAS II. The FAA expects that because of the high cost of TCAS and ongoing resource needs in other areas of airline operations, some air carriers (particularly,

in other areas of airline operations in order to realize full implementation of TCAS II by the desired end-date in the future. According to the OTA report, the extended TCAS II implementation schedule will result in enhanced safety by making certain that monetary resources on the part of air carriers are not strained or diverted from other operational needs of airlines (such as modifications of aging airplanes, windshear warning installation, etc.) in order to implement TCAS II by December 30, 1991. Under this rule, 50 percent of the Part 121 air carrier fleet is required to have TCAS II installed by December 1991 (instead of 100 percent under the old schedule). By December 30, 1993, all air carriers operating under Parts 121, 125, and 129 fleets are required to have TCAS II installed. This extension will better allow the airlines (especially, the smaller ones) to refrain from a "rob Peter to pay Paul" approach with aviation safety in order to achieve full compliance with TCAS II. This latter safety benefit could only be accomplished as the result of improved operational efficiency in the allocation of monetary resources. Such efficiency improvements will result in economic relief derived from the 2-year extension of the TCAS II implementation date.

As the result of the extension of the TCAS II implementation date, out-of-service (or down) time could be reduced significantly for some airlines. Now, airlines can install TCAS II in conjunction with the installation of windshear, to a large extent, during their routine 3- or 4-year heavy maintenance cycles. This economic relief benefit is the result of reduced downtime and the delay in the acquisition and installation of TCAS II for some airplanes. The quantification of these economic relief benefits is difficult because they embody much uncertainty, coupled with a lack of available information. For this reason, such benefits will not be estimated quantitatively in this evaluation.

Another potential benefit of this rule will be an earlier compatibility of U.S. and international standards. The extended TCAS II implementation schedule will better ensure that U.S. and ICAO TCAS II standards are compatible sooner than otherwise would have been in the absence of this rule. According to the OTA report, if international airborne collision avoidance standards are completed and approved as expected by mid-1990, an international implementation schedule can be then established.

Comparison of Costs and Benefits

Based upon information received since implementation of the original TCAS rule, the FAA deems that some air carriers could not have met the old schedule to equip their airplanes with TCAS II. In addition, those airline operators who could have met the old schedule may have been heavily pressured to cut corners on other safety initiatives in order to do so. While there may be a very small but temporary and unquantifiable increased risk of midair collisions by allowing 50 percent of the Part 121 fleet and all of the Parts 125 and 129 fleets a 2-year extension in becoming TCAS II equipped, this is more than offset by the safety benefits of allowing the extension. On balance, the FAA expects the benefits of this rule to exceed any costs that might be incurred as a result of its adoption.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) was enacted to ensure that small entities are not unnecessarily and disproportionately burdened by Government regulations. The RFA requires agencies to review rules which may have "a significant economic impact on a substantial number of small entities." The small entities potentially affected by this rule consists of Parts 121 and 125 airplane operators with passenger configurations of more than 30 seats. According to the RFA, however, foreign entities (such as Part 129 air carriers) are not covered.

This rule will not impose any additional incremental costs, over those that would have been incurred under the original TCAS rule, on Parts 121 and 125 airplane operators. As a matter of fact, this rule will impose a lower cost of compliance than would have been incurred under the TCAS rule using the old December 30, 1991, TCAS II implementation date. Therefore, the FAA has determined that this rule will not have a significant cost impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

nor foreign air carriers will be affected disproportionately by this rule. This rule, therefore, will not cause a competitive fare advantage for either U.S. carriers operating overseas or for foreign carriers operating in the United States.

Federalism Implications

The regulations herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Thus, in accordance with Executive Order 12612, it is determined that these regulations do not have federalism implications requiring the preparation of a Federalism Assessment.

Conclusion

For the reasons discussed in the preamble, and based on the findings in the Regulatory Flexibility Determination and the International Trade Impact Analysis, the FAA has determined that this regulation is not major under Executive Order 12291. In addition, the FAA certifies that this regulation will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. This regulation is considered significant under DOT Regulatory Policies and Procedures [44 FR 11034; February 26, 1979]. A regulatory evaluation of this regulation, including a Regulatory Flexibility Determination and International Trade Impact Analysis, has been placed in the docket. A copy may be obtained by contacting the person identified under "FOR FURTHER INFORMATION CONTACT."

The Amendments

In consideration of the foregoing, the Federal Aviation Administration amends Parts 121, 125, and 129 of the Federal Aviation Regulations (14 CFR Parts 121, 125, and 129) effective May 9, 1990.

The authority citation for Part 125 continues to read as follows:

Authority: 49 U.S.C. 1354, 1421 through 1430, and 1502; 49 U.S.C. 106(g) (Revised Pub. L. 97–449, January 12, 1983).

Part 125–15

Minimum Equipment List (MEL) Requirements

Adopted: March 18, 1991 **Effective: June 20, 1991**

(Published In 56 FR 12306, March 22, 1991)

SUMMARY: This amendment provides for the development and use of Minimum Equipment Lists (MEL) for certain single-engine air carrier aircraft. In addition, this amendment revises the requirements for the use of an MEL to make them consistent throughout the regulations. This action is needed to provide for the implementation of MEL authorizations through the issuance of operations specifications. The changes streamline administrative procedures and provide greater consistency in the MEL authorization process.

FOR FURTHER INFORMATION CONTACT: Marlene G. Livack, Technical Standards Branch (AFS–230), Air Transportation Division, Office of Flight Standards, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; Telephone (202) 479–0285.

SUPPLEMENTARY INFORMATION:

operation for a minimum period of time until repairs can be accomplished.

Although the MEL concept was adopted for Part 121 operations in 1953 and applied to Part 135 multiengine aircraft operations in 1978, it has never been applied to Part 135 single-engine aircraft operations. This has been due to the relative lack of single-engine aircraft systems complexity and redundancy, the diversity of the single-engine aircraft population, and the lack of manpower to create single-engine aircraft Master Minimum Equipment Lists (MMEL).

[Note—An MMEL for a particular aircraft type is developed by the FAA in cooperation with the holder of the type certificate for that aircraft. The MMEL is the basis for the individual operator's MEL for its particular operation and aircraft operated.]

In June 1985, the FAA responded to a request from Beech Aircraft Corporation by issuing an interpretation of FAR §§23.1301 and 25.1301 which stated, in summary, that all installed instruments and items of equipment in an aircraft must function as designed for all operations unless otherwise provided for in an FAA-approved MEL. Since §135.179, which authorizes MEL use for multiengine aircraft, precludes single-engine aircraft from using an MEL, the result has been that all installed instruments and items of equipment on such aircraft must be operative. This has required Part 135 operators of single-engine aircraft who install optional instruments and equipment to keep them in operating condition when the aircraft is operating. This requirement may have convinced some single-engine operators under Part 135 to defer purchase of optional equipment which would have enhanced safety or operational efficiency.

At present, there is a need to standardize the manner in which the MEL requirements are applied to the aviation industry and individual operators. The results of the National Air Transportation Inspection (NATI) study of the MEL program revealed considerable misunderstanding of the MEL concept. In the past, some air carriers have mistakenly developed procedures for operating with an MEL that were not consistent with the operating regulations. Since the rules governing the use of MEL's in Part 121 differ from the Part 125 and 135 requirements, operational standardization and consistent interpretation of the rules have presented difficulties for operators and the FAA.

On January 23, 1989, the FAA published Notice of Proposed Rulemaking (NPRM) 89–2 (54 FR 3320) that proposed to amend Parts 121, 125, and 135 requirements for the use of a MEL.

[Clarification of the notice and an extension of the comment period was published in the Federal Register on March 27, 1989 (54 FR 12553).]

The NPRM invited public participation in addressing MEL requirements. The NPRM proposed to standardize and to make consistent Parts 121, 125, and 135 requirements for the use of an MEL. Finally, it proposed to authorize the development of MEL's for Part 135 operators using single-engine aircraft.

Discussion of Comments

Approximately fourteen comments were received on the NPRM. The comments were submitted by air carriers, airline pilot associations, manufacturers, and individuals. Most comments were in favor of standardizing the regulations, and all comments regarding expansion of the applicability of MELs to include single-engine aircraft were favorable. However, several comments opposed certain proposed requirements. All specific issues and categories of comments are discussed below.

Access to Information Contained in the MEL

New and revised §§121.628(a)(2), 125.201(a)(2), and 135.179(a)(2) each require that the MEL be aboard the aircraft or that the flightcrew have "direct" access at all times prior to flight to all information contained in the approved MEL. As discussed in the NPRM, it is not the FAA's intention that a physical copy of the MEL be carried aboard the aircraft although this would be an acceptable means of compliance. The FAA will accept any method as long as the information contained therein is "directly" accessible to the flightcrew at all times prior to flight through printed or other means approved by the Administrator. The rule provides that this approval will be contained in the certificate holder's operations specifications.

The Regional Airline Association (RAA) agrees that information contained in the MEL should be directly accessible to the flight crew prior to flight, but submits that directly accessible during flight is unduly restrictive. RAA submits that the MEL is a dispatch document and that it is not intended to replace abnormal/emergency procedure when an item becomes inoperative during flight. RAA believes that indirect access may, at times, contribute to safety when one pilot in a two pilot crew is not forced to read an MEL during flight.

The Aerospace Industries Association (AIA) states that the FAA has not provided a justification for requiring pilot access to the written MEL at all times, and at the same time denying pilot access to it through the radio. AIA submits that the MEL is a dispatch document not intended for application while enroute and its verbiage is completely unsuitable for inflight application. AIA states that the MEL is not "cockpit friendly" and will substantially increase crew workload. According to AIA, there will be considerable costs because the MEL will have to be rewritten for use in the cockpit and crews will have to be trained in its use.

The International Federation of Airline Dispatchers' Association (IFIDA) comments that dispatchers should be provided with the same information as the flightcrews and should have direct access to the information contained in the MEL or have a copy of the MEL provided to them.

The Air Line Pilots Association (ALPA) supports the requirement that the crew have direct access to the MEL but states that it is not good enough for pilots to get information on MEL items and remarks or exceptions by telephone or radio access. ALPA, therefore, suggests that the word "direct" be inserted before the word "access."

One comment from an airline pilot states that the crews should have access to the printed MEL at all times.

In response to these specific comments, the FAA agrees that the MEL is a dispatch document and, thus, has determined that the proposed requirement that it be available during flight would not be in keeping with the intent of the MEL concept. The FAA, however, does not agree that requiring the flightcrew to have "direct" access to the MEL prior to flight is restrictive. The flightcrew is responsible for the safe operation of the aircraft and, therefore, must have a "direct" means of determining whether or not the aircraft is safe for flight.

Several commenters state that pilots are not trained in the use of MELs. However, § 121.415 requires that pilots and dispatchers be trained in the duties and responsibilities of their respective positions. FAR §§ 121.597 and 121.663 provide that one of the responsibilities of the pilot in command (PIC) is to determine that the flight can be made safely. For a PIC to make this determination, the FAA believes that training in the use of an MEL is necessary.

The FAA agrees with ALPA that, in order to make a dispatch decision, the flightcrew must be able to ensure that they have all available information. The FAA also agrees that calling on the radio or telephone would not necessarily ensure that the pilot has all the essential information. While the FAA agrees with the term access, this does not mean that the flightcrew must have a printed copy of the MEL and, therefore, the rule as be adopted provides that the Administrator may approve other means of direct access. "Direct" access could be through the ARINC Communications Addressing and Reporting System (ACARS) or other electronic means or could be accomplished through an information retrieval system or any other means approved by the Administrator. Therefore, the word "direct" is being inserted before the word "access" in §§ 121.628(a)(2), 125.201(a)(2), and 135.179(a)(2) and the proposal that the MEL be available during flight is being deleted.

The FAA agrees that dispatchers should be provided with the same information since they are jointly responsible, with the PIC, for the dispatch of the flight. The FAA has determined that the authority provided in FAR § 121.605 covers this point and does not see a need to further clarify the requirement.

ATA comments that the FAA should clarify that MEL revisions do not require recertification. ATA states that FAA should specify in the preamble that an amendment to the MEL will not require recertification of the airplane since the MEL authorization constitutes an approved change in the type design.

AIA believes making a change to an approved and authorized MEL constitutes a change in the type design. AIA contends, however, that this statement will be misconstrued and require full recertification for each MEL entry. AIA states that to do a full type certification for each MEL item would be prohibitively expensive and not improve safety. AIA suggests the following wording: "An approved MEL, as authorized by the operations specs, constitutes an approved deviation to the type design without requiring recertification through the certification branch."

The FAA response to ATA and AIA is that the Part 121 MEL provisions are being amended to clarity that an approved MEL will constitute a change to the type design of the aircraft. However, the FAA does not intend this to mean that an amendment to the MEL requires recertification of an aircraft. Because the MEL allows an aircraft to be operated in a temporary condition with inoperative equipment while still maintaining the safety requirements for certification, the aircraft is in a legitimate design configuration and recertification of the type design is not necessary. This temporary condition continues to meet certification safety requirements. The FAA agrees with ATA and AIA that it is necessary to clarify that an amendment to the MEL will not require recertification. However, this should be accomplished in the rule and not in the preamble as suggested by ATA. Therefore, §§ 121.628(a)(2), 125.201(a)(2), and 135.179(a)(2) are amended accordingly.

In addition to ATA and AIA, Conner Air Lines, Inc., states that if the rule is implemented, the FAA would gain authority to amend an approved aircraft type certificate as well as the air carrier operating certificate by amending the operations specifications. Conner Air Lines, Inc., argues that this action would allow the FAA to alter, change, or amend, at its sole discretion, the MEL by changing the operator's specifications.

In response to Conner Air Lines, Inc., the FAA emphasizes that the MEL is a separately approved document and, therefore, will not be affected by any changes in the operations specifications. The operations specifications are the method through which operations with an MEL are authorized. The approval procedure for an operator's MEL has not been changed.

Airworthiness Directives

The NPRM proposed that instruments and equipment required by an airworthiness directive (AD) not be included in the MEL. The following comments were received from AIA and ATA on this issue.

AIA objects to this proposal and states that the prohibition against including instruments and equipment required by an AD is in conflict with the basic principles on which the MEL concept is based.

AIA states that the compliance required in an AD is not necessarily the only way of fixing a defect or unsafe condition and that these solutions normally reflect permanent changes to hardware selected in consideration of operating costs and installation expediency, as well as safe operation. AIA comments that the safety requirements of an AD can often be accomplished by other means on the short term basis reflected by MEL relief.

AIA states that AD's normally contain the general statement that alternate means of compliance which provide an acceptable level of safety may be used when approved by the Administrator and the MEL does not deviate from this criterion. Further, many AD's contain specific dispatch relief provisions. AIA concludes that the carrier should be allowed to substitute a temporary solution in the MEL provided it affords an acceptable level of safety.

ATA states that proposed § 121.628(b)(2) should be the same as the existing § 91.30(h)(2), which allows instruments and equipment required by an AD, provided that AD provides for them, to be included in the MEL.

Section 135.179(b)(3) of the proposed rule states that 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 operation under all operating conditions may not be included in the MEL. Two comments were received which specifically addressed this issue. Both Sternair and the RAA suggest deleting the proposed section. RAA states that if this limitation is included, the rule should clarify the intent.

The FAA response to these comments is that in order to maintain the validity of an airworthiness certificate, all installed aircraft instruments and equipment must function as designed. However, an FAA-approved MEL issued to a specific operator by the FAA District Office having Flight Standards certificate responsibility constitutes an approved change to the aircraft type design and, therefore, allows for inoperative equipment. Experience has shown that with the various levels of redundancy designed into aircraft, operation of every system or installed component may not be necessary since the remaining equipment can provide an acceptable level of safety.

Not all of an aircraft's installed instruments and equipment are necessary for every operation. For example, an operation which is not being conducted in icing conditions would not require airframe deicing or anti-icing equipment if that equipment was not essential for safe operations when icing conditions do not exist. Another example is an aircraft which was not being operated at night would not require a landing light. A specific operating condition, therefore, would be a condition such as extended overwater, high altitude, or night flight.

Certain equipment and instruments, however, must be operating at all times; these include such items as oil pressure and temperature gauges (unless other approved means exist to monitor these parameters) because these gauges provide an indication of the engine's condition.

Additional Comments

Several commenters question the need and reasons for the amendments to the existing FAR requirements.

For example, Ameriflight states that it supports the FAA's attempt to simplify and unify the regulations related to MELs; but believes that, at the same time, a major overhaul of the current MEL policy is necessary and asks that the FAA evaluate the current problems associated with the MEL approval process such as standardization and delays. Ameriflight states that approval and development of an MEL can cost thousands and that a revision will cost, at a minimum, $500. Ameriflight suggests that the FAA issue a generic MMEL while leaving the specific operations and maintenance procedures to the users and district offices. These generic MMELs will be ready-to-use documents which would simply be obtained and distributed by the operators.

Conner Air Lines suggests that no changes be made to the current rules.

ATA states that the NPRM does not identify the particular issues to be clarified, but states only that § 121.627(c) "has fostered numerous questions within the air carrier industry and, therefore, needs to be clarified." ATA suggests that FAA itemize and develop exact issues or questions which generated the need for clarification. ATA also suggests that the Advisory Circular regarding deferred maintenance items, when issued, may clarify the majority of the problems. ATA states that the industry has been working with the current regulations for over 30 years and is familiar with all aspects and suggests that a change could cause confusion.

The FAA in developing its NPRM did in fact review the specific problems and issues concerning the MEL process. The vagueness of § 121.627 caused the MEL requirements to be applied differently under Part 121 than under Parts 125 and 135, which contain more specific requirements. For this reason the FAA stated in the NPRM that the proposed amendment was needed to standardize application of the MEL concept by bringing Part 121 in line with Parts 125 and 135. The FAA believes it is unnecessary to catalogue the numerous requests for interpretation concerning § 121.627. These problems cannot be

§ 121.627(c) should be expanded to set up specific requirements for an MEL.

The FAA does not agree with AIA that proposed Parts 125 and 135 should be standardized along the lines of Part 121. Section 121.627(c) has historically caused confusion in the aviation industry and the FAA as well. After a careful review of the MEL requirements specified in current §§ 121.627(c), 125.201, and 135.179, the FAA has determined that proposed §§ 125.201 and 135.179 offer a clearer presentation of MEL requirements and this should be extended to Part 121 for standardization throughout the industry. The FAA emphasizes that the MEL in Part 121, as well as in Parts 125 and 135, constitutes an approved change to the aircraft type design without requiring recertification. This is clearly stated in proposed §§ 121.628, 125.201, and 135.179.

Finally, two commenters state that pilots cannot always comply with the abnormal/emergency checklist procedures because one or more of the aircraft systems or components required to accomplish the emergency procedure is inoperative. These comments suggest the rule be amended so that no system component required to accomplish an emergency or abnormal procedure be included on an MMEL. The FAA believes these commenters are referring to problems with their own MELs, and that these problems should be reviewed and resolved. With respect to comments concerning MMELs, the FAA agrees that systems and components required to accomplish emergency or abnormal procedures are considered when approving an MMEL. "Therefore, these items should not appear on an MEL since the MEL cannot be more permissive than the MMEL. If commenters believe this is not the case then it would be appropriate for the specific MEL problem to be reported in detail to the FAA for review and possible revision.

One commenter suggests that advisory circular material be developed to standardize the procedures by which MEL's are prepared by the operator and approved by the FAA. The FAA agrees and has undertaken this project. The FAA anticipates that the advisory circular material will be released concurrently with this rule.

Another commenter states that § 135.179 should be applicable to single-engine turbine airplanes on floats. The FAA's response is that the rule includes all single-engine aircraft operated under Part 135.

Beyond the Scope of the NPRM

Several comments submitted are beyond the scope of this proposed rulemaking.

For example, Fairchild Aircraft Corporation refers to a suggested rule change that it requested in 1986, Docket No. 25049, and suggests that those changes be incorporated into the proposed § 135.179. Fairchild petitioned the FAA to amend §§ 91.30 and 135.179 to require the FAA and aircraft manufacturers to establish a list of required instruments and equipment to be included in each airplane and rotorcraft flight manual. The list would be used by a pilot to determine what instruments and equipment are required to begin and/or continue a flight. The FAA will respond to this issue in a separate rulemaking project, when resources permit.

Furthermore, the following comments have been considered as informational, but not having direct impact on this particular rulemaking project.

ALPA, for example, recommends that both the preamble to the MEL and the airworthiness handbook include a reference to the "electronic log book" including guidelines to ensure that the crew is supplied with the current airworthiness status of the aircraft following failure of the MEL items.

Finally, a commenter suggests that operators in Alaska should be able to develop MEL procedures for fuel gauges and other items on single-engine aircraft. Such matters are the proper subject of the MMEL review process.

REGULATORY EVALUATION SUMMARY

Benefits

The benefits of the revised rules are non-quantifiable because they primarily reorganize and standardize the MEL provisions of various operating rules in order to clarify and explain the intent of existing

Costs

Certificate holders subject to the revised rules will not incur any additional compliance costs because the rules will change only the format in which MEL authorizations are granted. The substantive provisions of the MEL's for individual certificate holders will continue to be determined by the FAA flight standards field offices having jurisdiction over the particular certificate holders. Guidance for MEL operating privileges and limitations will continue to be disseminated through such means as the advisory circular system. The FAA will incur some minor administrative costs in transferring MEL requirements from letters of authorization to operations specifications, but this will be a one time expense, which is in the nature of an ordinary cost of doing business for a regulatory agency. Moreover, the use of operations specifications, in the long run, will tend to ease administrative burdens and reduce costs for both FAA and the certificate holders.

International Trade Impact Assessment

The revised regulations will clarify and standardize existing MEL requirements for various classes of United States certificate holders, and as such, will have no affect on the sale of foreign aviation products or services in the United States, nor will they affect the sale of United States aviation products or services in foreign countries.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily and disproportionally burdened by government regulations. Small entities are independently owned and operated small businesses and small not-for-profit organizations. The RFA requires agencies to review rules that may have "a significant economic impact on a substantial number of small entities." FAA Order 2100.14A, Regulatory Flexibility Criteria and Guidance, establishes threshold cost values and small entity size standards for complying with RFA review requirements in FAA rulemaking actions.

The small entities that will be affected by the revised rules are those Part 121, 125, and 135 operators that own nine or fewer aircraft. However, because these rules will not impose any additional compliance costs on affected certificate holders and will provide relief in the case of Part 135 operators of single engine aircraft, none of the threshold cost values stipulated in Order 2100.14A are expected to be exceeded by any affected certificate holder. Therefore, the FAA has determined that these rules will not have a significant economic impact on a substantial number of small entities, and a regulatory flexibility analysis is not required under the terms of the RFA.

Federalism Implications

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this regulation will not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Conclusion

For the reasons discussed in the preamble, and based on the findings in the Regulatory Flexibility Determination and the International Trade Impact Analysis, the FAA has determined that this regulation is not major under Executive Order 12291. In addition, the FAA certifies that this regulation will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. This regulation is considered significant under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). A regulatory evaluation of the regulation, including a Regulatory Flexibility Determination and International Trade Impact Analysis, has been placed in the docket. A copy may be obtained by contacting the person identified under "FOR FURTHER INFORMATION CONTACT."

Amendment 125–16

Landing Gear Aural Warning

Adopted: November 26, 1991 **Effective: January 6, 1992**

(Published in 56 FR 63760, December 5, 1991)

SUMMARY: These amendments to the Federal Aviation Regulations (FAR) update the airworthiness standards for landing gear aural warning systems in transport category airplanes to reflect current design practices. They require that if a landing is attempted when the landing gear is not locked down the flightcrew must be given an aural warning in sufficient time to allow the landing gear to be locked down or a go-around to be made. These amendments state the intent of the current regulations in more objective terms to eliminate nuisance warnings and to simplify the certification process.

FOR FURTHER INFORMATION CONTACT: Gene Vandermolen, Flight Test and Systems Branch (ANM–111), Transport Airplane Directorate, Aircraft Certification Service, FAA, 1601 Lind Avenue SW., Renton, Washington 98055–4056; telephone (206) 227–2135.

SUPPLEMENTARY INFORMATION:

Background

This amendment is based on Notice of Proposed Rulemaking (NPRM) 59–20(54 FR 34116, August 17, 1989). As discussed in the notice, Parts 25, 121, and 125 of the FAR contain similarly worded requirements for a landing gear aural warning system. The function of this system is to provide the flightcrew with an aural alert if the landing gear is not extended and locked at the appropriate time. For example, § 25.729(e), as amended by Amendment 25–42 (43 FR 2302; January 16, 1978) states, in pertinent part, that:

> "(2) Landplanes must have an aural warning device that will function continuously when one or more throttles are closed, if the landing gear is not fully extended and locked.
>
> "(3) If there is a manual shutoff for the aural warning device prescribed in paragraph (e)(2) of this section, the warning system must be designed to [sic] that, when the warning has been suspended after one or more throttles are closed, subsequent retardation of any throttle to or beyond the position for a normal landing approach will activate the aural warning.
>
> "(4) Landplanes must have an aural warning device that will function continuously, when the wing flaps are extended beyond the maximum approach position determined under § 25.67(e), if the gear is not fully extended and locked. There may be a manual shutoff for this warning device. The flap position sensing unit may be installed at any suitable location. The system for this device may use any part of the system (including the aural warning device) for the device required in paragraph (e)(2) of this section."

These standards are very specific as to when the aural warning system should function. While they were appropriate in that regard for the reciprocating-powered airplanes, the standards were later found to be inappropriate for the operation of modern turbojet-powered airplanes for the following reasons:

(a) An aural warning is required by the FAR whenever the thrust levers are retarded and the landing gear is not fully extended and locked. Since this often occurs at the start of descent, at an altitude that is inappropriate for gear extension, the warning is immediately canceled by the crew. This untimely alert and the subsequent cancellation causes flightcrew distraction. Once the warning is canceled, there is no warning to the flightcrew just prior to landing if it is needed.

an inappropriate aural warning when the landing gear is raised after takeoff. Furthermore, no warning is provided when nonstandard flap settings and thrust levels are used for one-engine-inoperative approaches.

In order to preclude such nuisance or inappropriate aural warnings, modern transport category airplanes typically have means to inhibit the aural warning system during some phases of flight. Because the warning systems on these airplanes do not comply with the existing certification and operational standards, findings of equivalent level of safety or exemptions are necessary. This process is time consuming and may result in type certification delays. Furthermore, as noted above, the means to inhibit the warning system may result in no warning to the flightcrew at the very time a warning is needed.

The fundamental problem with the current standards is that they fail to state the safety intent, but instead state how the requirements should be met. Therefore, the regulations on landing gear aural warning are being revised to state the performance objectives without stating how the requirements should be implemented. This allows the manufacturers to use their ingenuity in designing systems that minimize nuisance warnings.

It should be noted that the term "throttle" is a carry-over from reciprocating-powered airplanes and is a misnomer insofar as turbine-powered airplanes are concerned. The term "thrust lever" is generally used instead for turbine-powered airplanes.

Discussion of Comments

Several commenters responded to the request for comments contained in Notice 89–20. These included the public, foreign authorities, industry, and manufacturers.

One of the airplane manufacturers is concerned that the new rule might not allow a system in which the aural warning is silenced when the flightcrew selects the landing gear handle down rather than when the landing gear is actually down and locked. The commenter contends that the former configuration should be acceptable.

The FAA does not concur. The objective of the old rule, which required a continuous aural warning until the landing gear was fully extended and locked, was to provide warning of either flightcrew error or failure of the landing gear to extend and lock. That objective is unchanged. The system described by the commenter would not be acceptable under either the old rule or the amended rule.

Many commenters object to the proposed rule's not allowing a manual shutoff for the aural warning. Examples are given of situations during which deliberate silencing of the aural warning would be desirable. These commenters do not believe that nuisance alerts could be completely eliminated no matter how sophisticated the design might be.

In consideration of these comments, the FAA agrees that a manual shutoff should not be prohibited; however, the control device that shuts off the aural warning must be designed so that it cannot be inadvertently actuated by the flightcrew. It also should not be so convenient to the flightcrew that it is operated by habitual reflexive action (*i.e.*, like an autopilot disconnect switch on the control wheel). It should be obvious to the flightcrew, or a means should be provided to inform the flightcrew, when the manual control device has been positioned to silence the warning.

One commenter suggests that the following design requirements be instituted: (1) The warning system should incorporate a means to inhibit the warning based on high airspeed and/or altitude to eliminate nuisance warnings during descent; (2) The warning system should be designed tore-energize the aural warning after a time delay when it is manually silenced; and (3) The warning system should retain the "gear not down-landing flaps selected" feature.

The FAA does not concur with the suggestion, because adding design requirements to the rules would dictate specific design. Requirement (1) above may be one means for preventing nuisance warnings, but not the only means. Requirement (2) is considered unnecessary because the majority of nuisance warnings will be eliminated by careful system design. Also, if the flightcrew deliberately silences the

and should be clearly defined.

The FAA does not agree that the term ''improbable'' is not clearly defined. Though it does have a wide probability range, that range is defined precisely in AC 25.1309–IA. This requirement would be satisfied by meeting the upper boundary of the probability range given in the AC.

The European Joint Aviation Authorities (JAA) suggest that the FAA and JAA requirements for landing gear aural warning should be standardized. For a number of years the JAA D and F Study Group has also been working on a revision to the landing gear aural warning requirements contained in Joint Aviation Requirements (JAR) 25.729(e)(2), (3) and (4). The intent of the JAR revision is the same as that proposed in NPRM 89–20. However, the FAA revision includes a statement that emphasizes the need to eliminate false or inappropriate alerts in the design of the system. It also contains a reliability requirement for systems that provide inhibit logic to the aural warning system. These requirements are considered necessary to assure a design of high reliability.

The FAA concurs that U.S. and European requirements should be standardized wherever feasible. Therefore, the FAA is adopting the JAR revision of § 25.729(e)(2), (3), and (4). In addition, § 25.729(e)(5) and (6) are being added as follows:

> ''(5) The system used to generate the aural warning must be designed to eliminate false or inappropriate alerts.
>
> ''(6) Failures of systems used to inhibit the landing gear aural warning, that would prevent the warning system from operating, must be improbable.''

These are all minor nonsubstantive changes that place no additional burden on any person. Except for the changes noted above, the amendments are adopted as proposed in Notice 89–20.

Regulatory Evaluation

This section summarizes the regulatory evaluation prepared by the FAA on The Landing Gear Aural Warning System. The summary discusses expected costs and benefits of these amendments.

Executive Order 12291, dated February 17, 1981, directs Federal agencies to promulgate new regulations or modify existing regulations only if potential benefits to society for each regulatory change outweigh potential costs. The order also requires the preparation of a Regulatory Impact Analysis of all major rules except those responding to emergency situations or other narrowly defined exigencies. A major rule is one that is likely to result in an annual effect on the economy of $100 million or more, a major increase in consumer costs, or a significant adverse effect on competition.

The FAA has determined that this rule is not major as defined in the executive order; therefore, a full regulatory analysis, that includes the identification and evaluation of cost reducing alternatives to this rule, has not been prepared. Instead, the agency has prepared a more concise document termed a regulatory evaluation that analyzes only this rule without identifying alternatives. In addition to a summary of the regulatory evaluation, this section also contains a regulatory flexibility determination required by the 1980 Regulatory Flexibility Act (Pub. L. 96–354) and an international trade impact assessment.

This rule will amend the airworthiness standards for transport category airplanes (Part 25). The existing standards are specific with respect to method of compliance and are more appropriate for reciprocating-powered airplanes than for modern turbojet-powered airplanes. The rule states the objectives of the requirements without stating how the requirements should be implemented, thereby allowing manufacturers to use their ingenuity in designing systems. The rule will not affect existing certificated aircraft.

None of the comments received in response to Notice 89–20 pertain to the economic evaluation.

This rule updates the airworthiness standards for landing gear aural warning systems in transport category airplanes to reflect current design practices. However, the rule will not affect existing certificated airplanes and hence, will not result in incremental compliance costs to operators or to manufacturers

no impact on international trade. Since this rule has no cost impact, a substantial number of small entities including airplane manufacturers and operators under Parts 121 and 125 will not incur significant economic costs.

Federalism Implications

The regulations contained herein do not have substantial direct effects on the States, on the relationship between the National Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this amendment does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Conclusion

Because the regulations contained herein are expected to result only in negligible costs, the FAA has determined that this rule is not major as defined in Executive Order 12291. Because this is an issue that has not prompted a great deal of public concern, this rule is not considered to be significant as defined in Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). In addition, since there are no small entities affected by this rule, it is certified under the criteria of the Regulatory Flexibility Act that this rule, at promulgation, will not have a significant economic impact, positive or negative, on a substantial number of small entities.

The Amendment

Accordingly, Parts 25, 121, and 125 of the Federal Aviation Regulations (FAR) (14 CFR Parts 25, 121, and 125) are amended effective January 6, 1992.

The authority citation for Part 125 continues to read as follows:

Authority: 49 U.S.C. 1354, 1421 through 1430, and 1502; 49 U.S.C. 106(g) (Revised Pub. L. 97–449, January 12, 1983).

Amendment 125–17

Miscellaneous Operational Amendments

Adopted: September 8, 1992 **Effective: October 15, 1992**

(57 FR 42662; September 15, 1992)

SUMMARY: This final rule amends the Federal Aviation Regulations by requiring operators and certificate holders to allow the use of approved child restraint systems and by updating certain regulations concerning passenger and crewmember safety, attitude indicators, and check airmen. This action is in response to requests from the public, consumer groups, and Congress; reports from FAA inspectors; and investigations and recommendations by the National Transportation Safety Board. The rule is intended to increase the safety of crewmembers and passengers on board aircraft and to update other operational amendments.

FOR FURTHER INFORMATION CONTACT: Donell Pollard, Project Development Branch (AFS–240), Air Transportation Division, Flight Standards Service, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; telephone (202) 267–8096.

SUPPLEMENTARY INFORMATION:

Board (NTSB) indicated that safety belts and shoulder harnesses can save lives in aircraft crashes, and the Board recommended that the required use of these safety devices should be expanded to helicopters and airships. The NTSB issued Safety Recommendation No. A–80–19, which recommends that the FAA require an additional attitude-indicating instrument on large turboprop airplanes. Lastly, the airline industry requested clarification of the requirement for location of fire extinguishing equipment on board an airplane.

In response to these concerns, the FAA issued Notice of Proposed Rulemaking (NPRM) No. 90–6 (55 FR 7414, March 1, 1990). The NPRM proposed the following revisions: (1) certificate holders would have to accept approved child restraint systems provided by a parent or guardian if a ticket is purchased for a seat in which to place the child restraint system, or the seat is otherwise made available; (2) passenger information signs would have to be turned on or posted while the aircraft is moving on the surface, and compliance with the signs is mandatory for both passengers and crew; (3) passenger service equipment would have to be stowed and inflatable slides (or other approved emergency evacuation assisting means) would have to be ready for evacuation (armed) during movement on the surface; (4) helicopter crewmembers generally would be required to wear shoulder harnesses during takeoff and landing; (5) passengers on airships equipped with safety belts would have to be briefed before flight on the use of such belts; (6) an independently-powered attitude indicator would be required on large turboprop airplanes; (7) requirements for the location of fire extinguishers and protective breathing equipment for use in galleys would be clarified; and (8) an obsolete provision on check airmen would be removed.

Discussion of Comments

The FAA received several hundred comments in response to the proposed rule. Most of the comments addressed only the issue of child restraints. Other comments addressed other issues concerning cabin safety. A few comments addressed the proposed changes to attitude indicators and check airmen. Comments were submitted by passengers, parents, consumer groups, universities, manufacturers, airlines, airline associations, pilot and flight attendant associations, the NTSB, and others. A discussion and response to the issues raised follow.

Child Restraint Systems

The FAA's proposed rule and these amendments allow for the voluntary use of child restraint systems. A certificate holder will be required to allow the use of an approved child restraint system on its aircraft when requested and when an approved child restraint system is provided by the child's parent, guardian, or attendant and when a ticket is purchased for a passenger seat in which to place the restraint system, or when a passenger seat is otherwise made available by the certificate holder. The certificate holder may also provide the child restraint system. The certificate holder will allow the use of any child restraint system which has been certified as complying with the regulations of the U.S. Department of Transportation, the United Nations, or a foreign government as long as the restraint can be secured to a forward-facing passenger seat. The certificate holder will ensure that the child restraint system is properly secured to a forward-facing passenger seat and that the child is properly secured in the child restraint system. If a child restraint system is placed in a sideward- or rearward-facing passenger seat, it may not be occupied during movement on the surface, or during takeoff or landing (§§ 91.107(a)(3), (b), and (c); 121.311; 125.211; 135.128).

Comments on the proposal were solicited in a number of areas as discussed below.

Public Desire for Mandatory Requirements

The largest number of comments addresses the issue of whether use of child restraint systems should be mandatory. Most of the commenters favor mandatory use of child restraint systems, including the Air Transport Association (ATA), the National Transportation Safety Board (NTSB), the Airline Pilots Association (ALPA), the Association of Flight Attendants (AFA), the Association of Professional Flight Attendants (APFA), the Independent Federation of Flight Attendants (IFFA), the Independent Union of

chose automobile transportation because of the additional cost of air travel.

FAA Response: The issue of mandatory use of child restraint systems has two components. For children 2 years of age or older the only question is whether a child restraint system would be safer for children below a specified height and weight limit than adult-type lap belts. For children under 2 years of age the question is more complex, because under present rules these children are not required to occupy a separate passenger seat and traditionally have flown for free.

To facilitate discussion of these issues throughout this document, ''child'' is used to refer to children of any age who may use a child restraint system aboard an aircraft and ''infant'' is used to refer to children under 2 years of age.

Because present rules do not require an infant to have a separate seat, and because most infants carried on an adult's lap have been allowed to fly for free, a decision to mandate the use of a child restraint for an infant would have significant economic impact. It would require that the accompanying adult purchase a separate seat unless the certificate holder volunteered to provide the seat free of charge.

Based on an economic analysis prepared for the FAA by Apogee Research, Inc., ''If airlines follow current rules and sell seats for infants on the same discounted terms as used for children 2 to 12 years of age, travel costs will increase by $185 for the average traveling family or more than $250 million in the first year for all families who continue to fly; this later figure will increase to more than $3 billion through the year 2000''.

Because of the potential costs and other factors discussed elsewhere in this preamble, the FAA is not requiring separate seating of infants in approved child restraints at this time, nor is the FAA requiring that a child within certain height and weight limits, regardless of age, use an approved child restraint system. The FAA may consider additional requirements in the future if further investigation warrants such action.

Air Carriers' Willingness to Provide Restraint Systems and/or Free Seats

No explicit comments were received from air carriers on this issue. However, under these amendments, certificate holders would not be required to provide child restraints or free seats. They would be required to allow the use of a child restraint system for a child whose parents have purchased a ticket for the passenger seat for the child's use, or in cases where the certificate holder allows the parents to use an available passenger seat for an infant.

Parents' Willingness to Purchase an Extra Seat

Comments were split among those who think parents should pay for extra passenger seats for infants who currently fly free, those who believe that air carriers should provide free passenger seats for infants, and those who believe that air carriers and parents should share the cost. Several commenters indicate that if carriers provide passenger seats for infants free of charge, the additional cost would be spread out over the air traveling population.

FAA Response: Because the FAA has decided not to require separate seating of infants in child restraint systems at this time, the question of how to spread the cost is not relevant to this rulemaking.

Who Will Provide the Child Restraints

The opinions of commenters are divided as to who should provide the child restraints (parents, air carrier, or both).

Some commenters believe that parents should provide child restraints, because many parents already own such restraints for use in their automobiles. The use of child restraints is required in all 50 States and the District of Columbia. On the other hand, some commenters, especially parents, believe that it would be an added burden to carry on board their own child restraints. Others believe that provision

Types of Restraint Systems

The proposed rule would have allowed the use only of child restraint systems currently certified as complying with the regulations of the U.S. Department of Transportation for automobile and aircraft use and which require a separate passenger seat. Many commenters, however, recommend alternative child restraint systems that do not require the purchase of an additional passenger seat. Some individuals and companies presented designs for such alternatives. ATA advocates continued joint research, on a domestic and international level, to devise the most effective, cost-beneficial child restraint system, preferably one that does not require an additional passenger seat. Other commenters stress the importance of standardization. For example, the International Air Transport Association (IATA) calls for international safety standards on child restraints, and ATA presents a petition requesting the FAA to approve the use of British-approved child restraints (approved by the British Civil Aviation Authority [CAA]) on U.S. air carriers. This would be to reciprocate the CAA's recent action approving the use of child restraints which have been certified as complying with DOT regulations on British air carriers. In addition, some commenters, such as RAA, comment that existing systems may not always be compatible with smaller aircraft operated by regional air carriers. RAA advocates the continuation of ongoing studies to address the issues of child restraint compatibility and effectiveness, particularly in terms of child restraint use in smaller aircraft.

FAA Response: The FAA agrees that continued research is appropriate to better ensure: (1) compatibility of child restraint systems between aircraft and automobiles, between large and small aircraft, and between U.S. and foreign air carriers; and (2) development of alternative forms of child restraint systems that may not require an additional passenger seat. In the meantime, to provide an appropriate level of safety and flexibility, the FAA has decided to broaden the categories of usable child restraint systems to include child restraint systems approved under United Nations standards or by any foreign government.

These amendments expand the number of approved systems to include those approved by any foreign government or those manufactured under standards of the United Nations (U.N.) agreement concerning approval of restraining devices for child occupants of power-driven vehicles. The FAA has no knowledge that child restraint systems showing manufacture under the U.N. standards have been developed; however, it is anticipated that such seating systems could be in use eventually.

The FAA recognizes that there is a prohibition against the importation of child restraints which have not been certified as complying with the regulations of the United States Department of Transportation. While the FAA does not wish to encourage the use or importation of child restraint devices not certified as meeting U.S. safety standards, it is concerned about the safety of young children flying from abroad to visit this country. Enhancing their safety cannot be readily accomplished using child restraints certified to U.S. standards since persons living abroad cannot readily purchase such restraints in their countries of origin. The type of child restraints readily available to those persons are child restraint devices which have been approved by a foreign government or those manufactured under U.N. standards. Using these restraints in an aircraft will provide a level of safety greater than that which would be provided if the young children were held in the arms of adults or if safety belts alone were used.

The FAA wishes to emphasize its belief that importation of child restraints not certified to U.S. standards would be not only temporary, but also relatively brief. That is, most would be used by persons who would be in the United States only for a short time. The restraints would exit the country when the persons depart for their countries of origin. In view of the temporary nature of the importation, and the considerations of safety and practicability discussed above, the FAA will allow the use of child restraints which are approved by a foreign government or manufactured under U.N. standards and which have a stamp, decal, or some other mark which indicates foreign government approval or conformance with the U.N. standards.

Age vs. Stature and Weight Requirements

Several commenters propose a variety of standards for use in determining when child restraints can be safely used. The NTSB recommends stature (length, height) and weight (versus age) requirements. Other commenters propose child restraints for children using age cut-offs.

secured. A safety belt advocacy group recommends training and literature for flight attendants on the proper use of child restraint systems.

FAA Response: The FAA has reviewed the proposal to allow an operator or a certificate holder to refuse to permit use of a child restraint system that has an obvious defect and, in the operator's or certificate holder's judgment, may not function properly. The proposed rule would have allowed an operator to refuse the use of a child restraint system even though the child restraint system was properly labeled, the child did not exceed the specified weight limit, and the child restraint system could be properly secured to the passenger seat. Upon review of this proposal, the FAA has determined that it could create more problems than it would solve. It raises questions such as what should be done if a dispute arises between a parent or guardian and the airline personnel over the condition of a particular child restraint system. Because of the uncertainty, the FAA has removed the proposed provision in §§91.107(b), 121.311(d), 125.211(d), and 135.128(c) that would have allowed an operator or certificate holder to refuse to permit the use of a child restraint system that, in the operator's judgment, may not function properly.

The operator or certificate holder has the responsibility under this rule to ensure that a child restraint system is properly secured to a forward-facing seat, the child is properly secured and does not exceed the weight limit for the restraint system, and the child restraint system is properly labeled. Nevertheless, the FAA has determined that, when a parent or guardian provides a child restraint system, it is the responsibility of the parent or guardian to ensure that the child restraint system to be used is free of any obvious defects and functions properly. These are the same systems that should be used to transport the infant or child to and from the airport, probably in an automobile. The parent or guardian has the responsibility for determining that the child restraint device is safe for use in both modes of transportation. The intent of this change is to increase the chances that a child restraint system will be used.

Estimates or Evidence of Infants Traveling by Air or of Infant Fatalities

The FAA had requested available data on the number of infants traveling and infant fatalities to compare it to data presented in the NPRM preamble and to assess better the need for child restraint systems. Few comments were received. Commenters who provide estimates of infants traveling by air generally support the statistics used by the FAA in the NPRM preamble. (The FAA estimated over 4 million enplanements by infants [children under 2 years of age] per year.) A few commenters cite statistics from ATA, estimating 5,000–10,000 infants traveling by air per day, or .5 to 1 percent of the traveling public, which (based upon 452.4 million enplanements in 1989) is between 2.3 and 4.5 million enplanements per year.)

FAA Response: There appears to be no disagreement that the number of infants traveling by air is very large. The FAA will continue to rely on the data as originally presented in the NPRM because the ATA statistics support the original FAA estimate of 4 million enplanements.

On the issue of infant fatalities, a draft economic analysis prepared after the NPRM was published presents somewhat different data from that given in the NPRM. The most recent analysis, using NTSB accident data, estimates that in the last 12 years, there were 9–10 infant fatalities in 6 accidents; of these 6 accidents, 1 accident might have had 1 preventable infant fatality. In comparison, the FAA's original data estimated 8 accidents in the last 15 years where child restraint systems might have prevented some infant fatalities; the number of fatalities that could have been prevented was not estimated. The FAA will rely on the updated information; those data show fewer cases than originally estimated where child restraint systems could have prevented infant fatalities.

Cost/Benefit: Mandatory Use of Restraints

In the NPRM, the FAA solicited comments on its cost/benefit analysis. Commenters on this area are divided into two groups: those who support mandatory use of child restraint systems and those who are against mandatory use of child restraint systems (some of whom expressed support for voluntary

due to the cost of buying additional tickets for passenger seats for infants, resulting in more deaths in automobile accidents; it claims that the FAA's estimates of highway fatalities are too low.

Another commenter also presents its own cost/benefit analysis and concludes that making the use of child restraint systems mandatory would increase regulation and result in fewer passenger miles flown and more people driving. This, in turn, would result in more fatalities in automobile accidents, which would be greater than the number of lives saved if use of child restraint systems were mandated for airplanes.

Finally, some commenters state that the number of lives saved because of child restraint systems would be minimal due to the overall safety of air travel and, therefore, it would not be worth the additional cost.

FAA Response: As noted above, an economic analysis was prepared for the FAA after the NPRM was published. This analysis concluded that mandatory use of a child restraint would reduce substantially the safety benefit as the additional cost to parents results in less air travel and more—but less safe—highway travel. For the purposes of making a decision on this action, however, all analyses placed in the docket show that mandating the use of child restraint systems would result in increased transportation-related child fatalities and in other ways would have societal costs in excess of the benefits of the action. There are no analyses available to the FAA that contradict that fundamental conclusion. The FAA finds that while air travel is extremely safe overall, the ability to use child restraint systems should be guaranteed as a further safety enhancement when a passenger seat is made available by the air carrier or a ticket for a passenger seat is purchased by an accompanying adult.

Passenger Information

Regulations on passenger information are being revised to require that passenger briefings include information on safety belt and smoking regulations and to require that passengers comply with these regulations. The rule includes: (1) requiring that passenger information signs (''no smoking'' and ''fasten seat belt'') be turned on or posted while the aircraft is moving on the surface [§§ 91.517(a) and (b); 121.317 (b) and (j); 125.217(a); 135.127(e); and 135.177(a)(3)]; (2) requiring passenger compliance with lighted signs, instructions, etc., in those regulations that do not currently contain such a requirement [§§ 91.517(c), (d), and (e); 121.317(f), (g), and (k); 125.217(b) and (c); and 135.127(b) and (g)]; and (3) requiring passenger briefings on safety belts and smoking, and passenger compliance in those regulations that currently do not require such briefings and compliance [§§ 91.519(a)(1) and (a)(2); 121.317(d); 121.571(a)(1)(i) and (a)(1)(iii); 125.327(a)(1) and (a)(2); and 135.117(a)(1) and (a)(2)].

It should be noted that the requirements concerning the prohibition on smoking have changed (55 FR 8364; March 7, 1990). Although these changes were not reflected in NPRM No. 90–6, they are reflected in these amendments. These changes are primarily organizational and do not affect the substance of these amendments.

Comments and FAA responses regarding passenger information are divided into the categories discussed below. The FAA has also addressed any comments suggesting editorial changes to the final rule.

Aircraft Movement on the Surface

Several commenters, including RAA and ATA, express a need to clarify whether the proposed language would require flight attendants to be seated with safety belts and shoulder harnesses fastened during aircraft movement on the surface. Some of these commenters oppose such a requirement; three others favor it.

One commenter states that current § 121.391 requires only that ''required'' flight attendants remain seated during taxi, which allows any nonrequired attendants to provide service during taxi. The commenter recommends that all flight attendants be seated during taxi.

One commenter asks if the requirements would prohibit serving refreshments during runway delays. (See discussion under "Passenger Equipment.")

Finally, AFA recommends that the rule require that overhead bins be closed during surface movement.

FAA Response: The new rule language of §§ 91.107 and 121.311(b) and of §§ 125.211(b) and 135.128(a) without the reference to shoulder harnesses is the same as the current rule with the exception that the phrases "movement on the surface" and "or her" have been added.

Current § 121.391(d), which pertains to flight attendants and is not being revised in these amendments, states in part, "During taxi, flight attendants required by this section must remain at their duty stations with safety belts and shoulder harnesses fastened except to perform duties related to safety of the airplane and its occupants." These duties might include safety briefings, attending to distressed passengers, and responding to emergency situations. Flight attendants in excess of the number required by § 121.391 are, in effect, other "person(s) on board a(n) . . . aircraft" and are required by § 121.311(b) to be seated with safety belts secured during movement on the surface. Therefore, no flight attendant may provide food or beverage service during any movement on the surface. (See "Passenger Service" section for further discussion.)

Regarding the comment concerning surface movement of seaplanes, the FAA agrees that a pilot would be unable to moor or to launch such an aircraft, including float equipped rotorcraft, without first unfastening his or her safety belt and shoulder harness. This issue is already addressed in §§ 91.105(b)(2) and 135.171(b) which state that a shoulder harness must be fastened unless "the crewmember would be unable to perform his or her required duties with the shoulder harness fastened." To extend this exemption to safety belts and passengers, a sentence has been added to §§ 135.129(a) and 91.107(a)(3) that allows either a pilot or another person to have his or her safety belt or shoulder harness unfastened for the purpose of launching or mooring a seaplane or a rotorcraft equipped with floats.

The comment concerning the issue of closing overhead bins is already addressed in the requirements for carry-on baggage in § 121.589(b), i.e., that all such items must be properly stowed before pushback.

Passenger Compliance

A joint comment from several flight attendant associations (APFA, IFFA, and IUFA) suggests that proposed §§ 91.519, 121.317(k), 121.571(a)(1)(iii), 135.117(a)(2), and 135.127(g), which would require passengers to comply with safety belt and smoking rules, be broadened to include compliance with "all safety items."

FAA Response: Because the FAA only proposed compliance with the safety belt and smoking rules, inclusion of other safety items would be beyond the scope of the notice.

Passenger Briefings

One commenter states that the proposed requirements to brief passengers "on when, where, and under what conditions" smoking is prohibited and safety belts or, as applicable, shoulder harnesses must be fastened are unnecessary and might be stated more generally.

FAA Response: The requirements are not overly specific. Passengers must be told that smoking is prohibited while the "no smoking" sign is lighted or posted (when); if applicable, anywhere in the cabin, including lavatories (where); and, if applicable, during emergency situations (under what conditions). Passengers must also be briefed on the use of safety belts and shoulder harnesses, that they must use them when the "fasten seat belt" sign is lighted or posted (when); that they must return to their seat when the sign is lighted (where); that they will be asked to use their safety belts during turbulence, takeoffs, landings, and at all other times they are in their seat (under what conditions).

heavy burden on smaller operators. However, operators are encouraged to conduct briefings in multiple languages when and where appropriate.

Order of Briefing Presentation

The Airline Passengers Association of North America (APANA) suggests that passenger briefings be done in a specific order.

FAA Response: It is not necessary that the regulations specify a particular order to the briefing items as long as all safety items are covered. There is no empirical evidence to indicate that the order of items covered in the briefing has any safety significance. Flight attendants should be allowed flexibility in conducting the briefing in order to address properly specific needs of a flight. For example, because passengers might be attempting to stand, it might be expedient to give the safety belt announcement out of some set order.

Placards

RAA suggests that current § 121.317(d) be revised to allow for placement of safety placards in a "location in full view of the passenger" instead of requiring them on each passenger seat back.

FAA Response: This suggestion had previously been proposed (48 FR 45214), but the FAA has not yet taken final action on the proposal. As a result of the comment, and because the requested change would simplify the requirement without decreasing its effectiveness, the FAA is relaxing the requirement of § 121.317(d) to permit the location of legible signs or placards in appropriate locations where the message would be visible to each seated passenger.

Smoking on the Flight Deck

A joint comment from the flight attendant associations suggests that proposed § 135.127 be revised to allow smoking on the flight deck only if a solid door separates the flight deck from the passenger compartment.

FAA Response: The purpose of prohibiting smoking in the cabin is in part to protect the cabin air quality for passengers. The proposed language in § 135.127 implies that the physical separation would be such that the smoke would not affect air quality in the passenger compartment. The proposed language is adequate and has not been changed in the amendment. However, the FAA is currently studying the issue of smoking on the flight deck as a result of a petition for rulemaking on this subject. When the studies are complete, the FAA will address this issue in its response to the petition. (See Docket No. 26139.)

Passenger Service Equipment

The proposed rule and these amendments require all food, beverages., and tableware; food and beverage trays; seat back tray tables; passenger service carts; and movie screens to be secured and stowed during aircraft movement on the surface, takeoff, and landing (§§ 91.535; 121.577; 125.333; and 135.122).

Several commenters, including ALPA, APANA, and NTSB, concur with the proposed requirements. A number of commenters oppose the food and beverage requirement primarily because it would pose a hardship on operators of small aircraft that have no galley for storing food. These operators normally store the food in plastic containers on empty passenger seats. Commenters believe that food and beverages in plastic or styrofoam containers pose no hazard to passengers.

A few commenters object to the proposal because it would curtail the current practice of providing food and beverages during ground operations before takeoff. Also some operators would like to provide food and beverages during delays that may occur after pushback.

One commenter expresses concern that the proposal would prohibit pre-departure beverages in first class thereby causing some potential loss of revenue through a decrease in first-class ticket sales.

the aircraft was moving on the surface. Such items could become a safety hazard during an emergency and could block or slow passenger movement during an evacuation.

Before an aircraft moves, all of these items must be stowed in secured positions. This requirement is intended to prevent food and beverage service during movement on the surface because food, beverages, containers, and trays may impede passenger egress in the event of an emergency.

To ensure the maximum safety of occupants in the event of an incident or accident or of an emergency evacuation, all items of food and beverage service must be stowed in secure positions.

Operators of small aircraft that do not have galleys may comply with the proposed requirements by stowing all food and beverage service items in other secured positions. Food and beverage items may be stowed in a passenger seat if the items are secured in accordance with current cargo-carrying requirements in §§ 91.525, 121.285, 125.183, and 135.87. The FAA is not requiring the installation of a galley on such aircraft. Food, beverages, and service items must be securely stowed to prevent such items from falling into the aisle and impeding passenger egress in the event of an emergency.

The FAA intends the rule to prohibit food and beverage service during movement on the surface. If food or beverages are served during delays after pushback when the aircraft is stationary, all food service items and equipment must be stowed in secured positions before aircraft movement on the surface may be resumed. However, this requirement would effectively prohibit providing food and beverage service during any short duration delays interspersed with some aircraft movement on the surface.

The FAA recognizes that food and beverage service provided by an airline is important to passengers; however, such a service does not take priority over safety considerations. During aircraft movement on the surface "required" flight attendants should be alert to any safety problems and should not be distracted by conducting food and beverage service. Current § 121.391(d) requires that during taxi, flight attendants required by the section must remain at their duty stations with safety belts and shoulder harnesses fastened, except to perform duties related to the safety of the airplane and its occupants. Section 121.391 allows certificate holders to provide more than the "required" flight attendants. In accordance with § 121.391(d), these extra attendants do not have to be at a duty station during taxi and in the past may have provided food and beverage service. This rulemaking, in effect, prohibits such food service during movement of the aircraft on the surface because all food and beverages provided by the air carrier and all service items must be securely stowed before movement. This rulemaking also requires these extra flight attendants to be seated during movement on the surface. (See related discussion under "Aircraft Movement on the Surface.")

One commenter concludes that a decrease in pre-departure beverage service may result in a decrease in first-class ticket sales. The rule would prohibit providing food and beverage service during movement on the surface. (Food and beverage service is already prohibited during takeoff and landing.) That means that, from pushback to takeoff, beverages will not be served. In most cases, this is less than 15 minutes. Moreover, if there is a delay on the taxiway prior to takeoff, the delay is usually no more than several minutes. Thus, the time involved is relatively short. The commenter does not assign a value to beverage service offered during this time period. Given the short duration of time involved, the FAA is not persuaded that the diminished value, if any, of a first-class ticket due to this amendment would result in a decrease in first-class ticket sales.

Regarding the use of movies to conduct safety briefings, the requirement will not affect safety briefings as long as the movie screen does not protrude into the aisle.

Fire Extinguishers and Protective Breathing Equipment

The NPRM proposed changes to and these amendments revise §§ 121.309(c) and 121.337(b)(9) to specify the airplane compartments for which hand fire extinguishers and protective breathing equipment (PBE) must be provided.

on an airplane to which they are assigned duties.

The language of § 121.309(c)(3) means that fire equipment must be located inside a galley which is not within a passenger, cargo, or crew compartment; such galleys are not accessible through passenger, cargo, or crew compartments and therefore, the fire equipment would, in effect, be inside these galleys. The language of § 121.309(c)(6) means that fire equipment can be located either inside or outside a galley that is located in a passenger compartment as long as that equipment is easily accessible.

Safety Belts in Airships

The NPRM proposed to and these amendments modify the exclusion for airships in current §§ 91.107 (a)(1), (a)(2), and (a)(3) and 91.205(b)(12). Airships type certificated on or after November 2, 1987, would be required to have safety belts available for all occupants who have reached their second birthday, and pilots would be required to brief passengers on how and when to fasten safety belts. Also §§ 91.107(b) and 91.205(b)(12) are revised to remove obsolete references.

The NTSB concurs but recommends companion requirements that would require all airship occupants to wear safety belts during takeoff, landing, and turbulent conditions, and to require persons under the age of 2 to occupy approved restraint devices during takeoff, landing, and turbulence. The comment also suggests that the FAA encourage operators and manufacturers to install safety belts in airships that were type certificated before November 2, 1987.

FAA Response: These amendments require airship occupants to wear safety belts during movement on the surface, takeoff, and landing (§ 91.107(a)(3)). Rather than specify "turbulence," § 91.517 and comparable sections of these amendments state "during aircraft movement on the surface, for each takeoff, for each landing, and when otherwise considered to be necessary."

Section 91.107 has been revised to allow for the use of child restraint systems if a parent or guardian wishes to use one for his or her child. Mandatory requirements for use of child restraint systems are not included in this rulemaking.

While not required in this rulemaking, in the interest of safety to occupants of airships type certificated before November 2, 1987, the FAA encourages operators and manufacturers of airships to install safety belts and use them in airships that are not required to have them.

Shoulder Harnesses

Current § 91.105(b) requires that each required flight crewmember of a U.S.-registered civil "airplane" shall, during takeoff and landing, keep the shoulder harness fastened while at his or her station. The proposal revises the current language to include all U.S.-registered civil "aircraft," thereby expanding the requirements to rotorcraft.

Three comments were received on the proposal. One comment said the FAA should mandate the installation of shoulder harnesses. AFA says that the proposed requirement does not address the accident cited in the preamble of the proposed rule that involved a helicopter not equipped with shoulder harnesses. The NTSB concurs with the proposal.

FAA Response: The FAA is not mandating the installation of shoulder harnesses, because such action would be beyond the scope of the notice. The use of shoulder harnesses is required only where they are installed on the aircraft. The FAA encourages operators and manufacturers to install shoulder harnesses in aircraft that do not already have them.

Airplane Evacuation

The NPRM proposed establishing a new § 121.570 to require that an airplane carrying passengers cannot move on the surface, take off, or land unless each automatically deployable emergency evacuation assisting means installed on the airplane is ready for evacuation (armed). It also would require that

floor-level exits should be available for egress.

FAA Response: Current rules require that evacuation assisting means be ready for evacuation during taxi, takeoff, and landing § 121.310(a)). This leaves a period of time after the passenger loading door is closed and the loading ramp pulled back but before taxi when no means of egress is available. The amendment requires arming of evacuation means when an airplane is to be moved on the surface. This could occur after completion of ground operations, but before the movement of the airplane.

The FAA is requiring that one floor-level exit be available for passenger egress at all times passengers are on board prior to airplane movement on the surface. The intent of this amendment is to ensure that, whenever the airplane has passengers on board, a means for egress is available. Because the aircraft is at the gate during the time period covered by this new requirement, the FAA is not requiring that additional exits be available as several commenters suggest. Due to its gate location, additional help to expedite egress is readily available in an emergency situation.

Attitude Indicator

The NPRM proposed to revise § 121.305 to extend its applicability to all large turboprop airplanes. This rule requires an additional attitude-indicating instrument for bank and pitch operating from a source of power independent of the normal electrical generating system.

One commenter states that a simple turn-and-slip indicator should suffice. Several commenters raise questions concerning the requirement that the additional attitude-indicating instrument must operate from a source of power independent of the normal electrical generating system. One commenter asks whether the additional source of power must be independent of engine driven sources. Another recommends that the attitude indicator should be powered by an independent battery because the main battery may already power too many required items in the event of failure. ALPA says that the FAA has neglected a significant group of airplanes, namely turboprops between 10 and 30 passenger seats. The NTSB concurs with the proposal but does not think a 2-year compliance date is needed since the equipment is available now.

FAA Response: As stated in the NPRM, the purpose of the change is to respond to NTSB Safety Recommendation No. A–80–19 by extending the applicability of § 121.305 to large turboprop airplanes. The question of the adequacy of the required additional power source need not be addressed in the regulation because it would be addressed as part of the retrofit process. While the FAA is requiring that a third attitude indicator be installed in these airplanes, the FAA is not specifying how this requirement should be met as long as the power source for the indicator is independent from the electrical generating system. Installation is an engineering concern, and the acceptable means to accomplish this are detailed in other guidance documents.

The 2-year compliance date proposed by the FAA is considered to be standard for such equipment installation.

While the ALPA proposal has merit, it was not consistent with the purpose of the proposed regulation, and ALPA did not provide enough data to warrant inclusion in this particular rulemaking activity. If ALPA wishes to do so, they may submit more data regarding the need for a third attitude indicator in turboprop airplanes, and the FAA will consider that for future rulemaking.

Check Airman Practical Tests

The rule action removes § 135.303 because it is obsolete. Check airman training and checking are now in §§ 135.337 and 135.339.

One concurring comment was received from the NTSB.

Economic Summary

Executive Order 12291, dated February 17, 1981, directs Federal agencies to promulgate new regulations or modify existing regulations only if the potential benefits to society for the regulatory change outweigh

Evaluation, this section also contains a final regulatory flexibility determination required by the 1980 Regulatory Flexibility Act (P.L. 96–354) and an international trade impact assessment. If the reader desires more detailed economic information than this summary contains, then he or she should consult the Regulatory Evaluation contained in the docket.

In this Regulatory Evaluation, the FAA evaluated nine amendments. All but one of these amendments impose no significant costs. The FAA found that all nine amendments are cost beneficial. A summary of the evaluation of each of these nine amendments follows. For a more detailed analysis, the reader is referred to the full evaluation contained in the docket.

Child Restraint Systems

The FAA will require under these amendments that certificate holders accept for use in passenger seats approved child restraint systems provided by a child's parent, guardian, or attendant. From an economic perspective, the important point of the final regulation is its optional nature. Children under 2 can still fly for free if they sit in an adult's lap. Those parents of children under 2, however, who decide to place their children in child restraint systems will now be able to do so. The cost would be the purchase of an airline seat to use for the child restraint system. This cost is not a cost of the regulation because child restraint systems are not required by this rule. Moreover, the air carriers are not required to purchase or to stock these seats; therefore they incur no costs.

In an economic study prepared for the FAA by Apogee Research, Inc., 9–10 infant fatalities were identified in 6 accidents over the 12-year period between 1978 and April 1990. The FAA believes that some, but not all, of these casualties could have been prevented by the proper use of child restraint systems. Based upon seating location, damage to the aircraft, and the types and extent of injuries sustained, the FAA believes that one fatality, one serious injury, and 2–5 minor injuries were preventable. The estimated total discounted benefits resulting from the use of child restraint systems as a result of this amendment would be as high as $5.91 million. As there are no costs for this rule, the FAA finds that this amendment would be cost beneficial.

Attitude Indicators

The FAA is amending Part 121 of the Federal Aviation Regulations (FAR) to require an additional attitude indictor (for bank and pitch) to be installed on all turboprop airplanes that are used in operations under that Part and that this additional indicator operate from a power source independent of the airplane's normal electrical generating system. This recommendation came as a result of two accidents over the last 10 years in which large turboprop cargo airplanes were flying in IFR conditions when they lost their attitude-indicating instruments; in both cases, the flightcrew lost control and crashed, killing all on board.

This amendment should eliminate this type of accident. The FAA estimates that the benefits of a cargo turboprop airplane avoiding this type of accident are $6.0 million, and that the estimated benefits for passenger turboprop airplanes are $30.2 million for 30- to 40-seat airplanes and $41.0 million for 40+-seat airplanes. Each of these benefit estimates was multiplied by the annual probability that a turboprop airplane would have such an accident. The expected values were then projected out over a 10-year period and finally discounted to obtain the present value of benefits. The estimated present value of the benefits per turboprop airplane are:

Type of Airplane	Present Value—Benefits
Cargo	$23,200
30–40 Seat Passenger	116,800
40+ Seat Passenger	158,600

Type and Age of Airplane	Present Value—Costs
Old Turboprop Airplanes	$7,900
New Turboprop Airplanes	3,100
Future Turboprop Airplanes	7,400

For each type of airplane, the benefits from this amendment exceed the costs. Accordingly, the FAA determines that this amendment is cost beneficial.

Passenger Information

The FAA has recognized three issues concerning the dissemination of passenger information. First, existing regulations do not require that the lighted passenger information signs such as the "no smoking" and the "fasten seat belt" signs be turned on while the airplane is taxiing. Second, in some circumstances certain parts of the FAR do not require passenger compliance with these lighted passenger information signs, posted signs and placards, and crewmember safety-related instructions. Finally, some passenger briefing requirements lack specific information about safety belts, smoking aboard aircraft, or passenger compliance. As a result, the FAA is changing the FAR to address these issues.

The FAA finds that there are no costs to this amendment. The intent of these changes is to clarify the type of passenger safety related information that needs to be disseminated and to codify the requirements concerning issuing such material. None of the changes would involve any costs to the air carrier or passengers. The actions that are being required would still have to be performed prior to takeoff and landing.

There are benefits, however, in requiring passengers to comply with the fasten safety belt requirements. The FAA has found a number of incidents since 1970 where passengers and/or flight attendants not using safety belts have been injured during taxiing. Some of these incidents involved airplane collisions wherein seated and belted-in passengers avoided injuries. Therefore, the FAA concludes that the use of safety belts could have prevented some of these injuries. Thus, the FAA finds that this rule is cost beneficial.

Passenger Service Equipment

Current FAA regulations do not require passenger service carts, food and beverage trays, seat back tray tables, and movie screens to be stowed during taxiing. Because of this, given an emergency evacuation situation during the taxiing phase, passenger emergency departure procedures could be impeded. Accordingly, the FAA would require an operator to secure all such apparatus before the aircraft is taxiing.

This amendment does not involve any additional costs to the air carrier operator. These actions would still have to be performed before takeoff. The only difference is that they would have to be done before pushback. There are, however, potential benefits as a result of this rule change (facilitating passenger egress during emergency situations). The FAA, therefore, finds that this amendment is cost beneficial.

Shoulder Harnesses

Currently, all crewmembers aboard U.S.-registered civil airplanes that are equipped with shoulder harnesses are required to wear them at specific times and under specific conditions. The amendment mandates the wearing of shoulder harnesses on all aircraft, but only if the crewmember's seat is equipped with a shoulder harness and the crewmember is able to perform required duties with the shoulder harness fastened. This amendment, however, does not require the retrofitting of shoulder harnesses on those aircraft. Therefore, the FAA finds that there are no economic costs to this amendment. Studies completed by the NTSB have shown that wearing shoulder harnesses has saved lives during accidents and that not wearing shoulder harnesses has resulted in fatalities or serious injuries during survivable accidents. Previous

the arming of such equipment before any airplane surface movement when passengers are on board.

The FAA has determined that there are no additional economic costs to this amendment. All that the amendment does is require a specific action (the arming of this equipment) earlier than is currently required. Given the possibility of emergency situations requiring passenger egress when the assisting means has not been made ready for evacuation, the FAA finds that this amendment will facilitate emergency evacuations and is, therefore, cost beneficial.

Fire Extinguishers and Protective Breathing Equipment

The current FAA regulations governing the placement of fire extinguishers and protective breathing equipment are unclear. Accordingly, the FAA is changing the language of the applicable sections of Part 121 to clarify these regulations. As the total quantity of this equipment would not change as a result of this amendment, there are no costs involved; the principal benefit would involve clarifying the location of such equipment. The FAA, therefore, finds that this amendment is cost beneficial.

Check Airmen Practical Tests

Existing § 135.303 of the FAR, which requires check airman to pass oral and flight tests, is unclear about what constitutes these tests. Because there are other training and checking requirements in the FAR, the FAA has determined that this part of the FAR is obsolete and is removing this section. Benefits will accrue to the airlines that will no longer have to request exemptions from this section. The FAA, therefore, finds that this amendment is cost beneficial.

Safety Belts in Airships

Current FAA regulations exclude airships from the requirements of briefing passengers on how and when to fasten their safety belts and shoulder harnesses and on requiring each occupant to use them. The FAA is revising the FAR by removing the exceptions to airships. This amendment, however, does not require that airships be retrofitted with either safety belts or shoulder harnesses.

The amendment mandates the wearing of such equipment on airships if such safety belts or shoulder harnesses are already installed in the airship. Thus, this amendment does not impose any additional costs. It is well known, however, that safety belts and shoulder harnesses, whether they are used in automobiles, airplanes, or rotorcraft, have helped to save lives and prevent injuries. Similar benefits will be achieved by occupants of airships wearing safety belts or shoulder harnesses. Thus, given the potential economic benefits of lives saved and injuries prevented from using safety belts and shoulder harnesses, the FAA finds that this amendment is cost beneficial.

International Trade Impact Assessment

These amendments will have little or no impact on international trade. Most of the provisions will impose little or no additional operating costs on Part 121 certificate holders. Only one of the rules will have any cost impact. That amendment will only affect Part 121 certificate holders that operate large turboprop airplanes.

This amendment requires those Part 121 operators who operate large turboprop airplanes to install a third gyroscopic attitude indicator. This amendment will have minimal effect on operators that provide international air carrier service because most operate turbojet airplanes and must already comply with this requirement. The Part 121 operators affected by these amendments mostly provide domestic and supplemental service and thus for the most part would not compete with foreign air carriers.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily and disproportionately burdened by Government regulations. The RFA requires agencies to review rules that may have "a significant economic impact on a substantial number of small entities."

121 scheduled operator has nine turboprop airplanes, these costs ($11,600) would not exceed either of the above two thresholds ($59,100 and $105,700) for scheduled carriers. If a small Part 121 unscheduled operator had three or more turboprop airplanes, the costs of these amendments would exceed the $4,150 threshold per year for unscheduled carriers. This, however, is the case for only three unscheduled operators. Thus, a substantial number of small unscheduled operators are not affected by this rule. The FAA, therefore, determines that the final amendments to Part 121 will not have a significant economic impact on a substantial number of small entities.

Federalism Implications

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this regulation will not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Conclusion

Under the terms of the Regulatory Flexibility Act, the FAA has reviewed these amendments to determine what impact they may have on small entities. The rule changes are only expected to affect a few small entities. Therefore, the FAA certifies that these amendments will not result in a significant economic impact, positive or negative, on a substantial number of small entities. In addition, the rule is not likely to result in an annual effect on the economy of $100 million or more or in a major increase in costs for consumers or Federal, State, or local government agencies. Accordingly, it has been determined that this is not a major rule under Executive Order 12291. In addition, this rule will have little or no impact on trade opportunities for U.S. firms doing business overseas or foreign firms doing business in the United States. Finally, the FAA has determined that this rule is significant under Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979).

A Regulatory Evaluation of this rule, including a regulatory flexibility determination and an international trade impact assessment, has been placed in the regulatory docket.

The Amendment

The authority citation for Part 125 continues to read as follows:

Authority: 49 U.S.C. 1354, 1421 through 1430, and 1502; 49 U.S.C. 106(g) (Revised Pub. L. 97–449, January 12, 1983).

conducting operations in ground icing conditions, part 135 certificate holders to provide pilot training on conducting operations in ground icing conditions, and part 125 and 135 certificate holders to check airplanes for contamination (i.e., frost, ice, or snow) prior to takeoff when ground icing conditions exist. This rule is necessary because accident statistics and experience indicate the importance of effectively determining whether the airplane's wings and control surfaces are free of all frost, ice, or snow prior to beginning a takeoff. The rule is intended to provide an added level of safety to flight operations in ground icing conditions under parts 125 and 135.

DATES: This interim final rule is effective January 31, 1994. Additional comments must be received not later than April 15, 1994.

ADDRESSES: Comments on this interim final rule should be mailed, in triplicate, to: Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket (AGC–200), Docket No. 27459, 800 Independence Ave., SW., Washington, DC 20591. Comments delivered must be marked Docket No. 27459. Comments may be examined in room 915G weekdays between 8:30 a.m. and 5 p.m., except on Federal holidays.

FOR FURTHER INFORMATION CONTACT: Larry Youngblut, Flight Standards Service, Regulations Branch, AFS–240, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 267–8096.

SUPPLEMENTARY INFORMATION:

Background

On September 21, 1993, the FAA published proposed requirements for ground deicing procedures for parts 125 and 135 certificate holders (58 FR 49164). Under the proposal and this interim final rule, when ground icing conditions exist, parts 125 and 135 certificate holders are required to check their airplanes for contamination prior to beginning takeoff. In addition, under the proposed and final revisions to part 125, certificate holders are required to provide pilot testing on ground deicing/anti-icing procedures, and under proposed and final revisions to part 135, certificate holders are required to provide pilot training on ground deicing/anti-icing procedures.

The FAA proposed the requirements in response to part 135 accidents that have been caused by pilots beginning take off with contamination adhering to critical airplane surfaces. Regulations covering procedures for ground icing conditions under parts 121, 125, and 135 have for many years relied on the basic ''clean aircraft'' concept, i.e., that no person may take off an airplane when frost, ice, or snow is adhering to the wings, control surfaces, or propellers of the airplane (§§ 121.629, 125.221, 135.227). Under these regulations, ultimate responsibility for determining that the airplane is free of contamination in icing conditions and thus complies with the ''clean aircraft'' concept rests with the pilot-in-command (PIC). Both the FAA and industry have developed guidance and recommended procedures to assist the PIC in making that determination.

In 1992, due to a number of ground icing related accidents that had occurred in part 121 operations and in response to industry-wide recommendations to improve the safety of operations during ground icing conditions, the FAA amended the part 121 regulations (57 FR 44924, September 29, 1992). The amended regulations retain the ''clean aircraft'' concept and in addition, require part 121 certificate holders to establish and comply with an FAA-approved ground deicing/anti-icing program.

At the time of the part 121 rulemaking, the FAA did not include parts 125 and 135 because of time constraints associated with that rulemaking and the need for further FAA review to determine the appropriateness of applying a similar rule to other types of operations.

Since that time, the FAA has reviewed the accident history for part 125 and 135 operations, conferred with industry representatives, and studied the recommendations from the National Transportation Safety

in ground icing conditions.

A part 135 operator that does not expect to authorize takeoffs in ground icing conditions is not required to incur the cost of training its pilots on operating aircraft in ground icing conditions. However, no certificate holder may authorize a takeoff and no pilot may take off unless the pilot has completed the training required in § 135.341 and described in § 135.345 for operating in ground icing conditions.

In addition to revised training, the rule also requires that whenever frost, ice, or, snow may reasonably be expected to adhere to the airplane, the certificate holder must complete an approved pretakeoff contamination check within 5 minutes of beginning takeoff, comply with an approved alternative procedure (e.g., when technology permits, having approved ice detectors or sensors installed on the airplane's wings and control surfaces), or comply with the part 121 deicing/anti-icing rule.

Operations conducted under part 125 are also included in this rule. Part 125 covers passenger carrying and cargo carrying operations involving airplanes with a seating configuration of 20 or more passengers or a maximum payload capacity of 6,000 pounds or more, when common carriage is not involved. Although the FAA's review of accident history does not reveal any ground icing accidents or incidents during part 125 operations, the types of airplanes flown are similar to those used in parts 121 and 135, the same airports are used and the same weather conditions are encountered. Thus, operations conducted under part 125 are equally susceptible to the hazards associated with operating during ground icing conditions.

While most part 125 operators use the same type airplanes as those used in part 121 operations, the size and scope of part 125 operations are more similar to the size and scope of most part 135 operations. For example, the number of aircraft used, the number of employees, and the extent of direct crew involvement for part 125 operations are more similar to part 135 operations than to part 121 operations. For this reason, the FAA is issuing rules for part 125 certificate holders that are comparable to those being required for part 135 certificate holders.

Unlike part 135, which contains pilot training requirements, part 125 contains pilot testing requirements. Therefore, under the rule, pilots operating under part 125 are required to be tested on the subject areas relating to ground icing conditions and procedures similar to those contained in the part 135 training requirements. Like their part 135 counterparts, part 125 certificate holders are also required to complete a pretakeoff contamination check within 5 minutes prior to beginning takeoff anytime conditions are such that frost, ice, or snow may reasonably be expected to adhere to the airplane. Alternatively, the certificate holder may comply with the part 121 deicing/anti-icing rule or with an approved alternative procedure, such as, when technology permits, having approved ice detectors or sensors installed on the airplane's wings and control surfaces.

This rule does not require part 125 and 135 certificate holders that do not anticipate operating during ground icing conditions to train or test their pilots or develop pretakeoff contamination check procedures. However, if pilots of a certificate holder that chooses not to train or develop deicing procedures encounter ground icing conditions, they will not be able to take off until such conditions no longer exist. Thus, the FAA is providing flexibility for certificate holders so they may determine to what extent this amended rule affects their operations.

The present provisions in parts 125 and 135 allowing takeoff with polished frost on the aircraft are retained. In addition, the amendments to parts 125 and 135 do not change the FAA's policy of permitting takeoff with small amounts of frost on the underwings in the area of fuel tanks of certain airplanes when authorized by the Administrator. The FAA has authorized takeoffs with small amounts of frost near the fuel tanks when this frost is caused by cold soaked fuel and when this frost is within aircraft manufacturer established limits that have been approved by FAA aircraft certification offices and these limits are stated in aircraft maintenance or aircraft flight manuals.

Helicopter operations conducted under part 135 have not been included in this rule because helicopter design characteristics and operations differ in many ways from airplane operations under part 135. However,

aviation safety. These associations and organizations, although generally supporting the intent of this rulemaking, also objected to various parts of the proposed rule. The FAA has carefully considered all of the comments received. A full discussion of comments and FAA responses follows.

Additional Comment Period

Several commenters object to the 15-day comment period and many more object to the rush to place this rule in effect for the 1993–1994 winter season. Several suggest that the FAA issue this rule as an interim final rule with time for additional comment as was done for the part 121 rule last year.

FAA Response

While the comment period was shorter than normally provided, the interest of aviation safety requires accelerated rulemaking to assure adequate ground deicing/anti-icing rules for this winter. In response to the comments received, the FAA agrees that it is in the public interest to make this an interim final rule, as proposed, and to provide an additional comment period to obtain further comments on the rule this winter. All comments received before April 15, 1994, will be carefully considered. If warranted, the FAA will make changes to the rule.

Applicability

The proposed and interim final rule apply to certificate holders operating airplanes under parts 125 and 135 in ground icing conditions.

One helicopter operator states that there is no justification for training its personnel on operations in ground icing conditions since helicopters are prohibited from operating in falling or blowing snow or in icing conditions. One commenter states that part 125 operators should be grouped with part 121 operators rather than with part 135 operators. Two persons operating single-engine airplanes, VFR only, questioned the applicability of the proposed rule to their operations. One stated his understanding that the rule would not apply to his business since he does not fly in icing conditions.

The Air Line Pilots Association (ALPA), while generally supporting the proposed rule, states that the proposal fosters "perpetuation of two levels of safety for scheduled air carrier operations." ALPA states that it has a policy goal of one level of safety for the traveling public and that this goal means "that aircraft having 10 seats or more being operated as a scheduled commuter air carrier should be held to the same safety standards required of scheduled part 121 air carriers." ALPA addresses and to some extent disputes each of the factors cited by the FAA (airplane size and design, pilots more personally involved in flight details, faster turn around time, shorter delays) for differentiating between part 135 and part 121 operations. ALPA concludes that "the option to choose § 121.629 requirements for part 135 scheduled commuter air carriers should be changed to a requirement."

The Aviation Consumer Action Project (ACAP) states that it "joins the NTSB, the GAO, the Dryden Commission and the Flight Safety Foundation in advocating one standard of safety for all scheduled air carriers."

FAA Response

The proposed and interim final rule language of §§ 135.227(b) and 135.345(b)(6)(iv) applies to airplane operations. Thus, no new requirements apply to helicopters. Persons who do not operate airplanes in potential ground icing conditions are not affected by this rule. This rule does not address inflight icing conditions.

In regard to ALPA's and ACAP's comments, the FAA believes that this rule provides an equivalent level of safety to the traveling public. Sections 121.629, 125.221, and 135.227 all embody the clean aircraft concept. The differences within these rules are the methods involved in assuring compliance. The FAA's goal in this rulemaking is twofold. First, as in part 121, pilots will be made fully aware, through training, of the dangers involved in beginning takeoff with contamination adhering to the airplane. Second, as in the amended § 121.629, pilots will be required to accomplish one or more checks (pretakeoff

As explained above, part 125 certificate holders have been grouped with part 135 operators in this rulemaking because their operations are more similar to part 135 operations in size and scope than to part 121 operations.

Justification

Virtually all of the adverse comments received question the FAA's justification for the rule. One commenter states that, since there have been no accidents attributed to ground icing by part 125 certificate holders, "that rate will be difficult to reduce."

Most commenters state that the 14 ground-icing related accidents involving airplanes operating under part 135 during the period 1984–1992 do not justify the rule. These commenters point out that in almost all of these accidents it is likely that the operator was in violation of the present requirements. These commenters state that what is needed is compliance with existing rules, not new rules. Also, a large number of commenters state that in most of the cited accidents poor judgment was involved and as one commenter states, "no amount of rule-making or training will improve the judgment or common sense qualities of these types of individuals."

FAA Response

The FAA recognizes that no amount of rulemaking will ensure 100% compliance with the clean aircraft concept; however, the FAA believes that the training and testing required under this rule will create an increased awareness among part 125 and part 135 pilots that will assist and improve pilots' judgement and decision-making skills.

As is stated in the proposed rule preamble, a common thread throughout the accidents and incidents cited was the pilots' apparent lack of awareness of the potential hazard from even small amounts of frost, ice, or snow on an airplane's wings and control surfaces. Thus, the FAA has determined there is sufficient evidence to justify additional training or testing and pretakeoff checking procedures to ensure that the clean aircraft concept is met prior to a pilot beginning takeoff during ground icing conditions. Specifically part 125 pilot testing and part 135 pilot training must address the elements set forth in §§ 125.287(a)(9) and 135.345(b)(6)(iv). Pretakeoff checking procedures are set forth in §§ 125.221(b) and 135.227(b).

Operating Limitations—General

Proposed and final §§ 125.221(a) and 135.227(a), which require a "clean aircraft" in order to take off, contain the same requirements and exception as contained in current §§ 125.221(a) and 135.227(a).

One commenter states that a light coating of frost adhering to a helicopter rotor blade should not pose a threat to the safe operation of the aircraft. The commenter believes that it should be up to the pilot to determine when an accumulation of frost should be removed. The commenter states that no person should attempt to operate a helicopter if ice or snow is adhering to the blades.

Proposed and final §§ 125.221(b) and 135.227(b) are new and require that during ground icing conditions an aircraft may not take off unless the pilot has completed all applicable training as required by §§ 125.287(a)(9) or 135.341 (described in § 135.345) and unless other specified requirements are met. One commenter states that the reference in part 135 should be to § 135.345 (which specifies the required training for operating airplanes during ground icing conditions in paragraph (b)(6)(iv)) rather than to § 135.341.

FAA Response

Prohibiting a pilot from taking off if frost is adhering to a rotor blade has been the rule in part 135 for many years. No change was proposed to this requirement and hence the requirement is not subject to change in the interim final rule.

FAA Response

The proposed language §§ 125.221(a)(2) and 135.227(a)(2) provides a regulatory mechanism for allowing takeoffs with small amounts of unpolished frost in the area of the fuel tanks. Technically, under the existing FAR takeoffs with any amount of unpolished frost are prohibited. Therefore, the reference in the rule to "FAA approval" is retained.

Pretakeoff Contamination Check

Proposed §§ 125.221(b)(1) and 135.227(b)(1) would require a pretakeoff contamination check to ensure that the wings and control surfaces are free of frost, ice, or snow. This check would have to be completed within 5 minutes prior to takeoff.

A number of commenters object to the pretakeoff contamination check contained in new § 135.227(b)(1). The most serious concern of these commenters is the requirement that the check must be completed within 5 minutes prior to takeoff. Commenters state that the 5-minute limitation is unrealistically short and that it would disrupt most operations. The Regional Airline Association (RAA) states that the proposed rule would require this check within 5 minutes of takeoff "*regardless of the elapsed time since being deiced, the type of fluid used, or holdover time* unless the operator complies with the entire part 121 rule or is able to install and use approved ice detectors or sensors." (emphasis in original). RAA states that this proposed rule "is more restrictive than the part 121 rule and is inconsistent with the proposed requirement that pilots must be trained in the use of holdover times for fluids being used." RAA recommends that the FAA in the final rule recognize that takeoff within recognized holdover times would be an acceptable alternative to the pretakeoff contamination check.

The National Air Transportation Association (NATA) states that the 5 minute limit for a contamination check is unnecessary and, perhaps, dangerous. NATA suggests that pilots, "in an effort to get their 'wheels in the well' in less than 5 minutes, may be tempted or even feel compelled to cut corners, to hasten through or abbreviate check lists, etc."

Several commenters point out that the description of the pretakeoff contamination check should read "within 5 minutes prior to beginning takeoff" as it does in part 121 rather than "within 5 minutes prior to takeoff" as proposed. The Aviation Consumer Action Project (ACAP) expresses concern over whether the pretakeoff contamination check can be adequately conducted from inside the airplane. ACAP states that "*it is impossible for pilots to confidently identify the presence or absence of contamination due to ground icing without leaving the cockpit.*" (emphasis in original). ACAP cites the November 1992 GAO recommendations in support of its position and urges the FAA to require tactile examination of critical surfaces as part of the approved pretakeoff contamination check for parts 125 and 135.

FAA Response

The FAA agrees with the commenter and to be consistent with the language used in § 121.629(c)(4) the word "beginning" has been inserted into the pretakeoff contamination check definition and the rule language has been changed accordingly. The requirement for a pretakeoff contamination check to be completed within 5 minutes prior to beginning takeoff should not be a burden for most part 125 and 135 certificate holders since, as a practical matter, some type of check must be made to ensure compliance with the clean aircraft concept requirements of the present rules. An approved pretakeoff contamination check is a check to make sure that the wings and control surfaces are free of frost, ice, or snow. The proposed and interim final rule language does not specify the details of this check or how many or what surfaces are to be checked, but leaves the airplane type specific details to be developed by the certificate holder to be submitted to the FAA for approval. This approval is the responsibility of the certificate holder's principal operations inspector (POI). Thus, this check could be the same procedure as presently conducted to assure compliance with the existing rules. Depending on the aircraft design, particularly for aircraft involved in part 135 operations, this check can often be made from inside the airplane.

certificate holders, that find it more advantageous to their operations, to comply with part 121.629(c) in lieu of always accomplishing a pretakeoff contamination check.

The FAA does not believe completing a pretakeoff contamination check 5 minutes prior to beginning takeoff would encourage pilots to "cut corners or hasten through or abbreviate check lists" because the pretakeoff contamination check would be one of the last checks initiated prior to takeoff.

The FAA does not agree with the ACAP assertion that it is impossible for a pilot to complete the required pretakeoff contamination check without leaving the cockpit. The rule, as proposed and as issued, requires this check to be "established by the certificate holder and approved by the Administrator for the specific airplane type. . ." In approving pretakeoff contamination check procedures for different airplane types, the FAA will consider the effects of each airplane's design on the crew's ability to ensure that the clean aircraft concept is met.

Approved Alternative Procedures

Sections 125.221(b)(2) and 135.227(b)(2) allow certificate holders to use an approved alternative procedure (to the pretakeoff contamination check) to ensure that their airplanes are free of frost, ice, or snow.

One commenter questions the availability of guidelines for use by inspectors in the field in implementing such alternative procedures. This commenter says that the only existing guidelines are in § 121.629 and asks if the FAA would accept an alternative procedure that does not meet part 121 requirements. Finally, this commenter says that the technology to detect surface frost, ice, or snow on an aircraft on the ground does not exist. The use of such equipment as part of an alternative procedure, as suggested by the FAA, would therefore not be a viable alternative.

FAA Response

The option to use an approved alternative procedure was included to permit certificate holders to develop alternative check procedures, such as industry development of new technologies. The FAA believes that certificate holders should take the initiative to develop such alternative procedures and submit them to the FAA for approval. Any such alternative procedures must be specifically designed for the type of aircraft and the type of operations in which they would be used. Contrary to the commenter's assertion, § 121.629 does not contain guidance for approval of an alternative procedure. Advisory Circular (AC) 135–XX, which appears in today's issue of the *Federal Register*, provides both guidance and coordination procedures to POI's for evaluating alternative procedures.

Compliance with Part 121 Deicing/Anti-icing Program

Sections 125.221(b)(3) and 135.227(b)(3) allow certificate holders to use an approved deicing/anti-icing program that complies with § 121.629(c) as an alternative means to comply with this rule.

Two commenters point out that there is a difference between part 135 scheduled air carriers and part 135 on-demand air carriers and that the proposed rule can only apply to the former. One of these commenters says that on-demand carriers could not implement this type of program because of the vast number of airports served and the lack of company trained personnel other than pilots.

One of the above commenters also says that training and testing previously completed in voluntary compliance with the part 121 rule and the proposed advisory circular on ground deicing and anti-icing should be accepted as evidence of compliance with § 135.227(b)(3). This commenter says that the final rule or supporting advisory circular should contain language to ensure that field inspectors are aware that they do not have to retrain and retest to comply with the new rule.

One commenter says that the proposed rule's cross reference to § 121.629(c) does not take into account that part 135 operators do not maintain part 121 documents. This commenter says that this part 121 material should be contained in the part 135 proposed rule.

by contacting the person identified under "FOR FURTHER INFORMATION CONTACT".

Initial, Transition, and Upgrade Ground Training

Proposed § 135.345 would require initial, transition, and upgrade ground training for pilots in the knowledge and procedures necessary for operating airplanes during ground icing conditions. (Similarly § 125.287 would require initial and recurrent testing for pilots on such knowledge and procedures.)

Many part 135 certificate holders commented on the proposed training requirements. Most of these commenters say that the proposed training is unnecessary because their training programs already cover frost, ice, and snow removal in accordance with existing part 135 requirements (§ 135.227). Several commenters say that such training is included in their curricula for cold weather operations. One commenter addresses deicing in the "preflight check" portion of its training manual. This commenter also points out that deicing is addressed in FAA Advisory Circular 91–13C, "Removal of Frost, Ice & Snow", as well as in pilot training for a private pilot's license and the private pilot and commercial pilot written tests.

A number of commenters say that it would be cumbersome, time consuming, and costly to create a separate training section on ground deicing. Other commenters say that the proposed rule is not justified considering the low accident rate involving part 135 airplanes where ground icing was the probable cause.

One commenter says that most part 135 operators fly into different type air fields, each with its own deicing procedures, and that it would be impractical to create a training manual to cover all the possible deicing situations.

One commenter says that if "hands on" training with glycol/water solutions becomes required, the result will be a significant environmental impact and much higher costs to the operator.

A number of commenters provide suggestions or alternative ways in which they argue the FAA should require training in ground icing conditions. One commenter says that training for pilots to recognize snow or ice, or its effects, should be covered under pilot certification rules in part 61. Another commenter says that training must be comprehensive to ensure improved pilot technique in icing conditions. A third commenter points out the need for additional training and testing covering the effect of contamination on airfoils and its relationship to aircraft performance for those seeking commercial pilot certification (parts 61 and 91).

Another commenter requests that the FAA develop and publish an Advisory Circular to provide suggested methods to comply with proposed § 135.345, particularly in terms of the 1 hour initial training requirement (during the first year after the effective date of the rule).

FAA Response

The FAA recognizes that most training programs under part 135 already address operations in ground icing conditions. The intent of this rule is to ensure that all pilots being trained under part 135 acquire knowledge and skills in all of the specific topics listed in § 135.345(b)(6)(iv). Certificate holders who already cover all of these topics can obtain approval by showing those parts of their training program to their POI's. Certificate holders who do not currently cover all of these topics will need to add whatever material is missing to their training programs. A separate training section on deicing is not necessary.

The FAA disagrees with commenters who suggest that training on ground icing characteristics should be exclusively covered under part 61 pilot certification rules or part 91 general operating rules. It is only under the part 135 training programs or part 125 testing programs that pilots can learn not only the characteristics of airplane surface contamination, but also the procedures for dealing with such contamination in their particular work environment. Much of the information learned under §§ 125.287(a)(9) and 135.345(b)(6)(iv) will be tailored to the operations of each certificate holder.

The language added to § 135.351(b)(2) in both the proposed and interim final rule references §§ 135.341 and 135.345 so that the limitation to airplanes in these sections applies.

Implementation

The NPRM, published on September 21, 1993, allowed a 15-day comment period and proposed an effective date for all part 125 and 135 certificate holders of November 1, 1993. The preamble states that a certificate holder who intends to operate in ground icing conditions on or after that date would have to amend its approved training or testing program, initially train or test its pilots, develop procedures for accomplishing pretakeoff contamination checks for each type airplane, and have the FAA approve these procedures.

The preamble also states that the FAA is aware that requiring all pilots to be fully trained or tested by the effective date could be financially and logistically impractical for some certificate holders. Therefore, if training or testing cannot be completed as part of a certificate holder's established initial training or testing program by the effective date, the FAA announced that it would allow certificate holders to submit training or testing materials for approval by the certificate holder's POI. For this first year, the FAA has determined that approved pilot bulletins or other written take-home training materials (e.g., self-graded quizzes or video tapes) will be sufficient for initial pilot training or testing. If pilots complete these approved materials, the FAA would consider initial training/testing provisions of this rule satisfied. The certificate holder could then integrate these materials into its established training or testing program.

A number of comments were received on implementation. All comments state that the implementation date is unrealistic. One commenter states that the implementation time should be at least as long as that allowed for part 121 and another that the date for completion of pilot training programs should not be sooner than 90 days after issuance of FAA guidance material. Another commenter requests there be a phase-in allowed, beginning with those operations most likely to encounter ground icing conditions. Several commenters need clarification on what must be accomplished by the implementation date.

Some commenters believe that the FAA cannot approve the programs in such a short time. In connection with FAA approval, one commenter asks what the consequences will be for certificate holders who after complying with the provisions of the new rule do not receive the required Operations Specifications and training program approval from the FAA by the deadline. This commenter would like an FAA policy statement specifying the options available to air charter operators who find themselves not in compliance through no fault of their own. The same commenter asks if an FAA approved annotation in a certificate holder's Operations Specifications to not attempt a takeoff when ground icing or falling snow conditions exist would meet the provisions of the proposed rule. One commenter says that, in its opinion, an amendment to the Aircraft Flight Log, and a new form would have to be developed, approved, and reproduced to show compliance with the pretakeoff contamination check. The time frame for such approval is approximately 90 days.

One commenter points out that FSDO offices are not fully staffed and that it would be difficult for POIs to review and approve these training programs in the time frame outlined in the notice (especially considering the proposed requirement that POIs review and approve pretakeoff contamination check procedures under proposed § 135.227(b)(1)).

One commenter recommends that the final preamble specifically allow for the use of take-home brochures, video tapes, self-grading quizzes or other types of review material as the part 121 interim final rule preamble allowed. Another commenter says that, because of the FAA imposed time line, the FAA should allow initial training and testing material to be distributed to flight crewmembers concurrent with the FAA approval process.

Two commenters mention that the guidance material promised by the FAA has not been issued and that complying with the rule will be difficult without FAA guidance.

contamination checks for each type airplane, and have these procedures approved by the FAA. If a certificate holder only provides minimal training on procedures for ground icing conditions now, the time frame does impose a greater burden. The FAA has developed a draft advisory circular, AC 135–XX, which when final will provide an outline of the material that the FAA would find acceptable to be included within a certificate holder's training program or testing procedure. The draft AC is published in this issue of the *Federal Register.*

After POI approval and completion of the approved materials by the certificate holder's pilots, the certificate holder will have satisfied the initial training/testing provisions of this rule. As mentioned previously, these materials may be take-home materials, video tapes, self-grading quizzes, or other materials. In effect, this allows a certificate holder to quickly provide initial training to its pilots and provides additional time for the certificate holder to amend its established training program.

The FAA does not believe that a phase-in of ground operating deicing procedures would accomplish the intent of the rule; however, if a certificate holder does not conduct operations with certain airplanes in ground icing conditions, procedures and training for these airplanes are not required by this rule.

Because the FAA has decided to make the rule effective on January 31, 1994. This will provide approximately the same time allowed after publication of the part 121 rule.

The FAA intends to move quickly to review and approve or deny the pretakeoff contamination check procedures and training or testing materials. The FAA has conducted training sessions for POIs and has provided POIs with guidance materials to facilitate their review.

Discussion of Cost Comments

Actual Operational Costs

One commenter states that the cost figures contained in the NPRM Regulatory Evaluation includes only training costs. Moreover, the commenter states that the actual operational costs need to be analyzed as well, prior to a fair benefit-cost determination. Another commenter states that the most important cost element has been ignored—the cost of purchasing, maintaining, and operating the deicing equipment.

FAA Response

Part 135 operators are not expected to incur significant operational costs. Of the three types of potential operational cost components (training and related functions, deicing fluids, and deicing equipment), only training is expected to impose significant incremental costs. Since deicing equipment is already in place at all major and medium size hub airports, it is unlikely that additional deicing equipment will be required by part 135 operators at these airports. Even though the deicing rule for part 121 had little, if any, impact on small airports, deicing equipment is already being used at these airports. During icing conditions, parts 125 and 135 aircraft operators at all airports (regardless of size) in the U.S. are required by §§ 125.221(b) and 135.227(b) of the FAR to utilize the FAA's ''Clean Aircraft Concept,'' i.e., no aircraft is permitted to takeoff unless it is free of contamination (i.e., ice, snow, frost, etc.). Because of enhanced safety awareness as a result of the additional testing and training required by this rule, the FAA expects some increase in the use of deicing equipment. However, the need for additional deicing equipment is expected to be insignificant.

The FAA has not included any delay costs in this regulatory evaluation that might be incurred as a result of increased deicing. The FAA believes that delays for part 135 aircraft operations would not be significant for several reasons. First, part 135 operations, because of their flexible runway requirements and quick turnaround times, often do not experience the same delays associated with larger part 121 operations. Also, many part 135 and part 125 operations take place at small airports that do not experience large numbers of simultaneous arrivals and departures associated with the larger air carrier's hub and spoke operations.

This commenter also asserts that station and vender auditing will increase dramatically for certain operators. Furthermore, the commenter notes that many of the industry's single-engine 135 operators will require deicing equipment at stations where they previously needed none, or at least require regular auditing of vendors. Currently, these vendors are seldom used, if ever. Additional deicing equipment purchase expenses for these operations will mount astronomically, according this commenter.

FAA Response

A review of the accident history, as discussed in the background section of the NPRM, indicates this rule is necessary. While the commenter believes that station and vendor auditing will increase, the commenter failed to provide any data for the agency to evaluate nor has the commenter disproved the FAA's original assessment of costs and benefits associated with this rule. The comment regarding the need for additional deicing equipment has been discussed previously.

Loss of Revenue Days

One commenter notes that besides the added cost of the additional training, there will be a loss of revenue on days they are unable to fly due to this rule being implemented too close to the winter season.

FAA Response

The FAA disagrees with this commenter. The loss in revenues on days an air carrier is unable to fly during icing conditions would not be attributed to this rule. Currently, no air carrier can takeoff from a U.S. airport (regardless of size) unless it is free of contamination, as required by §§ 125.221(b) and 135.227(b) of the FAR. More on this issue and related matters is discussed in detail under the ''Implementation'' section of this document.

Number of Operators Impacted

This commenter states that the FAA's estimate that 70 percent of the part 135 unscheduled operators are potentially impacted by the proposed rule is not realistic, i.e., this 70 percent estimate should be higher. This commenter also mentions that Docket No. 27459 is unjustified based on potential costs and benefits.

FAA Response

The FAA disagrees with this commenter. As explained in the full regulatory evaluation, an estimated 70 percent of part 135 unscheduled aircraft operators are expected to be impacted by the rule. This assessment is stated as an assumption based on data received from the FAA's Office of Flight Standards, Management Information Section, in Oklahoma City, Oklahoma. The data represents the total number of active parts 125 and 135 certificate holders by city, state, name of operator, number of employees, type of aircraft, and number of seats. Based on this information, the FAA was able to estimate the number of air taxi certificate holders in warm climates who would not be impacted by this proposed rule, since such certificate holders would rarely encounter ground icing conditions. More descriptive information on the derivation of the 70 percent estimate is contained in the full evaluation of this rule.

Lost Revenue and Reduced Aircraft Operations

Several commenters contend that as the result of the proposed rule, additional research will have to be conducted for operations in and out of airports that are not certified for part 121 operations. Furthermore, these commenters state that, in most instances, they have found that smaller airports servicing part 135 on-demand operators do not have deicing equipment readily available that will be required to comply with the proposed rule. Without such equipment at small airports, on-demand operator services could be reduced according to these commenters. In conclusion, these commenters point out that the proposed rule could result in considerable loss in revenue and discontinued operations by some operators.

According to several commenters, the cost estimates of the proposed rule cannot be calculated accurately. They contend that additional information is required to make this determination. Such information should contain answers to these questions: what is the availability of deicing equipment at smaller, non-hub airports complying with the NPRM?, how much deicing equipment is available at each destination/departure airport?, will additional equipment be required to complete the pre-takeoff contamination checks?, etc.

FAA Response

The FAA has estimated costs of this rule based on the best available data. These commenters, while disagreeing with the FAA cost estimates, did not provide any additional data. Therefore, the FAA retains its original cost estimates. However, as stated in the NPRM, the FAA is issuing an interim final rule. Therefore, the FAA will continue to accept comments from all impacted parties on costs that are not adequately reflected in its regulatory evaluation, especially with regard to the purchase of additional deicing equipment and deicing fluid by operators.

Modification of Training/Testing Program Costs

One operator asserts that the FAA economic impact of the proposed rule is misstated. According to this commenter, modification of the manuals will take 8 hours for each operator plus at least 8 hours of FAA review time. Coupled with the revision of all manuals for the industry's pilots and training, this commenter estimates the cost burden to his company to be $3,000 rather than $1,350 as estimated by the FAA.

FAA Response

The FAA disagrees with this commenter. Using 8 hours, the FAA was unable to derive the commenter's cost estimate of $3,000 for the modification of its manuals. This problem is due to the fact that the commenter fails to provide specific details of how the cost estimate was derived. In the full regulatory evaluation, the FAA provides detailed means on how it derived its cost estimates of $1,350 to $2,700 for the modification of manuals (and other materials) by operators. Without a similar illustration or explanation, the FAA is unable to evaluate the merits of this commenter's remarks. Therefore, the FAA retains its original cost estimates.

Environmental Analysis

This rule is a federal action that is subject to the National Environmental Policy Act (NEPA). Under applicable guidelines of the President's Council on Environmental Quality and agency procedures implementing NEPA, the FAA normally prepares an environmental assessment (EA) to determine the need for an environmental impact statement (EIS) or whether a finding of no significant impact (FONSI) would be appropriate. (40 CFR 1501.3; FAA Order 1050.1D appendix 7. par 4 (a)). In the NPRM the FAA requested comments on the following: (1) whether the proposed rule will increase the use of deicing fluid, (2) the impact, if any, of using these deicing fluids on taxiways "just prior to takeoff," and (3) containment methods currently used that can be adapted to other locations on an airport.

Two commenters state that the proposed rule will lead to increased use of deicing fluids. One commenter believes that the rule will cause excessive and unnecessary use of deicing fluids that will result in disposal problems and increased expense. Another commenter questions FAA's belief that "the rule will not promote significant additional use of deicing fluids" when the use of these fluids is the only method discussed in planned training and testing operations.

FAA Response

An EA that supports a FONSI is included in the docket for this rulemaking. The EA discusses in detail the potential effect of this rule and addresses in general terms the issues raised by the comments summarized above. The following discussion addresses these issues.

minor impacts even further, producing no significant impacts overall. And finally, the baseline environment of airports is already affected by ongoing airport operations, including current deicing/anti-icing programs.

Paperwork Reduction Act

Information collection requirements in these amendments to parts 125 and 135 have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (Pub. L. 96–511). The OMB control number is 2120–0578.

Regulatory Evaluation Summary

The FAA has determined that this final rule is not a "significant rulemaking action", as defined by Executive Order 12866 (Regulatory Planning and Review). The anticipated costs and benefits associated with this final rule are summarized below. (A detailed discussion of costs and benefits is contained in the full evaluation in the docket for this final rule).

Costs

The FAA estimates that the total compliance cost of this final rule will be $8.1 million over the next 10 years, in 1992 dollars. On a discounted basis (using a 7 percent rate of interest), the total potential cost is $6.7 million. This estimate is based on costs to comply with three requirements: (1) Initial Training/Testing of Pilots, (2) Recurrent Training/Testing of Pilots, and (3) Modification of the Training/Testing Program. The cost of each of these components is discussed below.

Initial Training/Testing of Pilots

The FAA assumes that all pilots under part 125 will receive initial testing and pilots under part 135 will receive initial training of 1 hour during the first year after this rule becomes effective. Training and testing will be for pilots-in-command (PICs) and pilots second-in-command (SICs). Costs for these pilots are based on their hourly wage rates of $62 and $33, respectively. The cost of initial training and testing was derived based on the total number of PICs and SICs that are expected to be trained multiplied by their respective hourly wages.

Based on aircraft data obtained from the FAA Flight Standards Service Office, Information Management Section, there are an estimated 7,950 active fixed-wing aircraft operating under parts 125 and 135 that will be affected by the rule. However, many of these aircraft operate in climates that do not experience icing conditions; therefore, FAA estimates that about 7,950 (approximately 70 percent) will be affected by this rule. In order to estimate the total number of pilots that will be trained, the number of affected airplanes was multiplied by four pilots (two active and two reserve); this is approximately 29,300 pilots. Multiplying the number of pilots trained by their average hourly wage rate of $48 results in initial training/testing costs of $1.4 million (or $1.3 million, discounted).

Recurrent Training/Testing of Pilots

The recurrent training/testing required annually for each pilot will start in the second year of the 10-year time frame of the rule. The FAA estimates that the training will take approximately 15 minutes and cost $12 ($48 per hour × .25) per pilot. This cost estimate multiplied by the total number of pilots (29,300) results in estimated annual recurrent training costs of $350,000. Over the next 10 years, this cost will be $3.2 million (or $2.2 million, discounted).

Modification of Training/Testing Program

While the FAA cannot precisely estimate to what extent operators will incur costs as the result of modifying their respective training/testing programs, this evaluation assumes that some additional costs will be incurred. To calculate these costs, the FAA estimated that this rule will affect 97 scheduled part 135 operators, 2,043 unscheduled part 135 operators, and 26 part 125 operators. The one-time cost estimate of $2,700 (scheduled part 135 operators) and $1,350 (part 125 and unscheduled part 135 operators)

and property loss from accidents involving ice contamination for airplane operations under parts 125 and 135.

To estimate the potential benefits associated with this rule, the FAA examined all of the part 135 icing accidents that have occurred from 1984 to 1992. A similar effort was employed for part 125 operations; however, there were no icing accidents or incidents involving part 125 operators. Even though there were no relevant part 125 ground icing accidents during the period examined, the FAA believes that there will be some part 125 future benefits from accidents avoided. Between 1984 and 1992, there were 14 accidents with 7 fatalities, 2 serious injuries, and 8 minor injuries. These accidents were examined closely to answer the following questions:

- To what extent will this rule have prevented the accident from occurring?
- What other factors (other than ice on the airframe) contributed to the accident?
- If there were other factors, how much did these factors contribute to the accident?

The analytical approach employed to quantify the potential safety benefits focuses on the increased safety awareness resulting from this additional training and testing and the improved checking procedures. Under this rule, a pilot will most likely perform a visual pretakeoff contamination check prior to departure. Alternatively, certificate holders may have FAA approved ice detectors or sensors installed on the airplane's critical surfaces, or may comply with the part 121 deicing/anti-icing interim rule.

The FAA recognizes that there are many uncertainties when dealing with winter storms, human error, etc., and that even under this rule, it is possible that an accident may occur. Some of the 14 known accidents identified in this evaluation may have occurred even in the absence of icing conditions. Consequently, for purposes of this evaluation, the FAA is claiming as benefits generated by this rule, only 60 percent of the casualty losses from those 14 accidents. This estimate is based on the FAA's knowledge of ice contamination, similar issues related to part 121 operations, and review of those part 135 accidents involving icing conditions. The FAA realizes that there is still some uncertainty in the 60 percent effectiveness rate. Therefore, the FAA continues to solicit comments from the aviation community on the likelihood of this rule preventing these types of accidents.

To estimate the potential benefits of this rule, the FAA calculated the average annual number of accidents/incidents over the 9-year period. There were 14 accidents/incidents over the 9-year period averaging 1.6 (14/9) per year. Similarly, the average annual number of fatalities and serious injuries were .8 (7/9) and .2 (2/9), respectively. In order to provide the public and government officials with a benchmark comparison of the expected safety benefits of rulemaking actions with estimated costs in dollars, the FAA currently uses a minimum value of $2.5 million to statistically represent a human fatality avoided and $640,000 for each serious injury. These values are applied to the .8 annual fatalities and .2 annual serious injuries over the next 10 years. After including the average annual replacement value of the airplanes involved in these accidents/incidents, which is estimated to be approximately $280,000, the total benefits will be $23.7 million. Assuming that this rule is approximately 60 percent effective, the potential benefits will be $14.2 million, or $10.0 million discounted.

Conclusion to Cost/Benefit Analysis

This rule is expected to impose total costs estimated at $6.7 million (discounted) compared to total potential safety benefits estimated at $10.0 million (discounted). Therefore, the FAA has determined that this rule is cost-beneficial.

Final Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily and disproportionately burdened by government regulations. The RFA requires government agencies to determine whether rules that would have "a significant economic impact on a substantial number of small entities" and, in cases where they would, to conduct a Regulatory Flexibility Analysis.

part 135 operators (97 scheduled and 2,043 unscheduled). On average, the unscheduled operators own fewer than four aircraft each. The scheduled operators own, on average, slightly more than 14 aircraft. Multiplying the $7.7 million cost of this rule by a capital recovery factor of .14278 (10 years, 7%), results in an annualized cost estimate of $1.1 million. This estimate of $1.1 million was subsequently divided by the total number of operators (2,166) and resulted in an estimated annual cost impact of about $500 per operator. This annualized cost estimate is less than the annualized threshold cost of $4,600 (1992 dollars). Therefore, this rule will not impose a significant economic impact on a substantial number of small aircraft operators.

International Trade Impact Statement

This rule will have no impact on the competitive posture of either U.S. carriers doing business in foreign countries or foreign carriers doing business in the United States. This assessment is based on the fact that this rule will impact operators engaged in U.S. domestic operations. These operators do not compete with operators engaged in similar activities in the United States.

Federalism Implications

The regulations herein will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this regulation will not have federalism implications to warrant the preparation of a Federalism Assessment.

Conclusion

The rule has been reviewed by the Office of Management and Budget under Executive Order 12866. This regulation is considered significant under DOT Regulatory Policies and Procedures for Simplification, Analysis, and Review of Regulations. In addition, the FAA certifies that this regulation will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

A final regulatory evaluation of the regulation, including a Final Regulatory Flexibility Determination and International Trade Impact Analysis, has been placed in the docket. A copy may be obtained by contacting the person identified under "FOR FURTHER INFORMATION CONTACT."

The Amendment

In consideration of the foregoing, the Federal Aviation Administration amends parts 125 and 135 of the Federal Aviation Regulations (14 CFR parts 125 and 135) effective January 31, 1994.

The authority citation for part 125 continues to read as follows:

Authority: 49 U.S.C. 1354, 1421 through 1430 and 1502; 49 U.S.C. 106(g) (revised, Pub. L. 97–449, January 12, 1983).

Amendment 125–19

Removal of Burn Compound from First-Aid Kits

Adopted: January 5, 1994 **Effective: January 12, 1994**

(59 FR 1780, January 12, 1994)

SUMMARY: This amendment revises the regulations concerning first-aid kits required on board air carrier, air taxi, and commercial aircraft to remove the burn compound from the list of items required for the kits. This amendment responds to a petition from Air Transport Association, supported by the American

holidays, between 8:30 am. and 5:00 pm.

FOR FURTHER INFORMATION CONTACT: Gary Davis, Regulatory Branch, Air Transportation Division, Flight Standards Service, Federal Aviation Administration, 800 Independence Avenue, SW, Washington, DC 20591; telephone: (202) 267–8096.

SUPPLEMENTARY INFORMATION:

Background

On December 5, 1986, the Air Transport Association (ATA) submitted a petition to delete burn compound (burn ointment) from the first-aid kits required to be carried on each aircraft operated under part 121 of the Federal Aviation Regulations. In the petition ATA noted that the application of ice or cold water is the preferred treatment for minor burns. As part of its supporting data, the petition included a request from Western Airlines to delete burn ointment from their first-aid kits. Also included in the petition were copies of instructions from flight manuals for several other airlines in which flight attendants were advised to use ice compresses for the treatment of burns and not to use the burn ointment unless it is requested by the passenger. In addition, ATA stated that burn ointment normally has an expiration date, which requires replacement, inspection, and record-keeping.

On January 21, 1987, ATA submitted a second letter to the docket that transmitted an American Red Cross statement confirming their position that burn ointment retains heat within the wound, causing the wound to actually worsen in some cases. In addition, information provided by the Red Cross indicated that burn ointment must be removed before any other treatment can be applied.

ATA submitted additional information on April 9, 1987, in which it cited the March 1987 ATA Cabin Safety Panel meeting where the subject of first-aid for minor burns was discussed. At that meeting, each panel member present stated that their flight attendants were trained to use cold water or ice rather than burn ointment, unless burn ointment was specifically requested by the passenger. Representatives of most of the major airlines were included in this group, constituting over 80 percent of all the seat miles flown by the major airlines.

By letter dated July 6, 1987, ATA submitted a comment from the School of Nursing at the University of Miami as an additional medical opinion. That letter, from an associate professor, stated that emergency care for burns should begin with stopping the burning process by applying cool water to stop the pain and slow the process of heat damage. This medical opinion also noted that application of ointments, oils, etc., should be avoided.

The petition of ATA was published in the *Federal Register* on February 20, 1987 [52 FR 5309]. The comment period closed April 20, 1987. The only comments received on the petition are those cited above.

By letter dated July 6, 1993, ATA petitioned on behalf of its member airlines and similarly situated operators for an exemption from the requirement to carry burn ointment in first-aid kits as required by Appendix A to part 121. A summary of that petition was published in the *Federal Register* on August 11, 1993, and the comment period closed August 31, 1993 [58 FR 42752]. Two comments were received. The Air Line Pilots Association supports the removal of the ointment from first-aid kits and notes that this removal would facilitate maintenance by eliminating the need for purchasing, stocking, record keeping, replacing, and disposing of the ointment. The Association of Flight Attendants (AFA) agrees that the removal of the ointment from first-aid kits is an appropriate action; however, the AFA also suggests that the FAA should require an equivalent amount of an antibiotic ointment in its place. AFA adds that more recent information from the American Red Cross suggests that cool water or wet cloths is the first step in treatment, but that ice is not recommended except for minor burns.

remove burn ointment.

Therefore, the FAA has determined that burn ointment should be deleted from the list of items required for first-aid kits in parts 121, 125, and 135. Ice or cold water is carried on aircraft operated under part 121 and on aircraft with 20 or more passenger seats operated under parts 125 and 135 to which aircraft the burn ointment requirement applies. This will spare air carriers the unnecessary expense of having to maintain an unneeded item.

Good Cause Justification

In consideration of the fact that burn ointment is not the preferred treatment for minor burns, the requirement to carry burn ointment aboard aircraft is inappropriate. Most types of burn ointment have expiration dates, thus new ointment must be purchased, kits must be opened, the ointment replaced, kit resealed and re-installed, and a record of the action must be made. The cost of this process, with labor being far more expensive than the ointment itself, represents a significant nuisance burden for air carriers and commercial operators. ATA carriers are required to maintain over 10,000 kits. This is an unnecessary cost to the industry for which the consumer derives no benefit. It is clearly in the public interest to delete the requirement.

Since this is a minor amendment in which there is not expected to be any public comment or disagreement from the medical community, the FAA finds that notice and comment on this amendment is unnecessary. Moreover, because this amendment relieves a requirement, it should be made effective upon publication in the *Federal Register*. Interested persons, however, are invited to submit such comments as they may desire regarding this amendment. Correspondence should identify the docket number and be submitted in duplicate to the address provided above. All communications received on or before the close of the comment period will be considered by the Administrator, and this amendment may be changed in light of comments received. All comments will be available for public review, both before and after the closing date for comments, in the rules docket.

Trade Impact Statement

The FAA finds that this amendment will have no impact on international trade.

Economic Assessment

Because the amendment imposes no cost to operators, the only impact of this amendment is expected to be that carriers will experience some cost savings. Accordingly, the FAA has determined that the impact of this amendment is so minimal that a full regulatory evaluation is not warranted.

Federalism Implications

The regulation adopted herein would not have substantial direct effects on the states, on the relationship between the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this regulation would not have sufficient federalism implications to warrant the preparation of the Federalism Assessment.

Paperwork Reduction Act

This final rule is expected to produce a minor reduction in the record keeping requirements under parts 121, 125, and 135. The paperwork estimation for those parts will be revised accordingly.

Conclusion

To the extent that this amendment will have an economic effect on the airlines and the general public, it will only be a minor, positive one. Therefore, the FAA has determined that this amendment involves a regulation that is not a significant regulatory action under Executive Order 12866 or significant under the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). Since no small entities would be affected by the rule, the FAA has determined, and it is certified

L. 97–449, January 12, 1983).

Amendment 125–20

Emergency Locator Transmitters

Adopted: June 10, 1994 **Effective: June 21, 1994**

(59 FR 32050, June 21, 1994)

SUMMARY: This rule requires that newly installed emergency locator transmitters (ELT's) on U.S.-registered aircraft be of an improved design that meets the requirements of a revised Technical Standard Order (TSO) or later TSO's issued for ELT's. This rule is prompted by unsatisfactory performance experienced with automatic ELT's manufactured under the original TSO. Further, it addresses certain safety recommendations made by the National Transportation Safety Board (NTSB) and the search and rescue (SAR) community. The FAA is also adopting improved standards for survival ELT's. The rule is expected to have a dramatic effect on reducing activation failures and would increase the likelihood of locating airplanes after accidents. In addition, publication of this document coincides with notice of the FAA's withdrawal of manufacturing authority for ELT's produced under TSO–C91.

FOR FURTHER INFORMATION CONTACT: Phil Akers, Aircraft Engineering Division (AIR–120), Aircraft Certification Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 267–9571.

SUPPLEMENTARY INFORMATION:

Background

In 1971, responding to a congressional mandate for rulemaking (Public Law 91–596), the FAA adopted amendments to parts 25, 29, 91, 121, and 135 of the Federal Aviation Regulations (FAR) to require the installation and use of ELT's that meet the requirements of TSO–C91. The amendments require that certain U.S.-registered civil airplanes be equipped with automatic ELT's. An automatic ELT is a crash-activated electronic signaling device used to facilitate search and rescue efforts in locating downed aircraft. The ELT's crash sensor is commonly called a G-switch (an actuation device that operates on acceleration forces measured in G's; one G denotes the acceleration of the earth's gravity). In most installations, the ELT is attached to the aircraft structure as far aft as practicable in the fuselage in such a manner that damage to the device will be minimized in the event of impact.

Certain aircraft, such as turbojet-powered aircraft and aircraft engaged in scheduled air carrier operations, are excepted from this requirement because they are more readily located after an accident because they operate within the air traffic control system and their operators have filed instrument flight plans. For example, scheduled air carriers and turbojet-powered aircraft use the air traffic control system (ATC) and air carriers use instrument flight plans. This rule is applicable to those airplanes that are most difficult to locate after an accident. An ELT is particularly helpful in locating an airplane that is operated by a pilot who does not file a flight plan or operate within the air traffic control system.

Survival ELT's are manually operated or automatically actuated upon contact with water. Survival ELT's are required ditching equipment for transport category airplanes and rotorcraft, as provided by the operating rules. They are also required emergency equipment for extended overwater operations on aircraft used in air carrier, air taxi, and commercial operations.

Since the adoption of those amendments requiring installation of ELT's, there has been unsatisfactory field experience with the automatic ELT's. Accordingly, the FAA requested RTCA, Inc. (formerly the

That safety recommendation also urged that ELT's be subject to specific maintenance requirements.

In October 1990, the National Aeronautics and Space Administration (NASA) and the FAA completed a report entitled, "Current Emergency Locator Transmitter (ELT) Deficiencies and Potential Improvements Utilizing TSO–C91a ELT's", hereafter referred to as the FAA/NASA report. This report consolidates and analyzes most of the known data on ELT problems and quantifies the safety problem. General aviation accident and fatality data from the NTSB form the cornerstone of the report. The most significant conclusions derived from the report show: 23 to 58 lives are lost per year due to ELT failures; 15 percent of ELT failures are attributed to poor or no ELT maintenance; and after excluding lives lost attributed to maintenance-related ELT failures, 64 percent or 13 to 31 of the lives lost each year could be saved with a complete transition to TSO–C91a ELT's.

Based on the known unsatisfactory performance of the TSO–C91 ELT's during the 1970's and 1980's, the FAA issued Notice No. 90–11, (55 FR 12316, April 2, 1990). This notice proposed that ELT's approved under TSO–C91a (or later issued TSO's for ELT's) be required for all future installations. The NPRM further proposed that the manufacture of the TSO–C91 ELT's be simultaneously terminated with issuance of a final rule. The term "future installations" applies to newly manufactured airplanes, and to the replacement of existing ELT's as they become unusable or unserviceable. Additionally, the FAA solicited comments on the need for a fleet-wide ELT replacement program and specific maintenance requirements. These issues are addressed below.

Sources of Information Referenced Below:

NTSB Recommendations

1. NTSB safety recommendations A–78–5 through A–78–12, issued 1978;

2. NTSB safety recommendation A–87–104, issued 1987.

Reference Material

(1) The National Aeronautics and Space Administration (NASA) and the FAA, a report entitled, "Current Emergency Locator Transmitter (ELT) Deficiencies and Potential Improvements Utilizing TSO–C91a ELT's", (FAA/NASA report), October 1990.

(2) FAA Action Notice A 8150.3 (July 23, 1990).

Related Activity

(1) Publication of this document coincides with notice of the FAA's withdrawal of manufacturing authority for ELT's produced under TSO–C91.

(2) The Aviation Rulemaking Advisory Committee (ARAC) has been tasked to make recommendations concerning an ELT retrofit policy.

Discussion of Comments

The FAA received 51 written comments in response to Notice No. 90–11 from individuals, manufacturers, equipment users, associations, and government agencies. Twenty-two support the proposed rule or its intent while 20 express concern or nonsupport. Most of the nonsupport commenters, however, address the fleet-wide replacement of automatic ELT's rather than the proposal for new installations. Nine of the comments do not take a position for or against the proposals; however, they offer suggestions and advice.

Nineteen of the commenters supporting the rule represent major segments of the aviation search and rescue community such as government agencies and associations. These commenters also agree on the unsatisfactory performance of current TSO–C91 ELT's.

- Battery problems;
- Fire damage;
- Impact damage;
- Antenna broken/disconnected;
- Water submersion;
- Unit not armed;
- Internal failure;
- Packing device still installed;
- Remote switch in off position; and
- ELT shielded by wreckage or terrain (although not an initial failure, this was listed as another reason for the ELT not functioning).

An ELT manufacturer states that the term "failure to activate" encompasses two groups of cases that should not be treated in the same manner. Group 1 situations are those in which the ELT does not operate after a crash because it has a mechanical defect or failure. Group 2 situations are those in which the ELT does not operate because the crash forces are insufficient to activate it. This commenter states that the Group 2 cases should not be classified as ELT failures because the ELT's did what they were supposed to do when they did not activate. The commenter asserts that any "failure" associated with the Group 2 cases is a shortcoming of the current TSO–C91 standard that established the crash sensor sensitivity specifications.

FAA Response: The FAA agrees with the manufacturer's comment about two causes of failure-to-activate and notes that the FAA/NASA report addresses these two situations. The FAA/NASA report documents well the failures of ELT's approved under TSO–C91. As discussed previously, the most significant conclusions from the report are that: (1) 23 to 58 lives are lost each year due to ELT failures; (2) many of these failures are caused by poor ELT maintenance; and (3) a 64 percent failure rate reduction can be expected with a complete transition to TSO–C91a ELT's. Attachment 1 of the FAA/NASA report entitled, "Validation of NASA ELT Reasons for Failure Analysis Report," verifies the NTSB data that provides the cornerstone of the FAA/NASA report. In addition, the new ELT TSO–C91a contains revised G-switch specifications designed to provide proper activation limits and to minimize mechanical defects. This new design is expected to reduce the number of false alarms and improve the failure-to-activate rate.

False Alarms—Automatic ELT's

Twenty commenters identified ELT false alarms as contributing to poor performance. Several commenters cite the FAA/NASA report, which documents the following causes of false alarms:

- G-switch (crash sensor);
- Corrosion;
- Incorrect installation of the ELT;
- Human failures or mishandling;
- Heat, water, or radiated interference;
- Accidental operation of the controls;
- Internal failure.

will be reduced by 75 percent with implementation of TSO–C91a and a mandatory inspection and maintenance program. However, as stated in the FAA/NASA report, the FAA cannot quantify the benefits in lives to be saved. A reduction in the number of false alarms would result in the Air Force Rescue Coordination Center (AFRCC) spending less time analyzing the validity of thousands of signals that occur annually on the 121.5 Mhz frequency. Thus, it is reasonable to presume that if the pre-rescue preparation time were reduced, additional lives could be saved.

Replacement Time and Costs

Although the FAA did not propose the replacement of existing ELT's with models of newer design, in Notice No. 90–11, the agency solicited opinion from affected users regarding a proposed time frame for a near-term retrofit program. Twenty-one commenters address the time that should be permitted for mandatory replacement of existing ELT's with those approved under TSO–C91a. Seven commenters call for a "voluntary" replacement. In general, the SAR community proposes four years. Most commenters acknowledge that a mandatory timetable for replacement is necessary to realize the benefits of this second-generation ELT.

Twenty-six commenters express concern over the direct replacement cost of existing TSO–C91 ELT's with TSO–C91a ELT's.

FAA Response: The FAA does not agree with the recommendations concerning voluntary replacement. The FAA envisions this final rule addressing new installations to be the first step in the much-needed transition to the improved ELT's. Even though the FAA conducted an extensive education program in the 1980's through the FAA Back-to-Basics Program, seminars, advisory material, and pamphlets, the FAA estimates that fewer than five percent of potential users voluntarily installed the improved ELT's. Although a voluntary replacement program may be less costly, resolution of the failure to activate and false alarm problems would not be timely.

The Aviation Rulemaking Advisory Committee (ARAC) has been tasked to make recommendations concerning the retrofit of ELT's in the entire fleet. For a detailed description of this task, see the ARAC notice published at 58 FR 16574, March 29, 1993.

Automatic ELT Replacement

Integration of 406 Mhz ELT's

Nineteen commenters recommend using the 406 Mhz ELT because it has significant technical improvements over the 121.5/243 Mhz ELT equipment system. Commenters also noted that 406 Mhz ELT's are compatible with the Search and Rescue Satellite-Aided Tracking System (COSPAS–SARSAT). Several commenters submitted data indicating that the COSPAS/SARSAT system has proven to be an effective tool in detecting and locating both maritime and aeronautical distress incidents. The data further show that this satellite system had been credited with saving more than 1,700 lives since it was commissioned in 1982. In many of these distress cases, the satellite system was the only means of detecting the distress signal. The commenters assert that improvements in ELT equipment, both on the 121.5 Mhz and 406 Mhz frequencies, will increase the accuracy of location, reduce the time required to provide information to the Rescue Coordination Centers, reduce the effects of interference, reduce the number of false alerts on 121.5 Mhz, and improve satellite coverage of all areas in the United States.

Most commenters support use of an improved 121.5/243.0 Mhz ELT or the improved ELT that includes 406 Mhz capability. The NTSB further advocates a fleet-wide mandatory conversion to the 406 Mhz standard.

FAA Response: In October, 1992, the United States responded to an International Civil Aviation Organization (ICAO) letter requesting comments on ELT carriage requirements. The United States recommended the use of 406 Mhz ELT's.

characteristics of these batteries and has placed some initial guidance material in TSO–C126 to aid approving lithium batteries. Currently, RTCA Special Committee 168 is developing a standard for the various kinds of lithium batteries that could be used in aircraft. The FAA plans to use the RTCA standard as a basis for a future TSO.

The 121.5/243 Mhz ELT's approved under TSO–C91a are expected to be effective when used in conjunction with the U.S. National Airspace and SAR systems. Therefore, the FAA recommends, but does not require, carriage of 406 Mhz ELT's. Voluntary use of the 406 Mhz ELT's would provide a definite enhancement over the minimum requirements of the Federal Aviation Regulations. There may be even more life-saving benefits derived from the 406 Mhz ELT for those operations conducted over water and in remote areas; therefore, the FAA encourages installation of the 406 Mhz ELT although the 121.5/243 Mhz will continue to be used.

Costs of Automatic and Survival ELT's

Five commenters express concern over the additional cost of automatic TSO–C91a ELT's required for new installations. The General Aviation Manufacturers Association indicates that the estimated $75 installation cost in Notice No. 90–11 is inappropriate. It claims that a realistic estimate for parts and labor is $750.

With regard to survival ELT's, Dayton-Granger, Inc. and the DME Corporation currently estimate the cost of survival ELT's at approximately $900. Both companies plan to manufacture ELT's approved to the TSO–C91a standard. The Air Transport Association of America (ATA) states that its member airlines estimate the cost of the TSO–C91a survival ELT's to be $4,193 to $4,662 per aircraft. Additionally, it states that the new TSO standards are unnecessary because there are no problems with the current survival ELT's.

FAA Response: The FAA based its cost estimates on estimates provided by manufacturers of authorized equipment. ARNAV Systems, Inc., whose automatic ELT is now marketed by Artex Aircraft Supplies, Inc., obtained TSO–C91a approval for the model ELS–10 in October 1986 and for a lower cost model, the ELT–100, in March 1988. These automatic ELT's sell for approximately $900 and $350 respectively, and have beneficial design enhancements, such as built-in test equipment. Narco Avionics, Inc., obtained approval for its automatic model ELT–910 in June 1989, and is marketing it for approximately $400. Since the issuance of Notice No. 90–11, ACK Technologies, Inc., received approval for its automatic Model E–01 ELT in May 1990; the list price for this ELT is $279. According to this manufacturer, a selling price of less than $200 may be possible, once full production is underway. Several other ELT manufacturers have expressed an interest in producing low-cost TSO–C91a ELT's.

This rulemaking applies only to "new installations;" therefore, the FAA has attempted to minimize direct costs to operators while enhancing operators' safety. In Notice 90–11 the FAA estimated that automatic ELT's would cost an additional $150 to $400 per unit, and that survival ELT's would cost an additional $875 to $1,225 per unit. However, as a result of analyzing more recent data received from ELT manufacturers, the FAA has reduced its estimates of incremental costs. Automatic ELT's are estimated to cost an additional $50 to $200 per unit, and survival ELT's are estimated to cost an additional $250 to $750 per unit. Conversely, the FAA has increased its estimate of incremental installation costs for automatic ELT's from $75 to $150 per unit.

G-Switch

Eight commenters express concern about the design specifications of the TSO–C91a crash sensor, known as a G-switch. These eight commenters agree that the current TSO–C91 G-switch needs improvement because it is the primary cause of an ELT's failure to activate. Several commenters note that the FAA/NASA report estimates a 95 percent rate of effectiveness increase expected from using the TSO–C91a G-switch.

battery research should be conducted. Suggestions for new battery types ranged from use of solar batteries to use of size "D" batteries.

FAA Response: The FAA has found that most battery problems can be eliminated if aircraft owners ensure that the ELT and its battery receive a proper inspection as discussed in the next section, ELT Maintenance. The status of FAA requirements for lithium batteries was discussed previously.

ELT Maintenance

Consistent with tile FAA/NASA report, 19 commenters note lack of proper maintenance as a contributing cause of the current unsatisfactory performance of TSO–C91 ELT's. Most of the commenters agree that scheduled inspection of ELT's is necessary to reduce the number of false alarms and to ensure their proper working order. The NTSB, National Oceanic and Atmospheric Administration (NOAA), ACK Technology, Inc., and The National Association for Search and Rescue (NASAR) call for mandatory inspections.

FAA Response: The FAA agrees with these comments concerning ELT maintenance and with NTSB recommendation, A–87–104, that recommended replacing TSO–C91 ELT's with TSO–C91a ELT's. The FAA/NASA report also concludes that an inspection and maintenance program for ELT's is necessary. As discussed in the background section of this preamble, an estimated 15 percent of ELT failures have been maintenance related.

The FAA already provides for mandatory ELT inspections in the regulations and in TSO's. Meeting the inspection requirements is a responsibility shared among the manufacturer, the inspector, and the aircraft owner or operator. Maintenance of ELT's is a major issue; accordingly, this section will digress from discussion of the comments to emphasize these requirements. This is necessary so that users understand the FAA's requirements concerning ELT maintenance.

ELT Maintenance Requirements—An Explanation

Subpart E of part 91 provides inspection and maintenance requirements for the continued airworthiness of the aircraft and all of its components. Also, § 91.207, of subpart C, requires that each ELT be in an operable condition and provides specific requirements for battery replacement. Technical Standard Order C91a requires that instructions for periodic maintenance, which are necessary for the ELT's continued airworthiness, be provided with each unit manufactured under the TSO. These instructions must contain specific information to ensure that appropriately rated persons will be able to inspect and maintain ELT's in an airworthy condition to meet the needs of the flying public and the SAR community. Manufacturers of the earlier (TSO–C91) ELT's, however, were not required to submit periodic maintenance instructions to the FAA with their TSO approval applications. Therefore, the content and usefulness of instructions provided with TSO–C91 ELT's may vary, depending on the approach used by each manufacturer.

Section 43.13(a) requires persons performing inspections and other maintenance to use the manufacturers' instructions or other instructions acceptable to the FAA Administrator. The aircraft owner or operator is responsible for ensuring that the ELT is included in these inspections and is maintained accordingly. To provide guidance on improving ELT maintenance, Action Notice A 8310.1, recommending a specific supplemental inspection procedure for ELT's, was issued to all FAA field personnel in September 1988. This information was also included in the February 1989 issue of Advisory Circular 43–16, General Aviation Airworthiness Alerts, and reissued in Action Notice A 8150.3 on July 23, 1990. This Action Notice applies to ELT's authorized under both TSO–C91 and TSO–C91a.

To summarize the notice, the inspection procedure can be accomplished by making a close examination of the ELT, its battery pack, and antenna. The signal emissions and G-switch must also be checked.

If the ELT's antenna is radiating a signal, it can be heard on any frequency through a low-cost AM radio held about six inches from the ELT's antenna. The aircraft's VHF receiver or a check with an airport control tower may also be used to verify the ELT signal on the 121.5 Mhz frequency. An

Finally, although the antenna and G-switch checks are not measured checks and do not quantify the adequacy of the G-switch or the power output of the antenna, they do provide an acceptable level of confidence that the ELT is functioning properly.

In response to NTSB recommendation A–87–104, the findings of the FAA/NASA report, and the comments to this rulemaking, the FAA is clarifying what must be done for an ELT to be considered in "operable condition" as found in § 91.207(a)(1) by adding a new paragraph (d). Although paragraph (d) is new, it is written in accordance with current regulations and guidance, as discussed earlier under, "ELT Maintenance Requirements—An Explanation". Specifically, the new regulation § 91.207(a)(1)(d), describes how to inspect an ELT under part 43, appendix D, paragraph (i), and requires that it be accomplished within 12 calendar months after the last inspection. The appendix D requirements are non-specific in nature because they apply to all components of the radio group, which includes the ELT's. The 12-month requirement accommodates those airplanes maintained under either an annual or a progressive inspection program and could be accomplished under the provisions of any other program approved by the Administrator under § 91.409. The FAA has determined that this clarification is not an additional requirement that would entail additional rulemaking and an economic evaluation. The FAA has determined that this additional information should be included in part 91 to reinforce to airplane owners and inspectors what the FAA expects when an ELT is inspected.

"Approved" as Opposed to "TSO-Approved"

Three commenters express concern over the meaning of the word "approved" in the proposed language of the ELT rules. One commenter indicates that this rulemaking procedure may "establish a precedent for future mass terminations of TSO authorizations, without going through the rulemaking process." Another commenter requests that the FAA refer to a particular TSO number instead of using the generic language, "approved TSO."

FAA Response: The FAA intends to clarify the certification process with regard to the regulations and TSO's. Since the effective date of Amendment 21–50 to part 21 (September 9, 1980), the FAA's TSO revision program has been eliminating TSO's from the rulemaking process and eliminating references to specific TSO's from the regulations. The TSO revision makes it possible for the public to use the most up-to-date TSO or other standards that are found acceptable during the certification of a particular piece of equipment. When specific TSO standards are designated in a regulation, other TSO's or standards are automatically excluded. As stated in Notice No. 90–11, "This rule replaces specific references to TSO–C91 in the FAR with 'an approved ELT that is in operable condition'," and withdraws all TSO–C91 authorizations issued to ELT manufacturers. In effect, this would allow TSO–C91a, or any subsequent TSO's issued for ELT's, to be used as a basis for compliance with the FAR. Using the language "approved" is consistent with the FAA's responsibility to eliminate dated references to regulations.

Whenever a material, part, process, or appliance is required to be "approved," it must be approved under the Federal Aviation Regulations. The approval can be obtained in one of the following ways: (1) under a Parts Manufacturer Approval; (2) in conjunction with type certification procedures for a product, including approvals granted by a supplemental type certificate; (3) under a Technical Standard Order authorization; or (4) in any other manner approved by the Administrator.

Of these approval methods, TSO's contain minimum performance and quality control standards for specified articles (material, part, process, or appliance). The standards for each TSO are those the Administrator finds necessary to ensure that the article concerned will operate satisfactorily. Compliance with a TSO is only one method of obtaining an approval and its use is not mandatory; therefore, the standards contained in the TSO are not mandatory but are a way of obtaining approval for a particular article.

Miscellaneous Comments

An ELT manufacturer requests that the word "transmitter" be added to § 91.207(c)(2) for consistency with the rest of the section.

FAA Response: The FAA disagrees with the National Business Aircraft Association's comment that this rule is premature. The FAA will no longer delay this final rule because there will always be new technology on the horizon. The rule is in agreement with the ICAO requirements, including recent changes pertaining to ELT's. The FAA is a strong supporter of the search and rescue satellite system (COSPAS/SARSAT). In addition, the ELT program, as outlined in this rulemaking, takes into account national and international issues and these considerations were integrated into the justification for this rule.

Three commenters request field testing of TSO–C91a ELT's to confirm their potential costs and benefits before their use is mandated. Four commenters call for additional research on ELT's. For example, the General Aviation Manufacturers Association (GAMA) requests further research on TSO–C91a G-switches and battery technology.

FAA Response: The FAA agrees with the intent of these comments on the need for appropriate research and field testing. Transport Canada, the Canadian counterpart of the United States Department of Transportation, is currently field testing 130 ARNAV ELT's. Useable results may not be available until late 1993. The FAA is working with Transport Canada on its ELT improvement program and with other government as well as non-government organizations on maximizing ELT knowledge. However, in view of the Canadian study and numerous studies documented in the FAA/NASA report, including an FAA ELT maintenance survey on repair stations, the FAA has determined that there is no need for research on new issues before regulatory action is taken. Additional research would only delay the installation of improved ELT's without any clear expectation of improvement over the TSO–C91a specification.

One commenter encourages the FAA to expand its ELT educational effort to install more reliable ELT's. NASA suggests that all pilots be required to monitor the 121.5 Mhz frequency as part of the shutdown procedure in aircraft that do not have a cockpit monitor.

FAA Response: The FAA agrees with the intent of both of these comments. Working with organizations such as the Aircraft Owners and Pilots Association, the FAA has been actively promoting the public's awareness of potential problems with ELT's. A pamphlet entitled, "Attention to ELT's: Insurance To Life" has been distributed to all active U.S. pilots. This pamphlet addresses the ELT false alarm problem and recommends that a pilot-in-command monitor the 121.5 Mhz frequency prior to engine shutdown. This information contained in the pamphlet and ELT inspection procedures are discussed at pilot safety seminars and have been incorporated in the FAA Back-To-Basics program.

The NASA report suggested that the pilot be required to check the 121.5 Mhz frequency before leaving the airplane.

One commenter requests that tow planes be excepted from the requirements because they often are operated under harsh conditions that could trigger false alarms.

FAA Response: The FAA agrees and the final rule does not change the ELT requirements for tow planes. Those airplanes that are currently excepted may continue operations without an ELT.

The ATA concludes, given the operating procedures of transport category aircraft, that benefits to the travelling public from automatic ELT's would be very limited. A complete replacement of its members' fleets by 1995 would cost $14 million.

FAA Response: Survival ELT's, rather than automatic ELT's, are required in transport category aircraft. Currently, automatic ELT's are not required on transport category aircraft.

One commenter suggests that a fine be used as a penalty for an ELT false alarm resulting from the pilot's failure to maintain the ELT.

FAA Response: The suggestion is beyond the scope of this rulemaking.

Another commenter suggests that insurance considerations should be the driving force to motivate aircraft owners to install ELT's, rather than the FAA mandating ELT's.

Impact of the Rule

Summary of the Amendments

In summary, effective six months after publication of this Final Rule, the FAA is withdrawing TSO–C91 authorizations for automatic ELT's; therefore, the TSO–C91 model ELT's may not be manufactured after that date. Current production of unsold TSO–C91 ELT's for general aviation airplanes is sufficiently small so that accumulation of inventories is unlikely. This inventory is expected to be depleted by the time this rule becomes effective. The preamble to Notice No. 90–11 specifically stated that the FAA proposed to require installation of an improved ELT that meets the requirements of a revised TSO, and to terminate approval to use ELT's authorized under the original TSO–C91. Although the notice stated that the new equipment would be required for future installations, language to that effect did not appear in the proposed amendment. To carry out this intent, § 91.207(a)(1) and (a)(2) are revised to state that ELT's meeting the applicable requirements of TSO–C91 may no longer be installed.

Another change is being made to paragraph (a)(2) of § 91.207 to correct an error that inadvertently occurred when former § 91.52 was revised and renumbered as § 91.207 during the recodification of part 91 in 1990. Former paragraph (b)(4) of § 91.52 (the predecessor to paragraph (a)(2) of § 91.207) contained a reference to three preceding paragraphs. That is, paragraph (a)(1)(i) was included in the subject reference. The reference also should have included paragraphs (a)(1)(ii) and (a)(1)(iii). This correction is effected by replacing the reference to "(a)(1)(i)" with "(a)(1)", which subsumes all of the provisions of paragraph (a)(1) into the reference.

With regard to survival ELT's, the TSO authorization withdrawal will become effective two years after publication of this final rule. The FAA is allowing additional time for the manufacturers of survival ELT's to begin producing, and for operators to begin installing, TSO–C91a ELT's. For new installations, the new requirements include satellite compatibility, crash survivability, and certain environmental specifications (temperature, water resistance, etc.) that will provide definite improvement at reasonable costs.

Finally, a change is made to §§ 121.339, 121.353, 125.209, and 135.167 to correct inadvertent errors that were made when the applicable parts were codified in 1971 and 1980. These sections refer to survival ELT's and specifically describe the timely replacement of transmitter batteries. Currently, these sections state that the transmitter batteries must be replaced when the transmitter has been in use for more than one hour *and* when 50 percent of its useful life has expired (according to the specific expiration date). The FAA has always intended and enforced these regulations concerning survival ELT's to prescribe a change of transmitter batteries when either the battery has been in use for more than one hour *or,* when 50 percent of its useful life has expired. This correction is consistent with § 91.207 regarding automatic ELT's.

Technical Standard Order

Published simultaneously with this rule, the FAA, pursuant to § 21.621 of the Federal Aviation Regulations, is withdrawing each TSO authorization to the extent that it authorizes the holder to identify or mark ELT's with TSO–C91, effective six months after the publication of this rule for automatic ELT's, and effective two years after publication of this rule for survival ELT's.

Regulatory Evaluation Summary

Proposed changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic effect of regulatory changes on small entities. Third, the Office of Management and Budget directs agencies to assess the effects of regulatory changes on international trade. In conducting these analyses, the FAA has determined that this rule: 1) will generate benefits that justify its costs and is not a significant regulatory action as defined in the Executive

installed on new airplanes and replacements on existing airplanes. Applying these revised estimates to the first 20 years of the rule (1995–2014), the costs of automatic ELT's will total $19.3 million (or $10.2 million in 1993 dollars at 1994 discounted present value).

Costs—Survival ELT's

Recent efficiencies in production techniques have reduced the costs from those estimated in the NPRM. As a result, the incremental acquisition cost of survival ELT's is estimated to total $500 per unit. The FAA estimates that, during the 1996–2015 evaluation period, 3,081 new survival ELT's will be installed, costing $1.5 million (or $0.8 million, discounted).

Benefits—Automatic ELT's

Based on the findings of the FAA/NASA report (cited earlier), significant improvements in ELT effectiveness will reduce the time required to locate downed airplanes and, concomitantly, improve the chances of saving seriously injured crash survivors. Additional benefits will be realized from reducing false alarms.

The report's most significant conclusions are that: 23 to 58 lives are lost per year due to ELT's failure-to-operate; 12 to 18 percent of these are attributed to poor or no maintenance; and, with 100 percent TSO–C91a installations, a 64 percent failure rate reduction can be expected. In addition, a 75 percent reduction in false alarms is likely with all new units in place (although not directly specified in the report, this evaluation estimates that 25 percent of false alarms, in contrast to the 12 to 18 percent of ELT failures-to-operate, are attributable to poor or no maintenance).

Consequently, using the midpoints of the range of lives lost (41) and the range attributed to maintenance failures (15 percent), 22 or more lives could be saved annually if all TSO–C91 ELT's were replaced with TSO–C91a ELT's ($41 \times (1-.15) \times .64$), decreasing to approximately 18 annually as general aviation activity decreases during the 20-year evaluation period. Since ELT replacements will take place gradually over time, avoided fatalities will not reach their full potential for several years after the period. Nevertheless, 81 fatalities are expected to be avoided during the 20-year period following promulgation of the rule, valued at $209 million ($86.4 million discounted).

The additional benefits expected from reduced false alarms are calculated as follows. False alarms are estimated to cost approximately $4.3 million annually (based on a $3.5 million estimate for 1987 by the Air Force Rescue Coordination Center, adjusted to 1993 dollars). Excluding the 25 percent of false alarms attributable to maintenance-related problems, the expected reduction in false alarm costs totals $2.4 million annually ($4.3 million $\times$ .75 $\times$ (1–.25)). Taking into account the gradual, increasing percentage of the fleet equipped with new ELT's over the 1995–2014 evaluation period, these benefits are projected to total $8.9 million ($3.7 million discounted).

Benefits—Survival ELT's

There is no direct evidence of lives lost as a result of delays in reaching survivors because of defective survival ELT's; however, such occurrences are possible. Historical data indicate that an average of 61 preventable drownings occur per 10-year period in parts 121 and 135 operations. Over the course of the 1996–2015 evaluation period, only one life needs to be saved in order for the benefits of new survival ELT's to exceed the $0.8 million in discounted costs.

Comparison of Cost and Benefits

Costs and benefits summarized below are for the evaluation period 1995–2015 in terms of 1993 dollars at 1994 discounted present value. Automatic ELT's are estimated to have incremental costs totalling $10.2 million and benefits of $90.1 million, yielding a benefit-to-cost ratio of 8.8 to 1. Incremental costs of survival ELT's are estimated to total $0.8 million, requiring the avoidance of only one fatality in order to be cost-beneficial.

by the FAA. The annual cost thresholds are $119,500 for operators of scheduled services with entire fleets having a seating capacity of over 60; $66,800 for other scheduled operators; and $4,700 for unscheduled operators. A substantial number of small entities is a number which is not less than eleven and which is more than one-third of the small entities subject to the rule.

The only type of entity with the potential to sustain a significant economic impact as a result of this rule is an unscheduled operator. Such an operator would have to purchase at least ten ELT's in a year in order to exceed the $4,700 threshold. The rule will not have a significant economic impact on a substantial number of small unscheduled operators because most such operators own five or fewer airplanes each, and it is unlikely that at least 11 of them representing more than one-third of the total will purchase ten new ELT's in any given year.

International Trade Impact Statement

The rule will have little or no impact on trade for either U.S. firms doing business in foreign countries or foreign firms doing business in the United States. Foreign air carriers are prohibited from operating between points within the United States. Therefore, they will not gain any competitive advantage over U.S. carriers. In international operations, foreign air carriers are not expected to realize any cost advantage over U.S. carriers because the differential in costs between the existing and new ELT rule will not be significant enough to have an adverse impact on the international operations of U.S. carriers. Further, general aviation operations conducted in the United States are not in any direct competition with foreign enterprises. For these reasons, the FAA does not expect that the rule will result in any international trade impact.

Federalism Implications

The regulations herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not(hive sufficient feleralism implications to warrant the prmparation of a Federalism Assessment.

Conclusion

The FAA has determined that the potential benefits of the regulation outweigh its potential costs and that it is not a significant regulatory action under Executive Order 12866. In addition, this rule will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. This rule is considered significant under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979) because it concerns a matter of substantial public interest. A regulatory evaluation of the rule, including a Regulatory Flexibility Determination and an International Trade Impact Analysis, has been placed in the docket. A copy may be obtained by contacting the person identified under "FOR FURTHER INFORMATION CONTACT."

The Amendments

In consideration of the foregoing, the Federal Aviation Administration amends 14 CFR parts 25, 29, 91, 121, 125, and 135 effective June 21, 1994.

The authority citation for part 125 is revised to read as follows:

Authority: 49 U.S.C. app. 1354, 1421 through 1430, and 1502; 49 U.S.C. 106(g).

SUMMARY: This final rule sets forth regulations that require air carriers, air taxi, and commuter operators to provide duty period scheduling limitations and rest requirements for flight attendants engaged in air transportation and air commerce. This action results from public and congressional interest in regulating flight attendant work hours and from data contained in a Federal Aviation Administration (FAA) study of industry practice relating to flight attendant flight, duty, and rest times. This rule contributes to an improved aviation safety system by providing the opportunity for flight attendants to be rested sufficiently to perform their routine and emergency safety duties.

EFFECTIVE DATE: This regulation is effective September 19, 1994, except §§ 121.683(a)(1), 135.63(a)(3), 135.63(a)(4)(x), 135.63(a)(5), and 135.63(b) which are not effective until the Office of Management and Budget (OMB) has approved the Paperwork Reduction Requirements. FAA will publish a document in the *Federal Register* following OMB approval of the Paperwork Reduction Requirements.

COMPLIANCE DATE: March 1, 1995.

FOR FURTHER INFORMATION CONTACT: Donell Pollard, Air Transportation Division, AFS–203, Flight Standards Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 267–3735.

SUPPLEMENTARY INFORMATION:

Availability of the Final Rule

Any person may obtain a copy of this amendment by submitting a request to the Federal Aviation Administration, Office of Public Affairs, Attention: Public Inquiry Center, APA–430, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267–3484. Communications must identify the amendment number of this final rule.

Background

Statement of the Problem

Flight attendants are crewmembers who perform essential routine and emergency safety duties. Routine duties include ensuring that carry-on baggage is correctly stowed; verifying that exit seating requirements are met, that passenger seat belts are fastened, and that galley service items are properly stowed; and conducting passenger briefings before takeoff. Emergency duties include conducting land and water evacuations, controlling inflight fires, handling passengers who threaten the safety of other passengers or the flight, managing medical emergencies such as passenger illness or injury, managing inflight emergencies such as smoke or fire in the cabin, and managing turbulent air penetrations, airplane decompression, and hijackings. Additionally, because flight attendants are crewmembers performing safety-related functions, they must satisfactorily complete indoctrination, initial, transition, and recurrent training requirements. In addition, they are subject to the alcohol and drug use regulations and drug testing regulations. Currently, flight attendants are the only safety-sensitive aviation group that has no regulations with respect to flight, duty, or rest periods. Such regulations exist for flight crewmembers, dispatchers, air traffic control tower operators, and aviation maintenance technicians.

This final rule is comparable to flight, duty, and rest requirements for other safety-sensitive aviation groups because it enhances public safety by requiring ''rest periods'' and limiting duty periods for flight attendants. These requirements protect flight attendants from work related fatigue that interferes with their ability to perform essential safety duties. No accident/incident data currently exists to provide a direct correlation between flight attendant fatigue and passenger survivability. However, the FAA recognizes that a flight attendant who is excessively fatigued is less likely to be capable of performing safety duties than an adequately rested flight attendant. This is an unacceptable safety risk. Therefore, the FAA adopts this final rule in the interest of air transportation and air commerce safety. The justification stated herein includes that which was included in Notice of Proposed Rulemaking No. 93–3, published in the *Federal Register* on March 31, 1993 (58 FR 17024).

and arguments contained in the petitions.

Congressional legislation (H.R. 638 and S. 1170) was introduced in 1989 to establish flight attendant duty time limitations. On May 17, 1989, the Subcommittee on Aviation of the House Committee on Public Works and Transportation held a public hearing on H.R. 638. At the hearing, the FAA stated its intent to initiate further studies of air carrier flight attendant scheduling practices.

The FAA completed its "Report on the Study of Current Industry Practice-Flight Attendant Flight, Duty, and Rest Times" on September 12, 1989 (hereafter referred to as "the Industry Study" [Docket No. 27229]), and submitted a copy of the study to the House Subcommittee on Aviation. The study focused on U.S. air carrier scheduling practices and flight attendant actual work hours and highlighted cases of extended duty periods and minimum rest periods. The study indicated that flight attendant duty hour problems may occur more frequently among certain industry segments because of fundamental operational differences. The study noted that most air carriers had policies to address these problems. The study provided a framework for the FAA to address this issue with appropriate regulatory action, which is provided in this final rule.

The House Subcommittee on Aviation held another hearing on flight attendant duty and rest on March 13, 1991. The FAA did not recommend rulemaking at that hearing. Subsequent legislation on flight attendant duty and rest, H.R. 14, was passed in the House of Representatives. In 1992, the language of H.R. 14 was incorporated into a provision in the House and Senate versions of the FAA's appropriations bill; however, that provision was deleted later by the conference committee. On January 5, 1993, H.R. 14 was reintroduced in the House of Representatives.

On March 26, 1993, the FAA issued a notice of proposed rulemaking (NPRM), Notice No. 93–3, Flight Attendant Duty Period Limitations and Rest Requirements (58 FR 17024; March 31, 1993) that proposed duty period scheduling limitations and rest requirements for flight attendants engaged in air transportation and air commerce. The FAA has incorporated into this final rule comments on the NPRM received from the public during the comment period, as appropriate.

Discussion of Comments

Fifty-one commenters submitted comments in response to the NPRM. The commenters included trade and professional associations, individual flight attendants, labor organizations, part 121 and 135 operators, public interest groups, a government agency, a Member of Congress, and other individuals. Among the commenters were the Air Line Pilots Association (ALPA); the Air Transport Association (ATA); the Allied Pilots Association (APA); the American Cyanamid Company; AMR Combs; the Coalition of Flight Attendant Unions; Delta Airlines; Great American Airways; the National Air Carrier Association (NACA); the National Transportation Safety Board (NTSB); North American Airlines (NAA); the Regional Airline Association (RAA); Southwest Airlines (SWA); Sun Country Airlines (SCA); Transport Workers Union Local 556 (TWU Local 556)—Southwest Airlines; and flight attendants, some of whom are employed by America West Airlines; Continental Airlines, Delta Airlines, and Sun Country Airlines.

Commenters addressed general and specific issues such as scheduled versus unscheduled operations; the application of flight crewmember flight, duty, and rest requirements to flight attendants; rest period requirements; duty period requirements; augmented crew requirements; reserve and deadhead status for flight attendants; flight attendant responsibility; the costs contained in the initial regulatory evaluation; and the implementation period for this final rule. Commenters also addressed the issues of flight attendant fatigue, the Industry Study, international versus domestic operations, part 125 operations, and flight attendant duty limitations and rest regulations in other nations.

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[1] This petition was submitted by the Association of Flight Attendants and summarized in the *Federal Register* (50 FR 6185) on February 14, 1985.

[2] This petition was submitted by the Joint Council of Flight Attendant Unions and summarized in the *Federal Register* (50 FR 25252) on June 18, 1985.

Coalition of Flight Attendant Unions. The commenters stated that, because a flight attendant's primary duties are safety related, establishing regulations would enhance public safety.

The 14 commenters who did not support the NPRM include Great American Airways, RAA, SCA, and nine commenters who identified themselves as flight attendants. Several of the commenters who identified themselves as flight attendants stated that the provisions in the NPRM would limit a flight attendant's opportunities to work extra trips and that flight attendants are capable of handling safety procedures and emergencies even when working longer duty periods.

Specific Issues

Apply Flight Crewmember Flight, Duty, and Rest Requirements to Flight Attendants. In the NPRM, the FAA invited comments on the possibility of modifying the proposed rule, as presented in the NPRM, to add an option for operators to either follow the proposed duty limitations and rest requirements or apply flight crewmember flight, duty, and rest requirements to flight attendants.

Eleven commenters responded to the FAA's request for comments. Seven of the commenters supported the option to permit operators to either follow the proposed duty limitations and rest requirements or apply flight crewmember requirements to flight attendants. Three commenters opposed the option. Although Delta Air Lines did not oppose the option, it expressed no interest in exercising the option.

ATA, Great American Airways, NACA, RAA, and Southwest Airlines agreed that operators should be permitted to apply flight crewmember requirements to flight attendants. ATA specified that applying flight crewmember requirements should remain an option at the operator's discretion. Great American Airways, Horizon Air, NACA, RAA, and Southwest Airlines noted that there are scheduling and economic advantages to using the same set of rules of flight crewmembers and flight attendants.

The Coalition of Flight Attendant Unions and SCA opposed establishing the option to permit operators to apply flight crewmember flight, duty, and rest requirements to flight attendants. The Coalition of Flight Attendants Unions stated that flight crewmember rules do not provide adequate protection from fatigue. SCA noted that, if this option had been a requirement in 1992, SCA would have had to hire an additional 20 flight attendants. According to SCA, the cost burden of hiring 20 flight attendants would have increased SCA domestic operating costs by $1.75 million.

FAA Response. The FAA recognizes that giving operators the option to apply flight crewmember flight, duty, and rest requirements to flight attendants provides additional scheduling flexibility and eliminates the need for an operator to have two sets of scheduling requirements for its flight crewmembers and flight attendants. This provision also will permit flight attendants on such operations to be scheduled with the same limitations as the flight crewmembers. Therefore, the FAA has adopted this option, which appears in §§ 121.467(c) and 135.273(c) of this final rule.

If an operator chooses to apply flight crewmember flight, duty, and rest requirements to flight attendants, the operator must establish written procedures for applying the requirements and the procedures must be approved by the Administrator and referenced in the certificate holder's operations specifications. The written procedures must apply to all flight attendants used in the certificate holders operation. In addition, written procedures must be applied to the certificate holder's entire operation. Certificate holders may obtain approval by submitting their procedures for preliminary review and approval to the principal operations inspectors assigned to them at the FAA Flight Standards District Offices that are charged with the overall inspection of their operations. This approval process is similar to those used for exit seating and passenger carry-on baggage requirements. Because flight crewmember regulations were designed specifically for pilots, FAA approval is required to ensure that flight crewmember rules are adequately applied to flight attendants. In addition, the written procedures for domestic, flag, and supplemental air carriers and for commercial operators must apply the flight crewmember limitations contained in subparts Q, R, or S of part 121, except for the provisions for on-board rest facilities, as appropriate to the operation being conducted. Therefore, operators must consider the type of operation being conducted for each flight segment when scheduling flight attendants according to the option.

to flight attendants and has established written procedures for augmenting the minimum flight crewmember complement must establish procedures for augmenting the minimum flight attendant complement. The augmenting procedures must be based on the number of flight crewmembers assigned to the flight that is in addition to the minimum flight crewmember complement as specified in the aircraft type certificate data sheet. For example, if the minimum flight crewmember complement on a Boeing 747–300 is three, as specified in the aircraft type certificate data sheet, an operator that schedules four flight crewmembers for an extended long-range flight will be required to schedule one flight attendant in addition to the minimum flight attendant crew complement that is required by §§ 121.391, 135.107, or the certificate holder's operations specifications. For example, if the operations specifications for a certain airplane requires 8 flight attendants, and if the operator adds 1 flight crewmember, that operator would be required to add 1 additional flight attendant, for a total of 9 flight attendants.

In addition, any operator that elects the option of applying the flight crewmember flight, duty, and rest requirements to flight attendants, must ensure that the definition of "rest period" in this final rule is applied to those flight attendants. (See the detailed discussion on "Rest Period Requirements" and "Reserve Status, Stand-by Status, or Similar Assignments" in this final rule.)

Under the provision for applying flight crewmember flight, duty, and rest requirements to flight attendants, if the Administrator finds that revisions to the written procedures are necessary for the continued adequacy of the procedures for applying flight crewmember flight, duty, and rest requirements to flight attendants, the Administrator will require the operator to make necessary changes within 30 days after being notified by the Administrator. In addition, an operator may petition the Administrator to reconsider the notice to change the procedures.

This procedure for requiring changes is consistent with the current regulatory language for aircraft inspection programs and pilot training programs contained in §§ 91.415 and 121.405, respectively, as well as a number of other regulations.

Any operator that establishes written procedures to apply the flight crewmember flight, duty, and rest requirements to flight attendants and that subsequently wishes to revise this practice and schedule flight attendants according to the duty period limitations and rest requirements in §§ 121.467 or 135.273 must amend their operations specifications in accordance with §§ 121.79(c) and 135.17(b). These sections require a certificate holder to file an application for an amendment of operations specifications at least 15 days before the effective date proposed by the applicant for the amendment, unless a shorter filing period is approved by the Flight Standards District Office charged with the overall inspection of the certificate holder.

Unscheduled Operations. The NPRM proposed duty period limitations and rest requirements for flight attendants in all domestic, flag, supplemental, and commercial operations conducted under part 121 and part 125, and in all operations conducted under part 135. No new requirements for operations conducted under part 91 were proposed. The FAA received comments from part 121 and 135 operators about the applicability of the proposed requirements to certain unscheduled operations. Those commenters included AMR Combs, ATA, American Cyanamid Company, Delta Airlines, Great American Airways, North American Airlines, and Southwest Airlines.

ATA, Delta Airlines, North American Airlines, and Southwest Airlines said that the proposed duty period limitations and rest requirements should not apply to military flights, e.g., Civil Reserve Air Fleet (CRAF) and Military Airlift Command (MAC). ATA and Southwest Airlines also said that special charters for sports teams should be excluded from duty period limitations and rest requirements. Commenters stated that because of the short notification associated with military and special charters it would not be possible to obtain a waiver from the regulation to conduct them. North American Airlines stated that the proposed requirements should not apply to flights flown to remote destinations on a weekly or ad hoc basis.

AMR Combs and American Cyanamid Company believe that the proposed requirements should not apply to operations that do not require a flight attendant. AMR Combs stated that many unscheduled

that the flight crewmember flight, duty, and rest requirements option be applied to all flight operations conducted by the certificate holder.

In response to AMR Combs and American Cyanamid Company, the FAA agrees with these commenters. The final rule will not apply to those operations where flight attendants are not required. However, all flight attendants who are assigned to duties in an aircraft for operations that require a flight attendant, including flight attendants in excess of the minimum flight attendant crew complement, are subject to duty limitations and rest requirements.

For example, an operator conducting operations on an aircraft with 19 passenger seats or less, which does not require a flight attendant under § 135.107, will not be required to meet flight attendant duty period limitations and rest requirements for flights conducted on that aircraft. However, if the operator's operations specifications state that the operator will provide a flight attendant for flights on that aircraft, then the operation does require a flight attendant. Therefore, for any flight attendant assigned to flight duties on that aircraft the certificate holder is required to meet the duty period limitations and rest requirements of § 135.273.

Duty Period Limitations. The NPRM proposed limiting flight attendant duty periods. Proposed §§ 121.466(a) and 135.273(a) defined a duty period as the period of elapsed time between reporting for an assignment involving flight time and release from that assignment by the certificate holder. The NPRM proposed that the time be calculated using either Coordinated Universal Time or the local time of the flight attendant's home base.

Eleven commenters submitted comments supporting or recommending revisions to this proposed definition.

Delta Air Lines, Southwest Air Lines, and TWU Local 556 agreed with the FAA's proposed definition.

ALPA, APA, and the Coalition of Flight Attendant Unions stated that duty periods should include non-flight duties. ALPA noted that ground duties can be as fatiguing as flight duties. The Coalition of Flight Attendant Unions recommended that the definition of a duty period be replaced with: "Any continuous period during which a flight attendant is required to carry out any task associated with the business of an aircraft operator."

To ensure that the definition of duty period explicitly excludes reserve status, ATA recommended that the following phrase be added to the definition of duty period: " 'Duty period' does not include time when a flight attendant is on reserve status assignment, free of any specifically assigned duties other than to report for a flight assignment within a specified period of time, pursuant to a collective bargaining agreement or company work rules."

In addition to receiving comments on the definition of a duty period, the FAA also received comments on the duty period limitations proposed in the NPRM. The NPRM proposed to limit flight attendant duty periods based on the length of the duty period, the number of flight attendants assigned to a crew, and the amount of rest following the duty period. The proposed rule contained provisions (proposed §§ 121.466(b) and 135.273(b)) to prohibit an operator from assigning a flight attendant to a scheduled duty period of more than 14 hours unless certain conditions are met. An operator would be allowed to assign a flight attendant to a scheduled duty period up to 20 hours, if the operator: (1) Assigns flight attendants in addition to the minimum flight attendant complement; and (2) schedules an extended rest period following the duty period.

Thirteen commenters submitted comments on issues pertaining to flight attendant duty period limits. The comments addressed the use of "scheduled" versus "actual" duty periods, addressed the effect of the proposed duty limits on unscheduled operators, made recommendations to the proposals, and provided proposed duty period limits.

The Coalition of Flight Attendant Unions, Southwest Airlines, and TWU Local 556 addressed the use of "scheduled" duty periods as opposed to "actual" duty periods. Southwest Airlines and TWU Local 556 agreed that the proposed duty period limitations should be "scheduled," not "actual." TWU

with more than 19 passenger seats.

Four commenters, including NAA, recommended revisions to the proposed duty period limitations. NAA recommended that a layover of 4 to 5 hours during which a hotel room is provided should not count as duty time. Other comments recommended limiting duty to: (1) 16 hours in 24 hours with 11 hours of flight time in domestic operations; (2) 30 hours in 5 days; (3) 16 hours with no more than 10 hours of flight time; or (4) 12 hours for flights with multiple stops.

The Coalition of Flight Attendant Unions submitted an alternative proposal to the NPRM that included duty period limitations. This alternative divided duty period limitations according to domestic, international, and long-range flights. The Coalition's alternative proposed to limit: (1) Scheduled duty periods on domestic flights to no more than 14 hours and actual duty periods to 15 hours; (2) scheduled duty periods on international flights to no more than 16 hours and actual duty periods to 17 hours; and (3) actual duty periods on long-range flights to no more than 4 hours greater than the scheduled duty time, not to exceed 20 hours. The Coalition distinguished between domestic and international duty periods and stated that it reluctantly includes a 20-hour duty period for long range international flights to accommodate new generation aircraft, but only if additional rest is provided.

FAA Response. In establishing duty period limitations, the FAA has considered a variety of alternatives submitted by commenters, including the proposals to set different limits for different types of operations. In an effort to establish requirements that are conducive to safety and compatible with air carrier operations, the FAA also has reviewed current industry practices used to schedule flight attendants. To provide the least complicated method of establishing effective limitations for scheduling duty periods for flight attendants, the FAA has decided to adopt the scheduled duty period limitations as proposed, with a slight modification that distinguishes cosmetic and international scheduled duty periods.

The FAA has revised the definition of a duty period in this final rule to state that the time is calculated using Coordinated Universal Time or local time to reflect the total elapsed time. The phrase "or the local time of the flight attendants's home base" was replaced with "or local time" to be consistent with the definition of a calendar day. The FAA has determined that any time zone can be used, as long as the operator is consistent.

Duty period limitations are established to enhance the safety of the flying public by ensuring that flight attendants do not become overly fatigued during flight assignments. In addition, the duty period limitations are designed to suit all operations that require flight attendants without imposing a significant burden on operators.

In response to the Coalition of Flight Attendant Unions, the final rule does not provide actual duty period limitations because such provisions may unreasonably reduce operational flexibility. However, the final rule requires that a flight attendant "be given" a scheduled rest period between scheduled duty periods, i.e., rest periods must be provided. Because duty periods are scheduled in combination with actual rest periods, the objective of ensuring the flight attendants are provided an opportunity to be rested will be met.

After further review of the Coalition comments and an analysis of flight schedules, the FAA finds that scheduled duty periods of operations wholly within the 48 contiguous states and the District of Columbia should not be allowed to exceed 18 hours. The FAA is not aware of any scheduled duty periods for these operations that currently do exceed 18 hours. However, duty periods that contain one or more flights that land or take off outside the contiguous 48 states and the District of Columbia may extend up to 20 hours, provided that an extended rest period is scheduled following the duty period and that additional flight attendants are assigned to each flight segment in the duty period. This provision will allow air carriers to conduct extended long-range operations with new generation aircraft. Moreover, sections 121.467(b)(14) and 135.273(b)(14) will allow a flight attendant for a domestic air carrier to continue on duty beyond the time when duty would normally terminate, if circumstances exist that are unanticipated and beyond the control of the air carrier such as adverse whether conditions). This same exception will apply to flag and supplemental operations.

rest requirements. The FAA would not consider this to be a break in, or cessation of, the duty period.

In response to AMR Combs, this final rule applies to operations, both scheduled and unscheduled, that require flight attendants. Therefore, operators are not required to meet duty period limitations and rest requirements of this final rule for operations that do not require a flight attendant.

Duty Period Following Reduced Rest. Sections 121.466(i) and 135.273(i) of the NPRM proposed that an operator be permitted to reduce a 12-hour rest period to 10 hours following a duty period of more than 14 hours. In conjunction with this proposed provision, the FAA also proposed §§ 121.466(j) and 135.273(j), which would limit the scheduled duty period following a 10-hour reduced rest period to less than 14 hours.

ATA, Delta Air Lines, and NACA submitted comments on limiting duty periods following reduced rest. The commenters recommended that the FAA permit an operator to schedule a 16-hour duty period following a reduced rest period of 10 hours. ATA noted that this flexibility is needed for international operations.

Delta Air Lines also recommended that the phrase "14 or more hours" appearing in proposed §§ 121.466(j) and 135.273(j) be replaced with "no more than 14 hours." Delta noted that the proposal would limit the duty period following reduced rest to 13 hours 59 minutes.

FAA Response. Sections 121.467(b)(9) and 135.273(b)(9) of the final rule adopt the provisions as proposed in §§ 121.466(j) and 135.273(j) of the NPRM, except that the provisions are revised, in response to Delta Airlines' comment, so that an operator may not schedule a flight attendant for a duty period of more than 14 hours following reduced rest. This revision permits an operator to assign a flight attendant to a duty period of up to and including 14 hours following a reduced rest period of 10 hours.

The FAA does not agree with those commenters that state that an operator should be allowed to schedule a 16-hour duty period following a reduced rest period of 10 hours. This was not proposed in the notice as it might promote problems of cumulative fatigue.

Duty Time That Exceeds Scheduled Duty Time When Beyond the Certificate Holder's Control. Sections 121.466(o) and 135.273(o) proposed that a flight attendant would not be considered scheduled for duty in excess of duty time limitations if the flights to which the flight attendant is assigned are scheduled and normally terminate within the limitations but, because of circumstances beyond the control of the domestic, flag, or supplemental air carrier or commercial operator (such as adverse weather conditions), are not at the time of departure expected to reach their destination within the scheduled time.

ALPA, APA, the Coalition of Flight Attendant Unions, Southwest Airlines, and TWU Local 556 commented on this provision.

ALPA and APA stated that the maximum duty period limit should not be exceeded by more than 2 additional hours regardless of circumstances beyond the control of the operator.

The Coalition of Flight Attendant Unions stated that this provision is unacceptable. The Coalition further stated that operators consider all delays outside their control.

Southwest Airlines and TWU Local 556 stated that this provision should apply to a flight attendant who is reassigned after reporting for work and the reassignment is beyond the operator's control.

FAA Response. The FAA has adopted this provision as proposed so that air carriers will not be penalized for operational delays such as those due to weather and air traffic control. The FAA recognizes that delays are costly and that operators avoid delays whenever possible. Sections 121.467(b)(14) and 135.273(b)(14) of this final rule apply to flights that are assigned and scheduled and that normally terminate within allowable duty limitations. However, this provision does not apply to operational delays relating to flight attendant staffing problems. A flight attendant's duty period begins when the flight attendant reports for a flight assignment and ends when the flight attendant is released by the air carrier. Changes to a flight attendant's schedule after a duty period begins must be made in accordance with

because the flight attendant was scheduled and assigned to flights that normally terminate within the allowable duty period limitations.

However, if, for example, the flight attendant is reassigned in Frankfurt to a flight to Athens, the flight attendant's revised scheduled duty period cannot exceed a total of 14 scheduled hours, unless the flight attendant crew is augmented in accordance with §§ 121.467 (b)(4), (b)(5), or (b)(6), as appropriate, and each flight attendant is given the minimum required rest. The flight attendant's duty period did not start over in Frankfurt because of the reassignment.

Rest Period Requirements. The FAA received numerous comments on issues related to the rest requirements proposed in the NPRM. Commenters addressed issues including the definition of a rest period, scheduled rest versus actual rest, minimum rest, reduced rest, subsequent rest, relief from duty in air transportation and air commerce for 24 consecutive hours of rest in any 7 consecutive calendar days, and on-board rest requirements.

The NPRM defined a rest period as the period when a flight attendant is free of all restraint or duty for a domestic, flag, or supplemental air carrier or commercial operator and is free of all responsibility for work or duty should the occasion arise. ATA, the Coalition of Flight Attendant Unions, and Southwest Airlines recommended revisions to the definition of rest period. The comments submitted by ATA and the Coalition of Flight Attendant Unions addressed reserve status in their recommended definitions of rest. Southwest Airlines stated that the definition of rest period should be defined as actual hours of rest, not scheduled hours of rest. Two commenters, including Delta Airlines, agreed with the definition of rest period as proposed in the NPRM.

The NPRM proposed requirements for scheduling rest and reduced rest periods. Sections 121.466 (c) and (h) and 135.273 (c) and (h) of the NPRM proposed requiring that a flight attendant scheduled for 14 hours or less of duty be given 9 consecutive hours of rest, and that a flight attendant scheduled for more than 14 hours but less than 20 hours be given 12 consecutive hours of rest. Proposed §§ 121.466 (d) and (i) and 135.273 (d) and (i) proposed permitting an air carrier or commercial operator to reduce these rest periods to 8 and 10 consecutive hours, respectively. Three commenters (Southwest Airlines, TWU Local 556, and TWU of America) supported the minimum rest requirements proposed in the NPRM and also indicated that the rest requirements should not be increased.

The RAA expressed concern that the requirement to provide 9 hours of rest for duty periods of more than 14 hours implies that a flight attendant who reports for a flight that is canceled is required to receive 9 hours of rest before the next duty period begins.

Commenters, including APA and individual flight attendants, indicated that the actual time available for rest during a rest period is often less than the scheduled rest period and may be as much as 2 to 3½ hours less than the number of hours scheduled in the rest period. The commenters stated that this often occurs because of time lost due to assisting passengers in deplaning, travel to and from a rest facility, and other activities such as eating. One commenter stated that it may take 35 minutes to 1 hour for passengers to deplane, for the crew to gather its belongings, and for travel to the hotel; 1 hour to eat; and 1 to 1½ hours to prepare for duty again and travel back to the airport.

The FAA received several alternatives to the proposed rest requirements. APA recommended that a flight attendant scheduled for a duty period of 14 hours or less be given a scheduled rest period of at least 10 consecutive hours. The rest period could be reduced but not scheduled as a reduced rest period as long as the rest period is reasonably calculated to provide 8 consecutive hours at a suitable rest facility and the flight attendant is provided a subsequent rest period of at least 11 consecutive hours. Under the APA proposal, scheduled rest periods and reduced rest periods would have to occur during the 24-hour period preceding the scheduled end of a duty period. APA recommended that a flight attendant scheduled for a duty period of more than 14 hours but no more than 18 hours be given a scheduled rest period of at least 12 consecutive hours. This rest period could not be reduced and must occur after the completion of the scheduled duty period and immediately prior to the commencement of the subsequent duty period. The Coalition of Flight Attendant Unions proposed rest requirements

period following international flights should be 24 hours.

Several commenters recommended that the FAA establish provisions for on-board rest. APA recommended that a domestic, flag, or supplemental air carrier or commercial operator be permitted to assign a flight attendant to a scheduled duty period of more than 14 hours, but no more than 16 hours, if the inflight duties assigned to flight attendants by the air carrier or commercial operator were such that each of the cabin crew could be free of all duty for "25 percent of the scheduled block time less 1 hour." APA stated that reclining seats suitable for rest reserved for 25 percent of the assigned attendant complement would have to be available throughout the flight. APA also recommended that a domestic, flag, or supplemental air carrier or commercial operator be permitted to assign a flight attendant to a scheduled duty period of more than 16 hours, but no more than 18 hours, if the inflight duties assigned to flight attendants by the air carrier or commercial operator were such that each of the cabin crew could be free of all duty for "33 percent of the scheduled block time less 1 hour." APA added that reclining seats suitable for rest reserved for 33 percent of the assigned attendant complement would have to be available throughout the flight. The Coalition of Flight Attendant Unions recommended that a flight attendant be provided at least 1 hour of continuous rest for any flight segment scheduled for 8 or more hours of flight time, and that a passenger seat or bunk be assigned for crew rest.

FAA Response. This final rule adopts the definition of rest period and the minimum rest requirements as proposed in the NPRM. The FAA has considered the various rest requirement alternatives proposed by commenters and has determined that the rest requirements proposed in the NPRM and adopted in this final rule are adequate to ensure that flight attendants are provided the opportunity to be sufficiently rested to perform their routine and emergency safety duties without imposing a significant burden on operators. A discussion of the comments recommending that reserve status be addressed in the definition of rest is contained under the heading, "Reserve Status, Stand-by Status, or Similar Assignments."

In response to Southwest Airlines' comment that rest should be "actual" hours of rest and not "scheduled," the FAA considers that the opportunity to rest, as provided by the rest period, to be "actual" rest. As proposed in the NPRM, this final rule requires that a flight attendant "be given" a scheduled rest period. This provision makes the operator responsible for ensuring that a flight attendant is scheduled for and receives the scheduled rest period. The FAA recognizes that how the flight attendant utilizes this rest period cannot be regulated. Requiring operators to schedule rest periods ensures that flight attendants know in advance when rest periods will occur and that they will be of a specified duration.

A minimum rest period of 9 consecutive hours is required for all duty period assignments of 14 hours or less, unless the rest period is reduced in accordance with § 121.467(b)(3) or § 135.273(b)(3). A flight attendant who reports for duty to find that the flight has been canceled would have begun a duty period and would require minimum rest. However, in response to RAA's concern, a carrier could either keep the flight attendant on duty for reassignment or release the flight attendant for a complete rest period.

Rest periods are required to occur between the completion of a scheduled duty period and the commencement of a subsequent duty period. Consequently, this final rule does not require that a required rest period be given immediately prior to a flight assignment. Because duty periods are defined as assignments involving flight time, a rest period is not required following assignments that do not involve flight time, such as training or ground duty assignments.

In response to commenters who indicated that the actual time available to rest is typically less than scheduled rest, the FAA considers a flight attendant to be free of all restraint or duty upon release from an assignment involving flight time. The FAA understands that the time available for sleep during a rest period may vary depending on the amount of time a flight attendant spends in other activities during the rest period. The FAA also recognizes that it cannot compel a flight attendant to use rest periods for actual rest.

APA opposed the concept of reduced rest and stated that an air carrier or commercial operator should not be permitted to schedule a reduced rest period.

FAA Response. The FAA has adopted the reduced rest provisions as proposed. This final rule permits an air carrier or commercial operator to schedule a flight attendant for reduced rest. However, no flight attendant will receive a rest period of less than 8 hours. This provision enables operators to retain a certain degree of scheduling flexibility. The reduced rest provision is adopted in conjunction with the requirement to schedule a longer rest period subsequent to an 8- or 10-hour reduced rest period. Together, these provisions prevent a flight attendant from being assigned two consecutive reduced minimum rest periods and are designed to protect flight attendants by minimizing the effects of cumulative fatigue.

24-Consecutive-Hour Rest Period During Any 7 Consecutive Calendar Days. Sections 121.466(n) and 135.273(n) of the NPRM proposed that a certificate holder be required to relieve a flight attendant engaged in air transportation or air commerce from all further duty for at least 24 consecutive hours during any 7 consecutive calendar days. For convenience, hereafter, this requirement will be referred to as the 24-hour-in-7-day rest requirement. Proposed §§ 121.466(a) and 135.273(a) of the NPRM defined a calendar day as the period of elapsed time, using Coordinated Universal Time or local time, that begins at midnight and ends 24 hours later. Labor organizations, operators, and an association commented on the proposed 24-hour-in-7-day rest requirement.

Several of the comments submitted included discussion of the term "calendar day." ATA stated that the term "calendar day" is confusing because it is unclear on which day an assignment begins or ends. APA stated that the term calendar day should specify that the local time used is that of the flight attendant's home base. In the Coalition of Flight Attendant Unions' alternative to the NPRM, the Coalition deleted the definition of the term "calendar day" but retained the provision for 24 consecutive hours of rest in 7 consecutive calendar days.

ATA and Delta Air Lines recommended that the FAA revise the proposed 24-hour-in-7-day rest requirement by replacing the phrase "every 7 consecutive calendar days" with the phrase "every 168-consecutive-hour period."

Southwest Airlines and TWU Local 556 requested that the final rule permit a flight attendant to voluntarily waive the 24-hour-in-7-day rest requirement in order to be able to work extra hours. Southwest Airlines states that, if flight attendants cannot waive this provision, Southwest would be required to hire an additional 100 flight attendants at an initial cost of $710,000 and an annual recurring cost of $660,000. TWU Local 556 stated that they applied this provision to a sample of 13 flight attendant schedules for February 1993. According to TWU Local 556, if the 13 flight attendants were not permitted to fly their schedule, which had been altered to include extra flights, each flight attendant would have lost $11,063 in extra annual income. The total lost income for 2,200 flight attendants would be $24 million.

ATA and Delta Air Lines recommended that the FAA include a provision in the final rule similar to a statement included in the preamble to the NPRM that indicated that the requirement for a 24-consecutive-hour rest period in any 7 consecutive calendar days could be postponed under certain circumstances.

AMR Combs and American Cyanamid Company noted that current §§ 135.267(f) and 135.269(d) require unscheduled operators to provide flight crewmembers with at least 13 rest periods of at least 24 consecutive hours in each calendar quarter. AMR Combs stated that the 24-hour-in-7-day rest requirement proposed in the NPRM only should apply to scheduled operations. American Cyanamid Company suggested that flight attendants could be required to meet pilot weekly rest requirements as an alternative.

Other comments submitted included: (1) A recommendation by TWU Local 556 that the FAA could require four 24-hour breaks in 30 days or require a 12-hour rest preceding the seventh duty day; and (2) a Carnival Airlines flight service schedule indicating that a flight attendant had been scheduled for 11 consecutive days of duty without receiving a 24-consecutive-hour rest period.

the local time be that of the flight attendant's home base, the FAA has determined that any time zone can be used to determine whether the 24-hour-in-7-day rest requirement is met, as long as the carrier is consistent. In other words, a certificate holder may not manipulate the use of time zones when calculating 7 consecutive calendar days so as to vary the number of hours that comprise any 7 consecutive calendar days.

The FAA has considered the commenters' request to replace the proposed 7 consecutive calendar days with a 168-consecutive-hour period. The FAA notes that the NPRM used language consistent with the language contained in the current flight crewmember flight time limitations rule. The FAA has decided that it should not introduce at this final rule stage an inconsistency between the flight crewmember flight time limitations rule language and the flight attendant duty period limitations and rest requirements rule language. The FAA will consider whether rulemaking should be initiated to replace 7 consecutive calendar days with 168-consecutive-hours.

The FAA has reviewed requests to permit flight attendants to voluntarily waive the 24-hour-in-7-day rest requirement. The FAA has not included that alternative in this final rule because the purpose of requiring 24 consecutive hours free from duty in any 7 consecutive calendar days is to ensure that flight attendants receive the opportunity to obtain adequate rest. As with rest requirements following reduced rest, the requirement for 24 consecutive hours of rest in any 7 consecutive calendar days is designed to protect flight attendants by minimizing the effects of cumulative fatigue.

In response to comments received from ATA and Delta Airlines, the FAA has determined that it is not necessary to include in this final rule provisions for permitting the 24-hour-in-7-day rest requirement to be delayed. This final rule imposes restrictions for flight attendants that parallel the restrictions that currently exist for flight crewmembers. The absence of provisions to permit the 24-hour-in-7-day rest requirement to be delayed does not preclude a flight attendant from completing a duty period assignment that has extended into the seventh calendar day because of a delay that is beyond the control of the operator. In addition, the 24-hour-in-7-day rest requirement may be delayed for reasons such as deadheading, assignment to training, and others. However, if the requirement is delayed, the flight attendant must be given the 24-consecutive-hour rest period before beginning any subsequent duty period assignment.

In response to unscheduled operators, the FAA notes that unscheduled part 135 operators conducting operations that require flight attendants have the option to apply the flight crewmember flight time limitations to flight attendants instead of using the duty period limitations and rest requirements contained in this final rule. Sections 135.267(f) and 135.269(d) require certificate holders to provide each flight crewmember with at least 13 rest periods of at least 24 consecutive hours each in each calendar quarter. Among other requirements, operators that choose to apply flight crewmember requirements to flight attendants would be required to provide flight attendants with at least 13 rest periods of at least 24 consecutive hours in each calendar quarter instead of relief from duty for 24 consecutive hours every 7 consecutive calendar days.

Comments on the costs associated with the 24-hour-in-7-day rest requirement are addressed in the Regulatory Evaluation Summary.

Compensatory Rest Periods. Although there was no specific proposal in the notice, the FAA requested comments on the feasibility of establishing compensatory rest periods for flight attendants when scheduled duty periods are exceeded. ATA, the Coalition of Flight Attendant Unions, and Delta Air Lines opposed the establishment of compensatory rest periods.

FAA Response. In response to the comments submitted, the FAA will not mandate compensatory rest periods in this final rule. The FAA has determined that compensatory rest is not necessary, because the duty period limitations and rest requirements contained in this final rule ensure that flight attendants receive the opportunity to be adequately rested to perform safety duties.

Reserve Status, Stand-by Status, or Similar Assignments. The FAA recognizes that current industry practice varies with regard to the use of these terms and their relationship to duty or rest. In the NPRM, the FAA requested comments on the most appropriate way to address reserve status, stand-by status,

or interruption by, work or duty.''

In addition, commenters indicated that different types of reserve status including ''call-in'' reserve and ''on-call'' reserve are commonly found in the aviation industry. As described by commenters, call-in reserve requires that a flight attendant contact, or be available to be contacted by, the operator at designated times for flight assignments. The commenters added that on-call reserve typically requires that a flight attendant be available for an assignment on short notice (usually within 1 hour) if contacted by the operator.

A majority of the commenters on this issue discussed whether reserve status should be considered rest. ATA, NACA, and Southwest Airlines stated that the time a flight attendant is assigned to reserve status and is not assigned to a duty period should be considered rest for the purpose of meeting the 24-hour-in-7-day rest requirement proposed in § 121.466(n) of the NPRM. RAA stated that the type of reserve in which a person must contact the company for future assignments—rather than being available for an assignment on short notice—should be considered rest because it is free of all duty except for the possibility of communication with the operators. Two individual commenters stated that the time a flight attendant spends on reserve should not be considered rest.

Four of the commenters, including ATA, Delta Air Lines, and RAA, commented on whether reserve status should be considered part of a duty period. ATA and Delta Air Lines stated that the time a flight attendant spends on reserve should not be considered a duty period. ATA noted that, if reserve is considered duty, operators will need to increase staff by 20 to 30 percent. ATA estimates that the annual cost would be $100 to $130 million for salaries, benefits, and associated training and administrative costs. Delta Air Lines expressed concern that if ''on-call'' reserve is considered duty, flight attendants would request at-home pay. RAA stated that the type of reserve in which a person is expected to report on short notice should be considered duty. TWU Local 556 stated that duty time for a reserve flight attendant should be calculated from actual report time to release time for a flight assignment.

FAA Response. In response to the commenters who stated that reserve status should be considered rest, the FAA notes that the time during which a flight attendant is responsible for contacting a certificate holder or for being available to be contacted by a certificate holder for an assignment (e.g., reserve or stand-by status) does not meet any rest period requirements, because the FAA has defined a rest period as free of all restraint or duty and free of all responsibility for work or duty should the occasion arise.

Specifically in response to ATA's, NACA's, and Southwest Airlines' suggestions that reserve assignments should fulfill the 24-hour-in-7-day rest requirement if no duty period is assigned, the FAA reiterates that rest period requirements are not met when a flight attendant is assigned to reserve status even if the flight attendant is not given a duty period assignment. A duty period, as defined in this final rule, does not begin until a flight attendant reports for an assignment involving flight time. For example, a flight attendant who has been assigned to reserve status for 24 hours but has not reported for a duty period assignment during that time will not have satisfied the 24-hour-in-7-day rest requirement. The rest requirement is not satisfied, because the reserve assignment is a restraint and includes present responsibility for work as a flight attendant if the occasion arises.

Some commenters stated that reserve status should not be restricted by duty period requirements. The FAA refers the commenters to the definition of duty period in §§ 121.467(a) and 135.273(a) of the final rule, the first sentence of which reads: ''Duty period means the period of elapsed time between reporting for an assignment involving flight time and release from that assignment. * * *'' It should be clear that reserve status alone does not meet the definition of duty period. On the other hand, it also should be clear that reserve status may not be performed during a rest period. The definition of rest period in §§ 121.467(a) and 135.273(a) of the final rule states that ''Rest period means the time period free of all restraint or duty for a domestic, flag, or supplemental air carrier or commercial operator and free of all responsibility for work or duty should the occasion arise.''

APA, NAA, and RAA noted that the proposed augmented cabin crew requirements are not based on the size of the aircraft. APA stated that if the FAA intends the provision for augmented cabin crews to be used only for long-range operations, this should be clarified in the final rule. APA noted that, under the proposed provisions, one flight attendant would be added to either a two-person crew or an eight-person crew. NAA noted that, one additional flight attendant on a Boeing 757 is a 20 percent increase in crew; one additional flight attendant on a wide-body airplane is a 7 percent increase in crew. NAA recommended that the FAA distinguish between wide-body and narrow-body airplanes by requiring one additional flight attendant for any duty period between 14 and 20 hours on a narrow-body airplane. RAA stated that operators of airplanes that require one or two flight attendants should not be required to augment cabin crews in order to schedule duty periods longer than 14 hours. RAA added that a passenger seat will be needed for an additional flight attendant. RAA also noted that regional operators schedule some duty periods longer than 14 hours; however, many of these include an intermediate rest period.

APA, the Coalition of Flight Attendant Unions, and RAA addressed the relationship between augmented cabin crews and fatigue. APA and the Coalition stated that a larger crew does not necessarily result in a less fatigued crew and noted that American Airlines, Trans World Airlines, United Air Lines, and USAir currently assign flight attendants in addition to the minimum crew complement. APA and the Coalition of Flight Attendant Unions noted that the proposal does not require an operator to provide a flight attendant with inflight rest. RAA stated that requiring augmented cabin crews for the purpose of reducing fatigue has been inadequately justified.

ATA and Delta Air Lines stated that the rule should permit a flight to operate if an augmented crew is assigned but not present for a flight because of unforeseen circumstances (e.g., illness or injury during a layover). Delta suggested that 1 hour of on-board crew rest for the remaining flight attendant crew could be provided in this circumstance.

AMR Combs noted that a change is needed for on-demand operators. They stated that a "larger" aircraft such as a Gulfstream or a Challenger cannot accommodate up to four flight attendants. AMR Combs stated that these operators would either apply for an exemption or not use a flight attendant.

FAA Response. This final rule provides scheduling flexibility by permitting an operator to schedule a flight attendant for a duty period of more than 14 hours if the flight attendant crew is augmented in accordance with § 121.467 (b)(4), (b)(5), or (b)(6), or § 135.273 (b)(4), (b)(5), or (b)(6). The augmented flight attendant crew provision permits extended duty periods to accommodate certain operational requirements such as those for long-range international flights, but this provision also may be applied to domestic operations.

The provision for augmented cabin crews is designed to reduce fatigue by decreasing flight attendant work load on a flight and by providing an extended rest period following a long duty day. Although the FAA recognizes that the provision will not require flight attendant crews to be augmented proportionally for each aircraft type, it provides the least complicated method for reducing fatigue and accommodating certain operational requirements. Therefore, in this final rule, the FAA adopts the provision for augmenting cabin crews on a flight or flights with a scheduled duty period of more than 14 hours but not more than 18 hours, and scheduled duty periods that do not exceed 20 hours for duty periods that contain one or more flights that land or take off outside the 48 contiguous states and the District of Columbia.

In response to comments from AMR Combs, Delta Airlines, and RAA, this final rule contains no provision to except an operator from meeting minimum augmented cabin crew requirements when a flight attendant duty period is scheduled for more than 14 hours in operations that require a flight attendant. This includes instances in which a required crewmember is not available following a layover, e.g., due to illness or injury. Additionally, the use of an approved passenger seat is required for operators that schedule flight attendants for duty periods of more than 14 hours on aircraft that are not configured with a flight attendant jumpseat for the additional flight attendant(s).

and provides to transport the flight attendant to an airport at which that flight attendant is to serve on a flight as a crewmember, or from an airport at which the flight attendant was relieved from duty to return to the flight attendant's home base. Under the proposal, time spent in deadhead transportation is not rest.

ATA, Delta Air Lines, and NACA requested that the final rule provide scheduling flexibility for flight attendants in deadhead transportation. ATA requested that the FAA permit: (1) Operators to schedule 2 hours of deadhead transportation to a domicile that is not counted within duty time limitations; (2) flight attendants to waive all duty time limitations when returning to a domicile and count the time as rest; and (3) flight attendants to delay the weekly rest requirement to return to the flight attendant's home base. Delta Air Lines stated that the FAA should permit a flight attendant to alter schedules to exceed the scheduled maximum duty time after the last flight segment to return to the flight attendant's home base. Delta also recommended that an operator be permitted to deadhead a flight attendant for up to 20 hours regardless of the number of assigned flight attendants. NACA suggested that the final rule clarify that the time a flight attendant spends deadheading is not limited by duty periods or the requirement to augment the flight attendant crew because no inflight duties are involved.

ATA and NACA stated that the final rule should clarify that a deadheading flight attendant is not a working member of the cabin crew for the purpose of determining if staffing requirements must be augmented.

The Coalition of Flight Attendant Unions and NACA agreed with the NPRM that the time a flight attendant spends in deadhead transportation is not rest.

FAA Response. Deadhead transportation as adopted in §§ 121.467(b)(12) and 135.273(b)(12) of this final rule is not considered part of a rest period. This use of deadhead transportation in relation to flight attendant duty period limitations and rest requirements is consistent with the application of flight crewmember flight time limitations and rest requirements.

In addition, a flight attendant scheduled for deadhead transportation is not assigned to duty in an aircraft and is not considered a working crewmember. Therefore, for the purpose of determining duty period limitations and rest requirements, deadhead transportation is not considered an assignment involving flight time and is not part of a duty period. In response to the comments submitted, the FAA reiterates that an operator is not required to augment flight attendant crews for flights when a flight attendant is assigned to deadhead transportation because the time spent in deadhead transportation is not part of a duty period. For example, an operator may schedule a flight attendant crew for a flight to Europe with a duty period of 14 hours. Immediately following the flight and before beginning a 9-hour rest period, the operator requires the flight attendant crew to deadhead for 2 hours to position the crew for the next duty period assignment. In this example, the operator is not required to augment the flight attendant crew because the deadheading portion of the assignment is not considered part of the duty period. However, the 2 hours spent positioning the crew for the next assignment are not considered part of the 9-hour rest period.

Flight Attendant Responsibility. Proposed §§ 121.466 and 135.273 state that a flight attendant may not accept a work assignment that does not meet the duty time limitations and rest requirements. Six commenters responded to this provision.

ATA, APA, Delta Air Lines, and RAA opposed this provision. The commenters stated that, if the provision were adopted, flight attendants would be subject to FAA civil penalties. The commenters also expressed concern that the provision would interfere with labor-management relations. APA noted that a flight attendant could be permitted to complete a flight assignment that the flight attendant believes to be improper and to inform the FAA at the next opportunity.

The Coalition of Flight Attendant Unions included in its alternative the provision for a flight attendant to refuse a work assignment that does not meet the Coalition's proposed duty time limitations and rest requirements. In contrast, TWU Local 556, representing the flight attendants of Southwest Airlines, commented that the provision of flight attendant responsibility could place a flight attendant in the impossible

is aware that an assignment does not meet duty period and rest requirements, the FAA recommends that the flight attendant bring the situation to the air carrier's attention. If the situation is not corrected, the flight attendant should then inform the FAA. However, this recommendation does not preclude a flight attendant from informing the FAA before contacting the air carrier. In addition, flight attendant duty and rest time records are subject to FAA review. Air carriers found to be in noncompliance with the regulation are subject to enforcement action.

Recordkeeping. Sections 121.683(a)(1) and 135.63(a)(5) of the NPRM proposed requiring certificate holders to maintain current records on flight attendant duty and rest time requirements. The Coalition of Flight Attendant Unions, Southwest Airlines, TWU Local 556, and TWU of America agree with the proposed recordkeeping requirements. The Coalition of Flight Attendant Unions does not anticipate that the recordkeeping requirements as proposed in the NPRM would be unduly burdensome.

NAA stated that the cost of tracking crew time for duty and rest could be very expensive. NAA noted that many small carriers do not have expensive computer tracking systems and cannot afford to do manual tracking.

Delta Airlines stated that the one-time cost for computer software changes would be $368,000. NACA noted that one of its members estimates that the proposed recordkeeping requirements would cost $50,000 annually.

FAA Response. The information and recordkeeping requirements of this final rule are currently under review by the Office of Management and Budget. Provided that they are approved by OMB, the FAA adopts the recordkeeping requirements as proposed in the NPRM. These requirements will become effective when they have been approved by OMB. The FAA anticipates that this approval will be given soon.

The FAA recognizes that a concern of the aviation industry has been the potential cost involved in tracking crew time for duty and rest periods. The regulation provides that carriers maintain current records for each flight attendant to verify compliance with flight, duty, and rest time periods. The FAA intends to be as flexible as possible in interpreting this recordkeeping requirement. Records may be maintained by computer, by hand documentation, or by any other method that will permit a carrier to assure compliance with the regulatory requirements.

Since many carriers already track flight attendant duty periods to ensure that union contract or company guidelines on duty and rest time are met, the FAA expects that recordkeeping systems already in place will be sufficient to meet the recordkeeping requirements of the final rule with minimal modification. Carriers that do not currently track flight attendant duty periods will incur costs in developing recordkeeping systems; however, the flexibility built into the final rule should help to minimize these costs. Further, the FAA intends to assist these carriers by providing information and guidance based on already-implemented recordkeeping systems maintained by other air carriers.

Implementation Time of the Final Rule. ATA and Delta Air Lines requested that the FAA not implement this final rule immediately. They noted that operators will need time to revise their computer programs. ATA requested a 12-month implementation period; Delta requested an 18-month implementation period.

FAA Response. The FAA has considered the implementation periods proposed by ATA and Delta. However, in the interest of public safety, the FAA has determined that the final compliance date of this rule should be no later than March 1, 1995. Because most operators are currently using scheduling guidelines and tracking systems for flight attendants, the FAA has determined that the March 1, 1995, date is reasonable.

Additional Issues

Fatigue. Commenters who addressed flight attendant fatigue include ATA, the Coalition of Flight Attendant Unions, NACA, NTSB, RAA, SCA, and Southwest Airlines.

fatigue, sleepiness, sleep disorders, and circadian factors on transportation systems safety
submitted copies of articles and recommendations related to fatigue.

FAA Response. The FAA has reviewed the extensive amounts of literature provided by commenters on fatigue related to travel and extended work periods as well as to shift work. Although consideration has been given to numerous fatigue studies, no accident/incident data is available to provide a direct correlation between flight attendant fatigue and passenger safety. However, it is evident that fatigue may affect flight attendant performance and that proper scheduling practices may help avoid compromising flight attendant performance. The FAA recognizes that flight attendants perform essential safety duties and has determined that the requirements contained in this final rule enhance safety by protecting flight attendants from acute and chronic fatigue. This final rule addresses the potential safety problems that could occur if fatigued flight attendants work excessive duty hours or receive inadequate rest.

Industry Study. The principal commenters who addressed the Industry Study include AMR Combs, American Cyanamid Company, the Coalition of Flight Attendant Unions, and SCA.

American Cyanamid Company stated that the Industry Study does not indicate that there is a pattern of air carriers willfully scheduling long duty days or long series of days without a day off. The Coalition of Flight Attendant Unions indicated that the Industry Study has been used as evidence that extreme examples of scheduling abuse are isolated and that the actual occurrences of scheduling abuse were most likely under-reported because the instances provided in the Industry Study were "self-selected." The Coalition further stated that, even though the instances were self-selected, the Industry Study found industry-wide flight attendant duty and rest period problems. SCA stated that the Industry Study does not provide evidence to establish any correlation among flight attendant duty time, flight attendant safety duties, and risk to passengers. AMR Combs and American Cyanamid Company noted that the Industry Study did not consider unscheduled part 135 operators.

FAA Response. The FAA conducted the Industry Study to determine if scheduling extremes exist, and, if so, to determine the nature of the extremes, not to determine the statistical frequency with which they occur or to correlate passenger risk with extreme scheduling. Access to records was gained through the cooperation of air carriers. The air carriers did not choose individual records for examination. Based on the purpose of the study, records were selected for review when flight attendant scheduling extremes were expected to be likely. Therefore, statistical inferences cannot be made. However, the data contained in the Industry Study provides fundamental background information on flight attendant scheduling practices.

The Industry Study included a review of data from major, national, regional, and supplemental carriers. The study did not include a review of unscheduled part 135 operators because relatively few of these operators conduct operations that require a flight attendant. As previously discussed, air carriers and commercial operators conducting operations for which the FAA does not require a flight attendant will not be required to comply with flight attendant duty period limitations and rest requirements even if flight attendants are involved in those operations.

International and Domestic Operations. The proposed amendment did not make a distinction between domestic and international operations in determining flight attendant duty limitations and rest requirements. Five commenters commented on whether there should be a distinction between domestic and international operations for determining flight attendant duty period limitations and rest requirements. Four commenters, including the Coalition of Flight Attendant Unions and the International Association of Machinists and Aerospace Workers (IAM & AW), supported making a distinction. The Coalition provided definitions for a domestic flight, an international flight, and a long-range international flight. One commenter stated that flight attendants assigned to international flight require more rest than flight attendants assigned to domestic flights because flight attendants on international flights are in a state of physical desynchronization. Another commenter stated that duty period limits should be 12 hours for domestic flights and 14 hours for international flights. NAA stated that no distinction should be made between international and domestic flights because some domestic flights are as long as international flights and the work load is the same for the crew.

Two commenters, including the Coalition of Flight Attendant Unions, addressed this proposal. The Coalition recommended that the 8-hour period free of duty be replaced with a 10-hour period free of duty.

FAA Responses. Section 125.37, Duty time limitations, currently requires a flight crewmember to be relieved from duty for at least 8 consecutive hours during any 24-hour period. The final rule incorporates flight attendants into the current provision, thus providing parallel duty time limitations for flight attendants and flight crewmembers.

Rules for Flight Attendants in Other Nations. APA, the Coalition of Flight Attendant Unions, and the IAM & AW noted that flight attendants in other nations have regulations that provide flight attendant duty time limitations and minimum rest requirements. APA stated that the proposed Joint Aviation Authorities (JAA) regulations address issues related to fatigue. The Coalition provided a copy of the proposed JAA rules.

FAA Response. During the Industry Study, the FAA conducted a review of the International Civil Aviation Organization's (ICAO) regulations relating to flight attendant flight, duty, and rest times including a review of ICAO Circular Flight Crew Fatigue and Flight Time Limitations (52–AN/47/6). The Industry Study identified 23 countries that have government regulations for flight attendant flight and duty limitations and rest requirements, and 24 countries that do not have such regulations. The FAA notes that the Joint Aviation Regulations currently do not include flight time limitations for flight attendants; however, the JAA have proposed flight time limitations for flight crewmembers and flight attendants that are currently under review by the European Community. Based on this information, the FAA has determined that flight attendant flight and duty limitations and rest requirements of some countries are less stringent than the final rule adopted by the FAA, and the requirements of other countries are more stringent than those being adopted. Therefore, the FAA considers the final rule to be within the range of worldwide governmental regulations governing flight attendant duty limitations and rest requirements.

Changes to the NPRM

The FAA amended several provisions of the proposed rule in response to comments received from the public. Any changes that significantly altered the requirements of the duty period limitations and rest requirements are discussed previously and are summarized in this section.

The NPRM made no distinction between domestic and international operations. In the final rule domestic operations are limited to up to 18-hour scheduled duty periods. However, scheduled duty periods that involve one or more flights that land or take off outside the 48 contiguous states and the District of Columbia may be scheduled up to 20 hours, providing required augmentation is provided.

The FAA moved flight attendant duty period limitations and rest requirements from proposed § 121.466 in the NPRM to § 121.467 in the final rule to facilitate the incorporation of future amendments. In addition, paragraphs describing duty period and rest period provisions in the NPRM have been revised and renumbered in the final rule to incorporate new and revised requirements. The FAA also revised the NPRM to include minor editorial changes and revised the list of subjects to include additional terms.

Based on comments receive, the FAA removed the proposed requirement that a flight attendant be responsible for ensuring compliance with duty period limitations and rest requirements before accepting any flight assignments. The FAA determined that this is an operator's responsibility and not the responsibility of a flight attendant.

The NPRM included the proposal that an operator may not assign a flight attendant a duty period of 14 or more hours following a 10-hour reduced rest period. In §§ 121.467(b)(9) and 135.273(b)(9), the FAA revised the NPRM to restrict an operator from assigning a flight attendant to a duty period of "more than 14 hours" following a 10-hour reduced rest period. This change permits an operator to assign a flight attendant to a duty period of up to and including 14 hours following the reduced rest period.

Scheduled duty period	Minimum rest period	Reduced rest period	following reduced rest	No. of flight attendants
14 hrs or less	9 hrs	8 hrs	10 hrs	Minimum.
14–16 hrs	12 hrs	10 hrs	14 hrs	Minimum + 1.
16–18 hrs	12 hrs	10 hrs	14 hrs	Minimum + 2.
*18–20 hrs	12 hrs	10 hrs	14 hrs	Minimum + 3.

*Applies only to duty periods with one or more flights that land or take off outside the 48 contiguous States and the District of Columbia.

Costs. In the NPRM, the FAA requested additional information on the costs of the proposed rule. The FAA received comments from associations, labor organizations, and part 121 operators.

ATA, which primarily represents part 121 scheduled operators, stated that the proposal would cost its members at least $8 million annually to revise current computer crew scheduling programs, hire additional personnel, extend layovers, and schedule reserves. ATA believes that the costs were understated in the NPRM and noted that they did not include an inflation factor. ATA indicated that the 15-year cost of the proposed rule would be $88,947,099 using a 7-percent discount rate and a 3-percent inflation rate. RAA stated that the costs associated with the proposed rule are significantly understated. In addition, RAA believes that the economic effect of the proposed rule should reflect the cost burden of other recent rulemakings. NACA stated that the proposal would cost one of its members an estimated $372,000 annually for additional staffing and $50,000 annually to meet recordkeeping requirements.

The Coalition of Flight Attendant Unions stated that the median flight attendant salary, based on the average salary for supplemental air carrier flight attendants represented by the Association of Flight Attendants (AFA), is $18,461. According to the Coalition, if 6,000 flight attendants are hired by supplemental operators, the cost in salaries will be $1,107,660 [sic]. The Coalition noted that this is one tenth the cost of random drug testing.

Delta Airlines, a scheduled part 121 operator, indicated that the initial cost to comply with the proposed rule would be $2,863,416. This cost includes the cost of hiring 36 additional flight attendants, estimated at $1,348,000; paying flight attendants during deplaning, estimated at $749,000; providing additional meals, estimated at $400,000; and modifying computer software, estimated to be a one-time cost of $367,000. Delta estimates that the annual cost to comply with the proposed rule would be $2.5 million.

Sun Country Airlines, an unscheduled part 121 operator, stated that it would be required to augment cabin crews on domestic flights more often than it now does. Sun Country Airlines also stated that, if the NPRM had been effective in 1992, the carrier would have hired an additional 34 flight attendants and the cost to domestic operations would have been $2.6 million in salaries, benefits, training, hotels, meals, deadhead travel, and administrative burden. Sun Country Airlines pointed out that the NPRM estimated that supplemental operators would absorb 60 percent of the proposal's costs while supplemental operators employ only 1 percent of all flight attendants.

Great American Airways, an unscheduled part 121 operator, stated that the proposed rule would impose substantially greater costs on supplemental air carriers. Positioning flight attendants would become a major expense for supplemental operators. Unanticipated schedule and routing changes could severely curtail current flexibility. However, Great American Airways stated that the disruptions mentioned above would be minimized if supplemental air carriers had the option to apply the same work rules to both flight attendants and pilots. Great American Airways estimates that the total cost savings that would be derived from implementing a single set of duty limitations for its cabin and flight crewmembers, as opposed to adopting the requirements proposed in the NPRM, would be more than $100,000 annually.

FAA Response. The comments that address the costs associated with this final rule are addressed in the Regulatory Evaluation Summary.

the Administration to avoid imposing unnecessary paperwork burdens on industry. To that end, the FAA has carefully considered all comments on recordkeeping and has made every attempt to minimize the paperwork burden for carriers. For example, allowing carriers to employ a single scheduling system for entire crews—pilots and flight attendants—will enable them to avoid maintaining two separate duty schedules. Indeed, for many carriers, the FAA believes the final rule will create little or no net additional paperwork.

Regulatory Evaluation Summary

The FAA has determined that this rule: (1) Is a significant regulatory action as defined in the Executive Order; (2) is significant as defined in Department of Transportation's Regulatory Policies and Procedures; (3) would not have a significant impact on a substantial number of small entities; and (4) would not constitute a barrier to international trade. These analyses, summarized below, are available in the docket.

Cost-Benefit Analysis

Benefits

The FAA expects the final rule to help ensure that flight attendants are rested and alert when performing emergency and routine safety related duties and thereby reduce injuries and fatalities in air carrier accidents. However, as in the NPRM, the FAA has not quantified the benefits associated with this rulemaking because there is a lack of accident/incident data that can be used to directly correlate flight attendant fatigue with passenger fatalities and injuries. Instead, the FAA has examined the potential benefits of this rulemaking from a qualitative perspective.

Increased Safety. The FAA received comments both supporting and opposing the correlation between flight attendant duty period limitations and rest requirements and passenger safety. One commenter stated that fatigue increases during the work period, and duty times that exceed 12 hours for domestic flights and 14 hours for international flights can be expected to potentially derogate safety performance. Another commenter stated that the FAA has provided no sufficient foundation for concluding that the absence of the proposed regulations constitutes a derogation of aviation safety, and that the absence of any experience in which a flight safety problem was attributable to undue flight attendant fatigue is a strong argument that no such problem exists.

FAA Response. The FAA agrees with commenters who stated that inadequate rest or excessive duty periods could derogate safety. However, the commenters did not define acceptable or unacceptable levels of risk, and did not provide any justification for the distinction. Because quantifiable data was not available, the FAA was unable to calculate the quantitative benefits of the rule.

The FAA recognizes that inadequate rest periods for flight attendants could create a potential safety problem. Therefore, the FAA expects that this final rule will ensure that flight attendants receive the opportunity to be rested and alert when performing emergency and routine safety-related duties, thereby reducing passenger and crew injuries and fatalities.

Increased Worker Productivity. The Coalition stated that, in addition to improving the safety of air travel, the regulatory evaluation should take into account the cost savings from improved worker productivity. That commenter also stated that a careful review of various studies would likely reveal that the benefits of more reasonable duty hours and adequate rest include decreased absenteeism and health problems related to fatigue. The Allied Pilot Association stated that "the welfare of regulated employees ought to be one of the concerns of rulemakers."

FAA Response. The FAA has examined the impact of improved worker productivity as it relates to safety and has determined that reduced rest for flight attendants could impede flight attendant performance during emergency evacuations or during routine safety duties requiring a high degree of alertness. Cost savings could result from improved worker productivity; however, no information is available to quantify this benefit.

flight attendant duty period limitations and rest requirements will be $42.7 million over a 15-year period. The FAA expects that operators would incur costs in the areas of recordkeeping and additional staffing.

Cost estimates for supplemental air carriers and scheduled major, national, and regional/commuter operators are separated. The FAA estimates that the nondiscounted cost for all supplemental air carriers for the first year will be approximately $2.5 million, and the annual nondiscounted cost for all supplemental carriers would be approximately $2.23 million. The FAA estimates that the total discounted costs for supplemental air carriers over 15 years will be approximately $20.8 million. The FAA estimates that the first-year nondiscounted cost for scheduled major, national, and regional/commuter operators will be approximately $2.9 million, and the annual nondiscounted cost for these operators would be approximately $1.2 million. The FAA estimates that the total discounted costs for scheduled major, national, and regional/commuter over 15 years will be approximately $21.9 million. Therefore, over 15 years, the discounted cost for the air carrier industry will be $42.7 million.

The above cost estimate is based on the assumption that air carriers must augment their flight attendant crews. In some situations, augmentation under the flight attendant rule requirements may be avoided if an air carrier adopts and applies to flight attendants, by option, the international, supplemental carrier pilot rules covering flight and duty period.

Twenty-Four Consecutive-Hour Rest Period During any Seven Consecutive Days. Southwest Airlines stated that the requirement for 24 consecutive hours of rest during any 7 consecutive days would make it necessary for the air carrier with which the commenter is affiliated to hire about 100 additional flight attendants at a first-year cost of $710,000 and a subsequent annual cost of $600,000. A commenter representing Transport Workers Union of America on behalf of Southwest Airlines flight attendants indicated that the proposed rule, if adopted, would create a financial burden for flight attendants and their employers and would result in an average annual loss of $11,063 in extra income for each flight attendant. This loss, projected for 2,200 flight attendants for 1 year, would total $24 million in lost income.

FAA Response. The requirement for 24 consecutive hours of rest in any 7 consecutive days is designed to supplement daily rest requirements and to ensure that flight attendants receive the opportunity for adequate rest. The FAA did not verify lost flight attendant income, because the annual loss of extra income to some flight attendants represents a gain to flight attendants who would be hired. This income transfer is not considered a cost of this rulemaking.

Single Set of Duty Time Rules for Cabin and Flight Crew Members. Great American Airways stated that the total cost savings derived from implementing a single set of duty time rules for its cabin and flight crewmembers, as opposed to adopting the rules proposed in the NPRM, would exceed $100,000 per year.

FAA Response. The FAA recognizes that giving operators the option to apply flight crewmember flights, duty, and rest requirements to flight attendants may provide a cost savings to certain operators, particularly supplemental operators. The FAA expects that the operators that choose the option will incur costs that are lower than those estimated in the final regulatory evaluation.

However, the FAA recognizes that operators who choose to apply the flight crewmember regulations for duty limitations and rest requirements must submit an application to the appropriate Flight Standards District Office for approval. This is a minor, one-time cost, and the FAA assumes that operators who choose to incur this cost would do so because it would obviate those operators from designing and establishing a tracking system for flight attendants. Instead, this option would allow them to use whatever system is in place for flight crewmembers. The application process chosen was selected deliberately out of concern that recordkeeping costs be kept to a minimum. That is, the FAA chose an application process that is very familiar to carriers, the commonly-used procedure for changes to operations specifications.

Limiting Scheduled Duty Period to Fourteen Hours. Great American Airways stated that limiting scheduled flight attendant duty periods to 14 hours would force the air carrier and other supplemental

FAA Response. The FAA agrees that the greatest costs will be incurred by air carriers that schedule flight attendants for the longest duty periods. However, the commenter does not appear to provide any information on the air carrier's ability to augment existing crews. The FAA points out that costs could be minimized by using crew argumentation as a means of compliance. In addition, time spent in deadhead transportation is not considered part of a duty period; therefore, an operator is not required to provide a rest period for flight attendants following time spent in deadhead transportation.

Overall Costs. ATA stated that the FAA has understated costs considerably. This commenter stated that the annual cost of complying with the proposed regulation would be at least $8.0 million. This cost would include programming expenses, additional personnel costs, costs associated with extended layovers, and costs associated with reserve scheduling (assuming that carrier reserve scheduling practices are not modified). Assuming a discount rate of 7.0 percent and an inflation rate of 3.0 percent, the 15-year present value cost for the association's members would be approximately $88.9 million.

FAA Response. The survey of ATA members indicates that the annual cost would be at least $8.0 million. ATA stated that added annual personnel costs for air carrier operators would be $4.0 million, additional meal/hotel expenses would be $1.5 million, and additional reserve staffing would be $2.5 million. Finally, ATA stated that carriers can expect to incur a one-time expense of between $2.0 million and $3.0 million for computer system program modifications. After contracting ATA twice after the comment period closed to obtain clarifying information, the FAA concluded that their estimate could not be used in its entirety because information such as the number of affected carriers, wage rates, additional employees needed, or hours worked was not provided.

In addition, ATA did not provide information on the cost of augmenting the existing crew. The FAA permits longer duty periods with the use of augmented crews. FAA data indicates that many flights are staffed with more than the minimum flight attendant crew complement; therefore, little or no additional cost would be incurred to meet the crew argumentation requirements.

ATA also stated that the 15-year present value cost for its members would be $88.9 million. This estimate assumed a discount rate of 7.0 percent and an inflation rate of 3.0 percent. The basis for the commenter's estimate of the annual cost ($8.0 million) was not detailed enough for the FAA to use it or the 15-year estimate derived from it.

The FAA has nevertheless attempted to develop an industry cost estimate by recalculating the ATA estimate to exclude the ATA inflation factor and by accounting for the fact that ATA members only represent a portion of the industry that would be affected. As shown in the Regulatory Evaluation, that figure would be $78.8 million. However, the original information provided could not be fully substantiated, which suggests that the ATA estimate may not be representative of the total industry.

Supplemental Carriers. The Coalition stated that the median flight attendant salary at supplemental air carriers is $18,461. The commenter indicated that this estimate may be high because it represents the average salary at supplemental carriers that have a collective bargaining agreement with their flight attendant workforce. The commenter also stated that the FAA assumed that the rule would lead to the hiring of 6,000 flight attendants at supplemental carriers, and that the additional cost for these new hires would be $1,107,600. The FAA received revised salary information from the commenter stating that the average salary of a flight attendant working for a supplemental carrier is $24,552, which includes $6,092 in benefits.

FAA Response. The final regulatory evaluation assumes that, in the case of supplemental operators, each flight attendant works 150 duty periods, and that a carrier's cost per duty period is $163.68. Therefore, the cost of 6,000 additional duty periods would be $982,100. To the extent practicable, this cost estimate for supplemental operations was used in developing the final regulatory evaluation.

Irregular Operations. Delta Air Lines stated that the proposed rule would cause the air carrier to incur costs associated with irregular operations. The air carrier estimated that it would have to hire 36 flight attendants at an annual salary cost of $1.3 million for irregular operations. Other costs associated

be needed because a reserve flight attendant is available to fly an average of [illegible]
Given an average monthly salary of almost $2,500, plus monthly hotel, meal, and transportation expenses of almost $650 for irregular operations, the cost for a flight attendant would be about $3,100 per month, or $1.3 million annually.

The commenter also stated that they do not have a deplaning period. That is, pay and expenses cease at the block-in time of the last flight in the duty period for the trip. This commenter calculates that the cost of a 15-minute deplaning period would result in the hiring of 20 additional flight attendants. The cost would amount to $749,000 annually.

Finally, the commenter provided information documenting the carrier's one-time cost of computer software changes, including recordkeeping. The only additional information is that the cost of programming and testing per man-hour is $40.

FAA Response. The FAA received clarification from the commenter stating that "An Ad Hoc Computer Program was developed to search through our crew tracking systems to identify irregular operations that had occurred that would have required crew replacement under the NPRM." The commenter also stated that the NPRM "would require crew replacement." Finally, the commenter stated that they used an average crew of four flight attendants in their calculations, which implies that they were replacing their existing crew. This leads the FAA to assume that the commenter did not consider crew augmentation. However, the FAA did use some of the salary and cost data provided by the commenter.

With regard to hiring additional flight attendants for a 15-minute deplaning period, the FAA notes that there is no new requirement in this rule concerning deplaning; deplaning of the aircraft is a current requirement.

Small Operators. Sun Country Airlines operates a fleet of 10 aircraft with 520 employees, 170 of whom are flight attendants. Based on 1992 operations, the proposed rule would have required the commenter to hire 34 additional flight attendants, which would have increased operating costs (i.e., salaries, benefits, costs of training, hotels, meals, deadhead travel, and general administrative overhead) by $2.6 million in 1992. However, this air carrier stated that, by applying crewmember flight, duty, and rest requirements to flight attendants, the air carrier would need to employ 20 additional flight attendants rather than 34 additional flight attendants, with increased operating costs of $1.75 million rather than $2.6 million. However, these lower costs still exceeded the entire 1992 new profit for this carrier.

The Regional Airline Association stated that the proposed rule would either require an additional jump seat in the cabin for which there is insufficient space or it would require that a passenger seat be set aside for the additional flight attendant. This commenter stated that daily or routine loss of a revenue seat on a fleet of regional aircraft with 20 to 50 seats would be enormous. It also pointed out the added costs associated of layover lodging, meals, and per diem, and the significant incremental weight of an added crewmember.

The National Air Carrier Association stated that the proposed rule would impose costs of approximately $372,000 in additional flight attendant staffing, and approximately $50,000 in recordkeeping.

FAA Response. The FAA received additional clarification from Sun Country indicating that the proposed rule would cost $2.6 million. The annual cost to deadhead flight attendants to their domicile would be $832,000. In addition, hotel accommodations would be $842,000, added per diem cost would be $308,000, initial and recurrent training would be $10,200, and administrative costs would be $58,000. Because this commenter does not have any interline agreements, it would have to pay the added costs for deadhead tickets. This commenter estimated that these costs would be $579,000.

Based upon this cost estimate, the cost per added flight attendant would be about $76,500 per flight attendant ($2.6 million divided by 34 additional flight attendants). If this commenter did not have to incur the costs for deadhead tickets, then the added cost would be $60,300 per flight attendant.

crew. The cost estimates do not appear to represent the costs associated with augmenting the existing crew with additional flight attendants. An air carrier whose goal is profit maximization and cost minimization would choose the least costly means of achieving compliance with the proposed rule, and, in most cases, that appears to be the crew augmentation option.

RAA asserted that the final rule would impose costs based on the fact that some aircraft would fly longer than 14 hours and full. The FAA contacted this commenter and asked a clarifying question on the number of times that an aircraft would fly more than 14 hours full. The commenter was unable to provide information to substantiate this assertion, and therefore, while a problem may exist, the FAA is unable to determine the magnitude of it.

The FAA received additional information from a NACA member (American Trans Air) stating that, to calculate annual costs, they multiplied the average number of block hours in the fleet by the percentage of flight hours the NPRM is expected to affect. The product is the total number of affected block hours.

The number of affected block hours was then divided by the expected number of flight attendant utilization hours, which varies by aircraft type, and multiplied by the number of flight attendants to compute crew requirements. Based on this calculation, 20 additional flight attendants would be needed to meet the requirements of the proposed rule. This commenter then multiplied the number of additional flight attendants by their annual salary, including fringe benefits and training, to arrive at a cost estimate of $372,000. Administrative costs of $80,000 were added.

The FAA received additional clarification that the percentage of flight hours was based upon the commenter's examination of all flights that exceeded 14 hours. The commenter did not look at flights of 14 to 16 hours, 16 to 18 hours, or 18 to 20 hours.

The commenter divided the number of affected block hours by the expected flight attendant utilization hours (Boeing 727, 60 hours; Boeing 757 and Lockheed L–1011, 56 hours). The commenter did not know how many duty periods this represented. After multiplying this number by the number of flight attendants needed to complete crew requirements, the commenter concluded that 20 additional flight attendants would be needed to augment its flights.

The $13,000 annual salary represents a flight attendant's first-year salary without overtime. The 20 percent benefits estimate represents the company's portion of employee benefits.

To the extent practicable, the cost information provided by commenters was used to revise the cost estimates in the final regulatory evaluation.

Recordkeeping Costs. Several commenters provided the FAA with information on recordkeeping. The Air Transport Association estimated that air carriers would incur a one-time expense for computer system program modifications of $2.0 million to $3.0 million. Delta Air Lines stated that the one-time cost of software computer changes, including recordkeeping, would be $367,200. American Trans Air, a member of the National Air Carrier Association, stated that administrative costs would be $80,000, approximately $54,000 of which would be the cost to program and upgrade software, and $26,000 of which would be the cost of data entry and associated labor.

FAA Response. Because of limited supporting documentation, a wide variation between commenters' estimates, and the difficulty of ascertaining what portion of the recordkeeping costs could be attributed to the implementation of this final rule versus the cost to upgrade current systems, the FAA stands by its original recordkeeping cost estimate.

Summary of Benefits and Costs

The FAA estimates that the cost of compliance with the requirements of this final rule will be $42.7 million, discounted.

of small entities.'' FAA Order 2100.14A outlines FAA's procedures and criteria for implementing the RFA.

The fleet size for an operator of aircraft for hire to be considered a small entity is nine or fewer aircraft. The threshold annualized cost levels for operators of aircraft for hire in 1993 dollars are $117,800 for scheduled operators whose fleets have aircraft with seating capacities of more than 60, $67,000 for scheduled operators whose fleets have aircraft with seating capacities of 60 or less (other scheduled operators), and $4,570 for unscheduled operators. The proposals in the NPRM would affect air carriers that provide passenger-carrying operations in aircraft for which flight attendants are required. Other types of aviation companies would not be affected. A ''substantial number'' of small entities is a number that is not less than 11 and that is more than one-third of the small entities subject to this rule.

According to FAA records of small entity air carriers that provide passenger-carrying operations in aircraft that require flight attendants, there are 23 part 125 and 135 operators that could be affected by the final rule. Of these 23 operators, 7 are part 121/135 operators, 12 are part 125 operators, and 4 are part 135 operators. The affected operators are those with nine or fewer aircraft. At least one of the aircraft that they own have a seating configuration of more than 19 as described in either § 125.269 or § 135.107 and therefore would have at least one flight attendant on board. There are also 8 part 121 operators that would be affected by the final rule. In July 1993, there were a total of 25 part 121/135 operators, 39 part 125 operators, and 3,040 part 135 operators. There are also more than 100 part 121 operators. The number of carriers that could be affected by the rule does not exceed one-third of the total number of carriers in any of the four categories of operators (parts 121, 121/125, 125 and 135). The FAA has therefore determined that a regulatory flexibility analysis is not necessary.

International Trade Impact Statement

This final rule would not constitute a barrier to international trade, including the export of American goods and services to foreign countries and the import of foreign goods and services into the United States.

The FAA has determined that the amendments to parts 121 and 135 will not have a significant impact on international trade. The final rule is not expected to have an impact on trade opportunities for U.S. firms doing business overseas or foreign firms doing business in the United States. This finding is based in large part upon the review of foreign civil aviation regulations governing flight attendant flight and duty time practices and minimum rest requirements found in the Industry Study as well as information supplied by commenters to the public docket.

The Industry Study review shows that 23 countries, including Argentina, Belgium, Brazil, Denmark, the Netherlands, France, Norway, Portugal, Sweden, Switzerland, and West Germany, have government regulations on flight attendant flight and duty times and rest periods.

The comment provided by the Flight Attendants states that the European Community, through its Joint Aviation Authority (JAA) ''is poised to issue flight attendant duty time and rest provisions which would be based on state of the art research concerning work schedules and fatigue.'' They state that the JAA rule would base duty time and rest limits on the time of departure and the number of segments flown.

On the other hand, the Industry Study noted that 24 countries, including Australia, Canada, Greece, Ireland, Italy, Japan, and Mexico, do not regulate flight attendant work time.

The FAA concludes that there are many countries with flight attendant flight and duty times and rest periods and many countries without these regulations. Second, many firms in the United States appear to be already in compliance or near compliance with the final regulation. Therefore, the FAA has determined that the amendments to parts 121, 125, and 135, will not have a significant impact on international trade.

For the reasons discussed in the preamble, the FAA has determined that this regulation is a significant regulatory action under Executive Order 12866. In addition, the rule is considered significant under DOT Regulatory Policies and Procedures. However, the FAA has determined that this regulation will not have a significant economic impact, positive or negative, on a substantial number of small entities or on international trade. A final regulatory evaluation of the regulation, including a final Regulatory Flexibility Determination and International Trade Impact Analysis, has been placed in the docket. A copy may be obtained by contacting the person identified under "FOR FURTHER INFORMATION CONTACT."

Paperwork Reduction Act Approval

Sections 121.683(a)(1), 135.63(a)(3), 135.63(a)(4)(x), 135.63(a)(5), and 135.63(b) are not effective until the OMB has approved the Paperwork Reduction Requirements. The FAA will publish a document in the *Federal Register* following OMB approval of the Paperwork Reduction Requirements.

The Amendment

In consideration of the foregoing, the Federal Aviation Administration amends parts 121, 125, and 135 of the Federal Aviation Regulations (14 CFR parts 121, 125, and 135) effective September 19, 1994.

The authority citation for part 125 continues to read as follows:

Authority: 49 U.S.C. 1354, 1421 through 1430, and 1502; 49 U.S.C. 106(g).

Amendment 125–22

Protective Glove Requirement

Adopted: September 26, 1994 **Effective: December 2, 1994**

(Published in 59 FR 52640, October 18, 1994)

SUMMARY: This amendment requires that disposable latex gloves, or equivalent nonpermeable gloves, be located onboard aircraft operated in air carrier, air taxi, and commercial operations. This amendment responds to the concerns of the FAA and some members of the aviation industry that a potential health risk exists to crewmembers and passengers from the possibility of incidental exposure to blood borne pathogens. This amendment would lessen the possibility of that exposure and therefore increase the level of safety for both passengers and crewmembers.

DATES: Effective date: December 2, 1994. Comments must be received on or before December 2, 1994.

ADDRESSES; Send or deliver comments on the rule in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC–204), Room 916, 800 Independence Avenue, SW., Washington, DC 20591. Comments may be examined in the Rules Docket weekdays, except Federal holidays, between 8:30 a.m. and 5:00 p.m.

FOR FURTHER INFORMATION CONTACT: Daniel V. Meier Jr., Regulatory Branch (AFS–240), Air Transportation Division, Flight Standards Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 267–3749.

SUPPLEMENTARY INFORMATION:

(HBV). Blood is the single most important source of HIV, HBV, and other blood borne pathogens in the occupational setting. Infection control efforts for these blood borne pathogens must focus on preventing persons from being exposed to blood. Medical research indicates that the risk of transmission of HIV and HBV from other body fluids and materials such as nasal secretions, sputum, sweat, tears, urine, vomitus and feces is extremely low or nonexistent. Where blood is visible in these substances, however, there is a risk of exposure to blood borne pathogens. The use of protective gloves is the most effective manner in which to prevent passengers and crewmembers from being exposed to contaminated blood and other fluids.

The possibility of crewmembers contracting HIV or HBV in their working environment is remote; nevertheless, the FAA is concerned about the possibility of unnecessary exposure to blood borne pathogens. The risk of exposure is greatest among flight attendants because they come into contact with and assist passengers more frequently than other crewmembers. However, passengers who are health care professionals, and flight crewmembers, may also be exposed, when they assist an injured or ill person on an aircraft. The FAA intends to lessen exposure to blood borne pathogens and provide a higher level of protection for crewmembers and any medical volunteer who may need to use the required aircraft first aid or medical kits. Therefore, the FAA has determined that it is necessary to require operators to aircraft used in operations under parts 121, 125, and 135 to install protective gloves on board those aircraft. This requirement applies to cargo-only as well as passenger-carrying aircraft. However, it does not apply to operators that are not required to have a first aid kit on board the aircraft.

Specifically, the rule contains the following requirements: 1) part 121 operators would be required to install one pair of protective gloves in the emergency medical kits of all of their aircraft; 2) part 121 operators are also required to distribute pairs of protective gloves, equal to the number first aid kits on the airplane, as evenly as practicable throughout the cabin of their aircraft; and 3) part 125 and 135 operators would be required to provide one pair of protective gloves on their aircraft either in the first aid kit or in a location that is readily accessible to crewmembers.

Because a crewmember in part 121 operations may need to provide assistance when the other items of the first aid kit are not needed, the FAA does not require that the protective gloves be placed in the first aid kits; rather the rule requires that the gloves be located in places that are readily accessible for use by crewmembers in the cabin of the aircraft. This will encourage the use of the gloves whenever a crewmember is required to assist a person and when there is the possibility of exposure to a body fluid. In reviewing the number of in-flight emergencies, the FAA has found that the number of first aid kits is appropriate to the treatment of injuries likely to occur in flight. The FAA also finds that requiring pairs of protective gloves in a number equal to the number of first aid kits on board is sufficient. Readers are reminded that this is a minimum requirement and operators may provide more gloves if they so elect.

Part 125 and 135 operators are only required to have first aid kits on board the aircraft. Part 125 and 135 operators may elect to put the gloves in the first aid kits, or as an alternative, may locate the gloves in a place that is readily accessible to crewmembers. Because operations conducted under part 135 are usually of a much shorter flight duration, multiple pairs of gloves are not required by this amendment. As with the part 121 operators, multiple pairs of gloves may be provided if the operator so elects.

The protective gloves required by this amendment must be the equivalent of latex gloves commonly found in hospitals and other medical facilities. Operators are expected to maintain and dispose of the gloves in accordance with acceptable procedures.

This rule does not include new language specifically requiring additional training for the use of latex gloves or their equivalent. However, under 14 CFR 121.415(a)(3) and 121.417(b)(3)(iv), part 121 operators are required to include in a training program "Illness, injury, or other abnormal situations involving passengers or crewmembers to include familiarization with the emergency medical kit . . ." Since protective gloves will be required in the medical kit, part 121 operators will be required to provide

Each part 121 and 135 operator must include as a part of such training information about blood borne pathogens and the proper use and disposal of the protective gloves. This training may be accomplished in a number of ways to include video tapes, computer based instruction, or pamphlets. Advisory Circular 120–44 is being revised to include discussion of the various options available to operators to ensure that an infectious disease awareness program is included in each approved training program.

Trade Impact Statement

The FAA finds that this amendment will have no impact on international trade.

Economic Summary

Changes to Federal regulations are required to undergo several economic analyses. First, Executive Order 12866 directs each Federal agency to propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic effect of regulatory changes on small entities. Third, the Office of Management and Budget directs agencies to assess the effect of regulatory changes on international trade. With respect to this final rule, the FAA has determined that it: (1) will generate benefits that justify its costs and is not "a significant regulatory action" as defined in the Executive Order; (2) is not significant as defined in the Department of Transportation's Regulatory Policies and Procedures; (3) will not have a significant impact on a substantial number of small entities; and (4) will not constitute a barrier to international trade. Therefore, a full regulatory analysis, which includes the identification and evaluation of cost reducing alternatives to this rule, has not been prepared. Instead, the agency has prepared a more concise analysis of this final rule which is presented in the following paragraphs.

Costs

The FAA estimates the total cost of the final rule amending parts 121.309(d), 125.207(a) and 135.177(a) to include protective gloves will be approximately $1.1 million in 1993 dollars ($750,000, discounted) over the 10-year period 1995–2004. This final rule requires, at a minimum, 1) part 121 operators to install one pair of protective gloves in the emergency medical kits of their aircraft; 2) part 121 operators to provide pairs of protective gloves equal in number to the first aid kits on each of their aircraft; and 3) parts 125 and 135 operators to provide, either in the first aid kit or in a readily accessible location, one pair of protective gloves for each aircraft.

In addition to the cost of the gloves, the FAA has estimated the incremental labor cost required for the breaking down of the part 121 emergency medical kits to install protective gloves, the supplying of gloves throughout part 121 aircraft cabins, the supplying of protective gloves aboard aircraft operated under part 125 and 135, and the required record keeping associated with these activities. The FAA has also imputed an incremental cost for the containment and disposal of the gloves after use in keeping with current air carrier, air taxi and commercial aircraft policies on waste material. Finally, as one option available to operators to provide infectious disease awareness, the FAA has also estimated the cost for awareness materials (pamphlets) in accordance with the anticipated revisions to Advisory Circular 120–44.

The total $1.1 million estimated cost of this final rule for the 1995–2004 time period is comprised of the following components expressed in 1993 dollars: 1) $242,000 ($160,000, discounted) for part 121 operators to install protective gloves in each aircraft's medical kit (cost of gloves plus labor) including a cost imputation to reflect the incremental cost to provide for the in-flight disposal of used gloves and to provide for their replacement as needed; 2) $174,000 ($122,000; discounted) for part 121 operators to provide protective gloves equal to the number of first aid kits on each aircraft (cost of gloves plus labor) including a cost imputation to reflect the incremental cost to provide for the in-flight disposal of used gloves and to provide for their replacement as needed; 3) $25,000 ($17,000, discounted) for parts 125 and 135 operators to install one pair of protective gloves in each aircraft's first aid kit (cost of gloves plus labor) including a cost imputation to reflect the incremental cost to provide for the in-

based on information obtained from various sources, the FAA can reasonably approximate the risk involved in attending to a carrier of the blood borne pathogens HIV or HBV.

According to information provided by OSHA and the Centers for Disease Control, the estimated numbers of HIV and HBV carriers in the general population (255 million) in 1992, were respectively, 1.0 million and 1.2 million. The probability of contact of any kind with a carrier of either HIV or HBV is approximately 0.004 and 0.005, respectively; the probability of contact with a person who is a carrier of either HIV or HBV is 0.00898 adjusted for the probability that the person is a carrier of both pathogens. Data contained in an FAA study reports that 1,150 in-flight medical emergencies, e.g. those requiring the use of the "doctors only" medical kit, occur annually ("A Study of In-Flight Medical Occurrences"; FAA, AFS–200, July 1994). In a 1-year exhaustive study at a major airport, twenty percent of the in-flight medical emergencies were for lacerative, vomitous or obstetric conditions, conditions which could potentially result in exposure of persons to blood borne pathogens (Richard O. Cummins and Jessica Schubach, *Frequency and Types of Medical Emergencies Among Commercial Air Travelers;* Journal of American Medicine, Vol. 261, No. 9 (1989). Statistically, this data suggests that at a minimum the frequency of in-flight medical emergencies each year which could potentially result in exposure to blood borne pathogens is two (1,150×0.2×0.00898). Thus, over a 10-year period, the FAA estimates that care-givers attending to a person in an in-flight medical emergency will be at risk of being exposed to blood borne pathogens on twenty occasions.

International Trade Impact Analysis

This rule will have no effect on the sale of foreign aviation products or services in the U.S. or on the sale of U.S. products or services in foreign countries.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) ensures that government regulations do not needlessly and disproportionately burden small businesses. The RFA requires the FAA to review each rule that may have "a significant economic impact on substantial number of small entities." FAA criteria define "a substantial number" as not less than 11 nor more than one-third of the small entities subject to the rule. Among air carriers, a small entity is defined as one which owns, but does not necessarily operate, nine or fewer aircraft. The criteria define "a significant impact" as $102,000 for scheduled air carriers with 60 or more seats and $57,000 for scheduled air carriers with fewer than 60 seats. The final rule's amendments will impose a negligible annual cost burden (about $16 per aircraft) on all air carrier, air taxi and commercial aircraft operators. This cost burden is not expected to exceed threshold levels.

Federalism Implications

The regulation adopted herein would not have substantial direct effects on the states, on the relationship between the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this regulation would not have sufficient federalism implications to warrant the preparation of the Federalism Assessment.

International Civil Aviation Organization and Joint Aviation Regulations

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with ICAO Standards and Recommended Practices (SARP) to the maximum extent practicable. For this final rule, the FAA was unable to discover an ICAO requirement for protective gloves.

Likewise, the Joint Aviation Regulations do not specifically list items required for the first aid or medical kits but do specify that all items must be serviceable for their intended purpose.

those persons should not be further subjected to that potential risk by a delay in issuing a final rule.

In light of the current wide-spread use of protective gloves by operators, the agency expects little or no adverse comment on the final rule. Comments on the amendment are invited, however, and the Administrator may amend or rescind the rule in view of public comment. Comments should identify the Docket No. 27926 and be submitted in triplicate to the address provided above. All comments will be available for public review, both before and after the closing date for comments.

Conclusion

For the reasons discussed in the preamble and based on the findings in the Regulatory Flexibility Determination and the International Trade Impact Analysis, the FAA has determined that this regulation is not a significant regulatory action under Executive Order 12866. In addition, the FAA has determined that this regulation will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. This regulation is not considered significant under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979).

The Amendment

Accordingly, 14 CFR parts 121, 125, and 135 are amended effective December 2, 1994.

The authority citation for part 125 continues to read as follows:

Authority: 49 U.S.C. app. 1354, 1421 through 1430, and 1502; 49 U.S.C. 106(g) (revised, Pub.L. 97–449, January 12, 1983).

Amendment 125–23

Commuter Operations and General Certification and Operations Requirements

Adopted: December 12, 1995 **Effective: January 19, 1996**

(Published in 60 FR 65832, December 20, 1995)

SUMMARY: This rule requires certain commuter operators that now conduct operations under part 135 to conduct those operations under part 121. The commuter operators affected are those conducting scheduled passenger-carrying operations in airplanes that have passenger-seating configurations of 10 to 30 seats (excluding any crewmember seat) and those conducting scheduled passenger-carrying operations in turbojet airplanes regardless of seating configuration. The rule revises the requirements concerning operating certificates and operations specifications for all part 121, 125, and 135 certificate holders. The rule also requires certain management officials for all certificate holders under parts 121 and 135. The rule is intended to increase safety in scheduled passenger-carrying operations and to clarify, update, and consolidate the certification and operations requirements for persons who transport passengers or property by air for compensation or hire.

FOR FURTHER INFORMATION CONTACT: Alberta Brown, (202) 267–8321; Katherine Hakala, (202) 267–8166; or Dave Catey, (202) 267–8166; Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591.

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B. Part 119— Certification: Air Carriers and Commercial Operators

(Notice No. 95–5; 60 FR 16230.) In Notice 95–5, the FAA proposed that commuter operations conducted in airplanes with 10–30 passenger seats be conducted under the domestic or flag rules of part 121 of title 14 of the Code of Federal Regulations. Currently, scheduled passenger-carrying operations in airplanes with passenger-seating configurations of over 30 seats or more than 7,500 pounds payload capacity are conducted under part 121. Scheduled passenger-carrying operations in airplanes with passenger-seating configurations of 30 seats or less and 7,500 pounds or less payload capacity are conducted under part 135. Part 121, which provides the safety requirements for all major air carriers (as well as for any certificate holder conducting scheduled or nonscheduled operations with airplanes configured with more than 30 passenger seats), is generally considered to have more restrictive requirements than part 135. The regulatory changes were introduced in order to address the continually changing needs of the industry and to fulfill the agency's statutory requirement. This is the final rule, based on Notice 95–5.

II. History

Historically, the maximum certificated takeoff weight (MCTW) of an airplane determined both an airplane's categorization and operating requirements. Beginning in 1953, airplanes with an MCTW of 12,500 pounds or less were defined as "small airplanes" and were permitted to carry fewer than 10 passengers in on-demand air taxi service. The rules under which those operations were conducted were eventually codified as part 135. Airplanes with an MCTW of more than 12,500 pounds were defined as "large airplanes," and most large airplanes carried 20 or more passengers in scheduled air transportation. The Civil Aeronautics Board (CAB) used the large/small dividing line to separate major airline companies, who were required to obtain a Certificate of Public Convenience and Necessity (CPCN) from the CAB in order to operate in interstate commerce as a common carrier, from on-demand air taxi operators, who were exempted from obtaining a CPCN.

During this time, the CAB issued only a small number of CPCN's to major, publicly-recognized companies, such as Eastern, American, Delta, Pan Am, TWA, etc. In contrast, on-demand air taxi operators numbered in the thousands. These operators were typically fixed-base, usually at small airports, and owned fewer than five airplanes. They provided on-demand air transportation as well as other services, such as training new pilots and selling and renting small airplanes. Typically, the air taxi portion of such an operator's business was a small part of that business and rarely involved any scheduled operations.

Beginning in the late 1960's, airplane manufacturers began to design and build small airplanes, that is, less than 12,500 pounds maximum certified takeoff weight, that were capable of carrying more than 10 passengers, often close to 20. Some air taxi operators began to offer services that resembled the services of the major airlines, given the economic opportunity to operate under the less restrictive requirements of part 135. Though these scheduled commuter operators began to overtake some air taxi operations, they still remained a small percent of the thousands of air taxi operators.

In 1978, as a result of the Airline Deregulation Act, the airline industry was deregulated economically and air carriers were given more freedom to enter and exit markets without prior government economic approval. One of the most significant effects of this deregulation was that it allowed major carriers to eliminate service to smaller communities, where such service proved to be uneconomical for the large aircraft the carriers operated. Major carriers were replaced in those communities by the commuter carriers. Under this "hub and spoke" system, the major part 121 air carriers provided service to the large metropolitan airports, while the growing class of scheduled part 135 air carriers provided service between smaller communities as well as feeder service from the smaller communities to the larger cities to connect with the major carriers' operations. With these changes, the traditional two categories of operations became three categories of operations—scheduled commuter operations, traditional air taxis, and traditional major air carriers.

Also in 1978, in response to the Airline Deregulation Act, the FAA reissued part 135 standards to upgrade commuter and air taxi safety requirements and make them more like part 121. At that time part 135 certificate holders were required to meet more stringent requirements in several areas, including weather reporting, flightcrew training, maintenance, and qualifications for management personnel.

ducted under part 121 in airplanes with a seating capacity of 31 to 60 seats. The term "commuter category airplane" used in this document refers to airplanes type certificated in that category under part 23 in contrast to airplanes type certificated under part 25 which are transport category airplanes. The term "nontransport category airplanes" is used for commuter category airplanes and SFAR 41 and predecessor normal category airplanes to be operated under part 121, as well as for some older airplanes certificated before the predecessors of part 25 (parts 04 and 4b of the Civil Air Regulations) came into existence. The Department of Transportation (DOT) uses the term "commuter" more broadly to include all scheduled passenger-carrying operations conducted in airplanes with a passenger-seating capacity of 20 to 60 seats. (NOTE: The High Density Rule, 14 CFR part 93 uses "scheduled commuters" differently. Its meaning under that part is not relevant to its use in this document.) The term "regional," which is used by industry to refer to short-haul, passenger-carrying, scheduled operations conducted under part 121 or part 135, is not generally used by the FAA.

III. The Problem and Related FAA Action

Recent part 135 commuter accidents have focused public, government, and industry attention on the safety of commuter operations. While the safety level of part 135 commuter operations has continued to improve, accident data, public perception, and recent government inquiries show a need for additional measures.

III.A. Accident Rate for Commuter Operations

The airline industry that uses airplanes with a passenger-seating capacity of 60 or fewer seats to conduct scheduled operations under parts 121 and 135 is an essential part of the air transportation network in the U.S. These airlines now fly more than all airlines did in 1958. In 1993, over 50 million passengers, 12 percent of the total passenger flights in the country, were flown by these airlines. Half of these passengers were flown in part 135 operations, i.e., in aircraft with 30 or fewer seats.

Over the past two decades the safety record of part 135 commuters has greatly improved. The accident rate per 100,000 departures in 1993 was one-fourth the accident rate in 1980. However, the accident rate for commuter airlines operating under part 135 continues to be higher than the rate for domestic part 121 airlines. In the past 2 years, several commuter airline accidents occurred that attracted media and public attention and caused government and industry officials to scrutinize the safety system for commuter operations under part 135.

These accidents included the December 1, 1993, crash of a Jetstream 3100, operated by Express II (as Northwest Airlink), at Hibbing, MN; the January 7, 1994, crash of a Jetstream 4100, operated by Atlantic Coast Airlines (as United Express), at Columbus, OH; and the December 13, 1994, crash of a Jetstream 3200, operated by Flagship Airlines (as American Eagle), at Raleigh-Durham, NC. All of these accidents involved fatalities.

III.B. Public Perception

With the increase in the number of flights to many communities conducted in airplanes with a seating capacity of 30 seats or less, some members of the public are questioning whether they are receiving an appropriate level of safety in small propeller-driven airplanes compared to the level of safety they receive in larger aircraft. This public concern is partly a result of the integration of commuter carriers with major airlines under an arrangement known as code-sharing. The term "code-sharing" refers to the computerized airline reservation system that lists a commuter flight in the reservation system under the same code used by a major carrier. A passenger who books with a major carrier may have a leg of the flight automatically booked with a smaller commuter affiliate of the major carrier.

With the media attention to recent commuter accidents, the passenger may also believe that the flight involves more risk because the smaller airplane and its operation may not have to meet the same safety standards. Most passengers probably do not realize that some differences in standards are necessary because of differences in the airplane and operation and that some of the accidents that are categorized

III.C. Congressional Hearings

On February 9, 1994, Congress held hearings on the adequacy of commuter airline safety regulations. The purpose of the hearings was to determine if FAA safety regulations should be modified to establish a single standard for all scheduled operations regardless of airplane size. Representatives of government, industry, and the public presented testimony. Most testimony supported the upgrading of safety requirements.

III.D. NTSB Study

In November 1994, the National Transportation Safety Board (NTSB) published a study on commuter airline safety. (National Transportation Safety Board Safety Study: Commuter Airline Safety, NTSB/SS–94/02.) The study was based on the NTSB's analysis of accident investigations and previous studies, on a recent site survey of airline operations and policies conducted at a representative sample of commuter airlines, and on information obtained from a public forum on commuter airline safety convened by the NTSB.

In the study, the NTSB found that the commuter air carrier industry has experienced major growth in passenger traffic and changes in its operating characteristics since the NTSB's 1980 study of the commuter airline industry. The NTSB found that there has been a trend in the industry toward operating larger, more sophisticated aircraft, and many carriers have established code-sharing arrangements with major airlines. The NTSB concluded that the regulations contained in 14 CFR part 135 have not kept pace with changes in the industry.

As a result of the findings, the NTSB issued the following safety recommendations to the FAA:

- Revise the Federal Aviation Regulations such that all scheduled passenger service conducted in aircraft with 20 or more passenger seats would be conducted in accordance with the provisions of 14 CFR part 121. (A–94–191)
- Revise the Federal Aviation Regulations such that all scheduled passenger service conducted in aircraft with 10 to 19 passenger seats would be conducted in accordance with 14 CFR part 121, or its functional equivalent, wherever possible. (A–94–192)

In the 1994 study, the NTSB examined the differences in flight dispatch requirements between parts 121 and 135. The NTSB found that, in the absence of support from licensed dispatch personnel, it is difficult for a part 135 pilot to accomplish several tasks between flights in the short periods of time available. The lack of support might increase the risk of critical mistakes that could jeopardize the safety of flight. As a result the NTSB issued the following recommendation to the FAA:

Require principal operations inspectors (POI) to periodically review air carrier flight operations policies and practices concerning pilot tasks performed between flights to ensure that carriers provide pilots with adequate resources (such as time and personnel) to accomplish those tasks. (A–94–193) The FAA published all of the NTSB recommendations in the *Federal Register* (59 FR 63185, December 7, 1994) and received public comments generally supporting the expansion of the operational rules of part 121, except for flight time limitations, to commuter operations under part 135. Some commenters had considerable reservations about applying certain part 121 equipment requirements to smaller airplanes. The FAA considered these comments in developing this rule.

III.E. Related FAA Action

In December 1994, the FAA proposed revisions to the training and qualification requirements of certificate holders conducting commuter operations under part 135. The proposed rule also addressed crew resource management training for pilots, dispatchers, and flight attendants in part 121. (59 FR 64272, December 13, 1994) [Add Final Action]

category airplanes.

In response to Notice 95–5, the FAA has received over 3,000 comments from the public. Of these, most are solely on the issue of the Age 60 Rule. Many of the Age 60 commenters are pilots and other individuals who address the current rule in part 121; very few address the specific Age 60 issue contained in this rulemaking, i.e. the applicability of the Age 60 Rule to pilots of affected commuter airplanes. These comments are summarized in section V.E., The Age 60 Rule.

Approximately 200 comments were received on the substantive issues raised by Notice 95–5. These commenters represent air carriers; manufacturers; associations representing air carriers, manufacturers, pilots, dispatchers, and passengers; State and local governments; the U.S. Small Business Administration; the National Transportation Safety Board; and individuals. While some commenters voice general support for the goals of Notice 95–5, most raise concerns about specific proposals. Industry commenters are particularly concerned about the costs of complying with the proposed rule.

The FAA also conducted three public meetings on the proposed rule: on May 18, 1995, in Anchorage, Alaska; on June 14, 1995, in Chicago, Illinois; and on June 21, 1995, in Las Vegas, Nevada. Testimony from the public meetings and written statements submitted at the meetings have been included in the FAA public docket, have been considered by the FAA in developing the final rule, and are discussed in the following discussion of comments along with all written comments that were submitted to the FAA docket.

In Notice 95–5, the FAA identified major issues that the agency addressed in developing the proposal. These included applicability of the proposal, aircraft certification issues, flight time limits, the Age 60 Rule, use of a dispatch system, certain equipment items, and the compliance schedule. Comments received on these major issues and the FAA's response to these comments are discussed in section V. Comments received on specific proposals and the FAA's response to these comments are discussed in section VI. Comments specifically addressing cost issues are discussed in section VII. Below is a list of some of the major commenters and their associated abbreviations. The full name of each commenter is used when the commenter is first mentioned. In subsequent discussions, the commenter's abbreviation, as shown below, is used.

Abbreviations for Commenters

AAAE American Association of Airport Executives
AACA Alaska Air Carriers Association
ADF Airline Dispatchers Federation
AIA Aerospace Industries Association
ALPA Air Line Pilots Association
APA Allied Pilots Association
ASA Atlantic Southeast Airlines
GAMA General Aviation Manufacturers Association
HAI Helicopter Association International
IAPA International Airline Passengers Association
NACA National Air Carrier Association
NATA National Air Transportation Association
NTSB National Transportation Safety Board
Penair Peninsula Airways
RAA Regional Airlines Association

Comments: The NTSB and the Air Line Pilots Association (ALPA) generally support the proposal and its justification. A comment from the International Airline Passengers Association (IAPA) supports the rulemaking justification by stating the findings of a recently completed IAPA study of commuter/ regional airplane safety records in the United States covering the period 1970 through March 31, 1994. According to IAPA, during that period carriers using airplanes with 30 or fewer seats had 29 fatal accidents with 249 passenger fatalities; over 30 seat regional carriers had 1 fatal accident with 2 passenger fatalities; major airlines had 11 fatal domestic jet accidents with 527 passenger fatalities.

In contrast to these comments, many other commenters state that the proposed rulemaking lacked sufficient justification. Recent accident data, say these commenters, have shown significant reductions in accident rates for commuters so that the difference in accident rates for part 121 operations and part 135 commuter operations is minimal. According to at least one of these commenters, if the accidents that occurred in extreme environments such as Alaska are removed, the accident rate under the two parts would be either the same or lower for part 135 commuter operations.

According to some commenters, the recent accidents cited in Notice 95–5 were all caused by pilot error and thus would not have been prevented by this rulemaking but could have been prevented by improvements in training.

Some commenters state that the proposed rule is the result of public, media, and agency overreaction to recent commuter accidents and that both the public and the media drew inaccurate conclusions about commuter airline safety from these accidents. According to these commenters, instead of hastily proposing rules based on incomplete information, the agency should have informed the public that many so-called commuter operations are already being conducted under part 121.

Several commenters state that the proposed rule will decrease safety because in order to avoid the proposed restrictions, certificate holders now operating airplanes with a seating capacity of 10 to 19 passenger seats will switch to reciprocating-powered airplanes with a passenger seating capacity of 9 or less in order to continue to operate under part 135. Furthermore, some commenters state that if fares are significantly increased to pay for the more restrictive requirements, passengers may choose ground transportation, which has a much higher accident rate.

Several commenters state that the proposed rule would have a significant economic impact on small airline operators, in some cases forcing them to close their businesses, thus eliminating air transportation to some locations. In addition, according to some commenters, the proposed rule would have a negative impact on competition, particularly in the foreign market because the cost of U.S. manufactured airplanes would increase.

FAA Response: The FAA does not agree with the assessment that the proposed rule lacked sufficient justification. The FAA recognizes the validity of some of these comments especially in regard to unintended safety decrements if the aircraft performance portions of the proposed rule were adopted on the schedule proposed. While the FAA recognizes the improvements in the accident data for commuter airlines in recent years, it intends through this rulemaking, and other related rulemaking actions underway, to reduce the accident rate even further.

Several commenters have questioned the need for a rule that would move affected commuters into part 121 domestic or flag operations. For instance two commenters argue that a dispatch system would not have prevented the three accidents cited by the FAA in the NPRM. It would be a mistake to assume that the FAA is basing this final rule on just those three accidents. Similarly, it would be a mistake to conclude that the FAA is justifying this rule on merely ''perceptions'' of a problem. Those accidents were catalysts for the Government to focus on the differences in the part 121 accident rate and the accident rate for 10- to 30-seat part 135 commuters. Over the next 15 years affected commuters are expected to have had 67 more accidents than they would have had if the accident rate for part 135 affected commuters were the same as that for part 121 scheduled operators. The FAA believes that adoption of this rule will significantly close the accident rate gap over time.

rate for affected commuters. For instance, the FAA anticipates that requiring operators to have someone (i.e., a certificated dispatcher) double check the work of the pilot and provide the flight crew with updates on weather and alternate airports can reduce some human factor errors. The FAA believes that if the flight crew is subjected to more stringent flight and duty safeguards (either the current part 121 domestic flight and duty rules or the rules in a soon to be issued NPRM in which the FAA will propose to overhaul all the flight and duty regulations), the dangers of fatigue causing a human factors error will be reduced. Enhanced part 121 training (which is being required of affected commuters in an associated final rule) will also reduce some human factor errors.

It is critically important to impose the bulk of the part 121 regulatory scheme on affected commuters because the absence of any significant portion of that regulatory scheme may lessen the effectiveness of the rest of the safety features in the part 121 regulatory scheme. Even the best trained and well rested pilot is a human being and, therefore, subject to making errors. With a dispatcher system, the chances of pilot miscalculations or oversights could be reduced. Moreover, a dispatcher can assist the flight crew in making enroute plans for an alternate airport (which might be necessary due to weather problems, air traffic control problems, airplane equipment problems, fuel problems, etc.) while the crew focuses on flying the airplane. It is reasonable to conclude that the accident rate for affected commuters can be reduced to a level closer to that of current part 121 domestic operations by eliminating most of the regulatory differences that the two different regulatory schemes allowed.

While major air carriers may require commuter affiliates to follow certain part 121 standards, and in some cases even exceed some part 121 standards, no part 135 commuter operator currently operates under part 121 operations specifications or totally complies with all part 121 standards (e.g., many part 121 requirements are based on the assumption that transport category airplanes are operated). Most importantly, no part 135 commuter is required by current FAA regulation to comply with part 121 requirements.

Recent accidents brought to public attention the differences between part 135 and part 121 and the lack of continuing justification for these differences. As Notice 95–5 pointed out, the distinction between these two types of operations was, in the beginning, an obvious necessity. Major air carriers engaged in public transportation were entirely different from the small on-demand, air taxi operator. But with the development and growth of what has come to be known as commuter service, the line between the two has blurred. Certain segments of the commuter industry have continued to develop commuter category airplanes, holding the line at 19 passenger seats in order to stay within the limits of the less restrictive airworthiness regulations for nontransport category aircraft. This has created the potential for the further development of commuter airplanes specifically designed to stay within the limits of the less restrictive regulations while at the same time becoming as sophisticated or more sophisticated in technology than some transport category airplanes operated by the major carriers. With hindsight, the FAA may not have drawn the line as it currently is but would have attempted from the start to maintain one set of requirements.

Until now the line between the requirements has not created a safety concern, but as the commuter market grows, the disparity between the two sets of requirements is of more concern. There is no longer any justification for maintaining two sets of standards for scheduled operations in airplanes with a passenger-seating configuration of 10 or more seats. When a passenger pays for a ticket on an FAA certificated commuter operation, that passenger must be assured of the highest possible level of safety.

With respect to commenters concerns that the proposed rules will actually decrease safety because certificate holders will switch to reciprocating-powered airplanes, the FAA has modified the proposal, especially in regard to the schedule for some airplanes to meet part 121 airplane performance criteria, to allow operators sufficient time to build up capital or credit to make changes to the existing fleet or to purchase new airplanes that meet the higher performance standards. The FAA does not want to move so fast as to force operators to use airplanes that have even higher accident rates (i.e., airplanes with 9 or fewer seats).

The FAA finds that safety and the public interest require extending the proposed compliance dates for imposing part 121 performance criteria requirements and some equipment requirements until it is

passenger service be conducted in accordance with part 121 ". . . or its functional equivalent, wherever possible".

Clearly the NTSB used the phrase "wherever possible" because it knew that it was not possible for a substantial portion of the 10- to 19-seat airplane fleet to meet all of the requirements of part 121. The NTSB carefully chose its words when it made its recommendations for 10–19 seat airplanes used in scheduled service. The NTSB recognized that the FAA necessarily had to exercise judgment about which part 121 regulations to impose, which regulations could be modified to achieve functional equivalency, and which regulations simply might not be possible.

In regard to comments that higher fares resulting from this rulemaking will cause passengers to switch to less safe modes of transportation, it has been the FAA's observation that passengers are usually willing to pay for safety. While some may choose to drive rather than fly, that has not stopped the airlines in the past from raising fares. It should also be noted here that the public tolerates a higher accident rate for automobile travel than for airplane travel. If air transportation accident rates approached that of ground travel, most Americans would stop flying. The air transportation industry is very aware of this; it is the main reason that air transportation is safe. As one commenter points out, the recent commuter accidents caused a 12 percent drop in passengers on commuter airlines. That is a significant cost to industry.

The FAA has carefully considered the economic impact of the proposed regulations and has reviewed and revised its analysis in light of the comments received. (See section VIII.) The agency has determined that the impact of the final rule should not disrupt air transportation service and that few, if any, certificate holders will discontinue their commuter operations. During the transition period, the FAA will work with certificate holders who are switching to part 121 requirements to make the switch as smooth as possible. It should also be noted that the compliance schedule provides for a gradual updating of equipment and operations and will allow certificate holders the choice of upgrading or phasing out airplanes that cannot be upgraded without significant cost.

Some may argue that there may still be limited circumstances, even with these changes, where the effects of this rule (and related rulemakings on upgraded training requirements and pilot flight time and duty limitations) will be so burdensome as to lead to adverse safety consequences and/or a loss of critical air service. This is neither FAA's intention nor its expectation. Indeed, the entire premise of this rulemaking is that safety standards can and must be improved for the benefit of passengers in 10–30 passenger seat aircraft in scheduled service.

Nevertheless, there is in place in 14 CFR 11.25 a process for requesting and granting exemptions from regulatory requirements, including those adopted here. As with any request for exemption, of course, an applicant would have to demonstrate that the public interest justifies such an exemption. In this case, an applicant could show, for example, that it is unable to comply with a particular provision or a particular schedule date due to circumstances beyond its reasonable control (rather than its own failure to act in a timely or prudent manner), that there is convincing evidence that alternative service is unavailable to the public, and that the carrier would be able to maintain an adequate level of safety during the period of the requested exemption.

We would expect that any exemption from this rule would be for a limited period only, such as the time required for delivery of a piece of equipment that has been ordered. Our goal would be to permit the air carrier to come into compliance with the rule in an orderly manner, and not simply to delay or avoid the cost of compliance.

The FAA considers this rulemaking a positive step towards promoting air transportation by renewing confidence in commuter operations. Most importantly, this rulemaking should reduce the accident rate of the affected commuters to a rate that is closer to that of current part 121 domestic operators.

This rulemaking is consistent with the FAA's obligation in accordance with section 44701(d) of Title 49 of the U.S. Code that when prescribing a regulation or standard to promote safety or to establish minimum safety standards, the Administrator shall consider the duty of an air carrier to provide service

to as the "affected certificate holders" or the "affected commuters.") Under the proposal, scheduled passenger-carrying operations in non-turbojet airplanes with 9 or fewer passenger seats, on-demand operations with airplanes with 30 or fewer passenger seats, operations in single-engine airplanes, and operations in rotorcraft would continue to be under part 135.

The proposed rule would also have eliminated the frequency of operations test of five round trips per week which allowed some part 135 scheduled operations to be conducted under the on-demand rules of part 135.

Comments: While no commenters specifically object to applying part 121 requirements to commuter operations in airplanes of 20 to 30 passenger seats, several commenters, many of them small part 135 certificate holders, object to applying part 121 requirements to commuter operations in airplanes of 10 to 19 passenger seats. According to these commenters, the FAA did not sufficiently justify imposing the more restrictive part 121 requirements on operations in these size airplanes and the small certificate holders of these airplanes would not be able to meet the economic burden of the proposal. A few certificate holders state that if the regulations are implemented as proposed they would either have to downgrade their airplanes, reduce the number of passenger seats, or terminate certain services. This is especially the case for small fixed-based certificate holders, who conduct mostly on-demand service with some scheduled service, and for certificate holders who service remote areas such as parts of Alaska, Hawaii, or the islands of Samoa.

Commenters also state that the burden is greater for certificate holders not affiliated with a major airline and that drawing the line at 10 or more includes many small, independent certificate holders. According to commenters, these certificate holders provide a different kind of service from what the larger commuter operators provide.

One commenter, IAPA, states that part 121 requirements should apply to all scheduled passenger-carrying operations, no matter how many seats are on the airplane. According to this commenter, by leaving out the under 10-seat aircraft from the rulemaking, passengers would be exposed to travel on the least safe aircraft operating in scheduled passenger transportation. According to the commenter, most under 10-seat aircraft are piston-engined, with a lower level of engine reliability and performance. The aircraft are frequently operated in harsh environments thereby exposing passengers to higher risks.

Many of the commenters who object to the applicability of part 121 to aircraft with 10 to 19 passenger seats, also object to the definition of "scheduled" in proposed § 119.3. According to these commenters, the effect of the current description in SFAR 38–2 of commuter air carriers that includes 5 round trips per week should not be changed. Apparently some small certificate holders that conduct mostly on-demand service also provide one or two scheduled service flights per week. According to these commenters, if they have to upgrade the airplanes and operations to part 121 to conduct these scheduled flights, they will downgrade the airplanes or terminate the service. The commenters state that they cannot afford to comply with part 121, that the service they provide offers one-of-a-kind service to remote places or resorts, and that in some instances there is no ground transportation to these locations.

Several on-demand operators and the National Air Transportation Association (NATA) comment that the FAA should not revise part 135 on-demand requirements either at this time or at any time. These commenters are responding to a statement in Notice 95–5 that additional standards for on-demand air taxi operations may be considered in the future.

The General Aviation Manufacturers Association (GAMA) objects to including all scheduled passenger-carrying operations in turbojets under part 121 regardless of the number of passengers. While GAMA agrees with the FAA's assumption that no turbojets are being used in regularly scheduled part 135 operations, it objects to the applicability because the FAA presented no technical justification for the proposal. GAMA recommends allowing turbojets with a passenger-seating capacity of 9 or less to operate under part 135. Aerospace Industries Association (AIA) also objects that no rationale was presented for including turbojets. AIA states that the proposed rule offers an unfair competitive advantage for normal category turboprops against jets with a passenger-seating capacity of 9 or less. United West Airlines

regardless of the number of scheduled operations. However, the FAA has decided to retain the frequency of operations distinction for those operations conducted in airplanes with a passenger-seating configuration of 9 seats or less by revising the definitions of "commuter operation" and "on demand operation" in § 119.3. Therefore, scheduled operations in airplanes with a passenger-seating configuration of 9 or less (except turbojets) and conducted on a particular route with a frequency of fewer than five round trips per week (regardless of whether one or more airplanes are used on the route) would be conducted under the requirements applicable to on-demand operations.

The FAA believes that, because of the nature of the operation in which small turbojets, which are type certificated under part 25, are used (e.g., transoceanic, long range, international, etc.), they approximate the operations of larger air carriers. For example, part 135 contains no requirements for long-range navigational equipment or long-range fuel considerations. In an effort to increase the safety for passengers carried in those kinds of operations, the FAA has determined that any scheduled operations of turbojet airplanes should be conducted under part 121.

The FAA disagrees with commenters who suggest that commuter operations in code-sharing arrangements should be conducted under the rules for supplemental operations. Code-sharing, although it may affect passengers' perceptions, is a business/marketing arrangement and is not the basis for an FAA regulatory scheme. Scheduled operations in airplanes with 10 or more passenger seats should come under part 121 domestic or flag, as appropriate, not under supplemental rules.

The only operators who currently operate under part 135 on-demand rules that would be required to conduct their operations under part 121 scheduled rules are those who are included because, as discussed above, part 121 does not contain a frequency of operation provision. If circumstances in the future necessitate a change to these rules, commenters will have an opportunity to comment on any proposed changes.

Air Tour Industry Comments: Several comments were received from air tour operators in the State of Nevada and the vicinity of the Grand Canyon. Some of these certificate holders would be affected by the rulemaking because they operate nontransport category airplanes of 10 to 19 seats and because they provide point-to-point service; for example, from Las Vegas to Grand Canyon Airport even though the flights are exclusively marketed as sightseeing and not point-to-point travel. Despite the fact that they technically fall into the category of a commuter operator, these commenters claim that they are more like an on-demand operator and that the proposed rule would penalize them for using larger, safer airplanes than their competitors. One of these commenters states that it does not fly city to city, but flies regularly scheduled flights that take off and land at the same airport. This operator states that, because of the nature of the operation and because of the proposed definition changes, it would be required to comply as a scheduled operator.

According to the commenters, since they have upgraded from 6- to 9-seat airplanes to 19-seat airplanes, they have been required to install ground proximity warning systems (GPWS), traffic alert and collision avoidance systems (TCAS), cockpit voice recorders (CVR), and flight data recorders (FDR), while their competitors have not been burdened by these costs. According to some of these commenters, this equipment is not beneficial in their operating environment because they typically fly in VFR conditions on short-range flights of an hour or less.

The commenters complain that if the proposed rule is implemented, they will be forced to replace the turboprop airplanes with smaller reciprocating-powered planes and will thereby lose some significant safety benefits such as the following:

- The two-pilot crew requirement with captains required to hold an Air Transport Pilot rating.
- Aircraft certificated to higher levels of aircraft performance.
- Aircraft maintenance procedures under the more comprehensive Continuous Airworthiness Maintenance Program.
- Safety equipment such as GPWS, TCAS, CVR, and weather radar.

weight at Grand Canyon due to the high altitude.

According to these commenters, switching to smaller airplanes will increase air traffic congestion in the Grand Canyon area, decrease safety for passengers, and double or triple noise levels.

According to one commenter, these certificate holders do not have code-sharing partners and while these certificate holders sometimes provide point-to-point service, the flights are typically part of an all-inclusive tour package which includes ground transfers to Las Vegas hotels, sightseeing flights to the Grand Canyon, and motor coach tours of the Grand Canyon. This is totally unlike typical commuter operations.

Another commenter, however, says that at least one of the air tour operators does use code-sharing with a major carrier and that the offering of its scheduled flights is available by referencing airline computers all over the world.

Some of the commenters cite an NTSB report (''Safety of the Air Tour Industry in the United States,'' June 1, 1995) which states that the implementation of SFAR 50–2 has created a safe operating environment for air tour operators over the Grand Canyon. One commenter quotes NTSB as saying, ''The level of safety of air tour operations could be improved by creating a national standard for air tour operations that contains definitions specific to the air tour industry and specific requirements, including unique operations specifications, to accommodate localized unique conditions, similar to the special conditions contained in SFAR 50–2.''

One commenter states that his company recruits retired airline pilots to provide a high level of experience and stability to the flightcrews.

The Clark County Board of Aviation is concerned that the proposed rule could be devastating to individual certificate holders and adversely affect the vitality of the air tour industry in Southern Nevada.

The Grand Canyon Air Tour Council states that the proposed expanded definition of ''scheduled operations'' is the problem and that the definition was changed with no satisfactory explanation or justification.

The Office of the Lieutenant Governor of Nevada testified at the public meeting held in Las Vegas that compliance would affect a ''$250 million industry that we have worked hard to develop.''

FAA Response: The FAA does not agree that air tour operations are totally unlike commuter operations. Much of an air tour flight is like much of a commuter flight. If an air tour operator is conducting scheduled operations, as defined in § 119.3, in airplanes with a passenger-seating configuration of 10 or more, it must comply with part 121 domestic or flag requirements, as applicable. This includes operators who fly from and return to the same point on a scheduled basis.

The FAA agrees that certain aspects of air tour operations make them appear to be unlike commuter operations. For example, portions of air tour flights are at lower altitudes, typically over rugged and remote terrain, and often in airspace that is congested with other sightseeing aircraft. The FAA has begun an air tour industry project to study the implications of these differences to safety and to develop regulations, as necessary, to address specific features of air tour operations. If regulations are implemented as a result of the project, they would be in addition to current regulations, as is SFAR 50–2 which prescribes requirements for special conditions relating to flights over the Grand Canyon. The FAA project will consider the recent NTSB study cited by commenters. Because certain part 121 and 135 provisions are being recodified into part 119, SFAR 50–2 and SFAR 71 are being updated to conform to this rulemaking.

Alaskan Comments: Several comments were received from certificate holders in Alaska, Alaska government agencies, and others interested in how the proposal will affect Alaskan operations. Currently Alaskan certificate holders conducting scheduled operations in airplanes of 10 to 30 seats comply with part 135. The regulations allow them not to comply with flight time limitations for scheduled operations (§ 135.261(b) and (c)) and instead allow them to follow the regulations for on-demand operations. Alaskan certificate

commuter operators to comply with part 121 requirements would be devastating to certain certificate holders in Alaska and therefore to certain segments of air transportation. Furthermore commenters point out that most air transportation in Alaska is conducted in small reciprocating-powered airplanes with passenger-seating capacities of under 10 seats. Therefore, the proposed rule would not have a significant effect on air transportation safety in Alaska and would impose an economic burden on a few certificate holders who provide upgraded, i.e., safer, service. According to commenters, the accident rate for airplanes with under 10 seats is much higher than for turbine-powered airplanes with 19 seats. (Accident data analyzed by the FAA verifies that, unlike the rest of the nation, the part of the commuter fleet in Alaska involved in accidents contains a large proportion of under-10-seat aircraft.)

Peninsula Airways (Penair), as well as other commenters, states that characteristics of Alaska make commuter operations in the State unlike those in other parts of the country. In particular flights are conducted in the same time zone, pilots do not have long commutes to their jobs, flights are not usually conducted between 9 p.m. and 7 a.m., and operations subject to Air Traffic Control (ATC) are not in congested airspace. This rationale is primarily in defense of using the flight time limit requirements of part 135 nonscheduled operations.

Several commenters emphasize the absolute necessity of air travel in Alaska where many of the towns and villages are not accessible by road. They say that Alaskans are dependent on air transportation and the cost of that transportation must remain affordable. High cost items in the proposal, such as the possible need to upgrade airports, the use of a dispatch system, the various equipment requirements, and certain performance requirements, would boost the fares to levels that many residents of Alaska could not afford. The State of Alaska Department of Transportation and Public Facilities states that "the proposed air carrier and airport regulations could devastate Alaska's heavily aviation dependent economy."

The Alaska Air Carriers Association (AACA) states that the proposed rule would end the growth of the 10- to 19-seat airplane and would increase fares by 67 to 100 percent. The proposed airport legislation is expected to cost the state $100 million. AACA states that the proposed rule would directly affect only 15 certificate holders in Alaska. Two-thirds of the scheduled air carriers use aircraft with a seating capacity of 10 seats or less.

ERA Aviation, which currently operates under part 121 flag rules, objects to the proposal to operate as domestic/supplemental. It operates over 100 aircraft, fixed and rotary wing, nationally and internationally. The commenter states that for years Alaska part 121 operators have been operating under flag rules, both for scheduled and nonscheduled operations. This has allowed increased flexibility in crew scheduling, which is necessary because of the length of Alaska routes, the lack of facilities in remote locations, and the lack of road networks or other alternate forms of transportation to outlying communities. Section 119.21 would require these carriers to operate under domestic rules, which would decrease crew scheduling flexibility, add substantially to costs, derogate safety, and probably result in the elimination of vital air transportation services to some outlying communities. The commenter says there is no safety justification for such a change because Alaska part 121 operators have established an excellent safety record under existing rules. They say that, at the very least, Alaska carriers currently operating under flag rules should be allowed to continue to operate under flag rules for both scheduled and nonscheduled operations.

A part of the proposal that would have affected several Alaskan certificate holders is the proposal that single-engine airplanes with 10 passenger seats now operating scheduled flights under part 135 would in effect have to remove a seat in order to continue operating in scheduled service under part 135. Single-engine airplanes are ineligible for operation under part 121. The only 10-seat single-engine airplane model involved is the single-engine de Haviland DHC–3 Otter (not to be confused with the twin-engine de Haviland DHC–6 Twin Otter mentioned elsewhere in this notice). According to AACA and other commenters, there is no possible safety benefit in taking a seat out of an airplane, but the cost to certificate holders who want to continue to use these airplanes in scheduled operations will be significant.

NATA comments that no accident involving the Otter would have been prevented by limiting the seating to 9 passengers. Furthermore, according to the commenter, the FAA cost on this issue is another

five 10 seat Otters in 92–93 to improve service to a wilderness sports facility, substantially reducing noise by reducing the number of flights by 50%. Wings notes that considering initial operating experience (IOE) and route check requirements, it is being operated at a higher level of safety than the 10 seat, on-demand aircraft allowed under the rule to be operated in part 135. Wings estimates that the removal of one seat would have cost them $85,000 in 1994. Wings asks that the Cessna Caravan and the Cessna Grand Caravan also be allowed to operate with 10 seats. AACA comments that Ketchikan Air Service, Taquan Air Service, and Wings of Alaska together operate 12 Otters in southeastern Alaska.

The NTSB comments that it intentionally excluded airlines that operate exclusively in Alaska from its study of commuter airline safety because of the unique characteristics of the environment in Alaska. The NTSB currently is conducting a study of commercial Alaska aviation including commuter airlines. The NTSB held two public meetings in Alaska during June 1995 and visited a number of scheduled and nonscheduled part 135 certificate holders to collect information for the study. The NTSB intends to compare flying operations in Alaska with the rest of the U.S. The study is scheduled for completion in 1995. Several other commenters mention the study and suggest that the FAA should wait until the study is completed before making any changes to Alaskan regulations.

ALPA, GAMA, and other commenters state that safety issues are the same in or out of Alaska and that, therefore, Alaska should not be given a blanket exemption from the rulemaking. ALPA and GAMA state that Alaskan certificate holders, as well as certificate holders in other parts of the country, may need to be exempted from certain requirements that are not applicable to the type of operations being conducted and should go through the standard exemption request procedures in such cases.

One comment from an individual pilot in Alaska states that the schedule he flies of 14 days on and 14 days off is exhausting, and that even though he gets 10 hours of rest in each 24 hours, it is not enough over a 14-day period. He is in favor of the proposed flight time limit changes.

Some Alaskan certificate holders comment that they rely on experienced pilots who are familiar with the particular demands of Alaskan operations. Penair states that 10 percent of its pilots are age 60 or over and that 20 percent are over age 52.

Commenters who oppose the rule suggest either exempting Alaska altogether, not including the 10-to-19 seat airplanes in the rule, or allowing under-19-seat airplanes to be covered under the supplemental rules of part 121 rather than the domestic rules.

FAA Response: The FAA agrees with the commenters who state that safety issues are the same in or out of Alaska. The FAA has specifically considered the implications of the proposal on Alaska given its unique characteristics and has determined that the rules should apply to Alaska as proposed. While the NTSB comment on Notice 95–5 states that the NTSB excluded Alaska from its safety study on commuter airline safety, the NTSB states in the report that its findings from the information obtained in the course of the study "apply to operations in Alaska as well as the other 49 states and U.S. Territories." ("Commuter Airline Safety," NTSB/SS–94/02). Therefore, this final rule does not provide a blanket exemption for Alaska.

In response to the single-engine airplane issue, the FAA has decided to allow an exception to continue. Currently, several part 135 certificate holders conduct scheduled passenger-carrying operations in single-engine airplanes type certificated with two pilot seats in the "cockpit" and 9 passenger seats in the "cabin." Some certificate holders are authorized to conduct scheduled operations in that airplane, the DHC–3 Otter, under daytime VFR, and carry a tenth passenger in the right-hand pilot seat. In Notice 95–5, the FAA proposed to limit all scheduled operations of single-engine airplanes to the carriage of nine passengers, under all conditions. (60 FR 16235, 16273) The FAA has decided to allow the current practice to continue for operators who currently conduct single-engine operations under daytime VFR with a tenth passenger.

Comments on Exemptions/Deviations/Waivers: Currently some certificate holders operating under part 135 that will be affected by this rulemaking have obtained exemptions, deviations, and waivers from certain part 135 requirements.

This places additional and unwarranted operational costs on air carriers transitioning to part 121.

FAA Response: The specific exemption referred to by the AACA applies only to operations with airplanes with a passenger-seating configuration of 9 or less, and therefore is not affected by this rulemaking.

However, exemptions issued for operations under part 135 do not automatically continue in effect for operations under part 121. Therefore, affected commuters who will in the future be operating under part 121 must reapply for any exemptions they believe should apply to their part 121 operations after the compliance date of this rule. Also, general exemptions issued to present part 121 operators will not apply automatically to new part 121 operators so any new part 121 operator will have to apply to be included in these existing exemptions.

V.C. Aircraft Certification

The proposed rule would amend part 121 to require each 10- to 19-passenger seat airplane that is to be operated in scheduled operations and for which an application for type certification is made after March 24, 1995, to be type certificated in the transport category. Affected commuter airplanes are type certificated under the requirements of part 23.

In Notice 95–5 the FAA stated its intent to review the standards of parts 23 and 25 to see if the level of safety intended by part 25 could be achieved for those airplanes with a passenger-seating configuration of 19 or less through compliance with a particular standard of part 23 or another standard, in lieu of the corresponding standard of part 25. On completion of that review the FAA stated its intent in future rulemaking to consider amending part 25 as necessary to accommodate type certification in the transport category of certain types of airplanes previously type certificated in the commuter category.

The FAA also proposed that airplanes configured with 10 to 19 passenger seats already in service or manufactured in the future under an already existing part 23 commuter category type certificate would have to comply by specified compliance dates with certain performance and equipment requirements in part 121. These performance and equipment requirements are discussed later in this preamble.

In Notice 95–5 the FAA included a table that set out a list of potential modifications that were being considered for application to airplanes having a passenger-seating configuration of 10–19 seats that were type certificated in the commuter category (or a predecessor) if the airplanes are to be used in scheduled operations under part 121. The table included a column that indicated that for 12 of the 38 issues addressed, the FAA had determined that any required upgrade should apply only to airplanes manufactured under a type certificate for which application is made after March 24, 1995. Since these 12 issues will be the subject of a future NPRM, the FAA is not addressing specific comments on the substance or cost of these issues in this document.

Comments: ALPA fully supports the proposal to require newly-designed airplanes to comply with the standards of part 25 and also supports continued use of commuter category airplanes. The commenter does not, however, concur that airplanes type certificated under part 23 normal category (i.e., pre-commuter category) should be permitted to remain in operation with more than 10 passenger seats, even in non-air carrier service. ALPA appears to base its position on differences in performance requirements between commuter category and the predecessor normal category standards.

American Eagle supports the proposed rulemaking and states that, "while there may be limited circumstances when aircraft design and/or manufacture may preclude or delay compliance with FAR part 121 or FAR part 25, cost and weight considerations should not be an acceptable barrier to the increase in safety which is derived from applying the higher standards of aircraft airworthiness, airline operations and passenger safety which those regulations provide."

In contrast, six other commenters do not believe that any propeller-driven airplanes with 10 to 19 passenger seats should be required to meet the transport category standards of part 25. Although the commenters' reasons vary, the comments focus on three basic issues: (1) Commuter category standards are appropriate for airplanes of this class; (2) there is no evidence that safety would be enhanced by

under part 23 commuter category and that those changes would entail a considerable expenditure of FAA resources. They further believe that any such changes should be subject to harmonization with corresponding standards of the European Joint Aviation Requirements (JAR).

Several commenters cite the FAA's 1977 proposal to require all airplanes used in air carrier service to meet part 25 transport category standards. That proposal was later withdrawn. According to commenters, the part 23 standards of that era were considerably different from those of today's part 23 commuter category. The level of safety expected by the public today is much greater than that tolerated in 1977.

A number of other commenters address the proposed retrofitting of existing part 23 normal and commuter category airplanes to meet certain part 25 standards. Those comments are addressed in the section-by-section portion of this preamble (section VI).

One commenter has developed and produces a unique propulsion system in which two turbine engines drive a single propeller through a common gearbox. In addition to the installations already being made in existing airplanes, the commenter anticipates a future installation of this system in an airplane of entirely new design. Since any new model would have to be type certificated under the provisions of part 25 in order to be eligible for operation under part 121, the commenter requests that part 25 be amended to accommodate airplanes with this or similar propulsion systems.

FAA Response: Rather than forcing the retirement of part 23 normal category airplanes, as recommended by ALPA, the FAA proposed in Notice No. 95–5 to permit their continued use in air carrier service provided certain changes were made on a retrofit basis to enhance their level of safety. Banning those airplanes would be extremely costly, but most importantly could result in an unintended safety decrement. Indeed, the FAA's analysis indicates that moving too quickly on the imposition of part 121 standards could have the unintended effect of lowering the level of safety because operators would not be in a financial position to quickly obtain new airplanes and currently there are not enough replacement airplanes available that meet the higher standards. The result could be a shift from 10- to 19-seat turbopropeller airplanes to 9-seat or less reciprocating engine airplanes, which have an even higher accident rate.

The six commenters' assertions that commuter category standards of part 23 are appropriate for airplanes of this class and that there is no evidence that safety would be enhanced by type certification under part 25 are, to a certain extent, correct. Through a number of recent amendments and pending amendments, the level of safety established by the commuter category has been and is being enhanced considerably. In many instances, commuter category airplanes must meet standards that are the same as, or very similar to, those of part 25 transport category. Requiring future 10- to 19- passenger seat airplanes to be type certificated under part 25 would complete this effort to ensure that these airplanes used in air carrier service meet the same aircraft certification standards as the larger airplanes.

In response to comments that part 23 airplanes could not be type certificated using part 25 standards, the FAA notes that it did not propose in Notice No. 95–5 that part 23 normal or commuter category airplanes presently in operation would have to comply with part 25 standards for type certification. Instead, it proposed that part 23 airplanes that will be required to be operated under part 121 will have to comply with certain part 121 equipment and performance requirements.

In response to the individual comment on a unique propulsion system, although the commenter's request is beyond the scope of this rulemaking, it will be considered during the review of part 25 discussed above.

V.D. Flight Time Limits and Rest Requirements

The FAA proposed that the part 121 domestic flight time limits and rest requirements would apply to affected commuter operators when conducting operations within the United States. Under the proposal affected commuter operators, when conducting operations to or from the United States, would comply with the flag flight time limitations and rest requirements of subpart R. Additionally, if these certificate holders use these same airplanes for nonscheduled operations, those certificate holders would be required to comply with supplemental flight time limitations and rest requirements of subpart S of part 121.

confined to a particular area, pilots of smaller certificate holders rarely commute a long distance to and from work, and pilots have fewer overnight stays as part of their schedules. Air Vegas comments that unless an exception is provided, seasonal operators would have to hire additional crews in order not to exceed the 7-day limit of 30 hours or the monthly limit of 120 hours. This commenter notes that short-term employment of such pilots is next to impossible. Morton Beyer and Associates comments that the cost of hiring additional pilots is expected to add another $250 million to airline costs. Twin Otter International comments that the 1,200 yearly limit in part 135 is based on the part 121 100-hour-per-month concept, and that the regulations really are similar.

Several individuals strongly urge the FAA to adopt the part 121 standards for the upgrading commuter pilots. American Eagle comments that it applies part 121 domestic rules to its part 135 operations and believes that all air carriers providing commercial passenger service should use either the domestic or flag rules of part 121.

One individual notes that the reduced rest provision in part 135 allows for only 8 hours of rest between scheduled flights. Another individual comments that commuter pilots have a high frequency of takeoffs and landings, fly in the busier low-altitude airspace, deal with more controllers per flight mile, and deal with more weather than their part 121 counterparts. One person comments that certificate holders routinely schedule 3–4 hour breaks to preclude violations of the 8 hours of flight in 24 hours rule; however, the effect of this is to stretch out the duty day. The result is a higher duty time to flight time ratio which is not accounted for in the current rules. IAPA supports the proposal but also expresses concern that the current regulations fail to count, as part of duty time, the time period when flightcrews are on reserve duty, standby duty, or carrying a pager or other telephonic device. IAPA urges the FAA to treat reserve or standby duty as duty time.

ALPA comments that while the upgrade to part 121 will result in an improvement in flight time limits and rest requirements, part 121 will continue to be deficient in this area until additional rulemaking action is taken, as promised by the FAA.

Alaska commenters argue for maintaining the current regulations. ERA Aviation estimates that if the proposed rule is adopted, it would necessitate at least a 15% increase in the number of pilots it would need, resulting in a $500,000+ increase in costs. Penair finds four reasons for excepting Alaska: Operations are conducted in the same time zone, few Alaska pilots commute to their jobs, less than 5% of Alaska operations occur between 9:00 p.m. and 7:00 a.m., and Alaska does not have the congested ATC operations which are found in the lower 48 states. AACA also presents this argument, adding that going from 1,400 hours of duty per year down to 1,000 represents a 29% decrease in productivity. Other Alaska certificate holders, e.g., Wings, Northern Air Cargo, Taquan Air Service, Tanana, endorse the AACA comment.

One individual commenter from Alaska opposes any attempt to create exceptions to the requirements for Alaska. This person supports the assertion that Alaskan operations are basically the same as state-side operations and should be afforded no special exemptions.

This individual, a pilot who flew over 1,300 hours last year, states that there were many consecutively scheduled 14-hour duty days and many canceled days off. Ten hours of rest may sound adequate, but not for days on end. The individual questions the logic that one is more rested in one geographic area than in another. According to the commenter, duty cycles that are unsafe in the lower 48, are also unsafe in Alaska.

Another individual from Alaska states that the FAA has shown no data to indicate any problem with the provisions of § 135.261(b), which allows Alaskan scheduled operators to use § 135.267. The individual states that in 1994, he flew 1320 hours, had 173 days off, slept in his own bed every night, and never had less than 10 continuous hours of rest in any 24-hour period. He believes he probably had more rest and time off than the average long-haul part 121 pilot. The commenter states that the proposed flight/duty time limits would cause scheduling nightmares for operations in rural/remote parts of Alaska.

the separate rulemaking. For the same reasons the FAA will allow part 121 certificate holders operating in Alaska and Hawaii to continue to follow the flight and duty rules of part 121 applicable to flag operations, even though under this rulemaking these certificate holders are now classified as conducting domestic operations.

Accordingly, §§ 121.470, 121.480, and 121.500 include an exception for affected commuters allowing that they continue to comply with flight time limits and rest requirements of part 135. Additionally, § 121.470 will allow existing Alaska and Hawaii intrastate scheduled domestic operations to continue to be conducted under flag rules.

V.E. Age 60 Rule

Section 121.383(c) prohibits a certificate holder from using the services of any person as a pilot, and prohibits any person from serving as a pilot, on an airplane engaged in operations under part 121 if that person has reached his or her 60th birthday. Part 135 has not had any such limitation. The FAA proposed to impose one age limitation on all pilots employed in part 121 operations, including those pilots currently employed in affected part 135 scheduled operations. The FAA stated in Notice 95–5 that if it determines that it is appropriate to propose a different age limit in another rulemaking action, it will propose to apply the revised limitation to all part 121 operations, including the pilots in commuter operations.

Comments: The age limitation question was the subject of over 2,000 written comments (including about 1,000 postcards from members of an airline pilot organization) and oral presentations at public meetings. The overwhelming majority of these comments concern the general question of whether there is a need for an age limit in part 121, and do not address any particular aspects of applying an age rule to commuter pilots.

Several commenters, however, state that if commuter pilots are subjected to an age limit, the FAA should adopt a phased-in implementation schedule to avoid abruptly ending the careers of pilots who had not planned on retiring at age 60. Another commenter states that it hires over-age-60 retired part 121 pilots.

FAA Response: As discussed above, the FAA has identified a strong need to enhance the safety of commuter operations. Commuter airlines are carrying an increasing number of passengers over an increasing number of miles. While safety has improved over the past two decades, commuter airlines operating under part 135 continue to have a higher accident rate than domestic part 121 airlines. The FAA can no longer justify most distinctions between parts 121 and 135 commuter operations.

The part 121 regulatory scheme provides a network of safety features. Because most accidents are caused by human error, rules designed to enhance the performance of pilots are among the most valuable in reducing the number of accidents. Elsewhere in this preamble the FAA discusses other provisions that serve this purpose, such as the critical role of the aircraft dispatch system in double checking the work of the pilot and providing updates on weather and alternate airports. The training requirements for commuter pilots are being upgraded, and eventually part 121 flight and duty time rules or the newly proposed rules will apply to them. The Age 60 Rule provides an additional measure of safety by reducing the risk that age-related degradation will affect pilot performance. A pilot may have the best training in the world, and be well-supported by an aircraft dispatch system, but if the pilot suffers from a subtle age-related degradation in performance, safety will be reduced. Also, the potential safety benefits of training and dispatching may be reduced by human safety lapses that could occur or do occur more frequently with age.

The "Age 60 Rule" was adopted by the FAA in 1959 (24 FR 9767, December 5, 1959). At the time Notice 95–5 was issued, the FAA was also considering whether, in the interest of safety, the Age 60 Rule should be retained as is or revised to allow pilots to continue to fly in part 121 operations past their 60th birthday. The FAA completed its review of the Age 60 Rule. In a Disposition of Comments (Disposition) published in the *Federal Register*, [cite], the FAA announced that it will not propose to change the Age 60 Rule at this time. The Disposition thoroughly discusses the various

date of 15 months after the date of publication of this final rule in § 121.2(c), and also adopted delayed compliance dates for a number of requirements, giving the air carriers 2, 4, or more years to comply with certain of the new requirements.

In response to the comments requesting delayed compliance dates, and after further evaluation, the FAA has considered that there are factors warranting delay in the compliance date for the Age 60 Rule, as it applies to those affected commuters that now will be brought under part 121. The lack of an age limitation in part 135 has created reasonable expectations on the part of both the affected commuter operators and pilots regarding the length of time that the pilots would continue in service: Some of those operators have spent money to hire and train pilots with the expectation that they would serve past the age of 60; and the pilots have not had to plan on leaving their positions at age 60. In fact, certain affected commuters appear to have a practice of hiring retired part 121 pilots, and will no longer be able to do so.

Further, this rule requires the affected commuters to make extensive changes in equipment, personnel, and procedures before the general compliance date. Also, final rules have been adopted that impose new requirements for training, including standardized pilot training and crew resource management training. The affected commuters operators should not be required to stop using the services of their over-age-60 pilots in scheduled operations (10 or more seats) and train replacements until these new programs are in place, and the training can be under the new programs.

Accordingly, the FAA has determined that the Age 60 Rule, as it applies to certain pilots, should have an extended compliance date. As it applies to pilots newly hired by commuter operators, the Age 60 Rule will apply on the general compliance date indicated in § 121.2(c). Until that date, there will be no age restrictions on the pilots of commuter operations that are upgrading to part 121. After that date, the affected commuters will no longer be able to hire pilots who have reached their 60th birthday (except for pilots who as of that date were employed as pilots for another affected commuter). However, pilots who are employed by affected commuters on that date will be able to continue to serve until December 20, 1999, after which the Age 60 Rule will apply to every pilot under part 121.

The delay in applying the rule will provide some relief from the difficulties discussed above. The 4-year compliance period for these pilots will permit the affected commuters to recover services for several more years from those pilots in which they recently have invested in training. Delaying the application of the rule to new hires until the general compliance date will give affected commuters time to adopt new hiring practices, at a time when the operators will have many other new requirements under this rule to comply with. The 4-year compliance period for pilots will give them time to plan for retirement or for changing jobs. It will also give affected commuters additional time to make careful selections of well-qualified pilots and train them under the new training requirements. And, the operators will not have to replace all of their over-age-60 pilots at once, at a time when so many other new requirements must be complied with.

V.F. Dispatch System

Parts 121 and 135 require certificate holders to exercise operational control over all flights conducted by the certificate holder. "Operational control" is defined in 14 CFR part 1 as "The exercise of authority over initiating, conducting and terminating a flight." Operational control consists of making decisions and performing activities on an ongoing basis that are necessary to operate specific flights safely. These activities include among other things crew and airplane scheduling, reviewing weather and NOTAM's (Notices to Airmen), and flight planning.

Parts 121 and 135 provide for three general types of operational control systems based on the kinds of operations and the complexity of operations: aircraft dispatch, flight following, and flight locating systems. Part 121 domestic and flag operations require a dispatch system, part 121 supplemental requires a flight following system, and part 135 requires a flight locating system for any flight for which a flight plan is not filed. In Notice 95–5, the FAA proposed that the affected commuters would be required to have a dispatch system. Affected commuters would have to meet all part 121 dispatch requirements, including dispatcher qualification requirements, recordkeeping, and flight release requirements. As proposed,

ments for transition carriers. This will, in their opinions, gain the early momentum of the industry by making it possible for many certificate holders to transition early. A long lead time is necessary to qualify existing personnel as dispatchers under existing part 65. The commenters remind the agency that during the early 1980's, by the FAA's own rules, 20- to 30-seat aircraft were subject to part 121 supplemental rules, including the flight following requirements of subpart F. One of these individuals also states that interim compliance with subpart F flight following requirements would ease the transition to subpart E dispatch requirements for affected certificate holders.

NATA comments that the FAA lacks understanding on the types of operations 10- to 19-seat certificate holders typically fly and recommends a flight following system instead of a dispatch system. NATA states that many small, independent carriers operating aircraft with 10 to 19 seats may have only 2 to 4 of these types of airplanes and may operate them over only a few selected routes. According to NATA, many of these carriers conduct on-demand operations in addition to their scheduled activity. NATA believes, along with several other commenters, that for operations such as these, to implement a full dispatch system will result in significant cost with little or no benefit.

RAA and other commenters suggest that the FAA identify specific safety objectives in requiring a dispatch system for short-haul certificate holders.

One commenter believes that a formal dispatch system for all scheduled air carriers should be required, but points out both the pros and cons of requiring such a system. This commenter, as well as others, states that pilots may be shouldering many additional responsibilities other than flying the aircraft in an effort to minimize the cost of flight operations. Due to the task saturation of pilots and other crewmembers, functions involving flight planning, weather analysis, and weight and balance calculations may not be thoroughly performed. According to the commenter, the majority of commuter pilots are, as a rule, very young and inexperienced. These crews must continually perform at peak levels of performance both on the ground and in the air.

According to this commenter, as well as others, the use of the flight dispatcher would increase safety, operational efficiency, and productivity. The duties of filing the flight plans, checking NOTAMs, planning fuel requirements dictated by weather, and obtaining ATC routing would be completed by the dispatcher prior to the crew arriving for the flight. Optimum routes based on known ATC or weather delays would be filed, resulting in substantial fuel savings and improved arrival and departure reliability. The pilots would now be able to concentrate on flying and be able to relax and rest between flights. Flight could be more effectively managed, thus saving fuel, maximizing aircraft utilization, and passenger satisfaction.

On the other hand, according to the commenter, mandating the dispatch system for part 135 air carriers may create some heavy financial burdens. It will require a facility, communications hardware for the facility and the aircraft, trained personnel, and training for dispatchers. The initial capital outlay would not be recovered for several years. According to the commenter, this mandate will place severe constraints on many less established carriers and may actually result in bankruptcy for some.

Many commenters are in favor of the role of the aircraft dispatcher in operational control issues. One commenter states that the requirement for a formal dispatch system is long overdue.

One commenter believes that dispatch centers might create a sense of complacency on the part of the flightcrew and, along with other commenters, thinks that automated flight planning and flight following information should be used in lieu of dispatchers and dispatch centers. Two of the commenters advocating automated flight following systems state that the three accidents cited by the FAA in Notice 95–5 would not have been prevented by the use of a dispatcher. One commenter states that in his experience PIC's typically check dispatcher computations but do not duplicate the computations as the FAA stated in Notice 95–5.

The NTSB states that in its 1994 study report, it examined the differences in flight dispatch requirements between parts 121 and 135. The NTSB found that, in the absence of support from licensed dispatch personnel, pressures on commuter airline pilots to accomplish several tasks between flights in shorter

airlines with worldwide flight operations to the largest U.S. regional carriers. ASA supports the requirement for licensed dispatchers, believing that the most qualified candidates for licensing as dispatchers are the individuals currently employed as flight followers. These commenters request that the criteria in § 65.57 be examined to provide guidance for granting a dispatcher certificate based on practical experience as a flight follower under part 135 operations. According to the commenters, many flight followers have passed the written portion of the dispatch license but have not attended formal dispatch school and do not hold licenses. However, they may have extensive practical experience in scheduled air carrier operations performing what is essentially a dispatcher function. According to these commenters, the criteria contained in § 65.57 includes experience in scheduled military operations. The commenters believe that if military experience is applicable, the experience of a flight follower with a scheduled airline should qualify. These commenters also point out that the practical portion of the dispatcher license is administered using a Boeing 727 aircraft. The commenters believe that while many of the functions and decision making circumstances would be the same, the experience of part 135 flight followers, managing flights of high performance turbopropeller-powered aircraft is a considerably more significant and practical measure of their capabilities than military experience or demonstrating their skills in managing a turbojet operation. The commenters believe that the cost and time to send current flight followers to a formal dispatcher school is not justified.

Samoa Air comments that since its longest flight is only 70 miles (35 minutes), a dispatch system would not enhance or change any of its current requirements. Samoa has established VFR and IFR fuel requirements to all of its destinations and the requirements do not change. The only alternate airport is the destination airport. Samoa also states that § 121.101 requires each domestic and flag operator to show that enough weather reporting facilities are available along each route to ensure weather reports and forecasts necessary for operations. Section 135.213 allows the pilot in command to use various other sources, including his own weather assessment, for VFR operations. Of the four airports Samoa serves, only one (departure airport) is in controlled airspace with weather reporting facilities and instrument approach procedures. Enroute and terminal weather conditions are received through the ATC tower from their weather station. VHF communications with the tower cover almost the entire route, so the aircraft has ready access to any weather information available and direct information on the status of communications, navigation, and airport facilities. A dispatcher would not enhance safety but would add significant cost. If Samoa is required to provide weather conditions at each airport to the pilot from an approved source and the pilot can not assess the weather himself, the rule change could eliminate all of Samoa's present operations.

Similarly, Inter Island and Air Vegas comment that the requirement for enroute weather reporting is unfeasible because of minimal weather reporting facilities in the certificate holders' regions. Air Vegas also comments that radio communication in mountainous terrain would be difficult if not impossible with VHF radio systems because mountains block radio transmission.

Air Vegas comments that all "dispatcher duties" are currently being accomplished by personnel in the operations department, station managers, and company pilots. All flight following is being done by telephone. The commenter states that current flight following procedures meet part 135 requirements and are operationally safe and efficient.

Mesa Airlines comments that due to its short flight segments and the lack of significant weather changes in the areas in which it operates, a dispatch system is not needed. Mesa believes that all enroute communications can be accomplished by ATC.

AACA states that the requirements of subpart E come at a time when the availability of weather information in Alaska has been identified as a significant issue adversely affecting aviation activities (proceedings of an NTSB "Aviation Safety in Alaska" forum, May 1995).

The Airline Dispatchers Federation supports the dispatch proposal and agrees with the upgrading of current commuter facilities to dispatch centers. It believes this upgrading is necessary because of the extensive use of code-sharing by the aviation industry. The commenter is not in favor of amending part 121 dispatch rules for certificate holders of the 10- to 19-seat category. The commenter provides

§ 121.400(b) be amended by adding a group specific to propeller-driven aircraft with a seating capacity between 10–30 seats.

AACA comments that due to the operating environment of Alaska, the pilot and not the dispatcher is in a better position to access and evaluate operational control information. The commenter believes that scheduled operations in Alaska more closely resemble the operations conducted under supplemental rules and not domestic or flag operations. The commenter notes that pilots frequently are not in radio communication with company offices directly, but could communicate via Flight Service Station, ATC, or other aircraft. According to the commenter, enroute and destination weather conditions are either not accessible or not available at any time from "official" sources. The commenter notes that three affected certificate holders in Alaska presently have a part 121 type dispatch system in place. AACA further states that the assumption that estimated fuel savings by dispatchers would offset the cost of establishing a dispatch system is not true. AACA recommends that the FAA adopt the flight following supplemental rules of part 121 for Alaskan 10–19 seat certificate holders. AACA also recommends that current part 135 personnel be "grandfathered" for dispatcher certificates if they have been employed as flight followers. The commenter notes that the practical experience dealing with turboprop aircraft and flight planning may be lost to the industry if flight followers are required to take extensive dispatcher training courses, pass a written and practical test, and lose time and money on the job while they obtain an FAA dispatcher certificate.

FAA Response: The FAA anticipates that requiring operators to have a certificated dispatcher double check the work of the pilot and provide the flightcrew with updates on weather and alternate airports can reduce human factor errors. With a dispatcher system, the chances of pilot miscalculations or oversights could be reduced. Moreover, a dispatcher can assist the flightcrew in making plans for an alternate airport (which might be necessary due to weather problems, air traffic control problems, airplane equipment problems, fuel problems, etc. . . .) during the flight while the crew focuses on flying the airplane.

The FAA disagrees with the recommendation to make the use of a dispatcher and dispatch system optional since that would not address the safety issues involved. The FAA also disagrees that a flight following system is an acceptable alternative to a dispatch system or that dispatch systems are not needed for limited flight distances if there is adequate weather reporting facilities. The use of a dispatch system is based on the type of operation (scheduled), and not the distance of a flight, the number of aircraft, or the type of aircraft being flown. Flight following systems are used for nonscheduled operations, and could be used for nonscheduled operations by affected commuters under the supplemental rules of part 121. NOTE: The dispatch system requirements apply only to scheduled passenger-carrying operations.

The FAA disagrees with the basic idea that the decision making process of operational control of aircraft can be made by automated means. While automation has improved the accuracy and timeliness of flight planning, weather information, and NOTAMs, nothing so far has replaced the decision making capabilities of a certificated dispatcher. Dispatchers receive training in subject matter beyond just flight planning, e.g. crew resource management, hazardous materials regulations. These subjects are just a small representation of the subject matter an aircraft dispatcher must know in order to make operational control decisions.

The FAA agrees with the comment that dispatchers are usually in a better position to review weather reports and forecasts than pilots hurrying to accomplish other postflight/preflight aircraft duties. Operational control issues are enhanced when both the pilot in command and the aircraft dispatcher are jointly responsible for the safe conduct of a flight. As several commenters point out the overall level of safety is enhanced when a dispatcher is available to assist and back up the pilots who already may have numerous responsibilities in addition to flying the airplane. Thus, while it may not be possible to pinpoint accidents that have actually been prevented by a dispatch system, there can be little doubt that the existence of a dispatch system contributes to the overall high level of safety of scheduled operations under part 121.

The FAA does not agree that use of dispatchers would lead to complacency on the part of the flight crewmembers. Section 121.663 states that for each domestic and flag operation, a dispatch release must be prepared based on information furnished by an authorized dispatcher. The pilot in command

the FAA finds that these certificate holders are not unique. The same situation currently exists for some part 121 certificate holders who are required to maintain dispatch systems.

In response to comments on the issue of limited areas of operation and short flight duration, the requirement for a dispatch facility is not based on distances, the type of aircraft, or weather patterns alone. It is the type of operation (scheduled) an air carrier is currently operating under that determines if dispatch systems are required. The role of the aircraft dispatcher in the operational control of aircraft provides an enhancement to safety that has clearly been established through years of operations by many air carriers in both domestic and flag operations. Continuous communications could be accomplished with HF radios or through satellite communications, both of which can be provided through vendors.

The FAA agrees with commenters that for some part 135 certificate holders, personnel will first have to acquire the necessary certificate and then complete required air carrier training requirements for dispatchers. The average dispatcher school curriculum lasts 5 weeks and usually includes instruction on both the written and practical tests. The FAA believes that some part 135 personnel already possess aircraft dispatcher certificates and that these personnel would be required to attend only the air carrier's dispatcher training program. Regardless, once an air carrier employs a certificated dispatcher, company training would have to be completed. That training would entail 40 hours of basic indoctrination, differences training, initial ground/transition of 30–40 hours (based on the type of aircraft), and a competency check (see § 121.422).

While the FAA does not agree with AACA's recommendation to "grandfather" dispatcher certificates to current flight followers or flight locating personnel, § 65.57 outlines a means of providing credit for previous experience in order to take the practical test. All dispatcher applicants must complete the appropriate written and practical tests before a certificate can be issued. The FAA agrees that training costs will be incurred to prepare current flight following or flight locating personnel to qualify for a dispatcher certificate, regardless of who pays for the training. Replacement personnel will be needed if the decision by the certificate holder is to send current employees to dispatcher training.

There is no requirement for dispatchers to attend a formal school. Section 65.57, entitled experience requirements, allows several options in lieu of a formal school.

In response to specific requests to expand the criteria in § 65.57 (aircraft dispatcher experience requirements) to include personnel assigned to flight locating and flight following under part 135, the FAA believes that some part 135 experience is acceptable as equivalent experience in § 65.57. Through current policy and guidance provided to FAA inspectors, a review on a case-by-case could be accomplished to ascertain if an applicant has equivalent experience.

In response to comments on the current format of the dispatcher practical exam, § 65.59 requires an applicant for an aircraft dispatcher certificate to pass a practical test with respect to any one type of large aircraft used in air carrier operations. Further, current practical test standards require dispatcher applicants to exhibit adequate knowledge of applicable aircraft flight instruments and operating systems. The scope of the practical test allows for turboprop aircraft and representative commuter operations. Practical tests are developed by the inspector conducting the test and can be designed for any type of large aircraft, including turboprop airplanes.

There is only one dispatcher written examination, the Airline Transport Pilot question book. The selection sheet has questions applicable only to dispatchers and not based on any particular make and model of aircraft. The FAA is considering developing written tests geared to commuter-type operations. However, the current written exam is valid in that it tests for areas common to all make and models of aircraft. The test requires knowledge of various subject areas, i.e. the ability to interpret weather information, interpret regulations, handle emergencies, compute weight and balance, etc.

The FAA disagrees with the ALPA recommendation to require dispatchers to receive 5 hours of operating experience in aircraft they will actually dispatch. Section 121.463(c) requires the dispatcher to satisfactorily complete at least 5 hours of operating familiarization in one of the types of airplanes

Part 139 prescribes regulations governing the certification and operation of all land airports that are served by any scheduled or nonscheduled passenger air carrier operating airplanes with a seating capacity of more than 30 passengers. The FAA's authority is limited by statute (49 U.S.C. 44706(a)) to the 30-passenger-seat dividing line. The FAA, in conjunction with the Department of Transportation, has sought legislation that would grant the agency the authority to certificate any airport that receives scheduled service by a certificate holder utilizing airplanes designed for 10 or more passenger seats.

Accordingly, pending Congressional resolution of this issue, affected commuters are permitted to operate into other than part 139 certificated airports. If the FAA receives expanded authority over airport certification, it would propose rulemaking standards that are sufficiently flexible to cover the range of airports presently served under part 135.

Comments: Nine comments were received on this issue, with the major concern being that airport legislation currently being considered may include requirements that some communities may not be able to afford which would negatively affect air service to these communities.

The Las Vegas Department of Aviation comments that it has purchased and upgraded satellite airports in the Las Vegas area to help relieve the congestion at the McCarran International Airport. The commenter is concerned that the Clark County Department of Aviation, the Grand Canyon Tour Operators, and the Las Vegas Department of Aviation may not be able to afford additional airport upgrades. This would cause certificate holders that currently operate out of the non-certificated outlying airports to move their operations back to McCarran, thereby increasing traffic congestion and in-flight delays.

NATA and Commuter Air Technology concur with the FAA proposal to allow part 135 certificate holders to continue to operate with existing airport requirements, but are concerned about the airport expansion program. NATA prefers that no new airport legislation be adopted and that the proposed regulatory allowance for noncertificated airports be made permanent.

A comment from Fairchild Aircraft mentions the Essential Air Service Program enacted by Congress that guarantees air service to small and medium size communities. Fairchild says that the commuter industry responded to that program and provided essential air service to small and medium communities, and that those communities may not be able to afford the proposed airport expansion program.

Other commenters state that it would not be feasible to upgrade smaller airports to part 139 standards. One certificate holder states that of the five airports it serves only one meets part 139 standards; at the other airports where the certificate holder provides essential air service "there is no aircraft rescue or fire fighting equipment, airport guidance signs, airfield inspection procedures, airport staff, snow and ice control plan, or airfield pavement maintenance. . . ."

The American Association of Airport Executives (AAAE), RAA, Airports Council International-North America, and the National Association of State Aviation Officials would like the airport expansion issue referred to an ARAC committee before seeking federal legislation, to allow ARAC to develop a cost-effective response to NTSB recommendations that takes into account the difference between small airports that serve rural communities and large airports near major cities.

ALPA believes that the FAA should require commuters to operate out of part 139 certificated airports in the interest of one level of safety. ALPA recognizes that some airports in remote sites will not be capable of complying with all part 139 requirements. However, ALPA does not believe that an exemption should be provided for aircraft with passenger-seating capacities of 30 or less. Rather certificate holders that serve small airports should apply individually for an exemption or waiver.

Commuter Technology expresses concern that a revised part 139 may result in the application of airplane operator security regulations of part 108 and the airport security regulations of part 107 to air carriers using aircraft with a seating capacity of 30 or fewer seats. The commenter believes that the ARAC committee that is tasked with recommending revisions to part 139 should also be tasked with restricting or eliminating the applicability of part 107 to small airports. According to the commenter

have occurred at these airports.

In response to the comment on security programs for airports and operators, no changes to parts 107 and 108 are necessary as a result of this rule because the requirements of those parts are already tailored to the size of the airplane.

V.H. Effective Date and Compliance Schedule

The FAA proposed an effective date of 30 days and a general compliance date of 1 year after publication of the final rule. The FAA stated in Notice 95–5 that a final rule, if adopted, would be published by December 31, 1995, and that within 1 year of that date, that is, by December 31, 1996, all affected certificate holders that have air carrier certification or operating certificates issued under part 135 at the time of publication would have completed the approval process and obtained new operations specifications giving them authority to conduct domestic or flag operations under part 121.

Under the proposal, persons who do not already have air carrier certificates or operating certificates who submit applications for or obtain air carrier certificates or operating certificates after 30 days after the publication date of the final rule would be required to obtain part 121 operations specifications; however, these new entrants would meet the same requirements as the affected commuters, i.e., delayed dates for retrofit of airplanes with certain types of equipment.

Proposed § 121.2(c) and § 135.2(c) allow for regular or accelerated compliance with part 121 requirements. Proposed §§ 121.2(g) and 135.2(g) also require an affected certificate holder to submit to the FAA a transition plan for moving from part 135 to part 121.

Comments: Eleven comments were received on this issue. Several commenters express a desire for an "incremental" or "phased" compliance schedule. Two commenters are concerned that the proposed "turnkey" recertification event is high risk with no early rewards or benefits.

RAA suggests revising proposed §§ 121.2(c) and 135.2(c) to require compliance "not later than" 1 year after final rule publication rather than the proposed "as of," and adding the word "complete" before "14 CFR part 121 operations specifications." RAA also suggests adding a new paragraph to the section that would state that a certificate holder may be authorized under its transition plan to comply with portions of part 121 instead of the equivalent portions of part 135 in advance of being issued complete 14 CFR part 121 operations specifications. Accordingly RAA recommends adding to the transition plan requirements of paragraph (g) a new subparagraph to include in the transition plans provisions for interim compliance with portions of part 121 in advance of obtaining complete 14 CFR 121 operations specifications. Other commenters also request provisions for complying with portions of part 121 in advance of obtaining part 121 operations specifications.

Other commenters also state concerns about FAA's capacity to facilitate the transition process on schedule. Two commenters perceive a shortage of trained inspectors and suggest that the compliance date be extended if an adequate number of inspectors are not provided by mid year 1996. GAMA suggests a reevaluation of the implementation schedule of § 121.2(d)(1), citing a questionable number of aircraft certification service personnel to support the extensive design approval activity certain to occur. Another commenter expresses concern over the necessary type certification activity surrounding modifications and suggests that 1 year is an unrealistic compliance deadline given the current FAA Aircraft Certification Office backlog.

RAA is concerned that the population of FAA inspectors qualified to perform their duties under part 121 will not be able to respond to the new part 121 air carriers. According to RAA, FAA inspectors must be trained and qualified to help affected commuters achieve the transition. RAA recommends a "fill in the blanks manual" to achieve standardization among FAA regions and districts. If there is an insufficient number of qualified FAA inspectors, the 1996 compliance date should be delayed.

in turn would allow for a start-up phase for part 121 dispatch operations and modifications to the requirements for proving runs as proposed in § 121.163 and would eliminate the necessity for formal initial operating experience (IOE).

There were several comments on specific compliance dates. ALPA is generally pleased with the compliance schedule, but states that the 4-year compliance date for the installation of pitot heat indication systems could be shortened to 2 years, given the relative ease of the modification. Fairchild Aircraft finds fault with the fact that a 2-year delay is provided for compliance with emergency exit handle illumination, but no delay is allowed for compliance with § 121.310(b)(2)(ii), which would require the replacement of exit signs on new commuter category airplanes. Mesa Airlines suggests that compliance with part 121 crew flight and duty limitations be changed to January 1, 1997.

FAA Response: The final rule has a 30-day effective date and a general compliance date of 15 months after publication of the final rule. The FAA is extending the general compliance date to be consistent with the compliance date in the training rulemaking referenced in section III. E, Related FAA Action. Also, the proposed delayed compliance dates for certain retrofit requirements have been modified in response to comments. The final rule also establishes delayed compliance dates for meeting the performance operating limitations of part 121 for certain airplanes. Compliance dates are provided in § 121.2. This section has been reorganized to separate compliance dates for 10–19 seat airplanes and those for 20–30 seat airplanes. Retrofit and performance requirements compliance dates are listed on Table 1 and discussed in the appropriate place in the preamble.

Because of the scope and significance of this rulemaking, the FAA has already begun planning for the implementation of the final rule. Training has been provided for inspectors who will be responsible for overseeing the transition of the affected commuters from part 135 to part 121 operations. Additional training planned for January 1996 will focus on the recertification and transition process. Extensive guidance material is being prepared to assist the inspectors during the transition process. Portions of this material will also be made available to the affected commuters.

The FAA agrees with Mesa Airlines that meetings between POI's and affected commuters would help facilitate the preparation of the transition plan, which is due 90 days from today, and the planning necessary to ensure that normal operations can continue during the transition phase. The FAA believes that the training given to its inspectors, the guidance material being prepared, and a cooperative working relationship between the affected commuters and the FAA will ensure a smooth transition to part 121 operations.

The transition plan must include the certificate holder's proposed calendar of events that shows how and when it plans to make changes in its operations to meet the requirements of part 121. The transition plan should also show detailed plans for accomplishing activities and necessary retrofits for requirements with delayed compliance dates. The POI and the certificate holder will schedule the inspections necessary to show compliance with part 121 requirements. When the inspections are complete and the FAA has determined that the certificate holder can comply with part 121, the FAA will issue new operations specifications. Until the new operations specifications are issued, the existing operations specifications remain in effect. In any case the existing operations specifications expire on: (1) The date the new operations specifications are issued; or (2) 15 months from this date of publication, whichever is earlier. Affected certificate holders who want to comply with certain part 121 requirements in advance of being issued complete 14 CFR part 121 operations specifications could include in their transition plan a phased schedule including advance compliance for certain part 121 requirements, subject to their POI's approval.

Table 1—Summary of Modifications shows the compliance dates for certain retrofit and performance requirements for affected commuters. Many of these are required by the end of the basic 15-month compliance period. Affected commuters should be aware that by the specified date they must comply with all part 121 requirements, not just the ones listed on Table 1. Although the table includes additional items that were not listed in the table in Notice 95–5, no new requirements are involved. Not all requirements are in the table. The purpose of the table is to show the compliance dates for certain equipment and

that size airplane but rather that the requirement is new for that size airplane.

Table 1.—Summary of New Equipment and Performance Modifications for Affected Commuters

Effective date of required upgrade is as stated, measured from the rule publication date	Upgrade will apply to all airplanes including newly manufactured airplanes		Upgrade will apply to all newly manufactured airplanes
Issue/Requirement	*Within 15 months*	*Within years (#)*	*After years (#)*
1. Passenger Seat Cushion Flammability, 10–19 Pax §§ 121.2, 121.312(c)		15	
2. Lavatory Fire Protection, 10–30 Pax §§ 121.2, 121.308		2	
3. Exterior Emergency Exit Markings, 10–19 Pax § 121.310(g)	Yes		
4. Pitot Heat Indication System, 10–19 Pax §§ 121.2, 121.342		4	
5. Landing Gear Aural Warning, 10–19 Pax §§ 121.2, 121.289		2	
6. Takeoff Warning System, 10–19 Pax §§ 121.2, 121.293			4
7. Emergency Exit Handle Illumination, 10–19 Pax §§ 121.2, 121.310(e)(2)		2	
8. First Aid Kits, 10–19 Pax § 121.309(d)(1)(i)	Yes		
9. Emergency Medical Kits, 20–30 Pax § 121.309(d)(1)(ii)	Yes		
10. Wing Ice Light, 10–19 Pax § 121.341(b)	Yes		
11. Fasten Seat Belt Light and Placards, 10–19 Pax §§ 121.2, 121.317	Yes [1]		2 [1]
12. Third Attitude Indicator, 10–30 Pax:			
Turbojet	Yes [2]		
Turboprop §§ 121.2, 121.305(j)		15 [2]	15 months [2]
13. Airborne Weather Radar, 10–19 Pax § 121.357	Yes		
14. Protective Breathing Equipment, 10–30 Pax			
§ 121.2		2	
§ 121.337(b)(8)—Smoke and fume protection			
§ 121.337(b)(9)—Fire fighting (20–30 only)			
15. Safety Belts and Shoulder Harnesses, Single point inertial harness, 10–19 Pax §§ 121.2, 121.311(f)			15 months
16. Cabin Ozone Concentration, 10–30 Pax § 121.578	Yes		
17. Retention of Galley Equipment, 10–30 Pax §§ 121.576, 121.577	Yes		
18. Ditching approval, 10–30 Pax §§ 121.2, 121.161(b)	Yes [3]	15 [3]	
19. Flotation means, 10–30 Pax §§ 121.2, 121.340		2	
20. Door Key and Locking Door, 20–30 Pax § 121.313(f) & (g)	Yes		
21. Portable O2, 20–30 Pax § 121.327–121.335	Yes		
22. Additional life rafts, 10–30 Pax § 121.339	Yes		
23. First Aid Oxygen, 20–30 Pax § 121.333(e)(3)	Yes		
24. Enroute radio communications, 10–30 Pax § 121.99	Yes		
25. Latex gloves, 10–30 Pax § 121.309(d)(2)	Yes		
26. Passenger information cards, 20–30 Pax § 121.571(b)	Yes		
27. Flashlights-additional for flight attendant and pilot, 10–30 Pax § 121.549(b)	Yes		
28. Flashlight holder for flight attendant, 20–30 Pax § 121.310(l)	Yes		
29. DME, 10–30 Pax § 121.349(c)	Yes		

quired for determining alternates) § 121.617			
31. Performance, Obstruction Clearance, and Accelerate-stop Requirements, 10–19 Pax §§ 121.2, 121.157, 121.173(b), 121.189(c)	Yes[4]	15[4]	

[1] In-service airplanes must comply within 15 months. They may use lights or placards. Newly manufactured airplanes must comply with seat belt sign requirements of § 121.317(a) within 2 years.

[2] Turbojet airplanes must comply within 15 months. Newly manufactured turboprop airplanes must comply within 15 months. In-service 10–30 pax turboprop airplanes must comply within 15 years.

[3] Transport category must comply within 15 months. Nontransport category can operate for 15 years without ditching approval.

[4] Commuter category airplanes must comply within 15 months. SFAR 41 and predecessor category airplanes must comply within 15 years.

VI. Discussion of Specific Proposals

In this section specific proposals for part 121 and part 119 are summarized, comments received are discussed, and the FAA's response to those comments is given. In section VII comments received on the costs and benefits of the proposed rule are addressed. The part 121 discussion, which applies to the affected commuters, appears first (section VI.A). Table 2 provides a listing of comparable sections in part 135 for each specific requirement discussed in this portion of the preamble. This is followed by a discussion of part 119 issues, which apply to all certificate holders under part 121 and part 135 (section VI.B).

Table 2.—Comparable Sections in Parts 121 and 135

[This table shows the comparable sections in parts 121 and 135 for each issue discussed in this preamble. Affected commuters, however, must comply with all sections in part 121 that are applicable to their operations, not just the ones listed in this table or discussed in this preamble]

Subject	*135 Section*	*121 Section*
Subparts E and F—Approval of Routes: Domestic, Flag, and Supplemental Operations	135.213	121.97, 121.99, 121.101, 121.107.
Subpart G—Manual Requirements	135.21, .23	121.133, .135, 121.137.
—Contents and personnel		121.141.
—Airplane flight manual		
Subpart I—Airplane Performance Operating Limitations	135.365–.387	121.175–.197.
Subpart J—Special Airworthiness Requirements		121.217.
—Internal doors	135.87	121.285.
—Cargo carried in the passenger compartment	135 App. A	121.289.
—Landing gear aural warning device		121.291.
—Emergency evacuation and ditching demonstration.		
—New special airworthiness requirements (retrofit) and requirements applicable to future manufactured airplanes		121.293(a) (new).
—Ditching emergency exits		121.293(b) (new).
—Takeoff warning system		
Subpart K—Instrument and Equipment Requirements:		
—Third attitude indicator	135.149	121.305(j).
—Lavatory fire protection	135.163 (a), (h)	
—Emergency equipment inspection		121.308.
—Hand-held fire extinguishers	135.177(b)	121.309(b).
—First aid kits and medical kits	135.155	121.309(c).
—Crash ax	135.177(a)(1)	121.309(d).
—Emergency evacuation lighting and marking requirements	135.177(a)(2), 135. [illegible] i)	121.309(e), 121.310(c)–(h).

ion flammability		
—Miscellaneous equipment		121.313 (c), (f), (g).
—Cockpit and door keys		121.313(f).
—Cargo and baggage compartments		121.587.
—Fuel tank access covers		121.314, .221.
—Passenger information		121.316.
—Instruments and equipment for operations at night	135.127	121.317, 121.323.
—Oxygen requirements		
—Portable oxygen for flight attendants	135.157	121.237–.335, 121.333(d).
—Protective breathing equipment (PBE)		121.337.
—Additional life rafts for extended underwater operations	135.167	121.339.
—Flotation devices		
—Pitot heat indication system		121.340.
—Radio equipment	135.158	121.342.
—Emergency equipment for operations over uninhabited terrain	135.161, .177, .178	121.345–.351, 121.353.
—TCAS		
—Flight data recorders	135.180	121.356.
—Airborne weather radar	135.152 (a), (b)	121.343.
—Cockpit voice recorders	135.173, .175	121.357.
—Low-altitude windshear systems	135.151	121.359.
—Ground proximity warning system (GPWS)	135.153	121.358
Subpart L—Maintenance, Preventive Maintenance, and Alterations:		
—Applicability	135.411(a)(2)	121.361.
—Responsibility for Airworthiness	135.413	121.363.
—Maintenance, preventive maintenance, and alteration organization	135.423, .425	121.365, .367.
—Manual requirements	135.427	121.369.
—Required inspection personnel	135.429	121.371.
—Continuing analysis and surveillance	135.431	121.373.
—Maintenance and preventive maintenance training programs	135.433	121.375.
—Maintenance and preventive maintenance personnel duty time limitations		121.377.
—Certificate requirements	135.435	121.378.
—Authority to perform and approve maintenance, preventive maintenance, and alterations	135.437	121.379.
—Maintenance recording requirements	135.439(a)(2)	121.380(a)(2).
—Transfer of maintenance records	135.441	121.380a.
Subpart M—Airman and Crewmember Requirements:		
—Flight attendant complement	135.107	121.391.
—Flight attendants being seated during movement on the surface	135.128(a)	121.391(d).
—Flight attendants or other qualified personnel at the gate		121.391(e), 121.417, 121.393 (new).
Subparts N and O—Training Program and Crewmember Requirements		121.400–121.459.
Subpart P—Aircraft Dispatcher Qualifications and Duty Time Limitations: Domestic and Flag Air Carriers		121.461–121.467.
Subparts Q, R, and S—Flight Time Limitations and Rest Requirements: Domestic, Flag, and Supplemental Operations	135.261–135.273	121.470–121.525.
Subpart T—Flight Operations:		

—Emergency procedures	135.117, .127	121.571(a), 121.573, .575, 121.585.
—Passenger information	135.91(d)	121.574.
—Oxygen for medical use by passengers	135.121, 135.87, .122	121.575, 121.577.
—Alcoholic beverages		121.578(b).
—Retention of items of mass	135.93	121.579.
—Cabin ozone concentration		
—Minimum altitudes for use of autopilot	135.75, 135.23(q)	121.581, 121.586.
—Forward observer's seat		
—Authority to refuse transportation	135.87, 135.229, .217	121.589, 121.590.
—Carry-on baggage		121.617(a).
—Airports		
Subpart U—Dispatching and Flight Release Rules:		
—Flight release authority		121.597.
—Dispatch or flight release under VFR	135.211	121.611.
—Operations in icing conditions	135.227, .341, 135.345	121.629.
—Fuel reserves	135.209, .223	121.639, .641, 121.643, .645.
Subpart V—Records and Reports	135.65(c), 135.415(a)	121.701(a), 121.703 (a), (e).
—Maintenance log: Airplane	135.417	121.705(b).
—Mechanical interruption summary report	135.439(a)(2), 135.443	121.707, 121.709.
—Alteration and repair reports		
—Airworthiness release or airplane log entry		121.711, .713, 121.715.
—Other recordkeeping requirements.		

VI.A. Part 121 Discussion

VI.A.1. Subpart E—Approval of Routes: Domestic and Flag Air Carriers

Section 121.97 requires each domestic and flag operator to show that each route it submits for approval has enough airports that are properly equipped and adequate for the proposed operation. The operator must also have an approved system to disseminate this information to appropriate personnel. Although part 135 has similar requirements, part 121 requires more information.

Section 121.99 requires each domestic and flag operator to have a two-way air/ground communication system between each airplane and the appropriate air traffic control facility, along the entire route. In the 48 contiguous States and the District of Columbia, the communications system between each airplane and the dispatch center must be independent of any system operated by the United States. This would be a new requirement for the affected certificate holders.

Section 121.101 requires each domestic and flag operator to show that enough weather reporting facilities are available along each route to ensure weather reports and forecasts necessary for the operation. For operations within the 48 contiguous States and the District of Columbia, these reports must be prepared by the National Weather Service. For other areas, a system must be approved by the Administrator. Section 135.213 has similar requirements, except that the pilot in command is allowed to use various other sources, including his own weather assessment, for VFR operations. This section also requires reports of adverse weather phenomena. The FAA proposed that affected certificate holders comply with part 121.

Section 121.107 requires each domestic and flag operator to have enough dispatch centers, adequate for the intended operation. This would be a new requirement for affected certificate holders, as discussed in section V.F., Dispatch System.

Comments: ALPA comments that the upgrade to part 121 represents a major improvement over part 135. ALPA also comments that Subparts E and F should be upgraded to require that each pilot have a set of approach and navigation charts rather than having to share a set. ALPA provides supportive information, such as an NTSB recommendation (A–95–35) for a similar requirement.

be required to comply with the independent communications systems requirements. Because of low altitudes, VFR flight operations, and the lack of Remote Communications Outlet at many locations, maintaining communications will require construction of a large communications infrastructure. When operators in Alaska use flag rules, AACA interprets § 121.99 to not require the communications system be independent of any system operated by the United States.

FAA Response: The ALPA suggestion on requiring that each pilot have a separate set of navigation and approach charts is beyond the scope of this rulemaking; however, the FAA is planning to initiate a separate rulemaking on the issue.

Section 121.99 requires each domestic and flag air carrier to have a two-way radio communication system that is independent of any system operated by the United States. FAA flight service stations and air traffic control facilities that are currently providing radio communication service for certificate holders are used for the control of aircraft and were never intended to be used by individual certificate holders to relay information that is the certificate holder's responsibility, such as scheduling changes or weather information. Hence, an additional expense would be incurred by certificate holders required to contract for communication services through commercial services. However, it is believed that most part 135 certificate holders already have facilities and communications equipment that satisfy the dispatch requirements under part 121.

The FAA believes that there is a need for a two-way air-ground radio communication system that will ensure reliable and rapid communications over the entire route between each airplane and the appropriate dispatch office and between each airplane and the appropriate air traffic control unit. The need to show that each operator has a two-way radio system is not new. However, the requirement to have an independent system is new for operations of affected commuters and intrastate Alaska and Hawaii operations previously conducted under flag operations rules. While no commenters focus on § 121.97 or § 121.117, the FAA points out under §§ 121.97(b)(4)(i) and 121.117(b)(4)(i) affected operators will be required to comply with airport data requirements which include applicable performance requirements of Subpart I. For affected airplanes these performance requirements will be found in new appendix K to part 121 as referenced in subpart I.

VI.A.2. Subpart F—Approval of Routes: Approval of Areas and Routes for Supplemental Air Carriers and Commercial Operators

This subpart is similar to subpart E except that it applies to supplemental operations and prescribes flight following requirements. Under the proposal, this subpart would apply in cases where an affected operator uses an airplane that is also used in domestic operations to conduct a nonscheduled operation. On this issue, no comments were received and the final rule is adopted as proposed.

VI.A.3. Subpart G—Manual Requirements

Manual requirements: Contents and personnel: Under subpart G of part 121 certificate holders are required to prepare and keep current a manual containing policies, procedures, applicable regulations, and other information necessary to allow crewmembers and ground personnel to conduct the operations properly (see § 121.133 and § 121.135). While the requirements of parts 121 and 135 are similar, part 121 manual requirements contain a more extensive list of manual contents (§ 121.135). Under part 121 the manual or appropriate parts must also be furnished to more personnel, such as aircraft dispatchers and flight attendants, and made available to others, such as station agents. Notice 95–5 stated that the effect of these differences between compliance with part 121 versus compliance with part 135 would be significant for commuter operators. The proposal would require developing, producing, and distributing new manuals appropriate to part 121. In addition, § 121.137 requires the air carrier to issue a manual or appropriate parts to each crewmember and requires each crewmember to keep the manual up to date and have it with him or her when performing assigned duties. Part 135 does not require that flight attendants be issued a manual; however, it does require that any person to whom a manual is issued must keep it up-to-date (see § 135.21).

sibilities of management personnel would no longer be applicable only to supplemental and commercial operators since proposed part 119 requires management personnel for all certificate holders.

One commenter states that § 121.133 should require compliance with the certificate holder's manuals.

Metro International Airways states that the cost of new manuals would be excessive for small businesses and that an outline of procedures would be a more useful reference than a highly detailed manual.

FAA Response: All but one of the comments received regarding the manual requirements support the implementation of Subpart G of part 121. Only one comment regarding the costs associated with the manuals required by § 121.131 was received.

Additionally, the FAA has received requests from certificate holders that would like to begin the process of transition prior to implementation of the rule. This would allow those certificate holders to spread the cost of manual production and distribution over a longer period of time. The question of phased-in-implementation is not unique to this issue and is addressed elsewhere in this document.

The FAA agrees with ALPA's suggestion to revise the wording of § 121.135(b)(2). This is not a substantive change from Notice 95–5 because § 119.65(e) also requires that manuals contain the duties and responsibilities of required management personnel. The FAA also agrees with Fairchild's suggestion to delete the word "rotorcraft" from § 121.141(b)(2). These recommendations are appropriate. In the final rule §§ 121.135(b)(2) and 121.141(b)(2) are revised accordingly.

In response to the comment that § 121.133 should require compliance with the certificate holder's manual, the holder of an air carrier certificate with operations specifications to operate under part 121 must comply with the regulations in part 121 (and other applicable regulations). Requirements for preparing and maintaining a manual serve the purpose of supplying information to personnel. Information in the manual must be accurate and consistent with the regulations. Since the manual may also include company policy and guidance to personnel, all portions of the manual are not enforceable as regulations. The language of the manual requirements does, however, imply that the certificate holder must adhere to all of the contents of the manual and that the certificate holder's personnel must use the manual in conducting operations.

In response to the comment that the manual requirements will be a burden for small businesses and that an outline of procedures would be more helpful to personnel, small certificate holders are already meeting the manual requirements of part 135; this rulemaking requires an update of manuals and broader distribution of the manuals. An outline of procedures could be used as guidance in addition to the manuals or as part of a manual, but under current part 135 it would not suffice as meeting the manual requirements.

In the final rule § 121.133 has been revised to update the terminology.

VI.A.4. Subpart H—Airplane Requirements

For comments and FAA responses to the requirements in § 121.157, Aircraft certification and equipment requirements, see the discussion in section V. C., Aircraft Certification.

Single-engine airplanes. Section 121.159 prohibits operation of single-engine airplanes under part 121. No change to this prohibition was proposed since the FAA does not consider single-engine airplanes acceptable to part 121 standards. Under the proposal, this section was amended to delete an obsolete reference to § 121.9. No comments were received on this issue and the final rule is adopted as proposed. For a related discussion on the operation of single-engine Otters, see "Applicability: Alaska," in section V.B.

Airplane limitations: Type of route. Section 121.161(a) requires that a two-engine or three-engine airplane except a three-engine turbine powered airplane must be within 1-hour flying time from an adequate airport at normal cruising speed with one engine inoperative, unless otherwise approved by the Administrator.

of an airport with one engine inoperative. One commenter suggests that § 121.161 be rewritten to reflect today's environment, since no airport in the U.S. is more than 1 hour away for these commuter airplanes. The commenter also states that the rule should specify the requirements for two-engine operations over the water.

Fairchild and AIA both state that § 121.161(a) would require single-engine cruising speed data and this data is unlikely to be included in some Airplane Flight Manuals (AFM). The commenters also state that there appears to be no safety benefit and it will be difficult to show compliance. According to these commenters, the final rule should except 10–30 passenger seat airplanes.

Phoenix Air anticipates that its operations with a Grumman G–159 Gulfstream airplane would be disrupted due to the requirements of § 121.161, since they intend to start service between Honolulu and Midway Island. There are no airports that would be within 1 hour of the intended flight path.

Jetstream concurs with the requirement that airplane routes should be within 1 hour of an adequate airport.

Three comments were received on the certification ditching requirements of § 121.161(b). Fairchild and AIA note an apparent oversight in that the FAA did not propose to exclude part 23 Normal or Commuter Category airplanes from the ditching requirements of § 121.161(b).

AACA notes that several certificate holders fly affected aircraft on extended overwater routes in Alaska. Compliance with the part 25 ditching requirements would add certification costs, impose equipment weight penalties, and reduce payloads. According to the commenter, the FAA did not calculate these costs. The commenter supplies information indicating that costs to comply with the ditching requirements of part 25 are substantial.

FAA Response: Despite the comments to the contrary, the FAA has decided to adopt its proposal to apply the route limitation requirements of § 121.161(a) to the 10- to 30-seat airplanes operated by the affected commuters. Under that section any route flown by a twin engine commuter type airplane must be flown so that it is within 1 hour of an adequate airport for landing. Part 121 and its predecessor regulations have applied route limitation requirements to airplanes operating under those requirements since 1936. While the specific details of the route limitation requirement have changed over the years, the underlying safety issue has not; the certificate holder must show, before operating affected airplanes over a route, that it can safely continue flight in an emergency situation to an airport adequate for landing. The FAA understands that some of these airplanes will require an AFM revision that will provide engine-out cruise speed data. There are routes in areas outside of the contiguous U.S. that are more than 1 hour flying time (with one engine inoperative) from an adequate airport. In accordance with § 121.161(a), the Administrator may authorize a deviation from the requirement, if the operator can show that the 1-hour flight time limit is not necessary based on the character of the terrain, the kind of operation, or the performance of the airplane. Obtaining authorization to conduct extended range operations with two-engine airplanes is dependent upon many factors. Some of these factors are a type design review of the airframe system, a review of the in-service history of the airplane propulsion system, and an assessment of the certificate holder's maintenance and inspection program capability for extended range operations. Advisory Circular 120–42 provides the guidelines for this authority. Other rules provide the requirements for extended overwater routes.

The Douglas DC–3 and Curtiss C–46 airplanes excluded from § 121.161(b) were type certificated and manufactured before the present standards of part 25 were adopted. These aircraft were excluded because of their previous operating experience which showed, in some cases through actual ditchings, that these old airplanes could ditch satisfactorily. The Convair 240, 340, and 440 and Martin 404 airplanes were also type certificated before the present standards were adopted. They were excluded because tests conducted by the National Advisory Committee for Aviation showed they would have excellent ditching characteristics. Unlike current part 25, part 23 contains no standards for ditching approval. Unlike those older airplanes excluded in § 121.161, none of the part 23 airplanes have been shown to comply with any ditching standards. Contrary to the commenter's assumption, requiring part 23 airplanes used in

certification tests, an aircraft to be operated under part 121 must have at least 100 hours of proving tests for an airplane not previously proven for use in part 121 operations, and 50 hours of proving tests for an airplane previously proven for use in part 121 operations. The number of hours may be reduced by the Administrator. Section 135.145 requires 25 hours of proving tests in addition to certification tests for certificate holders that operate turbojet airplanes or airplanes for which two pilots are required for operations under VFR if that airplane or an airplane of the same make and similar design has not been previously proved in any operations under part 135. Both §§ 135.145 and 121.163 require proving tests for materially altered airplanes. However, under § 121.163, proving tests apply to each airplane to be operated under part 121. Under part 135 proving tests apply to each aircraft or to aircraft of similar make and design. Part 121 also describes three types of proving tests. Under part 121, the initial operator of a type of airplane must conduct at least 100 hours of proving tests, acceptable to the FAA, which can be reduced in appropriate circumstances. Moreover, for each kind of operation (e.g., domestic, flag, supplemental) that a certificate holder conducts, 50 hours of proving tests are required, which are reducible in appropriate circumstances.

Comments: Six substantive comments were received. Comair and RAA concur with the requirement for an air carrier to demonstrate its ability to perform in accordance with part 121 and company procedures. However, Comair proposes that carriers currently conducting operations under part 121 and part 135 (split certificates) should not be required to conduct this demonstration. Carriers conducting part 121 and part 135 operations have previously proven their ability to conduct part 121 operations. If the requirement for dispatching is adopted, flight crewmembers will demonstrate their proficiency with the new system during their required line check.

RAA comments that proving flight hours should be reduced based on "experience and performance" factors. To facilitate a reduction in flight hours, the FAA should identify those specific procedures for which non-revenue proving flights would be required and specify a realistic number of flights or flight hours which would be sufficient to demonstrate those procedures.

ASA believes that the requirement for proving flights will result in an increase in both initial and recurring costs. United Express joins ASA in proposing that FAA recognize the experience level of air carriers operating under part 135 and permit proving tests to be conducted during revenue service. United Express further proposes that the required number of hours be reduced for those carriers currently using a dispatch system.

Big Sky Airlines recommends a waiver of the requirement for a proving test for airlines that have a good safety record and proven experience. The commenter justifies its recommendation on the basis of excessive and unnecessary burden and cost.

Commuter Air Technology requests clarification concerning which modifications to specific aircraft would require 100-hour initial proving tests.

FAA Response: Section 121.163 has two main parts. Paragraph (a) prohibits a carrier from operating an aircraft type in scheduled service that has never been used in scheduled service until it has flown 100 hours of proving flights. These hours are in addition to any aircraft certification tests. For the purposes of this rulemaking, the FAA recognizes that the current commuter fleet has established a sufficient history of operations and does not intend to require the 100 hours of proving flights for aircraft currently being operated by those carriers affected by this rulemaking. Paragraph (b) of § 121.163 requires 50 hours of tests for the carrier to show that not only can it operate and maintain the aircraft, but also that it has the ability to conduct a particular kind of operation (i.e., domestic or flag) in compliance with the applicable regulatory standards.

The FAA agrees that carriers currently conducting operations under both part 121 and part 135 (split certificates) will be eligible to apply for a reduction of the number of hours required to conduct the demonstration required by paragraph (b). In regard to the comment that flight crewmembers that are new to part 121 operations will demonstrate their proficiency during accomplishment of a line check, the FAA does not agree that this could take the place of proving flights. The primary focus of proving

safely, using new procedures, dispatches, etc. The FAA recognizes the experience level of air carriers operating under part 135 and, based on the carrier's experience with part 121, will provide FSDO inspectors with written guidance on approving deviations from the requirements of § 121.163. The FAA believes that proving tests are an essential part of the certification process and also provide the carrier with an opportunity to do some "dry-runs" before beginning revenue service under a completely new set of regulatory standards. The FAA's intent is to provide inspectors with the authority to provide deviations from the proving test requirements. FAA Headquarters will review each proposed reduction of proving test hours and will concur or not concur with the proposed number of hours for each affected commuter.

In response to Commuter Air Technology's request for clarification concerning which modifications to specific aircraft would require 100 hour initial proving tests, § 121.163(d) contains criteria for when a type of aircraft is considered to be materially altered in design.

VI.A.5. Subpart I—Airplane Performance Operating Limitations.

Subpart I contains airplane performance operating limitations that apply to all part 121 certificate holders; however, not every section in subpart I applies to every certificate holder. For example, §§ 121.175 through 121.187 apply to reciprocating engine-powered transport category airplanes and §§ 121.189 through 121.197 apply to turbine engine-powered transport category airplanes (with an exception for certain reciprocating-powered airplanes that have been converted to turbo-propeller-powered). Sections 121.199 through 121.205 apply to nontransport category airplanes.

In part 121 the term "nontransport category airplane" is currently used to refer to older airplanes like the Curtis C–46, that were type certificated before the transport category was established, i.e., the early 1940's. However, many airplanes type certificated over the last 20 years used by affected commuters (e.g., commuter category and SFAR 41 airplanes and predecessor categories), are also nontransport category. Therefore, the FAA proposed to delete the term "transport category" throughout subpart I and to include language where appropriate to except airplanes type certificated before January 1, 1965, that were not certificated in the transport category. This would have the effect of requiring airplanes type certificated in the commuter category or a commuter category predecessor to be operated under the performance operating limitations of §§ 121.175 through 121.197, as applicable.

Comments: ALPA states that all requirements of part 121 subpart I should be complied with by all turbo-propeller airplanes with a passenger capacity of 10 or more.

AACA concurs that airplanes with 10 to 19 seats should be required to comply with all of the proposed modifications (in Table 1 of Notice 95–5) except for part 121 performance and obstruction clearance and floor proximity lighting. (See later discussion of floor proximity lighting.)

Jetstream, RAA and ALPA support the overall proposals concerning the higher level of performance requirements. However, they join with Commuter Air Technology, Raytheon and an individual to point out that additional performance data/charts would need to be developed (for example: accelerate-stop and obstacle clearance data). RAA also recommends a 2-year time frame instead of the proposed 1-year performance compliance date.

Jetstream states that Notice 95–5, in conjunction with other proposed rules and changes, will introduce more weight to the aircraft. In addition to this, AC 120–27D, Aircraft Weight and Balance Control, will increase standard average passenger weights used for calculations. The combined effect is that these aircraft will no longer be allowed to carry 19 passengers due to reduced payload capacity. According to the commenter, the combined effect of the weight changes is about two passengers.

Jetstream and Raytheon comment that current FAA policy should be revised to allow manufacturers to increase the maximum takeoff weights for aircraft certificated under SFAR 41. They justify their comments by stating that the increase in maximum takeoff weight will provide a mitigation of the additional equipment weights incurred under this rulemaking.

Fairchild and AIA suggest deleting all references to "transport category" in §§ 121.189 through 121.197.

FAA Response: Section 121.135(b) requires that the manual contain methods and procedures for maintaining the aircraft weight and center of gravity within approved limits. Approved weight and balance control procedures are the only means for an operator/applicant to authorize the use of other than known weights for crew, passengers, baggage, or cargo. The weight and balance control program, including loading schedules and charts, are approved on operations specifications by the FAA. This program must be included in the operator/applicant's policies and procedures manual.

Section 121.189(c)(1) states, for turbine engine powered takeoff limitations, that "(c) No person operating a turbine engine powered category airplane certificated after August 29, 1959, may take off that airplane at a weight greater than that listed in the Airplane Flight Manual (AFM) at which compliance with the following may be shown: (1) The accelerate-stop distance must not exceed the length of the runway plus the length of any stopway."

The FAA agrees that new or additional performance data would need to be developed for certain airplanes, and that this data would need to be acceptable to the FAA Aircraft Certification Office and incorporated into the Airplane Flight Manual (AFM). At the present time, some AFM's (for Beech 99, certain Metroliners, and the Twin Otter) do not have accelerate-stop distance data, only accelerate-slow data. In order for the airplane operator to comply with § 121.189(c)(1), the operators would have to request an AFM supplement from the airplane manufacturers showing this required data. The FAA has not required the manufacturers to develop this data. If they have developed the data, it would still have to be certificated by the FAA as a revision to the AFM. If the manufacturer does not have accelerate-stop data, it will have to flight test, simulate, or analytically prove accelerate-stop distance data to the FAA. This process could be expensive to the operators who would pay for the manufacturer's support.

This rulemaking does not require the affected airplanes that are currently in service or airplanes that will be manufactured under an existing type certificate to meet the engine-out climb gradient performance required by part 25. These airplanes will, however, be required to meet the obstacle clearance limitations of § 121.189(d)(2).

Section 121.189(d)(2) states for turbine engine powered takeoff limitations, that "(d) No person operating a turbine engine powered category airplane may take off that airplane at a weight greater than that listed in the Airplane Flight Manual—(2) In the case of an airplane certificated after September 30, 1958, that allows a net takeoff flight path that clears all obstacles either by a height of at least 35 feet vertically, or by at least 200 feet horizontally within the airport boundaries and by at least 300 feet horizontally after passing the boundaries." AFM's for some older airplanes with seating capacity of 10-to-19 passengers do not have data to show the required climb gradient or the certification basis to clear obstacles after takeoff with an engine-out at a specified weight. As one commenter suggests, additional certification requirements would have to be identified in part 121 or in a new Appendix to 121 for nontransport category airplanes, except for the commuter category or SFAR 41, ICAO Annex 8 airplanes, before these airplanes could comply with § 121.189(d)(2) requirements.

As with accelerate-stop data, the FAA agrees that new or additional performance obstacle clearance data for certain airplanes would need to be developed, and that this data would need to be approved by an FAA Aircraft Certification Office and incorporated into the Aircraft Flight Manual. Raytheon estimates that to provide obstacle clearance data, testing would have to be done on all Beech 99 models and the price per each airplane for the new performance data would be $63,000 ($53,000 for the Beech 1300). This cost must be incurred by the manufacturer and then passed on to all the operators.

The FAA recognizes the significant problems in developing the necessary performance data for airplanes type certificated under a wide range of standards over the past 30 years, including part 23 (or its predecessor, part 3 of the Civil Air Regulations) normal category, plus additional standards in the form of special conditions, SFAR 23, SFAR 41C, or part 135, appendix A, or part 23 commuter category. Development

Because of the difficulty that affected commuters would face in meeting the part 121 performance operating limitations with their existing fleet, the FAA has decided to provide delayed compliance for these requirements. Subpart I has been amended to state different requirements for aircraft used by affected commuters that were certificated under different certification standards, as follows:

1. Airplanes certificated under commuter category can meet all of the airplane performance requirements of part 121 within 15 months of the publication of the final rule.

2. Airplanes certificated under SFAR 41 or earlier certification standards will be allowed to continue to comply with the part 135 Subpart I and other airplane performance operating limitations requirements for 15 years. The FAA anticipates that some of the SFAR 41 airplanes will be able to meet the part 121 requirements within the 15-year period so they have the choice of either continuing to operate under the performance requirements of part 135 for the 15-year compliance period or complying with the performance requirements of part 121 during the 15-year compliance period. Some of the airplanes certificated under earlier certification standards, such as under part 135, Appendix A, part 23, with special conditions, and SFAR's 23 and 41C, will probably never be able to meet the part 121 standards. For affected commuters operating these airplanes, the 15-year period allows the operators sufficient time to plan for and obtain replacement airplanes or to modify them.

Although the FAA encourages affected commuters to comply with the performance operating requirements earlier than 15 years after publication of the final rule, it is allowing that length of time to ensure that there will be an adequate supply of replacement airplanes available for purchase. The current rate of production of new commuter category airplanes is approximately 30 per year. But most importantly, if the FAA were to impose a shorter compliance period and affected commuters were not able to obtain new airplanes from manufacturers, they might replace their equipment with airplanes configured for fewer than 10 passengers. This airplane group is not covered by this rulemaking and has a higher accident rate than the 10–19 passenger airplanes. Therefore, an unintended effect of this rule could be an increase in the accident rate.

In response to Jet Stream's comment, current FAA policy prohibits revisions to airplanes certificated under SFAR 41 that would increase the maximum weight or the number of passengers. This SFAR was terminated on September 13, 1983.

While the FAA understands that some of the older airplanes (i.e., normal category predecessors of commuter category airplanes) may not be able to meet certain performance requirements, the FAA has determined that some performance requirements, such as the maintaining of an altitude with an engine-out, are important safety enhancements that provide for a higher level of safety. This level of safety required in part 121 should be available to all passengers flown on carriers operating under part 121.

Section 121.191 requires that the AFM show a one-engine inoperative net en route flight path which would provide a positive slope at an altitude of at least 1,000 feet above the terrain (2,000 feet in mountainous terrain) within 5 statute miles of the intended track. Section 121.191 also provides for a net flight path that would allow continued flight from the cruising altitude to an airport clearing all terrain and obstructions. Section 135.181(a)(2) requires airplanes to maintain a 50 feet per minute rate of climb when operating at the MEAs or 5,000 feet MSL whichever is higher. It does not provide for the continuation of the flight below the MEA.

Section 121.191 has continuously provided for safe engine out en route operations while allowing some flexibility. The flexibility allows the certificate holder to calculate maximum weights for maintaining a constant engine out altitude, a continuous flight path drift down to an airport when an altitude cannot be maintained, and provides off airways direct routing engine out performance requirements. The FAA understands that net en route flight path data must be provided by the manufacturer; however, the FAA believes that part 121 air carriers deserve the additional flexibility of § 121.191 and that commuters adopting the § 121.191 requirements may gain a flexible benefit with a continued higher level of safety.

Internal doors. Section 121.217 prescribes that in any case where internal doors are equipped with louvers or other ventilating means, there must be a means convenient to the crew for closing the flow of air through the door when necessary.

Comments: Raytheon Aircraft states that a new toilet installation for the 1900D has internal partitions with permanently open louvers. Compliance with § 121.217 would require Raytheon to redesign the partition louvers so a crewmember could leave his or her station to close the louvers when necessary or design the louvers for remote control closure.

FAA Response: Contrary to the commenter's assumption, the lavatory partition louvers in the commenter's airplanes would not have to be redesigned. As stated in § 121.213 (a) and (b), § 121.217 applies only to airplanes type certificated under Aero Bulletin 7A or part 04 of the Civil Air Regulations.

Cargo carried in the passenger compartment. Section 121.285 requires that cargo carried in passenger compartments must be stowed in a fully enclosed bin or carried aft of a bulkhead or divider and properly restrained. Section 135.87 allows certificate holders to carry cargo in an approved cargo compartment instead of a fully enclosed bin and to carry restrained cargo anywhere in the passenger compartment if it is restrained by a net that meets the requirements of § 23.787(e). The FAA proposed to amend § 121.285 to add an exception for commuter category (and predecessor) airplanes that would have the effect of allowing cargo to be carried in the passenger compartment as it is today under part 135.

Comments: AACA, an association of Alaskan air carriers, fully supports the proposal.

FAA Response: The final rule includes provisions from § 135.87 that have been moved into § 121.285 for nontransport category airplanes type certificated after December 31, 1964.

Landing gear aural warning device. Section 121.289 contains a requirement for a landing gear aural warning device for large airplanes. At present this section applies to any airplane with a maximum certificated takeoff weight of more than 12,500 pounds. Appendix A of part 135 requires a landing gear warning device for airplanes having retractable landing gear and wing flaps, but the device need not be aural. The FAA considers that the cost of replacing a warning light with a warning sound would be minimal. Therefore, this section would apply to any airplane that presently operates under part 135 and that would be required by this final rule to operate under part 121. To allow adequate time for airplanes without aural warning devices to be retrofitted, the FAA proposed a compliance date of 2 years after the publication date of the final rule.

Comments: Raytheon comments that their models all provide aural landing gear warning.

AACA notes that the FAA did not prepare a cost analysis for this proposal, other than to show that the cost would be "minimal." AACA shows that various manufacturers' comments on similar proposals have identified substantial administrative, engineering, installation, and ongoing maintenance cost. However, AACA also notes that, in this case, Fairchild Aircraft believes that the landing gear aural warning can be installed without undue cost or difficulty.

AACA also states that once an item is installed, there are many other things that must be done that involve cost. Cost items identified are: revisions of the certificate holder's training program, normal and emergency procedures, maintenance MEL's and other items need to be amended to reflect the change from a visible lighted warning device to an aural device. According to AACA, compliance costs add up incrementally to substantial cumulative cost and that the FAA fails to account for.

FAA Response: Even though part 23 requires an "aural or equally effective device," the FAA is not aware of airplanes where the "equally effective device" was accepted as the only warning for the landing gear warning. The reason for not accepting such devices includes the consideration of pilot's work load during the landing phase of flight and the need for the warning to attract pilot attention under such conditions. No proposed lighted device, by itself, has been found acceptable to provide the

cumstances described in § 121.291(b). Demonstrations have not been required for airplanes with fewer than 44 passenger seats.

Under § 121.291(d) any certificate holder operating or proposing to operate one or more landplanes of any size in extended overwater operations must conduct a simulated ditching in accordance with Appendix D to part 121. The purpose of the ditching demonstration is to show that the certificate holder's ditching training and procedures for a new type and model of airplane are satisfactory. The simulated ditching does not specifically require the use of flight attendants; the FAA proposed to apply this rule to any affected commuter operator who conducts extended overwater operations, whether or not flight attendants are used in the operation. The FAA proposed to apply this provision to the affected commuter operators only when a new type and model of airplane is introduced into the certificate holder's operations after the effective date of the final rule. This requirement does not apply to the current fleet.

The FAA proposed to amend § 121.291(b) to clarify that the partial demonstration procedures apply only to airplanes with more than 44 passenger seats.

Comments: With respect to partial evacuation, one commenter states that the proposed rule would reduce the safety requirements for commuters because the evacuation procedures under part 121 do not apply to airplanes with less than 44 seats and that § 23.803 requires a demonstration for commuter category airplanes. One commenter states that § 121.291(b) does not indicate if the requirement applies to aircraft with more than 44 seats or all aircraft.

Two commenters recommend clarifying the rule language for the ditching demonstration in § 121.291(d) to make the FAA's intent clear. The commenters say that the current language does not properly communicate the fact that a ditching demonstration would be required only if an airplane is a new make/model for a particular certificate holder's fleet.

FAA Response: Parts 25 and 121 currently require emergency evacuation demonstrations for transport category airplanes with more than 44 passenger seats. These demonstrations are required in addition to specific detail design requirements, e.g. aisle width, exit size, exit slides, etc., and are conducted to confirm the overall evacuation capability of the airplane. They are also conducted to show the adequacy of the operator's evacuation procedures. Considering the specific detail design requirements with which transport category airplanes must also comply, the FAA has not found it necessary to require such evacuation demonstrations for airplanes having 44 or fewer passenger seats. Since part 135 does not pertain to operations with airplanes having more than 44 passenger seats, there has been no need to require an emergency evacuation demonstration in that part. Part 23, on the other hand, does not contain the same specific detail design requirements for commuter or predecessor normal category airplanes. Therefore, an evacuation demonstration is required for type certification of those airplanes in lieu of the specific detail design requirements that transport category airplanes must meet. There will be no reduction in safety because transport category airplanes will still be required to comply with the same specific detail design requirements and the part 23 requirement for an evacuation demonstration will remain unchanged. As proposed, § 121.291(b) is amended to make clear that it, as well as § 121.291(a), only applies to airplanes with more than 44 passenger seats.

The FAA agrees that the language in § 121.291(d) for the ditching requirement does not clearly state that it applies to the affected commuters only if an airplane is a new type and model introduced after they began operations under part 121. Therefore, clarifying language is added to § 121.291(d).

New special airworthiness requirements (retrofit) and requirements applicable to future manufactured airplanes:

- *Ditching emergency exits.* Section 25.807(e) contains requirements for ditching emergency exits in transport category airplanes. The ditching exits for transport category airplanes with 10 or more passenger seats must meet at least the dimensions of a Type III passenger emergency exit (20 inches wide by 36 inches high). It should be noted that transport category airplanes are required

exits would only have to be as large as those currently required by § 23.807(b) (19 inch by 26 inch ellipses). The FAA proposed that compliance would be required 2 years after the publication date of the final rule. The proposed requirement would not entail adding new exits. The overwing exits of most airplanes type certificated under part 23 would probably qualify as ditching exits. Part 25 airplanes intended for non-part 121 transportation sometimes comply by providing a sheet metal dam that can be installed in the passenger entry doorway. If it is necessary to consider a floor-level exit as a ditching exit in a nontransport category airplane, a similar sheet metal dam could be provided.

Comments: Commuter Air Technology, a modifier of business airplanes for commuter airline service, states that its product has overwing exits that would be usable anytime the airplane was floating. The commenter questions whether it would be necessary to conduct a $5,000 type certification effort to qualify those exits as ditching emergency exits. NATA, an association representing certificate holders of 10- to 19-passenger-seat airplanes, recommends rescinding the proposal and asserts that the cost of compliance would be extremely high. The commenter offers no specific details concerning costs, but does note that de Havilland DHC–6 Twin Otters have experienced only three ditchings in 17 million flight hours.

FAA Response: The comments received have some validity. The majority of the current commuter fleet, at least those for which ditching exits were not substantiated for certification, includes such airplanes as the Beechcraft 99 and 1900 and Fairchild airplanes with low wings and overwing exits. It is likely that these exits would qualify as ditching emergency exits. However, they would have to be tested. That would also be true of all other low-wing part 23 normal or commuter category airplanes that would be operated under part 121.

In addition to the low-wing models, there are also three high-wing normal or commuter category airplane models. These are de Havilland DHC–6, Twin Otters, which are by far the most numerous of the high-wing models, and the Dornier 228 and Britten Norman BN–2A Mk III Trislanders. (This, of course, refers to landplanes. Many Twin Otters operate as seaplanes on floats.) Typically, high-wing landplanes come to rest in the water on the fuselage with one wing tip in the water.

The DHC–6 Series 100 and 200 airplanes have emergency exits in the top of the fuselage forward of the wing. These exits also meet the ditching emergency exit requirements. The DHC–6 Series 300 airplanes do not have such overhead exits; instead they depend entirely on the emergency exits in the sides of the fuselage. In almost three decades of service with Twin Otters, there have been two ditchings. One involving a Series 100 airplane occurred in the Pacific Ocean during a ferry flight from Long Beach, California, to Honolulu, Hawaii. Another, involving a Series 300, occurred in the Arctic. In both instances, all occupants were evacuated safely. In the latter case, the occupants escaped through the exits on the highest side. The FAA is not aware of any ditchings of Trislanders or Dornier 228 airplanes; however, because the Dornier 228 and the Trislander are so similar in design to the DHC–6, it is likely that they would float the same way that the Series 300 airplane did, and that their exits would also meet the ditching emergency exit requirements.

Most of the part 23 commuter and predecessor normal category airplanes are low-wing airplanes with overwing exits that would comply with no further substantiation required. The vast majority of the airplanes would, therefore, not be affected by the requirement in regard to either cost or safety benefit because they already comply. In view of the successful ditchings that have occurred with high wing airplanes to date, the FAA has decided not to adopt § 121.293(a) as proposed.

- *Takeoff warning system.* Section 25.703 requires an aural warning to the flightcrew at the beginning of the takeoff roll when the wing flaps, leading edge devices, wing spoilers, speed brakes, and longitudinal trim devices are not in a position that would allow a safe takeoff. Part 23 does not require a takeoff warning system (although a requirement for such a system is proposed in Notice No. 94–21, 59 FR 37620, July 22, 1994); in addition, part 23 airplanes typically do not have multiple types of devices. Accidents have occurred on transport category airplanes when the flightcrews initiated takeoffs when the airplanes were not in the proper configurations for takeoff. The FAA proposed that airplanes manufactured after a date 4 years after the publication date of the final rule would be required to have a takeoff warning system as required by § 25.703.

Commuter Air Technology discusses the longitudinal trim and flap systems on its airplanes. The commenter notes that the pilot can visually verify that the flaps are in correct 40° takeoff setting from the cockpit. The commenter also states that the longitudinal trim is manual and has center marking visible from both the pilot and co-pilot positions. The commenter's position is that the additional cost of such a system is not warranted.

FAA Response: The first commenter correctly notes that a takeoff warning system is not required for any devices if it is demonstrated that takeoffs with that device in the most adverse position would not cause an unsafe condition. While the FAA agrees that with some airplanes it is possible to verify visually flap positions and manual trims and that there is a cost to install warnings, the FAA has determined that for safety reasons, an aural warning is needed under the conditions described.

In considering these comments, the FAA notes that all of the in-service airplanes have demonstrated, by their service histories, that there is no device position that would cause an unsafe condition and therefore that there would be no need for installation of additional takeoff warning devices. While proposed § 121.293(b) (now § 121.293) does not apply to any in-service airplanes affected by this rule, the requirement for airplanes manufactured 4 years after the publication date of this rule is retained in the final rule to ensure that future airplanes are covered.

VI.A.7. Subpart K—Instrument and Equipment Requirements.

Instrument and equipment requirements are contained in part 121, subpart K, and part 135, subpart C. The requirements are in addition to the airplane and equipment requirements of part 91. The discussion below emphasizes all new or revised equipment requirements except for major equipment such as FDR's and airborne weather radar, which are previously discussed in the "Major Issues" section of this document.

Notice 95–5 proposed to require that commuter operators comply with part 121 airplane and equipment requirements except in areas that were specifically discussed.

Sections 121.303, 121.305, and 121.307 require certain airplane instruments and equipment. Some of the part 121 equipment is required under part 135 only for IFR, VFR over-the-top, and VFR night operations. Most of the airplanes used by affected commuters already have these instruments as well as equipment required under part 135 (§§ 135.143 and 135.149). Under the proposal this equipment in these part 121 sections would be required for all part 121 operations.

Third Attitude Indicators. Section 121.305(j) currently requires a third attitude indicator on large turbojet-powered and large turboprop powered airplanes. Notice 95–5 proposed to apply this requirement to airplanes that would be operating under part 121 as a result of this rulemaking.

Comments: Most of the commenters on this issue oppose the requirement, primarily because of the cost.

According to RAA, part 121 does not include an equivalent to § 135.163(h), which requires dual attitude indicators which are powered by two different and independent power sources for nontransport category airplanes. RAA recommends requiring the third attitude indicator only for new production large airplanes, deleting the proposed retrofit requirement, and incorporating § 135.163(h) into part 121 for nontransport category airplanes. RAA also recommends considering an equivalent means of compliance for large nontransport category airplanes, such as "Situation Awareness for Safety" devices.

Raytheon Aircraft and Mesa state that the requirement is excessive for airplanes that already have two attitude indicators, each supplied by a separate source of power. Raytheon and Big Sky are concerned that the requirement might necessitate a redesign of the instrument panel.

Twin Otter International believes the requirement would be extremely costly with little safety benefit. According to Twin Otter, even if the attitude indicator were lost, the airplane would have adequate performance and information to be operated without a third attitude indicator.

FAA Response: Section 121.305(j) currently requires a third attitude indicator on large turbojet-powered and large turboprop-powered airplanes. Part 135 requires a third attitude indicator only for turbojet powered airplanes.

The FAA's intent as stated in Notice 95–5 was to require all affected airplanes to comply with the equipment requirements of § 121.305 including the requirement for a third attitude indicator. The notice did not contain amendatory language to § 121.305(j); however, to be consistent with the FAA's stated intent, the rule language has been developed to include the intended airplanes and to provide a compliance date.

In response to RAA's comment that part 121 does not have an equivalent to § 135.163(h), which requires two independent sources of energy, each of which is able to drive all gyroscopic instruments, such an equivalent appears in § 121.313(e).

The FAA does not agree with the commenter that a third attitude indicator is excessive for airplanes that have two attitude indicators or that there could be little safety benefit. The final rule requires a third attitude indicator in all turbojet powered airplanes and all turbopropeller powered airplanes. However, the FAA recognizes that retrofit installation of a third attitude indicator imposes a burden which may require a redesign of the instrument panel. Therefore, as with certain other requirements, the final rule provides for a 15-year compliance date for turbopropeller powered airplanes having a passenger seating configuration of 10 to 30 seats that were manufactured before 15 months after the date of publication of this final rule. In effect, this allows operators to decide whether to retrofit these airplanes or phase them out. Turbojet airplanes and newly manufactured turboprop airplanes must comply within 15 months.

Lavatory fire protection. Section 121.308 currently requires lavatory smoke detection systems, or equivalent, and automatically discharging fire extinguishers in lavatory receptacles for towels, paper, or waste for passenger-carrying transport category airplanes. The FAA proposed to apply the requirements of § 121.308 to airplanes formerly operated under part 135 that are equipped with lavatories. Section 121.308 would be amended to delete the references to transport category. The proposed compliance section, § 121.2, required that lavatory protection equipment be installed within 2 years after the publication date of the final rule.

Comments: ALPA believes that the FAA should require installation of the smoke detection system within 6 months of the effective date rather than 1 year as proposed. This commenter also believes that installation of the lavatory fire suppression system should be required in all airplanes newly manufactured within 1 year of the effective date rather than 2 years as proposed.

ASA and RAA do not object to compliance insofar as new airplanes are concerned, but do suggest that the requirement be deleted as a retrofit requirement. These two commenters state that the industry estimated cost of compliance is $2,500 per airplane while Jetstream estimates $4,000 per airplane.

Comair believes compliance would amount to $2,500 and 20 pounds per airplane. The commenter asserts that compliance is not justified for airplanes with 20 to 30 passenger seats due to the small size of the cabin, proximity of a trained flight attendant with a portable fire extinguisher, and the present smoking ban on domestic flights.

Commuter Air Technology asks whether the proposed requirement would apply to some of their products that have a side facing toilet separated from the cabin only by a curtain.

Jetstream states that there is no evidence to support the introduction of fire suppression of toilet receptacles on commuter aircraft. According to the commenter, the lavatory receptacles are already designed to contain a fire within the compartment; and, due to the small cabin size of those airplanes, the lavatory is readily accessible to the crew if the need to suppress a fire does occur. The commenter estimates a cost of $4,000 per airplane. Nevertheless, the commenter does support requiring new aircraft to comply.

Contrary to one commenter's belief, the present smoking ban on domestic flights does not eliminate the need for lavatory smoke detection and fire extinguishment. On the contrary, the smoking ban could increase the temptation for some passengers to smoke illicitly in the lavatory and thereby increase the possibility of a fire originating in that compartment. The presence of a smoke detector serves as a deterrent to illicit smoking as well as a means of warning when it does occur.

Contrary to the commenter's belief, the presence of a flight attendant in the cabin would not compensate for the lack of a lavatory smoke detector and fire extinguisher. A lavatory is designed with an effective ventilation system to preclude normal odors from entering the cabin. In the absence of a smoke detector, the ventilation systems also precludes early detection of illicit smoking or a fire by persons in the cabin. In addition, the materials typically contained in the waste receptacles are highly flammable and could burn out of control quickly if there were no automatically discharging extinguishers. It is possible that a flight attendant would not know the fire exists until it has grown to catastrophic proportions.

The cost estimates provided by two commenters appear to be based on a misunderstanding concerning the qualifications of a required lavatory smoke detector. Such detectors serve primarily to enhance the capability of crewmembers to detect lavatory fires visually. They are, therefore, not required to meet all of the performance and environmental requirements applicable to primary detectors used in isolated compartments, such as cargo compartments. Anything that meets the ordinary dictionary definition of a lavatory would be covered by this requirement.

Therefore, because the adverse service experience that prompted the adoption of § 121.308 applies equally to any airplane, large or small, with a lavatory and because the commenters' cost estimates are obviously based on a misunderstanding of the required smoke detector qualification, the FAA is adopting this requirement in substance as proposed. The final rule has been revised to provide operators 2 years from the date of publication to comply with the lavatory smoke detector system and fire extinguisher requirements. In addition, the rule states that operators of 10- to 19-seat airplanes that have a lavatory must have a smoke detector system or equivalent that provides either a warning light in the cockpit or an audio warning that can be readily heard by the flightcrew. This will accommodate airplanes that do not have flight attendants.

Emergency equipment inspection. Section 121.309(b) requires that each item of emergency and flotation equipment must be inspected regularly in accordance with inspection periods established in the operations specifications to ensure its condition for continued serviceability and immediate readiness to perform its intended emergency purpose. Section 135.177(b) contains a similar requirement for part 135 operators of airplanes with more than 19 seats. In this section, the FAA proposed requiring affected commuter operations, including those with airplanes of 10 to 19 seats, to comply with the existing part 121 requirement. Other provisions in the proposal would require affected commuters to install additional emergency equipment. No comments were received on this issue and the final rule is adopted as proposed.

Hand-held fire extinguishers. Sections 121.309(c) and 135.155 contain similar requirements for hand-held fire extinguishers aboard airplanes. Part 121 requires at least two of the fire extinguishers to contain Halon, or an equivalent, and mandates placement of the fire extinguishers, while part 135 does not. In Notice 95–5, the FAA proposed that affected commuters comply with the part 121 requirements for fire extinguishers and that § 121.309(c)(7) be amended to require that at least one of the fire extinguishers in the passenger compartment contain Halon or the equivalent. No comments were received on this issue and the final rule is adopted as proposed.

First aid kits and medical kits. Section 121.309(d) requires that both approved first aid kits and approved emergency medical kits be carried on board passenger-carrying airplanes. The medical kits are intended to be used only by medically qualified persons, such as doctors, who may be on board the airplane. Section 135.177(a)(1) requires first aid kits to be carried on board airplanes with more than 19 passengers.

The FAA proposed that first aid kits be required for all airplanes with more than 9 passenger seats operating under part 121 and medical kits be required for airplanes that are required to have

One commenter believes that the equipment would place additional liability on employees. One commenter concurs with both proposed requirements.

Two commenters provide additional cost information for first aid kits. One of the commenters estimates $1,500 per airplane and the other estimates $1,500 without specifying the number of entities involved (i.e., airplane(s) or fleet).

AACA agrees with the requirement for first aid kits on all commuter airplanes whether a flight attendant is available or not. According to the commenter, regardless of the size of the airplane, inflight emergencies could occur and a first aid kit may be needed. In the absence of a flight attendant, a crewmember or passenger could use the first aid kit. The commenter also estimates costs of $4,359 for Alaskan commuter air carriers in the first year and $436 each year thereafter to meet the requirement, but there is no explanation of the detail.

Four commenters disagree with the required medical kits on 20 to 30 seat airplanes. These commenters cite lack of space and the lack of necessity for the equipment. Three commenters argue that medical kits should not be required on airplanes with less than 30 seats due to the lack of trained personnel and the low likelihood that a medical professional would be on board. One commenter believes that the equipment would place additional liability on employees. One commenter concurs with the proposed requirements.

One commenter provides a cost estimate of about $2,000 per airplane for the medical kit requirement. However, the cost estimate is not supported by any documentation.

FAA Response: The FAA maintains that certain of these requirements are necessary to enhance safety. The ability to respond in the early stages of a medical emergency is critical and could save lives in the event of an in-flight injury or an accident. Additionally, the FAA maintains that latex gloves as were required by a 1994 rule change (59 FR 55208, November 4, 1994) should be included in these first aid kits because they guard against transmission of disease through spilled blood. In sum, no commenter provides any compelling reason to eliminate the first aid kit requirement, especially considering that these airplanes often operate in remote areas where medical assistance may not be available. The FAA has determined that emergency medical kits will be required for airplanes requiring a flight attendant. For airplanes not having a flight attendant, requiring a medical kit poses problems, such as a lack of security, no one to monitor the use of the kit, and no one to check the credentials of a person who professes to be a doctor and able to administer the medical treatment.

The regulations allow flexibility in the location and mounting methods of kits. Depending on the weight of the kit and Velcro surface area, Velcro may be sufficient. Even if Velcro is not practical in a particular instance, other low-cost alternatives, such as leather straps with buckles, are acceptable.

Crash ax. Section 121.309(e) requires that each airplane be equipped with a crash ax, while § 135.177 requires a crash ax for airplanes with a passenger seating configuration of more than 19 passengers. Under part 135 the crash ax is to be accessible to the crew but inaccessible to the passengers during normal operations. The FAA proposed in § 121.309(e) to require a crash ax for each airplane that has a flight deck separate from the passenger cabin and a lockable door.

Comments: One commenter disagrees with the FAA assertion in Notice 95–5 that the crash ax is useful only for egress from the flight deck to the cabin in the event of an emergency. The commenter says that the Airplane Flight Manual of one popular 19-seat commuter airplane suggests that preparation for certain gear-up landings include opening an overwing exit inflight, because even relatively minor distortion of the fuselage in a small airplane can render exits unusable. Thus, the crash ax could be used for prying open an exit.

Raytheon states that if a key lock is required as proposed on lockable doors in 10- to 19-seat airplanes, then a crash ax would be required. The commenter states that removal of the door would eliminate the requirements for a lock and a crash ax.

that the lockable doors that exist in nontransport category airplanes type certificated after December 31, 1964, are frangible and obviate the need for a crash ax on the flight deck. Also carrying a crash ax in these airplanes creates a security risk since the ax would not be inaccessible to passengers.

Emergency evacuation lighting and marking requirements. Section 121.310(c), by referencing § 25.812(e), requires emergency evacuation lighting for passengers when all sources of illumination more than 4 feet above the floor are totally obscured. This requirement applies to all transport category airplanes regardless of how many passenger seats they have. There is no corresponding requirement in part 23 or in part 135 for airplanes having a passenger-seating configuration of less than 20 seats.

Section 121.310(d) for emergency light operation requires that each light required by paragraphs (c) and (h) must be operable manually and must operate automatically from the independent lighting system. As proposed, these requirements would apply to affected commuters. In § 121.310(d)(2)(i) each light must be operable manually both from the flightcrew station and from a point in the passenger compartment that is readily accessible to a normal flight attendant seat.

Section 121.310(e) requires that an exit operating handle may not be used if its brightness decreases below a specified level. Section 135.178(e) contains an identical requirement for airplanes having a passenger seating configuration of more than 19 seats. Under the proposal the requirement would also apply to airplanes with a passenger configuration of 10–19 seats.

Section 121.310(f) contains standards for access to various exit types that presently apply only to transport category airplanes. Section 135.178(f) is identical to § 121.310(f) for airplanes having a passenger configuration of more than 19 seats. The FAA proposed to amend § 121.310(f) to exclude nontransport category airplanes.

Section 121.310(g) (and its parallel requirement in § 135.178(g) for more than 19 passenger seat airplanes) requires emergency exits to be marked on the outside by a 2-inch band contrasting in color with the surrounding fuselage. Most airplanes with a passenger-seating configuration of less than 20 seats operating under part 135 are already required to meet this requirement and, for those that do not, compliance with this requirement as proposed would merely require painting the bands around each exit.

Section 121.310(h) requires airplanes for which the application for type certification was made before May 1, 1972, to meet the exterior emergency lighting standards of § 25.812, in effect on April 30, 1972, or any later standards in effect if the application for type certification was made later. The FAA proposed to require nontransport category airplanes type certificated after December 31, 1964, (i.e., part 23 normal and utility category) to comply with § 25.812 in effect April 30, 1972, within 2 years after the publication date of a final rule.

The FAA proposed that airplanes with a passenger-seating configuration of less than 20 seats previously operated under part 135 be required to comply with the above-described emergency lighting systems (that is, emergency exit signs, interior lighting, exit handles, and exterior lighting) and, except for the marking requirement discussed above, proposed a compliance date 2 years after the publication date of a final rule.

Comments: Sixteen comments were received on proposed § 121.310. All commenters oppose the proposal to retroactively require any additional emergency exit signs or emergency lighting on 10-to-19 passenger seat commuter airplanes.

Several commenters state that the cost of retrofitting in-service airplanes with an emergency lighting system would be much more expensive than the FAA expected when the notice was prepared.

Six commenters note the size of the cabin area of these airplanes and that no person is seated more than 8 feet (or two or three rows) from an exit. One of these six also notes that no person is more than 12 feet from two exits.

show compliance with § 25.812(e) does not add any safety to these airplanes. They point out that the height of the ceiling in their airplane is only 4¾ feet high and question the need to comply with the provision of § 121.310, which requires compliance with § 25.812(e). Section 25.812(e) requires escape path markings for passenger guidance, "when all sources of illumination more than four feet above the cabin aisle floor are totally obscured." According to commenters, with a ceiling height of only 4¾ feet, it is likely that the required exit markings are located less than 4 feet above the floor and that compliance with § 121.310(c)(3) is not necessary. Another commenter believes that the requirement in § 25.812 for emergency lighting to operate for 10 minutes is not needed for these airplanes. The commenter points out that the required emergency evacuation time for these airplanes is much less than 10 minutes and that this requirement should be adjusted accordingly. One other commenter suggests that flashlights be made available. Finally, two commenters acknowledge that emergency lighting may enhance safety; however, they also believe that this enhancement in safety can be provided by a lighting system that is less expensive, less complex, and much lighter than the one envisioned by § 121.310. Accordingly, they provide some suggestions for such a system.

Embraer, a foreign manufacturer of transport category airplanes, believes that § 121.310(f) should also be amended to exclude smaller (e.g., 20 to 30 passenger) transport category airplanes as well as nontransport category airplanes. The commenter believes that a passenger seat would have to be removed from its product for operation under part 121 if smaller transport category airplanes were not also excluded from this section.

AACA supports the proposed amendment to § 121.310(g).

The only other comment received concerning this issue was from an individual who requests resolution of the issue of whether the 2-inch wide contrasting band has to be on the fuselage surrounding the emergency exit or on the exit itself.

FAA Response: Section 23.803 does require an emergency evacuation demonstration, as noted by the commenters; however, the demonstration is required primarily to compensate for the differences in evacuation design features (e.g. aisle width, exit size, etc.) required by part 23 and those of part 25. Like the demonstrations required by part 25 for airplanes with more than 44 passengers, the demonstrations are intended to evaluate the evacuation capability of the airplane under standard conditions and are not intended to show the evacuation capability of the airplane under the most adverse condition that could be encountered. They are not intended, for example, to demonstrate the evacuation capability of the airplane when there is dense smoke in the cabin or when there is hazardous, damaged structure in the vicinity. The applicability of the required evacuation demonstrations to the need for emergency lighting is therefore limited.

Passengers must egress rapidly in the event of fire. Contrary to the commenters' assertions concerning a lack of adverse service experience, the FAA is aware of at least six instances since 1980 in which passengers had to be evacuated because of fire from such nontransport category airplanes or transport category airplanes with cabins of similar size. There is no doubt that safety can be enhanced considerably by requiring compliance with the emergency lighting requirements proposed in Notice 95–5. Nevertheless, the installation of such lighting is very costly.

In response to excluding smaller airplanes from the requirements pertaining to access to exits, § 121.310(f)(2) states, in part, that 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 (20 inches wide). Part 135 contains the same requirement for airplanes having a passenger seating capacity of more than 19 seats.

Since the commenter's product has more than 19 passenger seats and numerous examples are already in service in this country, the airplanes have presumably been shown to comply with either § 135.178(f)(2) or the identical text of § 121.310(f)(2). Thus, this rulemaking would not impose any new burden on airplanes with more than 19 passenger seats.

because of the small cabin size, the probability that passengers would be able to find the emergency exits without floor lighting, and the high cost of retrofitting for these requirements.

2. The interior light operation requirements of § 121.310(d) do not apply in the final rule to nontransport category airplanes certificated after December 31, 1964, since the requirements of § 121.310 (c) and (h) apply only to transport category airplanes.

3. The requirement for an illuminated exit operating handle (§ 121.310(e)) remains as proposed. The compliance date for retrofit requirements for 10- to 19-seat airplanes is 2 years after publication of the final rule.

4. Section 121.310(f) was proposed to apply to airplanes with a passenger-seating configuration of more than 19 seats. This remains in the final rule.

5. The requirement for marking emergency exits on the outside in § 121.310(g) remains as proposed since compliance is relatively simple and inexpensive for all affected operators.

6. The exterior lighting standards in § 121.310(h) are revised to except nontransport airplanes type certificated after December 31, 1964..

Seatbacks. Section 121.311(e) prohibits a certificate holder from taking off or landing unless passenger seats are in the upright position. Section 135.117 requires only that passengers be briefed that seats should be in the upright position. The FAA proposed that affected commuters be required to comply with § 121.311.

Comments: One commenter objects to the requirement because the pilots cannot assure compliance in a 19-seat airplane, especially during landing.

FAA Response: The FAA intended for those flights with flight attendants to be operated in accordance with the current § 121.311. For these flights on nontransport airplanes type certificated after December 31, 1964, the FAA has included wording to clarify that the pilot must only instruct the passengers to place their seatbacks in the upright position. The final rule has also been revised to add a new subparagraph to § 121.311(e) that provides that on an airplane with no flight attendant, the certificate holder may take off or land as long as the flightcrew instructs each passenger to place his or her seatback in the upright position. This change is needed to clarify what is required for airplanes that do not have a flight attendant.

Seat belt and shoulder harnesses on the flight deck. Section 121.311(f) requires a combined seat belt and shoulder harness with a single-point release that meets the requirements of § 25.785. Part 135 does not contain a requirement for a single-point release system although the FAA believes that virtually all commuter category airplanes being manufactured today have such a system. To ensure that this is the case for newly manufactured airplanes, the FAA proposed in § 121.2(e)(1) to require that airplanes manufactured after 1 year after publication of the final rule meet the requirements of § 121.311(f).

Comments: One commenter concurs with the proposal.

FAA Response: The final rule remains substantively as proposed, except that compliance is within 15 months after publication of the final rule. However, to clarify that § 121.311(f) applies to newly manufactured nontransport category airplanes, appropriate language is added to that paragraph.

The final rule also revises § 121.311(h) to allow crewmembers for affected commuters to release the shoulder harness if they cannot perform their duties otherwise.

Interior materials and passenger seat cushion flammability. Section 25.853(b) was amended in 1984 to require seat cushions to meet greatly enhanced flammability standards. At the same time, §§ 121.312(b) and 135.169(a) (but not for commuter category airplanes) were amended to require airplanes already in service to meet the improved seat cushion flammability standards after November 1987. In the years that have passed since that date, the improved cushions are credited with saving a number of passengers' lives.

seats. Those standards, which involve testing with Bunsen burners, are not to be confused with the Ohio State University (OSU) radiant rate of heat release testing required for large-surface-area components installed in airplanes with 20 or more passenger seats. (See proposed § 121.2(e)(2)(ii).)

Comments: ALPA supports the proposed retroactive requirements, including this proposal.

Fairchild and AIA present identically worded statements opposing the proposed requirement that seat cushions would have to comply with the flammability standards of §§ 25.853(b) and 121.312(b). In that regard, they state that they know of no evidence that compliance would provide a significant safety benefit in 10 to 19 passenger airplanes. They do not believe that compliance would delay the spread of a fire enough to be an important factor in survival. In that regard, they note that the seats in smaller airplanes tend to be lightweight and offer relatively little mass of material to fuel a fire. Also, they believe that cabin fires are less likely to occur because the small size of the cabin restricts the amount of carry-on baggage and makes inappropriate passenger activity less likely. Finally, they believe that the FAA would have proposed such rulemaking already if warranted. NATA also believes the higher flammability standards would not be effective in smaller airplanes. That commenter asserts the cost of compliance would be $20,000 per airplane.

Commuter Air Technology observes that the Beech King Air executive airplanes they modify for commuter air service would not have to comply in their original executive configuration because they have fewer than ten seats, yet would have to comply as modified because they have more than ten seats.

Big Sky Airlines and RAA suggest that the compliance period should be extended to enable replacement during the routine seat replacement cycle. One of these commenters quotes a compliance cost of $30,000 for each 19 passenger airplane.

Mesa does not express support or opposition to the proposal, but states that compliance would entail $12,000, 36 pounds, and 10 hours for a Beech 1900C, or $3,400, 38 pounds, and 10 hours for either a Beech 1900D or Jetstream 3100.

No comments were received concerning the proposal to require commuter category airplanes produced four years or more after the effective date to comply with the Bunsen burner test of part 25 (§ 25.853(a)). One commenter states that the installation of interior materials complying with § 25.853(c) would not improve the level of safety of airplanes with 10 to 19 passenger seats.

FAA Response: The commenters focus on the cost of compliance and the lack of a need for added fire protection in smaller airplanes.

In regard to costs, the commenters appear to have a misconception concerning the scope of the rulemaking. The costs fall into one of two categories—the cost of developing and testing suitable cushion materials and the actual cost of replacing individual seat cushions. In regard to the former, § 25.853(c) does not require each seat cushion to be tested, nor does it require each seat cushion design to be tested. Instead it simply states that each cushion must meet the flammability standards. An applicant has the option of utilizing a seat cushion material that meets the flammability standards; however, most choose to comply by using a covering material that protects the cushion from the fire. (The latter are usually referred to as "fire-blocked seats.") Individual seat cushions or individual seat cushion designs do not have to be tested if they can be shown to meet those standards by similarity to other cushions that have been tested previously and found to meet the standards. Advisory Circular (AC) 25.853–1, Flammability Requirements for Aircraft Cushions, issued September 17, 1986, provides guidance in that regard. In the years that have passed since transport category airplanes used in part 121 or 135 service were first required to comply, many different possible seat cushion designs have already been tested and found satisfactory. It is, therefore, quite possible to utilize a seat cushion material or fire-blocking material that has already been shown to comply with the flammability standards. In that regard, many of the affected airlines are affiliated with major airlines and have ready access to the same means of compliance adopted several years earlier by those major airlines.

The FAA conducted a series of 12 full-scale fire tests at its Technical Center at Atlantic City, New Jersey, using the fuselage of a Metroliner. The cabin of the Metroliner is typical of those of the part 23 Normal or Commuter Category airplanes with 10 to 19 passenger seats. Under the test conditions, it was shown that using seat cushions meeting these flammability standards, in lieu of the flammability standards that would otherwise be applicable, would afford passengers approximately 45 additional seconds in which to escape.

The primary benefit of having seat cushions that meet these flammability standards is to afford occupants more time in which to egress in a post-crash fire situation; however, such cushions also provide additional protection should an inflight cabin fire occur. Contrary to the beliefs of commenters in that regard, the FAA is aware of at least six instances in which cabin fires have been experienced since 1980 in nontransport category airplanes or transport category airplanes with cabins of similar size.

In their recommendation A–88–96, the National Transportation Board (NTSB) recommended the use of fire-blocking materials on seats in part 23 normal and commuter category airplanes. Fairchild, AIA, and others state that the fact that the FAA has not previously adopted seat cushion flammability standards for those airplanes is evidence that they would not result in a significant improvement in safety. The FAA has, in fact, initiated separate rulemaking in that regard (Notice No. 93–71, 58 FR 38028, July 14, 1993).

The intent of Notice 95–5 was to mitigate the cost by allowing compliance to coincide with the normal wear replacement cycles. Since compliance can be achieved whenever the seat cushions or seat coverings are being replaced due to normal wear, the cost of compliance for each seat is just the additional cost of including the fire-blocking layer along with the covering.

Based on the above, the FAA has decided to adopt the seat cushion flammability standards of § 121.312(c), but to allow a compliance period of 15 years after the publication date of this rule. The FAA felt that the immediate cost of this retrofit would have negatively affected the industry. By allowing up to 15 years, it should be possible for all replacements to be scheduled within normal replacement cycles. An additional benefit of a 15-year compliance period is that certificate holders can coordinate their compliance with this section with their plans for meeting other extended compliance times, i.e., meeting the performance and accelerate-stop requirements and installation of a third attitude indicator.

As noted above, the FAA also proposed that the interior components of nontransport category airplanes newly manufactured 4 years or more after the publication date of the final rule must meet the same standards that those components must meet when installed in transport category airplanes with 19 or fewer passenger seats (i.e. Bunsen burner testing). After reviewing the present requirements, the FAA determined that the interior components of those airplanes are already required to meet the same flammability standards for type certification. Since the standards are identical, it is not necessary to specify the flammability standards as an additional requirement for newly manufactured airplanes. Section 121.312(a) has been amended in the final rule to clarify the applicability of the flammability standards to nontransport category airplanes used by affected commuters.

Section 121.312 provides the interior material flammability standards for airplanes operated under that part. As described above, the substantive provisions of that section are being retained, and the provisions applicable to airplanes being brought over from part 135 are being incorporated. In this final rule, § 121.312 is reorganized to highlight the applicable provisions and to provide greater clarity; the appropriate substantive text has been retained. Furthermore, appendix L is being added to part 121 to explain the regulatory citations for the part 25 provisions that have been superseded. Although those standards are not current insofar as new type certification under part 25 is concerned, they are referenced in part 121 and remain applicable for compliance. The addition of appendix L only clarifies existing requirements; therefore, it is adopted without prior notice and comment.

Miscellaneous Equipment. Notice 95–5 specifically discussed the proposal that would require affected commuters to comply with the miscellaneous equipment requirements of § 121.313(f) and (g). However,

type certificated after December 31, 1964, from this requirement.

FAA Response: The commenter has correctly identified the sections of part 25 that are listed in § 121.313(c): however, the commenter has apparently overlooked the alternative provisions contained in that section. In part, § 121.313(c) also reads: "or that is able to produce and distribute the load for the required instruments and equipment. . . ." This additional text of § 121.313(c) allows the use of a power supply and distribution system that performs this function regardless of whether it complies with the listed sections of part 25. The commenter's proposed amendment is not needed because § 121.313(c) already includes provisions for alternate means of compliance. The commenter's products have already been shown to comply with this alternative.

The commenter is correct in believing that some airplanes currently operated in part 121 service might not meet the current sections of part 25 listed in § 121.313(c). The issue is moot, however, since § 121.313(c) provides for alternative means of compliance.

Cockpit doors and door keys. Section 121.313 (f) and (g) require that there be a lockable door between the cockpit and the cabin and that there be a key for each cockpit door that is readily available to each crewmember. Part 135 does not have such requirements. The FAA proposed that the affected commuters be required to comply with the part 121 rules if there is a door with a lock or a door that can be retrofitted with a lock. (Curtains or accordion doors are not considered lockable doors.) If a lockable door already exists or can be retrofitted, the certificate holder would be required to provide a cockpit key that is readily available to each crewmember. Accordingly, the language of § 121.313(f) was changed to except nontransport category airplanes certificated after December 31, 1964, without a door. Transport category airplanes already are required to have a door and a lock with a key.

Comments: Most of the comments received on this issue oppose the requirement for a locking cockpit door and key. Several commenters say that the cockpit door on EMB–120 airplanes cannot be locked when the observer jumpseat is in use. These commenters are concerned that strict adherence to the wording of the rule would require them to retrofit the door, redesign the cabin, and probably remove a revenue seat, all at a high cost. These commenters recommend that the EMB–120 be exempted from the requirement when the observer jump seat is in use. One commenter states that some nontransport category aircraft that will transition to part 121 do not have a cockpit door lock and key and may not be able to install one. One commenter states that operators will be required to obtain a supplemental type certificate to retrofit airplane doors with key locks. Another commenter states that this requirement would force operators to choose between removing the high-quality cockpit door installed at great expense on BE 1900D aircraft which provides protection from cabin illumination glare during night operations, or installing and using a lock on this door, both of which are contrary to safety. One commenter states that the 1900C and 1900D airplanes have frangible doors between the cockpit and cabin to reduce distractions. According to the commenter, as proposed, the rule would require installation of locks on those doors. Finally, one commenter says that the wording of the cockpit door requirement should be clarified to exclude 10 to 19 seat aircraft not yet produced. According to the commenter, the proposal resolves the problem for existing 10–19 seat airplanes. However, proposed § 121.2(f) would require all new airplanes to be certificated in transport category. The commenter states that new 10–19 passenger airplanes will have the same problem as existing nontransport category types; that is, cockpit doors will neither be practical nor appropriate. The commenter recommends amending § 121.313(f) to read ". . . except that airplanes type-certificated for a maximum of 19 or fewer passengers are not required to comply with this paragraph."

AACA notes that the language of § 121.313(f), which lists required equipment for operating an aircraft, should be changed to exclude airplanes that do not have cockpit doors.

FAA Response: The FAA maintains that the cockpit key and door lock requirement should be retained to enhance aviation safety. However, the final rule language is clarified to require compliance only for airplanes with a passenger-seating configuration of 20 or more seats. Therefore, the requirement for a door lock and cockpit key does not apply to nontransport category airplanes type certificated after December 31, 1964 even if the airplane has a cockpit door.

retrofit locks is not justified in light of the many other new requirements which are even broader in scope.

Cargo and baggage compartments. Part 25 (as referenced in § 121.314) contains requirements for cargo or baggage compartment liners, smoke detection, and fire extinguishment for various classes of compartments. The compartment classification system, also duplicated in § 121.221 (which as previously discussed applies only to certain airplanes type certificated before November 1, 1946), is based on the compartment's accessibility for fire detection and extinguishment. Part 25 was amended in 1989 to require the liners of Class C and D compartments to meet more stringent flammability standards. Section 121.314 was also adopted at that time to require the improved liners in existing transport category airplanes on a retroactive basis.

Part 23 contains no classification system or requirements for compartment fire protection; however, a proposed rule to add comparable requirements was issued on July 22, 1994 (59 FR 37620). The FAA proposed in § 121.2(e)(2)(ii) by referencing § 121.314 to require this modification for commuter category (or its predecessor) airplanes manufactured 4 years or more after the publication date of the final rule. However, in Notice No. 95–5, the FAA did not propose to amend § 121.314, which currently applies only to transport category airplanes.

Comments: Two commenters submitted identical comments concerning this proposal. Both commenters believe that the cargo or baggage compartment classification system of § 25.857, referenced in § 121.314, is not suitable for smaller airplanes with fewer than 20 seats and that the smoke detector and fire extinguisher requirements are unreasonable and unnecessary in those airplanes. In that regard, they note that many commuter category airplanes are convertible from a full passenger configuration with a relatively small baggage compartment to combination passenger/cargo (combi) configurations to cargo only. They do not believe that it is practical to modify any of the combi configurations to comply with any of the cargo compartment classes defined by § 25.857. They assert there has been no history of service problems indicating a need for such features.

No comments were received concerning compartments other than those of combi airplanes. Also, no commenters responded to the request in the preamble to Notice No. 95–5 for information concerning less-costly alternatives such as requiring only liners and smoke detection.

FAA Response: The FAA agrees that the present requirements of § 25.857 are not entirely suitable for airplanes with a passenger seating capacity of less than 20 and the FAA has initiated a rulemaking project to develop and propose similar standards that would be suitable for these airplanes. In view of this project the FAA has decided to defer this proposal for future rulemaking.

Fuel tank access covers. As a result of the 1985 Manchester British Air Tours accident (in which a piece of metal from the aircraft engine punctured the fuel tank access panel and created a fire), § 25.963(e) was amended in 1989 to require that all covers located in an area where a strike by foreign objects is likely must have as much resistance to fire or debris penetration as the surrounding structure. Concurrent with the part 25 amendment, § 121.316 was amended to require airplanes already in service to comply with § 25.963(e) on a retrofit basis. These requirements pertain to all transport category, turbine-powered airplanes. Due to their smaller size and turbo-propeller configuration, part 23 airplanes generally do not present the same hazard. The FAA did not propose to require part 23 airplanes to comply with §§ 25.963(e) and 121.316. Since § 121.316 applies only to "turbine-powered transport category" airplanes, no rule change is needed. The FAA points out that turbine-powered transport category airplanes previously operated under part 135 would have to comply with § 121.316.

Comments: Raytheon Corporation submitted comments on the costs of complying with § 25.963(e) for airplanes that in the future would be required to be type certificated in the transport category under part 25.

FAA Response: As previously discussed, the applicability of all present part 25 requirements to airplanes with a passenger seating capacity in the 10–19 range for which a type certificate is applied

seatbelts should be worn the entire time for flights of less than an hour and a half. According to the commenter, requiring seatbelts at all times while engines are running would provide better passenger safety, remove an unnecessary checklist item from the flight station, and eliminate the probability of missing a flight due to an inoperative sign. According to the commenter, each seat could be placarded and the co-pilot could make a visual check of passenger compliance after closing the door hatch prior to departure.

Two commenters state that § 121.317(a) should be revised to allow permanently lighted no-smoking signs or conspicuous placards, since smoking is prohibited on all flights.

FAA Response: Section 121.317 sets minimum requirements. Both §§ 121.317 and 135.127 allow the use of no smoking placards that meet the requirements of § 25.1541 if the placards are posted during the entire flight segment. Section 121.317(a) requires passenger information signs (fasten seatbelt signs and no smoking signs) that the pilots can turn on and off and § 121.317(b) specifies when fasten seatbelt signs must be turned on. To ensure that the present requirements of § 121.317 are not interpreted so as to prohibit the use of placards in certain airplanes, a clarifying amendment is included in the final rule. New § 121.317(l) provides that a person may operate a nontransport category airplane type certificated after December 31, 1964, having a passenger-seating configuration of 10–19 seats manufactured before 15 months after the publication date of this final rule if it is equipped with one placard that is legible to each person seated in the cabin that states "Fasten Seat Belt" if the flightcrew orally instructs the passengers to fasten their seatbelts at the necessary times. Newly manufactured airplanes must comply with lighted seat belt sign requirements of § 121.317(a) within 2 years after the date of publication of this final rule. In addition, § 121.317(d) requires one legible sign or placard that reads "fasten seat belt while seated" that is visible from each passenger seat. Affected commuters must comply with § 121.317(d) at the time of recertification under part 121, or within 15 months, whichever occurs first.

Instruments and equipment for operations at night. Section 121.323 requires two landing lights for night operations. Under the proposal, the requirement would apply to all affected commuters. While no comments were received on the proposal, the FAA had intended to revise § 121.323 to except nontransport category airplanes certificated after December 31, 1964, from having more than one landing light. The exception was intended because small airplanes with shorter wing spans can be operated safely with only one landing light. The exception was inadvertently omitted from Notice 95–5 but is included in the final rule.

Oxygen requirements. Sections 121.327 through 121.335 cover supplemental oxygen requirements and oxygen equipment requirements. The requirements are similar to the oxygen requirements in § 135.157 except that for certain airplanes, part 121 requires less oxygen. Each affected commuter who would have to comply with part 121 oxygen requirements as a result of this rulemaking should be able to operate its airplanes in accordance with the oxygen requirements specified in part 121.

Comments: Fairchild Aircraft comments that the first aid oxygen requirements of § 121.333(e)(3) are inappropriate for smaller commuter service and that this section should be revised to exclude airplanes with fewer than 20 seats. This commenter also asks that § 121.335 be revised to allow oxygen flow rates based on the airplane's certification basis rather than Civil Air Regulation 4b.651. Fairchild finds that this would avoid unnecessary complication and expense.

FAA Response: In the case of first aid oxygen, since Notice 95–5 proposed no flight attendant for the 10- to 19-seat airplane, requiring the first aid oxygen that would be dispensed by a flight attendant would not be logical. Since the airplanes operated by the affected commuters were not type certificated for flight above 25,000 feet and since § 121.333(e)(3) only applies to pressurized airplanes that operate above 25,000 feet, it would not as a practical matter apply to commuter (or predecessor) airplane operations. The requirement does apply to airplanes with 20 to 30 passenger seats, as proposed.

who use flight attendants in their operations and that operate above 25,000 feet be required to comply with the part 121 requirement. No comments were received on this issue and the final rule is adopted as proposed. For a related discussion on the use of oxygen, see the discussion under "Oxygen Requirements."

Protective breathing equipment (PBE). Section 121.337 contains requirements for equipping the flight deck and passenger compartments of transport category airplanes with PBE. Part 135 does not currently require any type of PBE.

Section 121.337(b)(8) (smoke and fume protection) requires PBE, either fixed or portable, to be conveniently located on the flight deck and easily accessible for immediate use by each flight crewmember for smoke or fume protection at his or her duty station. In addition, § 121.337(b)(9) (fire combatting) requires that for combatting fires a portable PBE must be located on the flight deck with easy access by each flight crewmember for fighting fires. Also portable PBE in the passenger compartment must be located within 3 feet of each hand fire extinguisher. Both of these requirements provide that the Administrator may authorize another location if special circumstances exist that make compliance impractical and the proposed deviation would provide an equivalent level of safety.

The proposal required affected commuters to comply with the PBE requirements of § 121.337. To be in compliance, an airplane with a passenger-seating configuration of 10 to 19 seats would have to have at least three PBE: one PBE, fixed or portable, for each flight crewmember at his or her station, and an additional portable PBE on the flight deck for use in fighting fires. An airplane with a passenger-seating configuration of 20 to 30 seats would have to have at least four PBE: one PBE, fixed or portable, for each flight crewmember at his or her station; an additional portable PBE on the flight deck for fighting fires; and a portable PBE in the passenger compartment located within 3 feet of the required hand fire extinguisher.

The proposal revised the applicability of the current rule to include other than transport category airplanes. Proposed § 121.337(b)(9)(iv) was also revised to except airplanes having a passenger-seating configuration of fewer than 20 seats and a payload capacity of 7,500 pounds or less from the requirement to have a PBE in the passenger compartment. The exception is needed because these airplanes are not required to have a flight attendant; for these airplanes, the portable PBE on the flight deck could be used by a flight crewmember for fighting a fire.

The FAA proposed to require compliance with § 121.337 by a date 2 years after the publication date of the final rule. (See § 121.2)

Comments: Several commenters oppose the PBE requirement. These commenters are concerned about the lack of space in the plane, the high compliance cost, and the lack of benefits in having the equipment. These commenters state that PBE equipment on non-pressurized aircraft is not justified. Two commenters claim that their current equipment (built in oxygen supply systems and masks) ought to exempt them from the PBE requirement. One commenter incorrectly believes that a PBE would be required for the cabin on METRO aircraft (a 19 seat airplane). One commenter suggests that in the interest of safety the FAA should reduce the compliance time for PBE equipment to 6 months. Though commenters provide cost estimates to install PBE on their airplanes, costs are provided only for 10 to 19 seat airplanes, which would not be required to have PBE in the cabin.

FAA Response: The FAA maintains that the proposed PBE requirement for affected commuters is appropriate. There are several safety benefits for requiring smoke and fume PBE. The use of smoke and fume PBE required by § 121.337(b)(8) would help prevent the injury or death of flight crewmembers from smoke or harmful gases.

The FAA contends that there is adequate space in the cabin of 20- to 30-seat commuter airplanes to accommodate portable PBE for fire combatting, and no major cabin retrofits would be required. With regard to firefighting PBE, the FAA has determined that such equipment is not appropriate for operations with 10–19 passengers. There are no flight attendants on these flights and the pilots generally remain

Due to the broad scope of this rulemaking action, certificate holders will have to deal with many new requirements. Therefore, as proposed, a consistent compliance period of 2 years is applied to all affected airplanes for acquiring PBE.

Emergency equipment for extended overwater operations. Sections 121.339 and 135.167 require that airplanes engaged in extended overwater operations (more than 50 nautical miles from the nearest shoreline) provide the following: enough life rafts of a rated capacity and buoyancy to accommodate the occupants of the airplane; a life preserver equipped with an approved survivor locator light for each occupant of the airplane; a pyrotechnic signaling device for each life raft; a survival kit and a survival type emergency locator transmitter. In addition, § 121.339 requires that unless excess rafts of enough capacity are provided, the buoyancy and seating capacity of the rafts must accommodate all occupants of the airplane in the event of loss of one raft of the largest rated capacity. In practice, this requirement is typically met by carrying a spare raft of the largest rated capacity.

The FAA proposed that the affected commuters that engage in extended overwater operations should be required to meet the part 121 requirements. As with current part 121 certificate holders, affected commuters can apply for deviations, and the FAA can decide, on a case by case basis, if a deviation is appropriate. These deviations are issued pursuant to § 121.339(a) which permits the Administrator to allow deviation from the requirement to carry certain equipment for extended overwater operations. Since there are few extended overwater operations conducted by commuters, the FAA does not expect this proposed requirement to have a significant impact.

Comments: Four commenters argue against the requirement for a spare life raft on commuter airplanes. One commenter says that the spare life raft is not necessary because seats can be equipped with additional life vest storage pouches. Another commenter says that the spare life raft is appropriate for larger airplanes but not for 10 to 30 seat aircraft. This commenter also suggests that the rule should remain as presently written under § 135.167, and, on a case-by-case basis, the FAA can require certificate holders to obtain a spare life raft. Another commenter states that spare life rafts should not be required on aircraft with less than 20 passenger seats because the requirement will increase operating costs and reduce passenger revenues. A fourth commenter states that the cumulative weight, space, and compliance costs will be significant for affected Alaskan operators and that these costs cannot be spread across a large number of passenger seats as can be done with a larger aircraft.

Three commenters state that the requirement in § 91.205 (b)(11) for a pyrotechnic signaling device is understandable for general aviation aircraft, but is impractical and superfluous for airplanes operating under part 121 in scheduled air carrier service. The commenters recommend that § 91.205 be revised to exclude airplanes operating under part 121.

FAA Response: The FAA maintains that airplanes conducting extended overwater flights need to carry enough life rafts to accommodate all passengers in the event of the loss of the life raft with the largest rated capacity. Such a requirement will enhance safety in the event of an accident. Individual flotation devices are not adequate for safety in the event of a water ditching because passengers tend to separate in open water. A life raft enables passengers to stay together. An even greater threat is hypothermia, a sequence of physical reactions resulting from the loss of body heat. In cold water, a person will experience increased difficulty with mobility and intense shivering occurs. In arctic waterways, survival time can be as little as 2 or 3 minutes. Thus, a spare life raft is appropriate for affected commuters to enhance passenger safety. The requirement in part 121 for equipping each life raft with a pyrotechnic signaling device is identical to part 135 for extended overwater operations. The recommendation to except scheduled air carriers from the provisions of § 91.205(b)(11) is beyond the scope of this rulemaking. Moreover, under § 119.1(c) persons subject to part 119 must comply with other requirements of this chapter, except where those requirements are modified by or where additional requirements are imposed by parts 119, 121, 125, or 135 of this chapter. Therefore, the final rule requires commuter airplanes to adhere to part 121 standards and provides deviation authority on a case by case basis.

operations would comply with § 121.340 and accordingly proposed revising the section to delete the word "large." To allow any replacement of seat cushions to be coordinated with the seat cushion flammability requirements of § 121.312(c), the FAA proposed a compliance date of 2 years after the publication date of the final rule.

Comments: The FAA received three comments that oppose the requirement for flotation devices. One commenter opposes the requirement because of the equipment cost and weight penalty. This commenter determines that the seat cushions in the METRO aircraft would not serve as effective flotation devices. The commenter provides a cost estimate for acquiring and retrofitting individual flotation devices for METRO airplanes. The commenter also states that each flotation device for 10 to 30 seat airplanes would have to be equipped with an approved survivor location light. A second commenter states that the rule should allow exemptions for operations that do not fly over or near large bodies of water. This commenter does not believe that flotation devices would enhance safety. Finally, a third commenter states that flotation devices are already required for extended overwater flights for all airplanes by § 91.205.

FAA Response: The FAA concurs that if the seat cushions in a particular airplane model do not serve as flotation devices, then individual flotation devices would have to be acquired. If life preservers are provided as individual flotation devices they would have to have an approved survivor locator light as required by § 121.339(a)(1).

The FAA found during previous rulemaking that all flights traverse a body of water of at least 6 feet deep during the course of a year. Therefore, individual flotation devices or life preservers for 10 to 30 seat airplanes are required on all flights. Section 121.340(b) contains provisions for requesting an approval to operate without the flotation means if the operator shows that the water over which the airplane is to be operated is not of such size and depth that life preservers or flotation devices would be needed for survival.

The FAA concurs with one of the commenters that § 91.205 requires flotation devices for all airplanes involved in extended overwater flights. Section 121.340 is clearly more restrictive.

Although the compliance date for meeting passenger seat cushion flammability requirements has been extended to 15 years, the compliance time of 2 years for providing flotation devices is the same as proposed.

Equipment for operations in icing conditions. Section 121.341 requires certain equipment for operations in icing conditions. The proposal would require affected operators to comply with this section. In accordance with § 121.341(b), to operate an airplane in icing conditions at night, a wing ice light must be provided or another means of determining the formation of ice on the parts of the wings that are critical from the standpoint of ice accumulation. This would be a new requirement for 10- to 19-passenger seat airplanes.

No comments were received on this proposal; however, the FAA has determined that the requirements of § 135.227 (c), (e), and (f) need to be incorporated into § 121.341 to accommodate certain affected airplanes. These requirements pertain to operating limitations for flying into known icing conditions if the airplane is not equipped for icing conditions. Thus the final rule § 121.341 incorporates the part 135 language.

Pitot heat indication system. Section 25.1326 requires a pitot heat indication system to indicate to the flightcrew when a pitot heating system is not operating. Part 23 currently requires pitot heat systems for airplanes approved for IFR flight or flight in icing conditions, but does not require pitot heat indicators. Section 121.342 currently requires a pitot heat indication system on all airplanes that have pitot heat systems installed.

In recommendation A–92–86, the National Transportation Safety Board (NTSB) recommended that small airplanes certificated to operate in icing conditions and at altitudes of 18,000 feet mean sea level and above should be modified to provide a pitot heat operating light similar to the light required by § 25.1326. As recommended by the NTSB, the FAA proposed to amend part 23 to require such indication for commuter category airplanes (Notice No. 94–21, 59 FR 37620, July 22, 1994). This new requirement,

of between $1,500 and $25,000 per airplane. The commenter further states that there was no known history of accidents or incidents to justify the cost of retrofits and recommends that the requirement apply only to newly manufactured airplanes.

Commuter Air Technology, an aircraft modifier, notes that pitot tubes are accessible to ground personnel who could ascertain their proper function prior to flight. The commenter argues that because of the short duration of commuter flights (usually 1 hour) failure in flight would probably allow for continued flight to the next airport.

FAA Response: As a result of comments received in response to Notice 95–5, the FAA re-examined the cost estimates of this rulemaking. Those revised cost estimates, which are higher than those in the proposal, are included in the Regulation Evaluation Summary of this rulemaking.

The FAA disagrees with the commenter's contention that ground checks and short flights preclude the need for pitot tube heat indicators. Airspeed indicating errors caused by unheated pitot tubes have contributed to icing-related accidents. Airspeed indicating errors are not always obvious to the pilot who may make decisions based on the resulting erroneous information. A system which indicates when the pitot tube is, or is not, heated will provide the crew with the status of the system.

Therefore, the FAA is amending § 121.342, as proposed, to require nontransport category airplanes type certificated after December 31, 1964, that are equipped with a flight instrument pitot heating system to incorporate pitot heat indication systems within 4 years after the effective date of this rulemaking.

Flight data recorders (FDR's). Notice 95–5 did not propose any substantive revisions to current part 121 or part 135 flight data recorder (FDR) requirements. According to the proposal, affected commuters would continue to meet part 135 requirements while the FAA is developing updated FDR requirements for both parts 121 and 135.

Comments: One commenter states that some of the current equipment being used is providing inadequate records and that part 121 and 135 certificate holders should be required by December 31, 1999, to install new FDR on all airplanes. He further states that industry data indicates the changeover will cost $29 million divided by 454 million passengers a year, and that equates to 6 cents increase in ticket prices.

AIA and Raytheon state that following NTSB safety recommendations on FDR's could result in as large an impact on the economic viability for current and future aircraft in this category as the effects of Notice 95–5. They further state that although additional information from FDR's is needed, the safety recommendations as written would require 56 to 84 channels of data on a 1900D and would be excessive for most data requirements. This would result in a large redesign effort and related increases in costs.

American Eagle comments that it believes that this equipment, as well as cockpit voice recorders, is important in the post-incident investigation process and, as a result, has installed FDR's on all its aircraft even though not all aircraft operated under part 135 are required to have them. It strongly supports extending the current part 121 requirement to all aircraft with 10 or more seats operating in scheduled passenger service. In addition, the commenter supports regulations which would require such equipment to meet a new, higher minimum standard.

FAA Response: A recommendation for a rule change on FDR's is being addressed by the Aviation Rulemaking Advisory Committee (ARAC), and the concerns of the commenting parties will be reflected in that separate rulemaking if a rule change is proposed. This rulemaking did not propose any increase in channels for existing FDR's.

For clarification the proposed rule language has been revised in § 121.344 of the final rule to state that § 135.152 FDR requirements will apply to airplanes with a payload capacity of 7,500 pounds or less and a passenger seating configuration, excluding any pilot seat, of 10–30 seats. The proposed rule had not specified passenger seating capacity.

by pilotage or for operations under IFR or over the top) by adding a new paragraph (e) which incorporates requirements in § 135.165(a). This change is necessary because part 121 does not have comparable requirements.

Emergency equipment for operations over uninhabited terrain. Section 121.353 prescribes the emergency equipment needed for operations over uninhabited terrain for flag and supplemental operations. The requirements include pyrotechnic signaling devices, emergency locator transmitters (ELT's), and survival kits equipped for the route to be flown. The proposed rule would require compliance with § 121.353.

Comments: Two commenters state that application of § 121.353 to affected commuters would provide relief from compliance with § 91.205, which would reduce the standards. One of these commenters claims that S-type ELT's as required by § 121.353 are useful for sea ditching but are of no use over uninhabited terrain. According to the commenter, they are intended for extended overwater operations, are immersion activated, are not intended for fixed installation on aircraft, lack any impact G-force activation feature, are very bulky, are extremely expensive, and, by design, are not suitable for surviving situations other than sea ditching. The commenter states that incapacitated survivors on uninhabited terrain cannot expect any help from an S-type ELT. The commenter recommends revising § 121.353 to state that the provisions are in lieu of part 91 provisions and that an airplane subject to part 121 must be equipped with an ELT or pyrotechnic signal device in accordance with § 121.353 or § 121.339 (extended overwater).

RAA also states that the requirement for pyrotechnic signaling devices is impractical for airplanes operating under part 121 and recommends that § 91.205(b)(11) be amended to exclude these certificate holders.

RAA and ASA point out that the requirement for ELT's in § 91.207 exempts turbojet-powered aircraft and aircraft engaged in scheduled flights by scheduled air carriers. RAA and ASA believe that all jet-powered airplanes that normally operate under part 121 whether or not they utilize propellers should be exempt from the requirements of § 91.207 during flight operations under part 91, such as ferry, training, testing, proving runs, which are incidental to or in support of scheduled operations. RAA and ASA recommend revising § 91.207(f)(1) to read: "Large turbine powered airplanes."

AACA indicates that the economic analysis did not include the weight penalties or costs for installing, maintaining, repairing, and training for the use of survival kits. AACA also states that the rule is unclear as to when the kits are required since "uninhabited areas" is not defined. AACA recommends clarifying the applicability of these requirements to Alaska. AACA, as well as other commenters, also states that there is an Alaskan state law requiring extensive survival equipment on board any aircraft operated in the State.

FAA Response: In response to the applicability to Alaska, although scheduled intrastate operations within the States of Alaska and Hawaii are currently conducted under flag rules, as a result of this final rule, these will now be domestic operations and the survival equipment requirements do not apply to domestic operations. The FAA did not intend to reduce requirements for operations over uninhabited terrain in Alaska or Hawaii as currently applicable. Therefore, the title of § 121.353 has been revised and an applicability statement added to include Alaska and Hawaii. Since these operators have been meeting flag requirements, this revision will not be a change for them.

The revisions requested to part 91 to exempt ferry flights and other types of flight incidental to scheduled flights is a separate issue from the requirements of § 121.353 which pertain only to emergency equipment for operations over uninhabited terrain. Any amendment to part 91 would need to be part of a separate rulemaking.

The FAA does not agree that the language of § 121.353 should be revised to clarify that it replaces the requirements for pyrotechnic signaling devices in § 91.205(b)(11) pertaining to aircraft for hire operated over water beyond power off gliding distance to shore. The proposed applicability of § 121.353 to affected commuters if they fly a supplemental or flag operation does not affect the applicability of part 91

to § 121.355 was proposed in CAB draft release 56–24 in 1966, "uninhabited terrain" was defined as "flights for long distances over frigid or tropical land areas for which the Director finds such equipment to be necessary for search and rescue operations because of the character of the terrain to be flown over." When the rule was adopted, the wording was changed to provide the Administrator more flexibility in identifying uninhabited areas. Since implementation is on a case-by-case basis through operations specifications, it was determined that the proposed wording was not necessary. This provision has been in effect for over 30 years without any problem about the meaning of "uninhabited areas."

Airborne weather radar. The proposed rule would require all affected commuters to have airborne weather radar in accordance with § 121.357. Currently, part 135 requires weather radar for 20–30 passenger seat airplanes and weather radar equipment or approved thunderstorm detection equipment for 10–19 passenger airplanes.

Comments: Three comments were received on the proposal. RAA and AMR Eagle support the proposed requirement. AMR Eagle states that commuter operations are typically characterized by high frequency operations at lower altitudes with short stage lengths which necessarily limits preplanning, planning, or executing a desired deviation in flight profile because of changing weather. Hence a flightcrew needs all available tools to conduct safe operations.

One commenter states that airborne weather radar is not needed in Alaska because severe thunderstorms and tornadoes do not occur there.

AACA claims that Notice 95–5 is silent about the exceptions for operations within the states of Alaska and Hawaii and within parts of Canada. AACA requests that the FAA specifically address the issue that airborne weather radar and airborne thunderstorm detection equipment will not be required for operations previously excepted under part 121 and part 135 (§§ 121.357(d) and 135.173(e)). According to the commenter, there have been no meteorological changes in Alaska since the regulation was originally written; therefore, this equipment is no more necessary now than it ever was.

FAA Response: The FAA agrees with AACA that, in accordance with § 121.357(d), airborne weather radar is not required for airplanes used solely within the State of Hawaii or the State of Alaska or 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. This exception is retained in the final rule. In Notice 95–5 the FAA did not propose to delete the § 121.357(d) exception.

All other affected operators would have to have airborne weather radar within the 15-month compliance period.

Traffic Alert and Collision Avoidance System (TCAS). Under the proposal, affected carriers would be required to comply with part 121 TCAS requirements in § 121.356. There are no substantive differences between part 121 and part 135 TCAS requirements for aircraft with passenger seating configurations of 10–30 seats.

Comments: Fairchild Aircraft recommends that the words, "combination cargo" be deleted from § 121.356(b).

ALPA says that the FAA should require TCAS II for aircraft with fewer than 30 passenger seats, including cargo aircraft (which have increased in recent years).

RAA recommends revising § 121.356(a) to require that ". . . each certificate holder shall equip its airplanes with an approved TCAS II traffic alert and collision avoidance system and the appropriate class of Mode S transponder. . . ."

Two certificate holders, Samoa Air and Inter Island Air, say that TCAS is expensive and useless for their operating environment, i.e., airspace with little air traffic.

Fairchild Aircraft states that § 121.345(c)(2), which requires Mode S transponders, is similar to a requirement in part 135 (§ 135.143(c)(2)). According to the commenter, the Mode S equipment has not

or part 135 are currently in effect. Any affected commuters who hold an exemption from the part 135 requirement or from § 135.143, Mode S requirements, after this final rule must reapply to be exempted from the Mode S requirements of part 121.345.

The commenter's recommendation to require TCAS for all-cargo operations is beyond the scope of this rulemaking, as are the recommendations to require TCAS II for all airplanes and to exempt certain affected certificate holders from the requirement for certificate holders to have TCAS I by December 1995.

Low-altitude windshear systems. Section 121.358 requires an approved airborne windshear warning system for most turbine powered airplanes. It specifically excludes turbopropeller-powered airplanes. No comments were received concerning this section and the final rule is adopted as proposed. Comments received on windshear training requirements are discussed under subpart N.

Cockpit voice recorders. No comments were received on this issue; however, the FAA is making a change in the final rule language to correctly incorporate the current CVR requirements that apply to airplanes with 10–30 passenger seats.

Ground proximity warning system (GPWS). Under the proposed rule, affected commuters would have to comply with the GPWS requirements of § 121.360. By the compliance date of this rulemaking, all part 135 operators of turbine powered airplanes having a passenger seating configuration of 10 or more seats would have to have GPWS. All affected commuters are included in this requirement. The GPWS required under part 135 would meet the standards of part 121.

No comments were received on this issue; however, the FAA has discovered that the word ''large'' was not deleted from § 121.360. This deletion is necessary if the requirements are to apply to all affected commuters. Accordingly the word ''large'' is deleted in the final rule.

VI.A.8. Subpart L—Maintenance, Preventive Maintenance, and Alterations

Applicability. Part 121 certificate holders are required to adopt a continuous airworthiness maintenance program (CAMP), which has a proven track record for large transport category airplanes. Under § 135.411(a)(2), airplanes that are type certificated for a passenger-seating configuration of 10 seats or more are already required to comply with a CAMP similar to part 121 requirements. The proposed rule would require all airplanes type certificated for 10 or more passengers to comply with part 121 CAMP requirements. These requirements are consistent with present-day maintenance standards and techniques to manage airplane airworthiness. The proposal to include affected commuters under part 121 maintenance requirements would not necessitate a revision to § 121.361.

Section 121.361(b) contains a deviation provision allowing certain foreign noncertificated persons to perform maintenance. Affected commuters would now have this option available. Since many of the airplanes that are the subject of this rulemaking are manufactured outside the United States, this deviation provision would allow certificate holders to have the original equipment manufacturers perform some overhauls and repairs.

Comments: Jetstream Aircraft Limited supports the proposals to apply this subpart to affected commuters.

American Eagle encourages proposed rulemaking which would mirror current parts 121 and 25 maintenance and inspection requirements for aircraft certificated under part 23 or SFAR 41 and used in commercial aviation of any type.

FAA Response: Since the comments in effect support the proposed rule changes, they are adopted as proposed.

Responsibility for airworthiness. Section 121.363 places the responsibility for airworthiness of an airplane on the certificate holder; § 135.413 contains a similar requirement. Under the proposal, affected commuters must comply with § 121.363. Section 135.413(a) requires a part 135 operator to have defects

the person has an organization adequate to perform the work. This provision requires separate inspection functions to ensure that those items directly affecting the safety of flight are verified to be correct by someone other than the person who performed the work.

The FAA recognizes that other provisions of the proposed rule in Notice 95–5, which would require affected certificate holders to install new equipment and might lead to replacement of part 23 type certificated airplanes with part 25 type certificated airplanes, could necessitate that maintenance personnel (as required by this section and by §§ 121.367 and 121.371) have additional skills and training.

Comments: American Eagle supports the proposal.

FAA Response: Since the only comment on this issue is supportive, the rule is adopted as proposed.

Manual requirements. Sections 121.369 and 135.427 have almost identical requirements specifying that the certificate holder include in its manual a description of the organization required by § 121.365 and a list of persons with whom it has arranged for the performance of any required inspections, other maintenance, preventive maintenance, or alterations. The manual must contain the programs required by § 121.367, including the methods of performing required inspections, other maintenance, preventive maintenance, or alterations. This manual is necessary to ensure that the certificate holder has provided an adequate maintenance program for the airworthiness of its airplanes and to inform its personnel, or other persons who perform maintenance, of their responsibilities regarding the performance of maintenance on the airplane. In the proposal, the FAA required affected commuters to comply with part 121. No comments were received on this issue and the final rule is adopted as proposed.

Required inspection personnel. Sections 121.371 and 135.429 contain similar requirements for inspection personnel, including provisions for specific qualifications for and supervision of an inspection unit. Included is a requirement for listing names and appropriate information of persons who have been trained, qualified, and authorized to conduct required inspections. This requirement ensures that competent and properly trained inspection personnel are authorized to perform the required inspections. In Notice 95–5, the FAA required affected commuters to comply with part 121. No comments were received on this issue and the final rule is adopted as proposed.

Continuing analysis and surveillance. Section 121.373 on continuing analysis and surveillance is almost identical to the provisions of § 135.431. The FAA proposed that affected commuters comply with § 121.373. Section 121.373 provides for: the establishment by the certificate holder of a system to continually analyze the performance and effectiveness of the programs covering maintenance, preventive maintenance, and alterations; the correction of any deficiencies in those programs; and the requirement by the Administrator that the certificate holder make changes in either or both of its programs if those programs do not contain adequate procedures and standards to meet the requirements of this part. No comments were received on this issue and the final rule is adopted as proposed.

Maintenance and preventative maintenance training programs. Sections 121.375 and 135.433 contain identical requirements prescribing training programs that ensure that persons performing maintenance or preventive maintenance functions (including inspection personnel) are fully informed about procedures, techniques, and new equipment in use and that those personnel are competent to perform their required duties. The FAA proposed that operators comply with part 121. On this issue, no comments were received and the final rule is adopted as proposed.

Maintenance and preventive maintenance personnel duty time limitations. Section 121.377 establishes the requirements for maintenance personnel to be relieved from duty for a period of at least 24 consecutive hours during any 7 consecutive days, or the equivalent thereof within any calendar month. This requirement is for maintenance personnel within the United States. This provision would be a new requirement for affected commuters.

Comments: AACA states that most Alaskan certificate holders utilize mixed fleets ranging from under 9 passenger seats, 10–19 seats, and more than 20 seats. These carriers frequently employ maintenance personnel who are qualified to work on all the aircraft in a particular certificate holder's fleet, regardless

FAA Response: The existing rule requires only 24 consecutive hours off during any 7 consecutive days. While it may have been possible to work mechanics under part 135 7 days a week, without rest, the FAA believes that the combination of union work rules, Department of Labor regulations, and general practice of a day of rest each week would, in effect, accomplish the same result as the rule.

Mechanics must receive adequate rest in order to properly perform their duties. Prescribing a minimum standard will ensure that some rest is provided. It would be inconsistent to require rest for the pilots and flight attendants but not for the people responsible for maintaining the airplane. The FAA believes that the burden of scheduling and providing a day of rest would be minimal. Standard time cards, a common practice, could be used to show compliance.

No FAA regulation prevents a mechanic from working for both a part 121 and a part 135 employer when the mechanic is qualified and, when working on airplanes operated under part 121, the certificate holder meets the regulatory requirements of part 121 for time free from duty.

It should also be noted that the rule allows flexibility by requiring that a certificate holder shall relieve each person performing maintenance or preventive maintenance from duty for at least 24 consecutive hours during any 7 consecutive days, "or the equivalent thereof within any calendar month."

The final rule is adopted as proposed.

Certificate Requirements. Sections 121.378 and 135.435 contain identical requirements specifying that each person, other than a repair station certificated under the provisions of subpart C of part 145, who is directly in charge of maintenance, preventive maintenance, or alterations, and each person performing required inspections, hold an appropriate airman certificate. The FAA proposed that affected commuters comply with part 121. No comments were received on this issue and the final rule is adopted as proposed.

Authority to perform and approve maintenance, preventative maintenance, and alterations. Sections 121.379 and 135.437 contain similar requirements allowing certificate holders to perform or make arrangements with other persons to perform maintenance, preventive maintenance, and alterations as provided in its continuous airworthiness maintenance program and its manual. In addition, a certificate holder may perform these functions for another certificate holder. The rules require that all major repairs and alterations must have been accomplished with data approved by the Administrator. The FAA proposed that affected commuters comply with part 121. No comments were received on this issue and the final rule is adopted as proposed.

Maintenance recording requirements. Section 121.380 provides for the preparation, maintenance, and retention of certain records using the system specified in the certificate holder's manual. The rule also specifies the length of time that the records must be retained and requires that the records be transferred with the airplane at the time it is sold. A small change was proposed to § 121.380(a)(2) to accommodate propeller-driven airplanes used by some affected commuters and to § 121.380(a)(2)(v) to adopt the language found in § 135.439(a)(2)(v) to provide more complete records on airworthiness directive compliance.

Comments: Zantop International Airlines, Inc. (a current part 121 certificate holder) objects to the proposed change to § 121.380(a)(2)(i) that would add engine and propeller total time in service to the list of items that must be recorded. Zantop says that the engine and propeller requirement is new for them and that the aircraft (airframe) total hours in service is the only time transferred on many of its older aircraft. The new requirement would result in searching maintenance records to determine the historical time on the engine and propeller. In some cases this information may not be available. Zantop recommends that an exemption be provided for older aircraft or that these records only be required for future certifications.

FAA Response: Although current § 121.380(a)(2)(i) does not specifically call for total time in-service records of engines or propellers, it does require a record of life-limited parts for these components. The only way to accomplish this is by keeping records for total time in service. Total time in service records may consist of aircraft maintenance record pages, separate component cards or pages, a computer list, or other methods as described in the applicant's manual.

has decided to allow current part 121 operators some time to come into compliance with the requirements for recording total time for engines and propellers. The final rule for § 121.380 has been revised accordingly.

Transfer of maintenance records. Section 121.380a requires the certificate holder to transfer certain maintenance records to the purchaser at the time of the sale, either in plain language form or in coded form. This section is worded the same as § 135.441 except that the part 121 provision allows the purchaser to select the format of the transferred records. Notice 95–5 specified that affected commuters comply with part 121. No comments were received on this issue and the final rule is adopted as proposed.

VI.A.9. Subpart M—Airman and Crewmember Requirements

Flight attendant complement. Section 121.391 requires one flight attendant for airplanes having a seating capacity of more than 9 but less than 51 passengers. Section 135.107 requires one flight attendant for airplanes having a passenger seating configuration, excluding any pilot seat, of more than 19 passengers. The FAA retained the requirement for a flight attendant for more than 9 passengers for current part 121 airplanes and proposed to amend the section to require a flight attendant for affected commuters only in airplanes with more than 19 passenger seats. No comments were received on this issue and the final rule is adopted as proposed.

Flight attendants being seated during movement on the surface. Section 121.391(d) states that during movement on the surface, flight attendants must remain at their duty stations with safety belts and shoulder harnesses fastened except to perform duties related to the safety of the airplane and its occupants. Part 135 has a similar provision in § 135.128(a), except that it does not specify that flight attendants may be performing safety duties during movement on the surface. The FAA proposed that affected commuters comply with part 121. On this issue, no comments were received and the final rule is adopted as proposed.

Flight attendants or other qualified personnel at the gate. The FAA proposed that all airplanes being operated by affected commuters be required to comply with current § 121.391(e); that is, they must have a flight attendant or substitute (such as a flight crewmember or trained gate agent) on board when the airplane is parked at the gate and passengers are on board. The substitutes must be given training in the emergency evacuation procedures for that airplane as required by § 121.417 and they must be identified to the passengers. If there is only one flight attendant or other qualified person on board the airplane, that person must be located in accordance with the certificate holder's FAA-approved operating procedures.

As a result of the proposed rule, § 121.391(e) applies in the future to some operations that do not require flight attendants. Therefore, the FAA proposed to move § 121.391(e) to a new separate section, proposed § 121.393, to highlight the crewmember requirements that apply when an airplane is on the ground and passengers remain on board before continuing to another destination.

Comments: AACA opposes the requirement for flight attendants at the gate. The commenter states that it would be impossible for one of the two crewmembers on the 10-to-19 seat airplanes to stay on board with passengers while parked at the gate. Both crewmembers would be needed to assist in the loading and unloading process. Furthermore, the commenter states that deplaning passengers would not be a viable option because airports do not have the proper facilities. Most airplanes are not met by a gate agent in rural Alaska airports, and airplanes do not pull up to a terminal. Therefore, the commenter states that a trained substitute would have to stay on board the airplane with the passengers while parked at the gate 100% of the time. The commenter states that the FAA has underestimated the training costs and wage costs for the option of using a substitute. The commenter estimates that this requirement would cost about $2.9 million (costs not broken down) each year for all of the Alaskan commuter air carriers to comply.

FAA Response: While many of the affected airplanes are operated seasonally and do not fly in the winter, some operate during extreme weather conditions into airports that do not have terminals to use for deplaning. To the extent possible the FAA would like a flight attendant or pilot on board

qualified person is not on board the crewmember or qualified person must be near the airplane and in a position to adequately monitor passenger safety. Airplane engines must be shut down and at least one floor level exit must remain open to provide for the deplaning of passengers. This amendment is consistent with current FAA policy for refueling with passengers on board. The FAA has determined that this option is functionally equivalent to having a qualified person on board since these airplanes are small enough to monitor passenger compartments from outside the airplane.

VI.A.10. Subparts N and O—Training Program and Crewmember Qualifications

Subpart N, Training. As the discussion earlier in this preamble points out, the issue of training has been the subject of separate rulemaking. However, several comments were received on training requirements.

Comments: AIA states that Notice 95–5 is virtually silent on training; however, this is an important part of the total picture. AIA states that the separate initiative on training should be reviewed in conjunction with this NPRM.

Raytheon echoes AIA's comments on training, and adds that successful implementation of the training actions would be expected to have a dramatic impact on future accident statistics. Training should be the principal focus for safety improvement together with future programs for safety system monitoring. Raytheon also states that while NPRM 95–5 was not intended to cover training, Notice 95–5 probably would not have been proposed if training were more effective.

Air Vegas comments that all additional flight training would have to be done in the aircraft because there is no Beech 99 simulator in existence. This would increase the hours for initial and transition training and nearly double training costs.

Fairchild Aircraft says that, under §§ 121.424 and 121.427 as well as part 121 Appendix E, windshear training must be performed in a simulator and that such simulators are not likely to be available to many commuter airline operators. This commenter adds that there is no evidence that the part 135 windshear program is inadequate.

Fairchild Aircraft recommends that §§ 121.424 and 121.427, as well as Appendix E, be amended to provide relief from windshear simulator training for certificate holders of turbopropeller airplanes with 30 or fewer passenger seats. An individual commenter recommends that low-altitude windshear training be made a part of both ground and flight (simulator) training under part 135. This commenter says that, currently, commuter aircraft are not equipped to receive advance warning of low-level windshear and that training would help pilots to better deal with such occurrences. ALPA proposes that § 121.400(b) be amended by adding a group specific to propeller-driven aircraft with a seating capacity between 10 and 30 seats. This will ensure that personnel, particularly dispatchers and meteorologists, understand and appreciate the working environment of these aircraft, including the facilities and capabilities associated with weather, airports, maintenance, and logistics, etc.

An individual commenter supports increased commuter training for several reasons: Most accidents are related to human (not equipment) error, there is a need for more simulator training among commuters, and part 135 aircrews must deal with a high number of regional landings and takeoffs as well as varied weather conditions.

Jetstream Aircraft Limited and American Eagle support the proposed rulemaking to strengthen part 135 crewmember training.

FAA Response: The comments on appropriate training requirements, while generally supportive of the FAA's goals in this rulemaking, are actually more relevant to the separate rulemaking addressed in section III.E, Related FAA Action. The windshear simulator training requirements only affect turbine powered airplanes (turbojets) on which windshear equipment is required by § 121.358.

American Eagle supports IOE requirements for all first officers and believes that the additional costs associated with such a requirement are worth it to ensure that these pilots are fully qualified.

RAA, ASA, and Gulfstream believe that a basis and criteria for ''grandfathering'' these current and qualified seconds in command can be the training records of each of these airmen as well as the flight records documenting their experience as first officers.

An individual commenter says that a precedent for grandfathering these pilots is the ''N & O'' exemptions held by certain 135 certificate holders which allows training under part 121 but does not require repetition of unique part 121 IOE for crews which have been conducting scheduled operations under part 135.

Fairchild Aviation recommends that § 121.437(a) be amended to recognize the fact that not all 10–19 passenger airplanes are large airplanes. This commenter says that this section should be changed to read, ''. . . and, *if required,* an appropriate type rating for that aircraft.''

FAA Response: The comments on appropriate crewmember qualification requirements are actually more relevant to the separate rulemakings addressed in section III.E, Recent FAA Actions. The concerns raised by these commenters have been considered in those rulemaking actions.

VI.A.11. Subpart P—Aircraft Dispatcher Qualifications and Duty Time Limitations: Domestic and Flag Operations

Requirements for dispatch systems and aircraft dispatcher qualifications are discussed in section V.F., Dispatch system.

VI.A.12. Subparts Q, R, and S—Flight Time Limitations and Rest Requirements: Domestic, Flag, and Supplemental Operations

Requirements for flight time limits and rest requirements are discussed in section V.D., Flight time limits and rest requirements.

VI.A.13. Subpart T—Flight Operations

Operational control. Sections 121.533 and 121.535 require each domestic and flag operation to be responsible for operational control and specify the responsibilities for aircraft dispatchers and pilots for each flight release. No comments were received on these sections and the final rule is adopted as proposed; however, related comments on dispatch system requirements are discussed in section V.F., Dispatch system.

Admission to flight deck. Section 121.547 specifies who may be admitted to the flight deck of a passenger-carrying airplane. The part 121 section is similar to § 135.75 but provides for additional types of persons who may be admitted. FAA proposed that affected commuters comply with part 121. No comments were received concerning this section and the final rule is adopted as proposed.

Flying equipment. Section 121.549(b) requires that each crewmember shall, on each flight, have readily available for his or her use, a flashlight that is in good working order. This is a new requirement for 10- to 30-passenger seat airplanes for co-pilots that was not specifically discussed in Notice No. 95–5. No comments were received and the final rule remains as proposed.

Emergency procedures. Parts 121 and 135 require that, when the certificate holder or PIC knows of conditions that are a hazard to safe operations, the operation must be restricted or suspended until the hazardous conditions are corrected. For a discussion of this issue, see ''Emergency Operations (Proposed §§ 119.57 and 119.58)'' later in this preamble.

Briefing passengers before takeoff. The FAA proposed to amend § 121.571(a) to bring over from § 135.117 requirements for additional passenger information for airplanes with no flight attendant. This additional information includes instructions on location of survival equipment, normal and emergency use of oxygen equipment for flights above 12,000 MSL, location and operation of fire extinguishers,

cards and briefings. The commenter states that the FAA's cost estimate appears to be low. Alaskan air carriers would need to devise a more comprehensive information system due to the many nationalities and native languages in Alaska. Many local passengers are not native speakers of English or are not fluent in its comprehension. Briefing cards must be painstakingly translated into many Alaskan Native languages at great expense. Some air carriers have also had to translate into Japanese, Korean, and Russian for tourists from the Pacific Rim nations. Based on experience, the commenter states that the FAA's assumption of a 3-year life expectancy for information cards is high and that information cards normally last less than a year due to wear and theft. The commenter also estimates costs of $26,000 for Alaskan commuter air carriers in the first year and $4,224 each year thereafter to meet the requirement.

FAA Response: While the FAA recognizes the benefits of translating passenger information on briefing information, this has never been a requirement but an option undertaken by the operator to improve service and safety.

The 3-year life expectancy of briefing cards is based on past experience. There is nothing unique to Alaska that would warrant a deteriorated state sooner than within 3 years.

Part 135 10- to 19-seat airplane briefing card requirements are being incorporated into part 121. New cards need not be revised immediately and normal wear cycles prevail so that this rule would not impose additional costs.

Oxygen for medical use by passengers. Section 121.574 provides that a certificate holder may allow a passenger to carry and operate equipment for dispensing oxygen if, among other requirements, the equipment is furnished by the certificate holder. The proposal would require affected certificate holders to comply with § 121.574.

Under current § 135.91, the certificate holder may allow a passenger to carry and operate equipment for dispensing oxygen provided certain requirements are met. Section 135.91(d) contains a provision for permitting a noncomplying oxygen bottle provided by medical emergency service personnel to be carried on board the airplane under certain circumstances; this provision was not proposed to be carried forward into part 121.

Comments: AACA states that many medevac operations take place on board scheduled and on-demand flights. Without aviation oxygen available at village health clinics, the flexibility of § 135.91(d) would be lost if it is not carried forward into part 121. AACA recommends allowing a noncomplying oxygen bottle on aircraft operating solely within the State of Alaska. To prohibit this will mean medevac costs will increase and patient transports will have to be done on board charter flights that can originate from a hub point where medical oxygen and stretcher units can be installed on the airplane.

FAA Response: The FAA does not find it necessary to move the language of § 135.91 to § 121.574. The FAA has issued exemptions on this requirement to part 121 certificate holders operating in Alaska.

Alcoholic beverages. Sections 121.575 and 135.121 contain requirements controlling the serving and consumption of alcoholic beverages on the airplane. The requirements are similar except for three minor additional requirements in § 121.575. The FAA proposed that affected commuters comply with the requirements of § 121.575 and since no comments were received on this issue, the final rule is adopted as proposed.

Retention of items of mass. Section 121.576 requires that certificate holders must provide and use a means to prevent each item of galley equipment and each serving cart, when not in use, and each item of crew baggage, which is carried in the crew or passenger compartment, from becoming a hazard. Section 121.577 prohibits a certificate holder from moving an airplane on the surface or taking off unless such items are secure. Sections 135.87 and 135.122 require certificate holders to ensure that such items are secure before takeoff. The FAA proposed that the affected commuters comply with § 121.577, which is substantively the same as § 135.122. No comments were received on this issue and the final rule is adopted as proposed.

answer to both questions of the commenter is no. Part 91 and part 135 do not have ozone provisions. The final rule is the same as proposed.

Minimum altitudes for use of autopilot. Sections 121.579 and 135.93 establish minimum altitudes for use of autopilots. The two sections are similar; however, part 135 does not specify weather requirements for an approach. In a recent NPRM proposing to revise the minimum altitude for use of an autopilot (59 FR 63868, December 9, 1994), which is under consideration, the minimum altitude for autopilot use corresponds to that designated in the type design of the autopilot and stated in the Airplane Flight Manual (AFM). If the rule is adopted as proposed, the AFM would establish guidance that would be edited and approved in the air carrier's operations specifications.

Comments: Commuter Air Technology comments that it has aircraft without autopilots and questions how the rule would affect those aircraft.

AACA states that an NPRM published on December 9, 1994, will require the AFM to establish guidance that would be edited and approved in the affected air carrier's operations specifications.

FAA Response: If the airplane does not have an autopilot, § 121.579 does not apply.

Section 135.93 is similar to § 121.579; however, there are differences that would necessitate manual and training changes regarding the use of the autopilot.

The above mentioned proposal includes the recommendations of the Aviation Rulemaking Advisory Committee (ARAC). The FAA has proposed in that rulemaking that instead of the 500 ft. minimum stated in the regulations, the autopilot could be engaged at whatever the airplane flight manual says it is capable of (200 ft., 100 ft., etc.). Comments were favorable. If adopted, the results of that separate rule will apply to the affected commuters.

Observer's seat. Section 121.581 requires a certificate holder to make available a seat on the flight deck of each airplane for use by the Administrator while conducting routine inspections. Comparable § 135.75 requires, for inspections, a forward observer's seat on the flight deck or a forward passenger seat with headset or speaker. Because airplanes in the 10- to 30-seat range may not have an observer's seat on the flight deck, the FAA proposed to move the option of providing a forward passenger seat into part 121 and require compliance with part 121 for affected commuter operators. No comments were received regarding this issue and the final rule is adopted as proposed.

Authority to refuse transportation. Section 121.586 prohibits a certificate holder from refusing transportation to a passenger on the basis that the passenger will need the assistance of another person to move quickly to an exit in the event of an emergency unless the certificate holder has established procedures for the carriage of such passengers and the passenger either fails to comply or cannot be carried in accordance with the procedures.

Comments: Commuter Air Technology states that their aircraft has no place for a wheelchair and that the seat opposite the main cabin door has increased pitch which normally accommodates individuals with movement restrictions.

FAA Response: In response to the specific comment, if a certificate holder has no room on board an airplane to handle a wheelchair as carry-on baggage, the wheelchair may be checked as cargo baggage.

The Air Carrier Access Act is implemented in 14 CFR part 382. Aircraft accessibility requirements found in § 382.21 generally exempt aircraft operated under part 121 with fewer than 30 passengers and aircraft operated under part 135. The rule requires that these aircraft comply "to the extent not inconsistent with structural, weight and balance, operational and interior configuration limitations."

The FAA anticipates that affected commuters will establish procedures in accordance with § 121.586. These procedures must be developed in accordance with § 382.21. Since operators under parts 121 and 135 are already in compliance with § 382.21, this rulemaking poses no new requirements other than establishing procedures for the carriage of passengers who may need special assistance in an emergency.

in accordance with § 121.285. (See discussion of § 121.285, Carriage of cargo in passenger compartments in this notice.) The final rule revises references in accordance with other changes in this rulemaking. Although affected operators must develop a program for their approved manuals, compliance will not result in any significant substantive operational burden.

Use of certificated airports. For a discussion of the issue of airports certificated under part 139, see section V.H., Airports.

VI.A.14. Subpart U—Dispatching and Flight Release Rules

Flight release authority. Section 121.597, which applies to supplemental operations, requires a flight release signed by the pilot in command when the pilot and the person authorized by the certificate holder to exercise operational control believe that the flight can be made safely. Under part 135 releases are not required for either scheduled or on-demand flights. The FAA proposed requiring compliance with part 121. This requirement would apply to affected commuter airplanes when those airplanes are used in nonscheduled service with a passenger-seating configuration of 10 or more. No comments were received on this issue and the final rule is adopted as proposed.

Dispatch or flight release under VFR. Section 121.611 states that no person may dispatch or release an airplane for VFR operation unless the ceiling and visibility en route, as indicated by available weather reports or forecasts, are and will remain at or above applicable VFR minimums until the airplane arrives at the airport.

Comments: One commenter states that VFR is certainly an acceptable standard for sightseeing operations or for smaller carriers. Scenic Air states that airplanes typically used in the tour business can only operate day VFR. Grand Canyon Airways said 99 percent of its flights are VFR.

An individual states that the proposal on § 121.611 concerning VFR dispatch is unclear as to whether part 135 certificate holders will be required to comply. The commenter believes they should be covered by § 121.611 because it is the safe way and costs nothing.

FAA Response: In the final rule, affected commuters are required to comply with § 121.611. The FAA will develop additional operations specifications paragraphs and guidance for VFR tour operations, remote area operations (e.g. Samoa, Alaska) or other operations that are not capable of being conducted under IFR because they have no airways, IFR approaches, navaids, etc.

Alternate airport for departure. Section 121.617(a) requires an alternate departure airport during certain weather conditions and specifies that for aircraft having two engines the alternate airport must be not more than one hour from the departure airport at normal cruising speed in still air with one engine inoperative. Under the proposed rule, affected commuters would have to comply with the requirement. This requirement was not specifically discussed in the proposed rule.

Comments: Fairchild Aircraft comments that this requirement requires single-engine cruising speed data that are unlikely to be included in the FAA-approved airplane flight manual of 10–19 passenger airplanes. Comparable § 135.217 requires an alternate airport "within 1 hour's flying time (at normal cruising speed) in still air." The commenter requests that the part 135 wording be inserted in the part 121 section.

FAA Response: Fairchild is correct, but the FAA is retaining the requirement and it will be necessary for affected commuters to work with airplane manufacturers to develop appropriate data for normal one-engine inoperative cruising speed for the airplane flight manual within 15 months. (See also section VI.A.4 Airplane limitations: Type of route for discussion of one engine inoperative data).

Operations in icing conditions. No comments were received on this proposal and the final rule is adopted as proposed. (See also VI.A.7. Equipment for operations in icing conditions).

Fuel reserves. Sections 121.639, 121.641, 121.643, and 121.645 contain fuel reserve requirements based on the type of operation to be conducted. These fuel reserve requirements do not distinguish

would have a detrimental impact economically, with no related gain in safety. Fairchild suggests that the FAA adopt § 135.209, which requires a 30-minute reserve for airplanes with fewer than 31 seats. Samoa Air comments that the proposal would require a 45-minute reserve for flights that average 30 minutes and is therefore unnecessary. Raytheon adds that its aircraft would have to give up one of 19 passengers to carry the additional fuel. Raytheon argues that smaller airplanes make shorter flights than big airliners, can operate to and from shorter runways, and are closer to an alternate airport. Therefore, the 10–19 seat airplane should be exempt from this requirement. Commuter Air Transport comments that all of its current route analysis is done on a 45-minute reserve.

AACA states that fuel reserve requirements for part 121 are 50 percent higher than for operating identical aircraft under part 135. According to AACA, the large fuel reserves required for dispatching smaller turboprop aircraft under part 121 make those aircraft marginally economical to operate when faced with competition from piston-powered twins operated under part 135.

At the Las Vegas public hearing, Twin Otter International stated that taking the VFR fuel reserve from 30 to 45 minutes is 150 pounds of fuel. That is reducing the capacity of the airplane by one passenger. The commenter is not sure there would be any safety benefit for sightseeing operations.

A pilot in Alaska comments that the part 135 fuel reserve requirements are adequate and that adding more reserves would degrade the already limited payload of many affected aircraft. Two commenters point out that operations that begin as VFR may end up IFR and that a 45-minute reserve provides more options, than a 30-minute fuel reserve.

Another individual recommends adopting the 45-minute fuel reserve. While it may be argued that there are a greater number of potential alternate airports within 30 minutes flying time of a destination airport that are capable of handling smaller, commuter-type airplanes, some of these potential alternates may not be acceptable from the standpoint of having weather reporting or aircraft rescue and firefighting capability. Additionally, once airborne, fuel time and the 30-minute reserve (some of which is unusable) might pressure some crews into poor operational situations. A standard 45-minute reserve provides more options.

One individual states that commuters can quantify the costs of the additional 15 minutes of fuel reserve, which cannot be significant. The standardization and extra fuel safety margin should be worth the cost.

FAA Response: The FAA recognizes that there are some operations that appear not to require a 45-minute fuel reserve. One of these is the flight that only takes 30 minutes. The logical solution would be to carry 30 minutes of reserve fuel so that, at worst, the airplane could return to its airport of origin. However, in some circumstances, such as the sudden occurrence of bad weather, returning may not be possible. Therefore, the FAA agrees with commenters who point out that a 45-minute fuel reserve provides more options.

The FAA also acknowledges that for some airplanes the additional fuel may require the loss of a passenger seat and the FAA recognizes the burden of the 45-minute reserve. Accordingly, the FAA is allowing relief in the final rule for those who operate day VFR per operations specifications. However, the FAA retains the requirement for a 45-minute reserve whenever on an IFR flight plan, including under VFR conditions. The special rule allows relief to those who are truly VFR such as air tour operators and certain Alaskan operations. The relief applies only to 10–19 passenger seat operators with airplanes certificated after 1964. These smaller airplanes have more flexibility in VFR to find a suitable landing airport. This flexibility provides functional equivalency to part 121.

VI.A.15 Subpart V—Records and Reports

Subpart V prescribes requirements for the preparation and maintenance of records and reports for all certificate holders operating under part 121. Although many of the requirements are identical to or similar to the recordkeeping requirements in §§ 135.63 and 135.65, part 121 requires additional information,

records and suggest that the requirement be eliminated if it no longer serves a useful purpose.

FAA Response: The FAA agrees with commenters that § 121.715, relating to inflight medical emergencies, is obsolete and it has been deleted in the final rule. The commenters are correct that § 121.711 requires certificate holders to record each en route radio contact and keep the record for 30 days. This requirement is necessary for all certificate holders and has been retained in the final rule.

VI.B. Part 119—Certification: Air Carriers and Commercial Operators: Summary

Part 119 is a new part that consolidates into one part the certification and operations specifications requirements for persons who operate under parts 121 and 135. For the most part, these regulations are currently in SFAR 38–2, which replaced the certification and operations specification requirements in parts 121 and 135 in response to the Airline Deregulation Act of 1978.

Part 119 was originally proposed in 1988 (53 FR 39853; October 12, 1988; Docket No. 25713). Based on comments received on the definition of "scheduled operation" in that notice, the FAA published a Supplemental Notice of Proposed Rulemaking (SNPRM) in 1993 (58 FR 32248; June 8, 1993; Docket No. 25713). In Notice 95–5, the FAA republished the entire text of part 119 for comment because of the length of time since the first NPRM, the number of changes that were made to the proposed text, and the significance of the changes to part 119 that resulted from the review of commuter operations. Each section of part 119 that had been changed since the previous notices was explained in the preamble to Notice 95–5.

The first objective of part 119 is to establish a permanent guide in a new part that will enable persons who provide transportation of people or cargo to determine what certification, operations, maintenance, and other regulatory requirements they must comply with. A second objective is to set out procedural requirements for the certification process that apply to all certificate holders conducting operations under part 121 or part 135.

Part 119 accomplishes the following:

(1) Incorporates much of SFAR 38–2 as Subparts A and B;

(2) Revises certification procedures now in parts 121 and 135 and consolidates them as Subpart C;

(3) Revises wet leasing requirements;

(4) Provides definitions for terms such as "direct air carrier" and "kind of operation," and clarifies the requirements for operations specifications by adding definitions for terms such as "domestic operation" and "supplemental operation;"

(5) Provides a roadmap for certificate holders to lead them to the operating rules in part 121, 125, or 135 that they must comply with for the kind of operations that they conduct;

(6) Adds a new requirement for a Director of Safety; adds management requirements for domestic and flag operations conducted under part 121 consistent with those that now exist for supplemental operations conducted under part 121; and consolidates part 121 and part 135 management requirements;

(7) Rescinds part 127 and any requirements that pertain solely to helicopters in part 121, Subparts A through D; and

(8) Throughout part 121, Subparts A through D, and part 135, Subpart A, changes various references from CAB requirements to DOT requirements, changes terminology where needed, and makes incidental editorial changes.

in part 119 are not adequately considered in Notice 95–5's cost-benefit analysis." Both of these commenters believe that the new requirements in part 119 impose unnecessary administrative burdens for certificate holders.

FAA Response: The FAA disagrees with the arguments presented by the commenters. For the most part, subchapter C is a recodification of the existing part 121 and 135 certification requirements for applicants for air carrier or operating certificates. In some instances, such as wet leases under § 119.53, recency of operation under § 119.63, and management personnel under §§ 119.65 and 119.67, where substantive changes are made, further discussion is contained elsewhere in this preamble.

Section 119.2—Compliance. The final rule contains a new § 119.2 that states that certificate holders shall continue to comply with SFAR 38–2 until 15 months after the publication date of the final rule or the date on which the certificate holder is issued part 121 operations specifications, whichever occurs first.

Section 119.3—Definitions. Section 119.3 contains definitions for the five kinds of operations conducted under parts 121 and 135 (Domestic, Flag, and Supplemental in part 121 and Commuter and On-demand in part 135). The FAA proposed to move the affected commuters to part 121 by changing the definitions for "Commuter operations," "Domestic operations," and "Flag operations." Comments on these definitions as they relate to affected commuters are discussed earlier in the preamble under "V.B. Applicability." Other comments on proposed definitions are discussed in this section.

General comments on definitions. There were several comments on the lack of definitions for certain terms in the proposed rule, and, in some cases, the lack of distinctions drawn among certain terms. Helicopter Association International (HAI) cites the lack of a definition for "common carrier," saying that it is hard to understand the difference between this and the "noncommon carrier." One commenter recommends that "nonscheduled operations" should substitute for "on-demand operations" and "supplemental operations" and that "scheduled operations" should replace the words "domestic," "flag," and "commuter" in order to simplify and standardize the regulations. Additionally, whenever the phrase "flag operations" needs to be distinguished, "scheduled foreign operations" could be used instead. Further, this commenter suggests that "since the term 'scheduled' now means any scheduled flight, there would be no need to define it, as the five round trips per week definition has been dropped."

FAA Response: The FAA disagrees with the comment that "scheduled" and "nonscheduled" should be substituted for the terms "domestic," "flag," "commuter," "supplemental," and "on-demand." These are five distinct kinds of operations that the FAA needs to identify and regulate separately according to the characteristics of each kind of operation and the terms are presently used throughout the regulations. Also, the "five round trips per week" concept has been reinstated for commuter operations with 9 or fewer passengers, as discussed in section V.B., Applicability.

"Common carrier" is a term that has been discussed in numerous court cases. "Non common carriage" is being defined in § 119.3.

"All-cargo operations". Proposed § 119.3 defines "all-cargo operation" to mean any operation for compensation or hire that is other than a passenger-carrying operation. These operations follow the rules for on-demand or supplemental operations, regardless of whether the all-cargo operation is conducted on a regular, "scheduled" basis.

Comments: ALPA proposes that the FAA should discontinue the distinction between scheduled passenger and scheduled all-cargo operations and reserve that distinction for the nonscheduled all-cargo operation because there is little difference between the scheduled passenger and scheduled all-cargo operations.

FAA Response: The FAA has considered ALPA's suggestion; however, it is outside the scope of this rulemaking. However, the definition has been slightly modified so that passengers described in §§ 121.583(a) and 135.85 can be carried without the operation losing its all-cargo status.

"Commuter operations". The proposed definition for "commuter operations" limits the use of this term to scheduled operations in airplanes having 9 or less passenger seats or in any size rotorcraft.

definition does not accommodate all of the different uses of the term "commuter." However, operators of aircraft with 9 or fewer passengers do provide frequent service over short stage lengths and service to small communities. Therefore, the term is appropriate for these operations. The FAA acknowledges that this definition differs from the definition of "commuter operator" in part 93 and from the DOT definition. That inconsistency will continue.

"Domestic operation". Proposed § 119.3 defines "domestic operation" to mean any scheduled operation in specified airplanes "between any points within the 48 contiguous States of the United States or the District of Columbia" (2)(i); "between any points entirely within any State, territory, or possession of the United States" (2)(ii); or "between any point within the 48 contiguous States of the United States or the District of Columbia and any specifically authorized point located outside the 48 contiguous States of the United States or the District of Columbia" (2)(iii).

The only comment received on this proposed definition is the comment on its inclusion of a tour operation that departs from and returns to same point which is discussed earlier. One change in the proposed definition is replacing the words "any required crewmember" with the words "each crewmember" to be consistent with the treatment of the single-engine Otter airplane as previously discussed. Additionally, the final rule has been slightly modified to include some of the language currently used in SFAR 38–2.

"Flag operation". Proposed § 119.3 defined "flag operation" to mean a scheduled operation conducted in specified airplanes "between any point within the State of Alaska or the State of Hawaii or any territory or possession of the United States and any point outside the State of Alaska or the State of Hawaii or any territory or possession of the United States, respectively" (2)(i); or "between any point within the 48 contiguous States of the United States or the District of Columbia and any point outside the 48 contiguous States or the District of Columbia (2)(ii).

Comments: AACA comments that currently Alaskan operations conducted under part 121 are conducted under the flag rules of part 121. According to the commenter, a number of Alaska operators currently hold operating authority and operations specifications to fly scheduled or charter service to Canada, and to the Commonwealth of Independent States (the Russian Federation). The commenter states that the rulemaking should clarify what operating rules are to be used for operations that previously operated solely under flag rules. According to the commenter, since most of the flights to the Russian Federation are on-demand, the impact of part 119 on these flights needs to be thoroughly analyzed.

FAA Response: Other than minor changes, the proposed definition of "flag operations" remains in the final rule as proposed. Accordingly, scheduled operations conducted under part 121 between a point in Alaska to a point outside of Alaska will be considered flag operations. Scheduled operations between a point in Alaska and another point in Alaska will be considered domestic operations. In fact, scheduled operations from one point in Alaska (or any other state) to the same point are considered domestic operations. Nonscheduled operations, whether between points within Alaska or between a point in Alaska and a point outside of Alaska, will be considered supplemental operations or on-demand.

One minor change in the definition adds operations between two foreign points to the list of locations included as flag operations.

"Maximum payload capacity". The proposed definition for "maximum payload capacity" is the same as the one currently used in SFAR 38–2, except for the allowances for determining the standard average weights for crewmembers.

Comments: GAMA comments that the standard oil allowance of 350 pounds found in the definition of "maximum payload capacity" should be changed to coincide with the type certificated oil value. The commenter points out that the 350 pound value greatly exceeds any value found among present and future 10–19 passenger commuter airplane designs. Fairchild suggests that the definition refer to "full oil" and that the specific 350 pound allowance should be deleted. RAA states that the definition uses obsolete values for minimum oil and fuel and recommends that the FAA eliminate the distinction

"On-demand operation" and "Supplemental operation". The definitions of "on-demand operation" and "supplemental operation" were rewritten for Notice 95–5 to make it clearer which operations fall into these categories. The proposed definitions did not change significantly from current rules or from the original 1988 NPRM, except for one important difference. Notice 95–5 does not change the basic dividing line between on-demand and supplemental operations. A configuration of more than 30 passenger seats or a payload capacity of more than 7,500 pounds is a supplemental operation, while a configuration of 30 or less passenger seats and a payload of capacity of 7,500 pounds or less is an on-demand operation. However, if a specific airplane with a passenger-seating configuration of 10 to 30 seats is used in domestic or flag operations as a result of this rule, any nonscheduled operation conducted with that airplane must be conducted under the part 121 supplemental rules, instead of under the on-demand rules of part 135.

Comments: Fairchild Aircraft suggests that airplanes' switching between regulatory parts should not be difficult and asks that the FAA eliminate all unnecessarily burdensome conformity, equipment, and record checks.

FAA Response: This requirement is necessary because an airplane must be listed in a certificate holder's operations specifications as either a part 121 or a part 135 airplane; it cannot be switched back and forth between parts without a major investment of time and resources by both the certificate holder and the FAA. Switching between parts entails many things, including airplane conformity checks, equipment checks, and record checks. These are all necessary checks that the FAA must perform to fulfill its safety oversight function.

Section 119.5—Certifications, Authorizations, and Prohibitions. This section identifies the type of certificate (air carrier or operating) the Administrator issues to certificate holders, depending on the nature of their operations, and specifies certain authorizations and prohibitions associated with those certificates for specific types of certificate holders.

Comments: A commenter claims that the distinction between the air carrier certificate and the operating certificate is ambiguous. He poses two questions: "Why would we prohibit a 737, 121 certificated, intrastate, common carriage operator (who presumably would have an operating certificate) from engaging in other common carrier operations?" The second question is "why would we prohibit a part 121 common carriage operator with an air carrier certificate from providing non-common carriage?"

FAA Response: An intrastate common carrier who wishes to conduct interstate operations must first obtain economic authority to conduct those operations from the Department of Transportation. Once that authority is granted, the FAA would issue an air carrier certificate to that operator if the FAA concluded that the operator could safely conduct those operations. In regard to the distinction between common carriage and noncommon carriage, the essential difference is the presence or absence of a holding out. The FAA believes that an operator engaged in common carriage (holding out) cannot unequivocally claim that it can engage in a noncommon carriage operation that would not have benefited from the holding out activities of the common carriage operation.

Section 119.7—Operations Specifications. In § 119.7 the FAA proposed identifying items that must be contained in each certificate holder's operations specifications. No comments were received on this issue and the final rule is adopted as proposed.

Section 119.9—Use of Business Names. In this section, the FAA proposed to prohibit certificate holders that operate airplanes under part 121 or 135 from using a business name other than the name appearing in a certificate holder's operations specifications. The FAA proposed that the name of the certificate holder conducting the operation must be displayed on the airplane and clearly visible and readable to a person standing on the ground at any time except during flight time, and that the means of displaying the name must be acceptable to the Administrator.

Comments: Gulfstream Air, NATA, RAA, SP Aircraft, and two individuals address the requirement to have the certificate holder's name on the aircraft. Four recommend that the requirement not apply

for purposes of ramp inspections, those who appear to have operational control of the airplane. Some carriers use names for their businesses other than their corporate name. These are often called "doing-business-as" or "DBA" names. All of a certificate holder's DBA names must be listed in its operations specifications. A certificate holder may also paint a DBA name on the outside of the aircraft. However, in order to be in compliance with this section, the certificate holder's name must also appear on the outside of the aircraft.

Because this regulation applies to airplanes ranging in size from a small reciprocating-engine-powered airplane to a Boeing 747, it is not practical for the FAA to define the size letters that would be required. Any means of identification which satisfies this requirement is acceptable, including signs temporarily affixed in windows or on the door or fuselage of the airplane.

The term "acceptable to the Administrator" is interpreted to mean acceptable to an authorized representative of the Administrator. In this case, a certificate holder's principal inspector would determine if the means of displaying the name is acceptable, based on written guidance from FAA Headquarters. The final rule is the same as proposed.

Section 119.21—Direct air carriers and commercial operators engaged in intrastate common carriage with airplanes. Section 119.21 contains the regulatory roadmap that requires domestic, flag, and supplemental operations to be conducted under part 121 and commuter and on-demand operations to be conducted under part 135. Section 119.21(a)(3) states that the Administrator may authorize or require that (1) Certain certificate holders conducting supplemental operations between airports that are also served by the air carrier's domestic or flag operations, conduct those operations under the domestic or flag rules; and (2) certain all-cargo operations that regularly and frequently serve the same two airports may be required to be conducted under the domestic or flag rules.

Comments: The National Air Carrier Association (NACA) recommends deleting "or require" in the second sentence of proposed § 119.21(a)(3). The language goes far beyond the current language of SFAR 38–2.4(a)(3) or part 121 in its application to supplemental passenger operations conducted "between points that are also served by the certificate holder's domestic or flag operations." The preamble does not provide sufficient explanation or justification to require the application of domestic or flag operating requirements to supplemental passenger operations that are operated over routes where an operator also has domestic or flag operations. There are sufficient economic and operational safeguards already in place to preclude abuse. NACA believes that what "may be required" will quickly become "what is required," with the FAA unilaterally imposing the requirement to operate certain nonscheduled passenger operations under domestic or flag rules. There is no safety or accident history to justify more restrictive regulations. NACA concurs that frequency of service between a pair of points should not be the criterion for determining which rules apply.

FAA Response: The FAA concurs with the comments from NACA on the wording of the rule and the words "or require" have been removed in the final rule.

Section 119.25—Rotorcraft operations. Section 119.25 directs that all rotorcraft operations be conducted under part 135 regardless of the size or seating capacity of the rotorcraft. However, external-load operators and agricultural aircraft operators must comply with part 133 or part 137 of the FAR, respectively.

Notice 95–5 proposed to rescind part 127 because rotorcraft operators that previously operated under part 127 are directed in § 119.25 to conduct those operations under part 135. Part 135 has been more recently updated and, therefore, provides a more appropriate level of safety for rotorcraft operators than part 127.

Comments: HAI opposes removing part 127 at this time. HAI supports a review and update of this part in the future, but states that to simply remove this part now would be to allow the certificate-issuing district office unlimited discretionary powers in the design of appropriate operations specifications.

FAA Response: Part 127 is not a current part because SFAR 38–2 directed all rotorcraft operators to conduct their operations under part 135. Appropriate operations specifications for each certificate holder operating either airplanes or any size rotorcraft are developed by FAA Headquarters. The standard paragraphs

to make the proving test requirements consistent in those parts. No comments were received on these § 119.33 issues and the final rule is adopted as proposed.

Section 119.35—Certificate application. This section requires a certificate applicant to submit the application 90 days prior to the intended date of operation instead of the current standard of 60 days. This length of time accounts for the actual amount of time required by the FAA to properly process applications and to allow for agency documentation in the formal review period.

Paragraphs (c) through (h) of this section are a recodification of §§ 121.47, 121.48, and 121.49, which deal generally with the disclosure of financial information and of people/entities that would control the new certificate holder, applicable only to two categories of carriers: those who are not air carriers and those applying for authority to engage in intrastate common carriage but have not undergone fitness review by the Department of Transportation. The FAA believes that these requirements are crucial to ensuring safety by providing a check of financial, management, and other information about of the certificate holder and his or her ability to conduct safe operations.

Comments: NATA expresses concern about the utility of requiring detailed financial reporting, because safety problems are "more appropriately discovered through operational inspections" than through financial data. SP Aircraft comments that requiring detailed financial reporting seems excessive for small craft operators of on demand service since this requirement has not been proposed before now, and no explanation was provided for it in Notice 95–5. This commenter shares the concern that the reporting of financial records would in no way enhance the safety of operations that the FAA claims this proposal serves. Additionally, the commenter criticizes the requirement for insurance in that requiring the applicant to have insurance prior to submitting the application is an unnecessary burden due to the uncertain time span before application and review is complete. Thus, it recommends requiring that insurance should be in place before operations begin.

Fairchild Aircraft comments that § 119.35 fails to define the requirements for submitting detailed financial data, and recommends that the FAA establish the minimum qualifications that must be met under part 119, subpart C.

FAA Response: The financial reporting requirements in § 119.35(c) through (h) apply only to persons who are not air carriers, commonly called "commercial operators," and who are applying for authority to engage in intrastate common carriage but have not undergone a fitness review by the Department of Transportation. The rule language has been updated to make it consistent with new definitions and certification requirements applicable to these operators. For persons applying for authority to conduct intrastate common carriage operations under part 135 these would be new requirements, as commenters point out. The FAA believes these requirements are necessary because financial information, management information, and information concerning who controls the certificate holder can reveal potential shortcomings on the applicant's ability to conduct a safe operation. The requirement for insurance information in § 119.35(h)(7) provides that the applicant report the period of coverage, not that it be in effect before the application is submitted. Therefore the date that insurance coverage begins can be coordinated with the estimated date that operations begin. In order to make it clear that § 119.35 (c) through (h) apply only to applicants who are commercial operators, the final rule includes cross references within paragraphs (c) through (h), and paragraphs (g) and (h) have been switched.

Section 119.41—Amending a certificate. FAA proposed new procedures for making changes to the operating certificate. These procedures, modeled after 49 U.S.C. § 44709 and similar to the procedures used to amend operations specifications, would standardize the amendment process. Applications for amendments to certificates would have to be submitted 15 days in advance of the time the operator wants the amendments to be effective, unless the Administrator approves a shorter period when circumstances warrant. No comments were received on this issue and the final rule is adopted as proposed.

Section 119.47—Maintaining a principal base of operations, main operations base, and main maintenance base; change of address. Section 119.47 requires that a certificate holder maintain a principal base of operations and allows the certificate holder to establish a main operation and main maintenance

operating certificates. Part 135 currently requires certificate holders to list their alternate business names on their operating certificates. The FAA proposed to require that alternate business names be shown on the operations specifications rather than on the operating certificate. No comments were received on this issue and the final rule is adopted as proposed.

Section 119.49 adds the requirement that operations specifications contain a reference to the economic authority issued by the OST. The economic authority issued by the OST is not a new requirement; the FAA proposed this reference to clarify that the requirement still exists. No comments were received on this issue and the final rule is adopted as proposed.

Section 119.49 also requires a certificate holder conducting domestic, flag, or commuter operations to obtain operations specifications that list each type of aircraft authorized for use and each aircraft's registration markings and serial number. Under part 121, the requirement to list registration markings is not required for domestic, flag, or commuter operations. The FAA proposed this requirement in the interest of consistency and to facilitate FAA enforcement and surveillance functions. No comments were received on this issue and the final rule is adopted as proposed.

Section 119.51—Amending Operations Specifications. Under § 119.51 applications for amendments to operations specifications would have to be submitted 15 days in advance for minor or routine amendments; however the FAA proposed to require that certificate holders file applications to amend operations specifications at least 90 days before the date proposed by the applicant for the amendment to become effective in cases of mergers; acquisition or airline operational assets that require an additional showing of safety (e.g., proving tests); changes in the kind of operation as defined in § 119.3; resumption of operations following a suspension of operations as a result of bankruptcy actions; or the initial introduction of aircraft not before proven for use in air carrier or commercial operator operations. It has been the FAA's experience that these types of major changes do take at least 90 days for the agency to determine that, as a result of the change, the applicant is properly and adequately equipped and is able to conduct a safe operation.

Under § 119.51(b), if the Administrator initiates an amendment to operations specifications, the certificate holder would have 7 days to submit written information or arguments on the amendment.

Under § 119.51(d), a certificate holder may petition for reconsideration of a decision on an amendment to operations specifications. If the amendment is not related to an emergency situation, the petition suspends the effectiveness of the amendment.

Comments: USAIR Express, RAA, Mesa, ASA address the required lead times proposed for making either desired or directed changes to operations specifications. Commenters state that the proposed requirements to file an air carrier-desired operations specifications change 90 days before the effective date is excessive. Additionally, the requirement to respond to changes in operations specifications within 7 days when directed by the Administrator and complete implementation within 30 days is unreasonable.

An individual, ASA, and RAA indicate that the proposed language in § 119.51(d) would not permit the continuation of the practice of staying the effectiveness of an amendment when an air carrier submits a petition for reconsideration. The commenters recommend that the petition for reconsideration stay the effective date of an amendment pending the final review of the petition.

FAA Response: In response to comments that a request to change operations specifications must be filed 90 days in advance of the desired effective date, the FAA will add "unless a shorter time is approved" to § 119.51(c)(1)(i) so as not to imply that a carrier must allow the full 90 days. The rest of paragraph (c) reflects current part 121 and part 135 language and is adopted as proposed.

Since § 119.51(d)(3) clearly states that, if a petition for reconsideration is filed within 30 days and if no emergency situation exists, the effectiveness of an amendment to operations specifications issued by the certificate-holding district office is stayed pending final review of the petition. The procedures for emergency situations, spelled out in paragraph (e), are not substantially different than currently found

and would amend the appropriate operations specifications of both parties, if necessary; and (6) allow a wet lease charter flight to transport passengers who are stranded because of the cancellation of their scheduled flight, provided that the wet lease flight is authorized by OST or the Administrator, as applicable, and that the charter flight is conducted under the rules applicable to a supplemental or on-demand operation. These clarifications reflect for the most part current administrative procedures.

Comments: NACA proposes reorganization of § 119.53, including a new paragraph regarding operations specifications for short term wet leases (short term substitute service) that could occur without prior FAA approval in a situation where there is insufficient time to permit compliance with the usual requirements for a wet lease.

USAir Express sees this issue as an example of part 119 addressing changes which are not relevant to the goal of bringing commuter operations up to the standards of part 121, and imposing new restrictions on wet lease activities at the same time. This company finds fault with the fact that § 119.53 requires certificate holders conducting operations to be held to the same operations authorities as certificate holders arranging for the substitute operations.

British Airways objects to § 119.53 because it prohibits any wet leasing to U.S. carriers from foreign air carriers without any safety justification. British Airways sees this prohibition as interfering with healthy competitive relationships between carriers in an international market. Japan Airlines agrees with British Airways' point and adds that this "discriminatory" prohibition contradicts the Department of Transportation's economic regulations providing for wet leasing of aircraft by foreign air carriers to U.S. air carriers. Japan Airlines argues that foreign air carriers are permitted to operate aircraft in the U.S. only if they meet rigorous requirements of part 129 of the FAA regulations, which would imply that these aircraft are safe. Japan Airlines also claims that this regulation might be contrary to a friendship treaty between the United States and Japan. The company suggests that the FAA address any specific foreign carrier safety concerns with something other than a blanket prohibition of the type proposed.

FAA Response: The changes to current requirements for wet leasing in § 119.53 codify existing FAA policy on wet leasing. The FAA requires operators conducting wet leasing operations to hold operations specifications for the same kind of operation as that being conducted in order to be sure that the operator is qualified to conduct that kind of operation. Since foreign air carriers may conduct operations only under part 129, they do not hold operations specifications for current part 121 or part 135 certificate holders and, therefore, may not conduct wet leasing operations for part 121 or part 135 certificate holders. The FAA is considering NACA's suggestion regarding short term wet leasing and intends to request that ARAC develop recommendations on this issue. Regulatory language is amended to allow short notice wet lease operations to be conducted prior to providing information required by § 119.53(c).

Section 119.55—Obtaining deviation authority to perform operations under a U.S. military contract. Proposed § 119.55 establishes a new procedure to obtain deviation authority to perform under a U.S. military contract. This would require the certificate holder to submit this deviation authority request to DOD's Air Mobility Command (AMC), who would review the request and, in turn, forward it and the AMC recommendation on to the FAA for final review. The logic behind having the AMC review this is to provide an additional, and more efficient, evaluation by a more qualified authority on the needs of the military operation.

Comments: One commenter expresses concern about the FAA's need to have the AMC serve as an extra check on FAA knowledge of deviation authority. The commenter states that adding another agency to the process does not serve the interest of readiness, for during military operations, the demands from the military come "fast and furious with many changes."

FAA Response: As the FAA explained in Notice 95–5, during the Desert Shield/Desert Storm operations, the agency was inundated with requests for deviations. The AMC has the resources to consolidate these requests, identify the specific regulations from which relief is sought, and evaluate the requests to determine whether the relief sought would be needed to accomplish the military mission. This procedure will enable the agency to process these requests more efficiently, should the need arise in the future.

§ 119.58 relates to emergency operational situations that may require emergency deviation from prescribed procedures and methods, weather minimums, and FARs to the extent required for *flight safety.*'' The commenter recommends renaming § 119.57 to read ''Obtaining Emergency Deviation Authority to Perform Unapproved Operations'' and § 119.58 to be ''Operational Emergencies Requiring Immediate Decision and Action.'' Additionally, the commenter expresses concern that § 119.58(b) needs to be modified to more clearly reflect dispatcher capability/responsibility, joint responsibility, and a cross-check mechanism to ensure critical operational decisions are not made at the exclusion of safety.

Another commenter states that while he supports the NPRM, he believes that this recodification would cause greater confusion and contradict the purpose of existing safety rules because it goes beyond the scope of the NPRM. He claims that ''[t]he two types of 'Emergency Authority' are of totally different contexts, are truly irrelevant to each other and there is no apparent advantage to this proposed modification''; hence, this proposed action is ''clearly unwarranted.''

The Airline Dispatchers Federation objects to the recodification of §§ 121.557, 121.559, and 135.19 as new § 119.58 on the grounds that emergency procedures are an operational issue, not a certification issue and thus should be located in the operational rules of part 121 and 135.

FAA Response: The FAA accepts the commenters' suggestions. Therefore § 119.58 does not appear in final part 119. Instead §§ 121.557, 121.559 and 135.19 will be retained in parts 121 and 135. However, the substance of proposed § 119.57 on obtaining deviation authority for certain emergency operations does not appear in current part 121 or part 135. Therefore, this section is retained in the final rule. This new section will provide procedures for such situations as the recent hurricane in the U.S. Virgin Islands. Deviation authority was needed in order to allow rescue and supply flights into and out of damaged airports.

Section 119.59—Conducting tests and inspections. In § 119.59, the FAA proposed language to emphasize both the authority of FAA inspectors to gain access to a certificate holder's books and records and the fact that a certificate holder risks suspension of part or all of its operations specifications if it fails to provide that access. Without access to those records, the FAA cannot fulfill its safety mission. No comments were received on this issue and the final rule is adopted as proposed.

Section 119.61—Duration of certificate and operations specifications. Section 119.61 sets out the conditions under which certificates or operations specifications become ineffective.

Comments: Two commenters recommend that when operations specifications are changed or superseded, the carrier should be required to surrender the obsolete copies to the FAA. This would preclude the chance of outdated operations specifications being in the hands of the ''field operators.''

FAA Response: It is the responsibility of the certificate holder to have procedures in place to ensure that the most current copies of the operations specifications are adequately and accurately distributed. The FAA is not requiring that outdated operations specifications be surrendered to the FAA because of the administrative burden that such a requirement would entail. However, the FAA has decided to incorporate into § 119.61 a new paragraph (c), which contains the § 135.35 language for surrender of operations specifications and certificate if a certificate holder terminates business.

Section 119.63—Recency of operation. Proposed § 119.63 would prohibit a certificate holder from conducting a kind of operation if that kind of operation has not been conducted for a period of 30 consecutive days. The certificate holder must advise the Administrator at least 5 consecutive calendar days prior to resumption of that kind of operation and make itself available for any FAA reexamination that the FAA considers necessary.

Comments: Eight commenters address this proposed requirement. One says that 30 days is too short a period and recommends a 6–12 month period. NACA recommends a 6-month period. Comair comments that the requirement is burdensome to active air carriers wanting to conduct supplemental operations; this commenter says that the requirement should be changed to apply to certificate holders or air carriers who have not conducted *any* operations, not just a particular kind of operation, in the previous 30

Mesa and RAA point out that the proposed rule is unclear in its use of the term "kind of operation" and recommend that the FAA define this term.

FAA Response: In response to comments, the FAA has made the following changes to § 119.63 in the final rule:

If part 121 and part 135 scheduled operators do not conduct scheduled operations for more than 30 days, the 5-day notification provision would apply. For part 121 and 135 scheduled operators, no notification is required to conduct supplemental or on-demand operations provided they continue to conduct scheduled operations without being dormant for more than 30 days.

Part 121 supplemental operators or part 135 on-demand operators who have not conducted supplemental or on-demand operations for more than 90 days must notify the FAA at least 5 days before resuming operations.

In response to the comment to define "kind of operations," § 119.3 defines five kinds of operation as one of the various operations a certificate holder is authorized to conduct as specified in the operations specifications; that is, domestic, flag, supplemental, commuter, or on-demand.

Management Requirements (Proposed sections 119.65 through 119.71). Notice 95–5 proposed to consolidate management personnel requirements for operations conducted under part 135 or part 121 into new part 119 and to apply management personnel requirements to domestic and flag operations. The management personnel requirements for operations conducted under part 135 (§§ 119.69 and 119.71) would be substantially the same as those currently in §§ 135.37 and 135.39. The management personnel requirements for operations conducted under part 121 (§§ 119.65 and 119.67) would be similar to those currently in §§ 121.59 and 121.61, which now apply only to supplemental operations.

The only significant changes under the proposed management requirements for part 121 and part 135 are as follows:

Director of safety. The FAA proposed that each certificate holder that conducts operations under part 121 must have a director of safety. This person would be responsible for keeping the highest management officials of the certificate holder fully informed about the safety status of the certificate holder's entire operation. The FAA believes that an independent, full time position is important if at all available or possible. However, it recognizes that in smaller operations, the director of safety function may be an additional function of a current manager. Section 119.65(b) provides flexibility in the requirements for positions and number of positions for management personnel, including the director of safety.

Director of operations. The FAA proposed for § 119.67(a) to require a director of operations to have both 3 years experience as a PIC of an aircraft under part 121 or part 135 and 3 years supervisory experience in a position that exercised control over any operations conducted with aircraft under part 121 or part 135.

In the case of a person becoming a director of operations for the first time, the FAA proposed that the PIC experience in large aircraft be recent, i.e., 3 years of experience within the past 6 years. (See proposed § 119.67(a)(3)(i).) Additionally, for all directors of operation under part 121, the minimum of 3 years of supervisory or managerial experience must have been obtained within the last 6 years. (See proposed § 119.67(a)(2).)

Additionally, for operations conducted under part 135, the FAA proposed that the director of operations have the following experience:

(1) At least 3 years of supervisory or managerial experience within the last 6 years, in a position that exercised operational control over any operations conducted under part 121 or part 135; or

(2) For a person with previous experience as a director of operations, at least 3 years experience as a PIC of aircraft operated under part 121 or part 135; or for a person becoming a director of

Chief pilot. Proposed § 119.71(c)(1) and (d)(1) omitted the word "current" from existing § 135.39(b)(1) and (b)(2) because these pilot certificates no longer have an expiration date and are revoked only for cause. The words "and be qualified to serve as PIC in at least one type of aircraft used in the certificate holder's operation" are added to clarify that the chief pilot must meet recency of experience requirements and medical requirements.

In addition to holding the appropriate certificate, in order to be eligible to be a chief pilot in part 121 or 135 operations, a person must have at least 3 years experience as a PIC of aircraft operated under parts 121 or 135. However, if that person is becoming a chief pilot for the first time, the 3 years experience must have been obtained within the previous 6 years.

Chief inspector. Proposed § 119.67(d) requires a chief inspector for each operator conducting part 121 operations. In addition to the existing eligibility requirements, the chief inspector would be required to have at least 1 year of experience in a supervisory position maintaining large aircraft.

Deviation authority. Proposed §§ 119.67(e) and 119.71(f) authorize the Manager of the Flight Standards Division in the region of the certificate-holding district office to authorize a certificate holder to employ a person who does not meet the qualifications in proposed §§ 119.67 or 119.71. For a certificate holder or applicant that wants to employ a person who does not hold the required airman certificate (e.g., ATP certificate, commercial pilot certificate, airframe and powerplant certificate), the deviation authority sections would not cover such a lack of airman certification situation. The deviation authority provides a means for competent and qualified personnel who do not meet the management personnel qualifications to be employed in required positions.

Comments: A number of commenters responded to the proposed management requirements for part 119. These are discussed below.

Director of Safety. United Express comments that the creation of the director of safety position is in the best interest of the flying public but that the position's responsibilities will depend on airline size, equipment, and type of operations. This commenter says that for small certificate holders, the chief pilot or current director of operations could assume the duties. United Express also says that this position should qualify under current § 121.61.

NTSB and several other commenters say that the director of safety should be independent from operational functions and have direct access to the highest levels of management.

ALPA recommends that in code-sharing operations, the director of safety should report directly to the mainline Safety Vice President; if a code sharer does not have a director of safety, then code-sharing pilots should have access to the mainline safety organization. ALPA also recommends that the director of safety maintain a toll free telephone hotline. In addition, ALPA recommends that the director of safety's qualifications include at least 3 years of supervisory experience and possession of one of the following: an Airline Transport Pilot (ATP) license, Airframe and Powerplant (A & P) license or Dispatcher license, or demonstration of other approved equivalent aeronautical training.

Fairchild states that a separate director of safety position is unnecessarily burdensome and that safety is a concern of all managers. This commenter recommends changing § 119.65(a) so that the director of safety is not required to be a full-time position.

Comair, ASA, Gulfstream, and RAA say that § 119.67 does not provide any qualification requirements for the director of safety. These commenters request that the FAA permit certificate holders to designate directors of safety based upon their needs and without an FAA approval process.

Big Sky Airlines and NATA recommend that smaller certificate holders be allowed to combine the director of safety position with an already existing position. Metro International Airways also points out the burden of this requirement on small certificate holders (e.g., those with 10–15 employees or one or two aircraft). This commenter recommends that these certificate holders be allowed to determine

holders with three or fewer aircraft is burdensome and that a proper internal evaluation program should keep management informed of the certificate holder's safety status.

One commenter says that § 119.69 does not require a part 135 certificate holder to have a director of safety and that this position should be required for these certificate holders.

One commenter recommends that the director of safety be excluded from enforcement action similar to the Aviation Safety Reporting System under § 91.25.

Inter Island recommends that the safety officer be any line pilot with 6 months experience with the company and that this position be kept from the working ranks of line pilots. According to the commenter, this function should not be given to the chief pilot or director of operations.

Other comments on management requirements: USAir Express says that the requirements of this proposed section are burdensome to large certificate holders because it imposes requirements which are designed for small certificate holders onto these large certificate holders. This commenter states that large certificate holders might have many positions at the Vice President or Director's level to fulfill these management functions that a small certificate holder would fulfill through the positions of director of operations, director of maintenance, chief pilot or chief inspector. This commenter also notes that the management of large carriers is more complex, involving knowledge of such areas as labor relations, legal issues, finance, and quality assurance. To assume that these subjects can be mastered while also obtaining the required number of years of experience for each management position is unrealistic. Finally, this commenter objects to the explanation of deviation authority regarding the allowance of unlicensed persons to hold management positions and says that it is inconsistent with the language of the proposed rule itself.

Fairchild Aircraft finds § 119.67 to be more stringent than its corresponding section in part 121 (§ 121.61). This commenter suggests that § 119.67(a)(1) be changed to allow the director of operations to hold or *have held* an ATP certificate and also to delete the words "large aircraft" in order to recognize that not all former part 135 certificate holders have been operating large airplanes.

RAA and many other commenters support "grandfathering" existing key management personnel in the wake of the proposed rule's more stringent experience and qualification requirements. These commenters point out that existing personnel, such as the directors of operations and maintenance, chief pilot, and chief inspector, may already possess excellent management skills, and that to hire new personnel would be unnecessary and burdensome. Action Airlines suggests that instead of having to replace existing personnel when air carriers upgrade their equipment, they should have the option to get deviation or wavier authority and continue to use existing directors of operations, chief pilots, and directors of maintenance.

Metro International Airways states that the addition of management personnel would have a significant impact on operators that only operate two or three affected aircraft. The positions of chief inspector can be handled effectively by the director of maintenance. With such a small fleet of aircraft, the chief inspector would spend many hours idle. Also, a small commuter is more likely to contract out most, if not all, maintenance functions. In this situation, the director of maintenance could easily oversee that all work is completed to FAA standards and signed off by an appropriate person with an IA rating.

The commenter also opposes the proposed increase in management experience, indicating it will have a significant impact on small and proposed commuter airlines. Not only will higher wages be needed to attract those applicants that have the necessary experience, but the operators will need to lure those who qualify from secure positions within the industry. The commenter requests that the FAA define "large," stating there is a difference between a B747 and a Beech 1900C. The commenter recommends that the FAA retain the part 135 provision that allows the combinations of one or more of the required management personnel. As the airline grows it is understandable that the management functions would separate and the manager's experience level would rise. The addition of a chief inspector and a director of safety would create a top heavy airline that could not operate at a reasonable cost.

§ 119.67(a)) for a person becoming a director of operations for the first time. This commenter believes that PIC time is much more relevant to a director of operations' administrative responsibilities and that the currency requirement should apply to the chief pilot, whose function is much more technical. This commenter also disagrees with proposed § 119.71(c)(1) and (d)(1) which exempts the chief pilot from being qualified to serve as PIC in operations conducted under part 121. He believes that since the chief pilot is directly responsible for the proficiency of the pilots, he should be able to serve in this capacity.

Commuter Air Technologies says that 4 years in an aircraft type is more important than 4 years in maintaining a large aircraft as qualification for chief inspector. This commenter adds that small certificate holders rely on senior maintenance personnel, such as, director and chief inspector, for technical and administrative leadership and that experience in aircraft type would better provide this type of experience and skill as opposed to experience in maintaining large aircraft. Similarly, one commenter objects to the use of the phrase "large aircraft" when many commuter predecessors are not "large" aircraft (by the definition of SFAR 41); this could exclude qualifying excellent candidates from such management positions as director of operations, chief pilot, and director of maintenance.

FAA Response: The FAA contends that most currently employed directors meet the new standards. For those directors who do not, § 119.67(e) allows operators to request authorization from their district office for the continued employment of those directors. However, note that §§ 119.67(e) and 119.71(f) provide for exceptions from experience requirements, but not from requirements to hold necessary certificates. The FAA anticipates that most operators whose directors do not meet the new requirements will request authorization and that those requests will be granted. The FAA agrees that in some cases the proposed recency requirements would place an unnecessary burden on those directors who may have extended periods of unemployment prior to being hired. Thus, for the final rule, the FAA is changing some of the recency requirements. The final rule also standardizes the language as much as possible between operations and airworthiness management positions. The final rule gives relief for those operators who do not operate large aircraft.

The FAA will develop handbook guidance on management personnel to provide FAA inspectors with criteria to respond to requests concerning issues raised by commenters, such as the combining of certain positions in the case of small operators. In analyzing such requests, the FAA will consider the number of airplanes being operated, the number of employees, the complexity of the operation, the ability of the operator to perform required tasks, and the equivalent level of safety.

The final rule contains the following requirements:

Director of Safety:

The major carriers have told FAA that they already have established this position and are already fulfilling this function. For other operations, § 119.65(b) provides flexibility for establishing this position.

Director of Operations:

Section 119.67 requires 3 years of experience as PIC of a large airplane operated under part 121 or part 135 of this chapter when the certificate holder operates large airplanes. If the certificate holder uses only small airplanes in its operation, the experience may be obtained in either large or small airplanes. For first time applicants, both §§ 119.67 and 119.71 require that the 3 years PIC experience must have been obtained within the past 6 years.

Chief Pilot:

Section 119.67 requires 3 years of experience as PIC of a large airplane operated under part 121 or part 135 of this chapter when the certificate holder operates large airplanes. If the certificate holder uses only small airplanes in its operation, the experience may be obtained in either large or small airplanes. For first time applicants, both §§ 119.67 and 119.71 require that the 3 years PIC experience must have been obtained within the past 6 years.

"large aircraft" has been changed to "aircraft with 10 or more passenger seats" to provide for maintenance experience acquired by work for an affected commuter.

Derivation and distribution tables. The purpose of the revisions to part 121, Subparts A, B, C, and D, and part 135, Subpart A, is to delete all sections which have been moved to part 119, such as requirements using outdated terminology. Subparts B, C, and D, and certain sections of Subpart A of part 121 are entirely deleted as well as certain sections of subpart A of part 135 because these requirements are either obsolete or have been moved to proposed part 119. SFAR 38–2 terminates 15 months after the date of publication of this final rule and many of its provisions have been moved to part 119. Also part 127 is deleted as discussed above under "§ 119.25- Rotorcraft operations." Table 3 is a derivation table, showing the origin and current source in SFAR 38–2, part 121, or part 135 of many of the new sections in part 119. Table 4 is a distribution table, showing the location in part 119 for each section removed from part 121, part 135, and SFAR 38–2.

Table 3.—Derivation Table for Part 119

New section	Based on
Subpart A:	
119.1(a)	New language.
119.1(b)	SFAR 38–2, Section 1(a).
119.1(c)	New language.
119.1(d)	New language.
119.1(e)	New language.
119.2	New language.
119.3	SFAR 38–2, Section 6 and new language.
119.5(a)	SFAR 38–2, Section 2(a).
119.5(b)	SFAR 38–2, Section 2(b).
119.5(c)	New language.
119.5(d)	SFAR 38–2, Section 1(a)(3).
119.5(e)	SFAR 38–2, Section 1(a)(3).
119.5(f)	SFAR 38–2, Section 1(b).
119.5(g)	SFAR 38–2, Section 1(c), 121.4, 135.7.
119.5(h)	SFAR 38–2, Flush paragraph following Section 1(a)(3) and new language.
119.5(i)	121.27(a)(1), 121.51(a)(1), 135.13(a)(3).
119.5(j)	135.33.
119.7(a)	SFAR 38–2, Section 3.
119.7(b)	121.23, 121.43.
119.9(a)	135.29.
119.9(b)	New language.
Subpart B:	
119.21(a)	SFAR 38–2, Section 4(a), 121.3.
119.21(b)	SFAR 38–2, Section 4(b).
119.21(c)	New language.
119.23(a)	SFAR 38–2, Section 5(a).
119.23(b)	SFAR 38–2, Section 5(b).
119.25(a)	SFAR 38–2, Section 4(c), 5(c), and (d) and new language.
119.25(b)	SFAR 38–2, Section 4(c), 5(c), and (d) and new language.
Subpart C:	
119.31	SFAR 38–2, Section 1(c), 2(a) and (b), 121.3, and 135.5.
119.33(a)	SFAR 38–2, Section 1(c), 2(a) and (b), 3, 121.3, 135.5, 135.13(a).
119.33(b)	SFAR 38–2, Section 1(c), 2(a) and (b), 3, 121.3, 135.5, 135.13(a).
119.33(c)	SFAR 38–2, Section 1(c), 2(a) and (b), 3, 121.3, 135.5, 135.13(a).
119.35(a)	121.26, 121.47(a), 135.11(a).
119.35(b)	121.26, 121.47(a), 135.11(a).
119.35(c)	121.47(a).
119.35(d)	121.47(b).
119.35(e)	121.47(c).

119.37(e)	121.25(a), 121.45(a), 135.11(b)(1) and new language.
119.39(a)	121.27(a)(2), 121.51(a)(3), 135.11(b)(1).
119.39(b)	121.27(a)(2), 121.51, 135.13(a)(2) and (b).
119.41(a)	121.77(a), 135.15(a).
119.41(b)	New language.
119.41(c)	121.77(b), 135.15(b).
119.41(d)	121.77(c), 135.15(d).
119.43(a)	121.75(b), 135.63(a)(2).
119.43(b)	121.75(b), 135.63(a)(2).
119.47(a)	135.27(a).
119.47(b)	121.83, 135.27(b).
119.49(a)	121.5, 121.25(b), 121.45(b), 135.11(b), and new language.
119.49(b)	121.45(b), 135.11(b)(1) and new language.
119.49(c)	135.11(b)(1) and new language.
119.49(d)	121.75, 135.81.
119.51(a)	121.79(a), 135.17(a).
119.51(b)	121.79(b), 135.17(d).
119.51(c)	121.79(c), 135.17(b), and new language.
119.51(d)	121.79(d), 135.17(c) and (d).
119.51(e)	121.79(b), 135.17(c) and (d).
119.53(a)	121.6(a).
119.53(b)	New language.
119.53(c)	121.6(b).
119.53(d)	121.5(c).
119.53(e)	New language.
119.53(f)	New language.
119.55(a)	121.57(a) and (b).
119.55(b)	121.57(a) and (b).
119.55(c)	121.57(a) and (b).
119.55(d)	121.57(a) and (b).
119.55(e)	121.57(a) and (b).
119.57(a)	121.57(c).
119.57(b)	New language.
119.58(a)	135.19(b).
119.58(b)	135.19(a).
119.58(c)	135.19(c).
119.59(a)	121.81(a), 135.73, and new language.
119.59(b)	121.73, 121.81(a), 135.63(a), 135.73, and new language.
119.59(c)	121.81(a).
119.59(d)	New language.
119.59(e)	New language.
119.59(f)	New language.
119.61(a)	121.29(a), 121.53(a), (c), and (d), 135.9(a).
119.61(b)	121.29(a), 121.53(c), and new language.
119.61(c)	135.35.
119.63(a)	New language.
119.63(b)	New language.
119.65(a)	121.59(a).
119.65(b)	121.59(b).
119.65(c)	121.59(b).
119.65(d)	121.61 and new language.
119.65(e)	121.59(c).
119.67(a)	121.61(a) and new language.
119.67(b)	121.61(b) and new language.
119.67(c)	121.61(c), 135.39(c) and new language.
119.67(d)	121.61(d) and new language.
119.67(e)	121.61(b), 135.39(d).
119.69(a)	135.37(a).
119.69(b)	121.59(b), 135.37(b).

119.71(d)	135.39(b)(2) and new language.
119.71(e)	135.39(c) and new language.
119.71(f)	135.39(d) and new language.

Table 4.—Distribution Table for Part 121, Part 135, and SFAR 38–2 Sections Being Replaced by Part 119

	Replaced by
Part 121:	
121.3	119.21(a); 119.31; 119.33.
121.4	119.5(g).
121.5	119.49(a).
121.6(a)	119.53(a).
121.6(b)	119.53(c).
121.7	119.21.
121.9	deleted.
121.13	119.25.
121.21	119.1.
121.23	119.7(b).
121.25(a)	119.37(a), (b), (c), (d), (e), (f), and (g).
121.25(b)	119.49(a).
121.26	119.35 (a) and (b).
121.27(a)(1)	119.5(i).
121.27(a)(2)	119.39 (a) and (b).
121.29(a)	119.61 (a) and (b).
121.41	119.1.
121.43	119.7(b).
121.45(a)	119.37(a), (b), (c), (d), (e), (f), and (g).
121.45(b)	119.49 (a) and (b).
121.47(a)	119.35(a), (b), and (c).
121.47(b)	119.35(d).
121.47(c)	119.35(e).
121.47(d)	119.35(f).
121.48	119.35(g).
121.49	119.35(h).
121.51	119.39(b).
121.51(a)(1)	119.5(i).
121.51(a)(3)	119.39(a).
121.53(a)	119.61(a).
121.53(c)	119.61 (a) and (b).
121.53(d)	119.61(a).
121.55	deleted.
121.57(a)	119.55(a), (b), (c), (d), and (e).
121.57(b)	119.55(a), (b), (c), (d), and (e).
121.57(c)	119.57(a).
121.59	119.69(e).
121.59(a)	119.65(a).
121.59(b)	119.65 (b) and (c); 119.69 (b) and (c).
121.59(c)	119.65(e).
121.61	119.65(d).
121.61(a)	119.67(a).
121.61(b)	119.67 (b) and (e).
121.61(c)	119.67(c).
121.61(d)	119.67(d).
121.71	119.1.
121.73	119.59(b).
121.75	119.49(d).
121.75(b)	119.43 (a) and (b).

121.79(c)	119.51(c).
121.79(d)	119.51(d).
121.81(a)	119.59(a), (b), and (c).
121.83	119.47(b).
Part 135:	
135.5	119.31; 119.33(a), (b), and (c).
135.7	119.5(g).
135.9(a)	119.61(a).
135.11(a)	119.35 (a) and (b).
135.11(b)	119.49(a).
135.11(b)(1)	119.37(a), (b), (c), (d), (e), (f), and (g); 119.39(a); 119.49 (b) and (c).
135.13(a)	119.33(a), (b), and (c).
135.13(a)(2)	119.39(b).
135.13(a)(3)	119.5(i).
135.13(b)	119.39(b).
135.15(a)	119.41(a).
135.15(b)	119.41(b).
135.15(d)	119.41(d).
135.17(a)	119.51(a).
135.17(b)	119.51(c).
135.17(c)	119.51 (d) and (e).
135.17(d)	119.51(b), (d), and (e).
135.19	119.58.
135.27(a)	119.47(a).
135.27(b)	119.47(b).
135.29	119.9(a).
135.31	119.5.
135.33	119.5(j).
135.35	119.61(c).
135.37(a)	119.69(a).
135.37(b)	119.69(b).
135.37(c)	119.69(e).
135.39	119.69(d).
135.39(a)(1)	119.71(a).
135.39(a)(2)	119.71(b).
135.39(b)(1)	119.71(c).
135.39(b)(2)	119.71(d).
135.39(c)	119.67(c); 199.71(e).
135.39(d)	119.67(e); 119.71(f).
135.63(a)	119.59(b).
135.63(a)(2)	119.43 (a) and (b).
135.73	119.59 (a) and (b).
135.81	119.49(d).
SFAR 38–2:	
Section 1(a)	119.1(b).
Section 1(a)(3)	119.5 (d) and (e); 119.5(h).
Section 1(b)	119.5(f).
Section 1(c)	119.5(g); 119.31; 119.33 (a), (b), and (c).
Section 2(a)	119.5(a); 119.31; 119.33 (a), (b), and (c).
Section 2(b)	119.5(b); 119.31; 119.33 (a), (b), and (c).
Section 2(c)	129.1.
Section 3	119.7(a); 119.33 (a), (b), and (c).
Section 4(a)	119.21(a).
Section 4(b)	119.21(b).
Section 4(c)	119.25 (a) and (b).
Section 4(d)	119.25 (a) and (b).
Section 5(a)	119.23(a).
Section 5(b)	119.23(b).
Section 5(c)	119.25 (a) and (b).

This section of the preamble discusses those costs and benefits related comments submitted to the docket for the NPRM. The comments are presented by topic within their respective areas of concern.

1. Operations

Flight Time Limitations. A commuter operator from Alaska voiced its concerns about the potential high cost ($502,000) of compliance associated with the proposed requirement for flight time limitations. According to this operator, compliance with the proposed rule would require hiring an estimated 15 to 75 percent more pilots, depending on the location of its operations in Alaska. Also, there would also be additional costs incurred for training.

FAA Response: The FAA is holding in abeyance a decision concerning flight time limitations because of a new proposal that, if adopted, would overhaul all of the flight and duty rules.

Dispatchers. There were a number of comments submitted on the establishment of a dispatcher system. However, none of the comments were directly related to costs. Among those comments related to costs, the primary concern pertained to the idea that there would be significant costs incurred by operators in remote areas (i.e., most of Alaska) or those operators with a small number of airplanes (fewer than five).

FAA Response: There are four points to make in reference to the comments. First, the commenters failed to provide any specific cost information to substantiate their claims of incurring significantly high compliance costs for establishing a dispatch system. Second, it is the FAA's position that nearly all part 135 commuters already have the basic communication equipment needed for a dispatch system because they already have flight locators and flight followers conducting some degree of operational control. Third, even in remote areas carriers have access to contracted communications systems. Fourth, in regard to the personnel costs associated with the dispatch system, these operators are expected to upgrade most of their existing flight locators and flight followers to be dispatchers, at an hourly wage increase of $1.60 (or $4,193 annually). Some dispatchers will be hired outside of the company at an annual wage of $24,000. This position is based on information obtained from the Aircraft Dispatchers Federation (ADF) and a survey of several part 135 operators with dual operations specifications (parts 121 and 135). The FAA estimates a cost of $13,000 as the average minimum annual operating cost of establishing a dispatch system (assuming nothing is in place by a particular operator). This includes costs for telephone service, office space, office furniture, access to a current weather service, and access to air-ground communications.

Pilot Qualifications. Several commenters are opposed to the proposed requirements for pilot qualifications on the basis of an anticipated high cost of compliance.

FAA Response: The final rule does not contain requirements for crewmember training and pilot qualifications. These requirements are contained in a separate rulemaking action that pertains to operators under parts 121 and 135.

Cockpit Protective Breathing Equipment (PBE). One airplane manufacturer questions the need for fire-fighting PBE on the flight deck of commuter airplanes with 10 to 19 passenger seats. The commenter asserts that it would cost an additional $23,800 dollars (rather than the FAA's cost estimate of $400 per PBE unit) to equip each one of its 10-to-19-seat airplanes with such PBE on the flight deck. This cost estimate does not include a one-time $52,000 for development costs. According to the commenter, its airplanes are already equipped with fixed smoke-and-flame protection PBE at each of the two pilot stations. Thus, the only potential cost would be for a fire-fighting PBE on the flight deck.

FAA Response: The FAA has decided to drop the proposed requirement for fire-fighting PBE on the flight deck of affected airplanes with 10 to 19 seats.

Costs of Compliance—All Items. According to one commenter, the FAA's analysis grossly underestimated costs. The cost of the proposed rule should be $1.6 billion instead of the FAA's estimate of $275 million.

First Aid and Medical Kits. Several commenters provided cost estimates ranging from $1,500 to $2,000 per airplane for the first aid and medical kit requirement, but these cost estimates were submitted without any detailed documentation. An additional commenter, who was contacted, agrees with the cost per first aid kit, but argues that the turnover rate should be 100% a year due to pilfering.

FAA Response: The cost estimates provided by the commenters are higher than the FAA's original estimates. The FAA based the equipment costs on off-the-shelf prices that would be available to all operators. The FAA contacted one commenter that estimates the cost of $1,500 per airplane for a first aid kit. The commenter's cost estimate includes up front costs such as the engineering designs, administrative paperwork, cost of tooling, as well as the cost of equipment and materials. The FAA assumes that the first aid kits, as well as medical kits, can be secured with Velcro tape and would be secure enough to meet the 18–G requirement. As to design and administrative costs involved with securing first aid and medical kits, the FAA is using the up-front costs of $1,500 submitted by the commenters. With regards to pilferage, none of the large airlines complain about first aid kits being stolen, and the FAA believes that if any kits are stolen, air carriers would take positive steps to stop such activity.

Locking Cockpit Door and Key. Several commenters are concerned that some locking cockpit doors would have to be retrofitted to work with a key, but cost estimates are not provided.

FAA Response: The FAA acknowledges that the commenters correctly state that keyless locks on affected lockable cockpit doors would have to be retrofitted to work with keys. Based on information from FAA technical personnel, the FAA is assuming that all of the 20-to-30-seat airplanes would have their locks or doors retrofitted, at a total cost of $182 per retrofit ($100 equipment + $82 labor).

Flotation Cushions and Life Vests. One commenter opposes the requirement because of the equipment cost and weight penalty. This commenter states that the seat cushions in the METRO airplane would not serve as effective flotation devices. In addition, this commenter provides a cost estimate for acquiring and retrofitting individual flotation devices for METRO airplanes.

FAA Response: The FAA concurs that if the seat cushions in a particular airplane model do not serve as flotation devices, then individual flotation devices would have to be acquired. Also, the FAA verified the commenter's cost estimate and has incorporated it into the regulatory evaluation for the final rule.

Halon Fire Extinguishers. One commenter from Alaska provides an aggregate cost estimate for the required halon fire extinguishers which was substantially higher than the estimate in the NPRM. The commenter does not provide additional commentary on the requirement beyond the costs.

FAA Response: The FAA partially disagrees with this commenter. A one-time cost estimate to account for up-front administrative and engineering costs to comply with Type Data Certificates was submitted by the commenter. The FAA verified this cost-estimate and has incorporated it into the cost of the final rule. However, the FAA contends that there would be no major retrofit costs because the halon fire extinguishers would replace existing fire extinguishers with the same size canister. The FAA's equipment costs were based on off-the-shelf prices for halon which would be available to all operators.

Carry-on Baggage. A commenter from Alaska believes that the FAA's cost estimate for the carry-on baggage screening program implementation is too low. This commenter reasons that the wage rates and paperwork burden would be higher for the Alaska air carriers. In addition, the commenter strongly objects to applying the scanning program at locations that do not have terminal facilities. This commenter believes that each operator will need to develop a measurement device to check each item of carry-on baggage which will result in delays. All of this will cost $156,000 per year for each Alaskan commuter air carrier; there is no detailed explanation of what this entails. Another commenter, who was contacted, believes that for crewmembers to enforce the carry-on baggage program will delay each flight one minute; this flight delay will need to be costed out.

Flight Attendants at the Gate. A commenter believes that all operators would only use trained, authorized, substitute personnel when coverage is needed. This commenter believes that these trained persons would all be new hires and paid annual salaries of $12,000. One commenter from Alaska opposes the requirement for flight attendants at the gate. The commenter states that both crewmembers on the 10-to-19 seat airplanes would need to assist in the loading and unloading process, and hence neither could stay on board with passengers. Furthermore, the commenter states that deplaning passengers would not be a viable option because airports in Alaska do not have the proper facilities. Therefore, the commenter states that a trained substitute would have to stay on board the airplane with the passengers 100% of the time. The commenter states that the FAA has also underestimated the training costs and wage costs so that this requirement would cost about $2.9 million each year for all of the Alaska commuter air carriers to comply.

FAA Response: The FAA disagrees with these commenters. The authorized personnel would need to be trained, reliable, and have a low turnover rate; an annual salary of $12,000 would not be high enough to attract such people. These airplanes typically fly only during the summer months so passengers can be deplaned. The FAA contends that one of the crewmembers can stay on board the airplane some of the time; loading and unloading responsibilities can often times be accomplished with one crewmember. The final rule has been changed to allow a crewmember to stay on or in close proximity to the airplane to comply with this requirement. The FAA does not believe it is likely that air carriers in Alaska would have trained substitute personnel waiting at each intermediate stop. Accordingly, the FAA believes that Alaskan air carriers would either deplane passengers or use a crewmember.

Passenger Information. One commenter from Alaska disagrees with the FAA's cost estimate for passenger information cards and believes that it is too low. Alaskan air carriers would need to devise a more comprehensive information system due to the many nationalities and native languages in Alaska and this would entail great expense. Some air carriers would also have to translate into Japanese, Korean, and Russian for tourists from the Pacific Rim nations. The commenter also thought that the FAA's assumption of a three year life expectancy for information cards was too high. Based on experience, the commenter states that information cards last less than a year due to wear and theft. The commenter also estimates costs of $26,000 for Alaskan commuter air carriers in the first year and $4,224 each year thereafter.

FAA Response: The FAA disagrees with this commenter and believes that the commenter misunderstood the requirements of this proposed section. There is no current or proposed requirement to translate any passenger information cards into any other language. In addition, the industry average for passenger information cards is three years, so the FAA will use the NPRM costs.

3. Certification

Performance Criteria. Of seven comments received, only one manufacturer provided cost information. This manufacturer reports that, for their part 23 commuter category certificated airplanes, there would be no compliance costs. However, for their SFAR 41C certificated airplanes, developing the data needed to comply with the part 121 requirements for obstacle clearance and for accelerate-stop would be $3,000 per airplane for obstacle clearance and $2,500 per airplane for accelerate stop. For their pre-SFAR 41C airplanes, it would be $63,000 per airplane to develop performance data for obstacle clearance and $145,000 per airplane to develop anti-skid data, to purchase and install anti-skid systems, and to incur the 35 lb. weight penalty for accelerate-stop.

FAA Response: In the Notice, the FAA stated that all part 135 scheduled airplanes would be able to meet these performance criteria and that the only cost would be a $5,000 per type certificate to provide the data and obtain FAA approval for inclusion into the airplane flight manual. After additional review, however, the FAA realizes that SFAR 41 and predecessor category airplanes will be unable to meet all of the part 121 performance criteria without having to offload so many passengers or cargo as to become unprofitable to operate in scheduled passenger service. If operators substitute airplanes

FAA Response: The FAA concurs with these commenters and has adopted the commenter's cost estimate.

Cargo Compartment Smoke Detector and Fire Extinguishing Systems and Cargo Compartment Liners. Two commenters report a per-airplane cost of $15,230 to $15,580 to install smoke detectors and fire extinguishers in the cargo compartments of newly-manufactured 10-to-19-seat airplanes. The commenter also reports a per-airplane-retrofitting cost of $17,420; a one-time cost of $85,400 for engineering, designing, testing, and paperwork for FAA approval; and 32 lbs. of added weight to each airplane. The commenter also reports a per-airplane cost for cargo and baggage compartment liners of $13,000 for a retrofit; $10,420 for a newly-manufactured airplane; a $463,950 cost for a one-time engineering, designing, testing, and paperwork to obtain FAA approval cost; and 9 lbs. of additional weight. Another commenter reports a per airplane cost of $26,400 and a weight of 15 lbs. This commenter also notes that the NPRM did not propose any retrofitting.

FAA Response: The FAA disagrees with the commenter. The FAA proposal would only apply to newly-manufactured airplanes beginning four years after the effective date. Thus, there would be no retrofit costs. (After additional analysis, the FAA has decided that this topic needs to be specifically addressed in a separate rulemaking. Thus, there would be no compliance costs for this in the commuter rule.)

Landing Gear Aural Warning. Two manufacturers and one operator report that all of their 10-to-19-seat airplanes have aural landing gear warnings. Two of these commenters report no compliance cost. The other commenter reports a one-time manufacturer's cost of $2,620 to obtain FAA approval of the flight-manual changes.

FAA Response: The FAA disagrees with the commenter who reported a one-time cost because the presence of the aural warning device in existing airplanes means that this equipment was already included and approved in the airplane flight manual. As the FAA believes that all affected airplanes already employ an aural warning system, there are no compliance costs.

Ditching Approval. There were five commenters who addressed this issue. One commenter reports a $7,430 cost for its DeHavilland Twin Otters to comply with this provision. Another commenter reports that it would be impossible for the Twin Otter to comply with the ditching requirement due to its fixed landing gear; also the commenter says that other airplane operators would incur a $180 per airplane paperwork cost to demonstrate compliance. Another commenter reports that the costs would be extremely high. Two commenters report that there would be a $1,500 one-time paperwork cost to demonstrate compliance to the FAA for revision of the approved flight manual.

FAA Response: The FAA agrees with the commenters. For the final rule, the compliance period will be extended to 15 years. Thus, the potential cost of compliance will be minimal.

Take-Off Warning System. One manufacturer reports that the per airplane cost to install take-off warning devices would be $24,920 on a newly-manufactured airplane; $26,500 for a retrofit; and $150,260 for a one-time engineering, development, testing, and FAA-approval cost. Also, these devices would weigh 5 lbs. Another commenter reports that it would cost $12,600 per airplane to install a 2 lb. take-off warning device on a newly manufactured airplane. One commenter reports that it would cost $11,350 per airplane to install a take-off warning device on a newly manufactured airplane.

FAA Response: The FAA estimates that the per airplane cost for a newly manufactured airplane would be $16,000 for engineering, developing, testing, and installing, plus an annual $1,600 inspection, maintenance, and repair cost. The FAA also did not estimate any additional weight for this device. However, after further technical review, the FAA concludes that none of these airplane models (except the Beech 99) would need a takeoff warning system because a takeoff with a device in the most adverse position does not create a hazardous condition. For the Beech 99, that problem was resolved when the FAA issued an Airworthiness Directive (AD) requiring these airplanes to install a takeoff warning system. Thus, there are no compliance costs associated with this requirement.

to retrofit these airplanes within the one-year period proposed by the NPRM.

FAA Response: The FAA estimates that the per airplane cost would be $16,000 for a retrofit and $8,000 for a newly-manufactured airplane. The annual maintenance, inspection, and repair costs would be 10 percent of the retrofitting costs. The third-attitude indicator and wiring would weigh 5 lbs. Based on the manufacturer information, this device has been installed on all turbo-jet and commuter category airplanes.

The FAA contends that its cost estimates in the NPRM are valid. However, the FAA accepts the comment that the additional weight would be 15 lbs. After additional analysis, and in light of the potential high-costs of this proposal, the FAA believes that this requirement should be handled consistently with the principle espoused in the performance requirements. On that basis, the final rule will have a 15-year retrofit compliance period for affected 10–19 seat airplanes and predecessor category.

Lavatory Fire Protection. Concerning 10-to-19 seat airplanes, two manufacturer commenters state that very few of their airplanes had lavatories. For those few that do, one manufacturer reports that installing a lavatory smoke detector and a built-in automatic fire extinguisher in each lavatory-waste receptacle would cost $59,200 per retrofit, $8,800 for a newly manufactured airplane, and would weigh 10 lbs. The other commenter reports it would cost $8,350 for a retrofit, $7,800 for a newly-manufactured airplane, involve a one-time engineering cost of $49,000, and would increase each airplane's weight by 16 lbs. Another commenter reports that a retrofit would cost $725.

Concerning 20-to-30-seat airplanes, two manufacturer commenters report that it would cost $4,000 to retrofit their airplane lavatories. One of these commenters also states that only one half of the newly manufactured airplanes with lavatories have these devices. Two airlines and one association report that it would cost $2,500 to retrofit their airplane lavatories. One of the airlines reports that these devices would weigh 20 lbs.

FAA Response: Section 121.308(a) requires each lavatory to have a smoke detector system connected to either: (1) A warning light in the flight deck; or (2) a warning light or an aural warning in the passenger cabin that can be readily detected by a flight attendant. Section 121.308(b) requires each lavatory to have a built-in automatic fire extinguisher in each waste-disposal receptacle in the lavatory. These requirements are also found in section 25.854 but only for airplanes type certificated after 1991. There are no similar provisions in part 135 or part 23.

In reviewing these comments for the 20-to-30-seat airplanes, the FAA believes, although these commenters did not document the sources for their estimates, that these estimates appear to be based on the cost of a flight deck warning light system, which would involve some airplane rewiring. However, the FAA's estimate is based on the operator electing the second option allowed in the proposed rule—an aural warning device that could be heard by the flight attendant. That option is clearly the cost-effective option for 20-to-30-seat airplanes that are required to have a flight attendant.

These provisions are largely unimportant for the 10-to-19-seat airplanes because very few have a lavatory. In fact, one manufacturer reported that none of their airplanes operating in the U.S. has one. The FAA believes that the reported costs for these individual airplanes are so large because any costs to engineer, design, and test would be distributed over so few airplanes. However, for those few 10-to-19-seat airplanes that do have a lavatory, the FAA changed this rule to allow an aural warning system that can be heard by the flight crew. On that basis, the FAA determined that it would cost about $175 to retrofit or to install in a newly manufactured airplane a 5 lb. aural smoke detector that requires $50 a year in maintenance and inspection and $15 a year for replacement batteries. The FAA also determined that it would cost $300 to retrofit a 5 lb. receptacle automatic fire extinguisher that requires $75 a year in maintenance and inspection and $50 a year for recharging. These costs are $50 a year more than the costs estimated in the NPRM.

The FAA also estimates that half of the 272 existing 20-to-30 seat airplanes certificated before 1991 did not have these devices whereas 90 percent of the newly-manufactured airplanes have them.

to comply with certain lighting provisions in 121.310.

Floor Proximity Lighting. One manufacturer commenter reports that installing emergency floor proximity lighting would cost between $27,600 and $36,000 for a retrofit, $20,800 for a newly manufactured airplane, and the installed lighting would weigh 12 lbs. A second manufacturer commenter reports that it would cost $19,000 for a retrofit; $15,000 for a newly manufactured airplane; there would be a one-time engineering, developing, testing, and obtaining FAA approval cost of $52,650, and the installed lighting would weigh 10 lbs. This commenter also proposes an alternative interior lighting of the exit and exterior emergency exit lighting as a substitute for the full-scale floor proximity and exterior emergency exit lighting in the NPRM. This alternative lighting system is required for their airplanes in Great Britain. But this commenter did not report the cost of their proposed alternative. A third manufacturer commenter reports that it would cost $8,000 for a retrofit. One air carrier commenter reports that it would cost about $17,700 to retrofit its DeHavilland Twin Otters. Another air carrier commenter reports that it would cost $26,800 to retrofit its Beech 1900Cs and $22,800 to retrofit its Jetstream 31s and Beech 1900Ds. One association reports that it would cost between $20,000 and $50,000 for a retrofit. A second association reports it would cost $11,000 for a retrofit. A third association reports it would cost $19,000 for a retrofit. Finally, an aviation consultant group reports it would cost $8,000 for a retrofit.

FAA Response: The FAA estimates that the cost to comply with the emergency lighting requirements in 121.310 would be $2,500 to retrofit existing airplanes and $2,000 to install in newly-manufactured airplanes. After additional analysis, the FAA agrees with these commenters that the earlier FAA costs severely underestimated the retrofitting and new installation costs. As a result, the FAA determines that 10-to-19-seat airplanes would not be required to meet these lighting requirements in 121.310.

Emergency Exit Exterior Lighting. One manufacturer commenter reports that the per airplane cost would be $13,400 to install a 15 lb. emergency exit exterior lighting system on a newly manufactured airplane and $17,950 for a retrofit. In addition, they report a one-time engineering, design, testing, and paperwork for FAA approval cost of $64,525. However, as noted in the previous section, their suggested alternative to floor proximity lighting would also contain an exterior emergency lighting capability. Another manufacturer commenter reports that the per airplane cost would be $11,800 to install a 12 lb. emergency exit exterior lighting system on a newly manufactured airplane and $17,250 to $23,550 for a retrofit. One air carrier reports that it would cost $9,400 per airplane to retrofit its DeHavilland Twin Otters. Another air carrier reports that it would cost $16,640 to retrofit its Beech 1990Cs, 1900Ds, and its Jetstream 31s.

FAA Response: The FAA provided one aggregated cost estimate for the emergency lighting system. However, as that total cost estimate for all lighting required by § 121.310 was $2,500, the FAA reevaluated its exterior-lighting-cost estimate. After additional analysis, the FAA agrees with these commenters that the earlier FAA costs severely underestimated the retrofitting and new installation costs. As a result, the FAA determines that 10-to-19-seat airplanes would not be required to meet these lighting requirements in 121.310.

Exterior Emergency Exit Marking. One manufacturer commenter reports that it would cost between $350 and $650 for an airplane operator to install these markings on the exterior of the emergency exits. One association commenter reports that it would cost $74 to install these markings. Neither commenter discusses the number of airplanes that would need to have these markings installed.

FAA Response: The FAA estimated that about 10 percent of the 10-to-19-seat airplanes would need to comply with this requirement at a cost of $100 per airplane. However, the FAA notes that this section is identical to § 135.178(g). As a result, there are no compliance costs.

Pilot Shoulder Harnesses. One manufacturer commenter reports that even though all of their airplanes are now manufactured with the single point pilot shoulder harness, they would still incur a $22,500 one-time cost—presumably to obtain FAA approval for inclusion in the flight manual. One association commenter reports that it would cost $440 to retrofit a single point shoulder harness.

material for cabin interiors would be $77,350 for a retrofit, $67,500 for a new installation, and there would be a one-time engineering, designing, testing, retooling, and obtaining FAA approval cost of $627,910. Another manufacturer commenter reports that it would cost $90,000 per airplane to install in a newly manufactured airplane and also notes that the Notice did not propose a retrofit. It should be noted that the commenter's methodology averages any one-time engineering and development costs into the expected number of future sales of the Beech 1900D.

FAA Response: The FAA disagrees with the commenters. Manufacturers would only have to comply with the existing type-certification standard. Therefore, there would be no compliance cost.

Passenger Seat Cushion Flammability. There were eight commenters on this issue. One manufacturer commenter reports that the per airplane cost would be $11,250 to retrofit one of its airplanes with fire-blocked-seat cushions; $10,250 per airplane to install in a newly manufactured airplane; there would be a one-time engineering, design, testing, and FAA-approval costs of $85,415; and it would add 20 lbs. A second manufacturer commenter reports that the per airplane cost would be between $20,000 and $22,600 for a retrofit; $3,400 in newly manufactured airplanes; and would weigh 38 lbs. One air carrier reports that the per airplane cost would be $12,600 to retrofit its Beech 1900Cs and $4,000 to retrofit its Beech 1900Ds and Jetstream 31s. Another air carrier reports that the per airplane cost would be $35,000 to retrofit its DeHavilland Twin Otters. Another air carrier reports that the per airplane cost would be $20,000 to retrofit its fleet. Three associations report that the per airplane retrofitting costs would range from $20,000, $42,950, and $50,000.

FAA Response: The FAA estimated that the per-airplane-incremental cost would be $20,000 to retrofit fire-blocked-seat cushions, $5,000 to install these seat cushions on newly-manufactured airplanes, and $10,000 to replace these seat cushions on airplanes that have fire-blocked-seat cushions. An additional cost would be the 38 lbs. of weight these seats add to the airplane. The FAA acknowledges the fact that different airplanes would have different retrofitting and new installation costs.

After additional analysis, the FAA accepts the manufacturer commenters' cost estimates for their airplanes as well as accepts the air carrier estimates provided for the DeHavilland Twin Otter and the Jetstream 31. For the other types of airplanes that would need to be retrofitted, the FAA uses an average of these reported retrofitting costs weighted by the number of each type of this airplane still in service. The FAA also accepts the commenters weight estimates for each of their own airplanes. After additional analysis, the FAA finds that, for the final rule, a 15-year compliance period is appropriate for 10-to-19-seat airplanes.

"Fasten Seat Belt" Lighted Sign. There were two commenters on this issue. One manufacturer reports that installing a fasten seat belt light would cost between $3,025 and $4,000 for a retrofit and $1,600 for a newly manufactured airplane. One association reports that it would cost $11,000 per airplane.

FAA Response: The FAA had not estimated any compliance costs for section 121.317(b) because it was believed that commuter airplanes had these signs. However, after additional analysis, the FAA determines that a placard and a pre-flight briefing provide an equivalent level of safety to a lighted sign. As these are industry practices, there is no compliance cost.

Wing Ice Light. There were two comments on this issue. One manufacturer reports that there would be no compliance costs for any of their airplanes. One association reports that it would cost $11,000 to install wing ice lights on its members' airplanes.

FAA Response: In the Notice, the FAA did not estimate any costs for this provision because the provision states "No person may operate an airplane in icing conditions at night unless means are provided for illuminating or otherwise determining the formation of ice on the parts of the wings that are critical from the standpoint of ice accumulation." The FAA holds that all of the airplanes have either the wing ice lights or an acceptable alternative method for determining the icing accumulation on the wings. As a result, there is no compliance cost.

FAA Response: Based on information contained in the Draft Regulatory Evaluation to the FAR/JAR Harmonization, the FAA had estimated that the per airplane costs would be $500 for a retrofit and $250 for a newly-manufactured airplane. After review of these comments, the FAA has revised these cost estimates to $4,000 for a retrofit, $2,000 for installation on a newly manufactured airplane, and an additional 5 lbs. of weight to the airplane.

Power Distribution System. One commenter reports that § 121.313(c) requires a power supply and distribution system that meets the requirements of six sections of part 25. They state that this would require a major redesign of their airplanes' electrical power distribution system. They report a per airplane cost of $15,605 for a retrofit, $12,660 for a newly manufactured airplane, and a one-time engineering, design, testing, and paperwork for FAA approval of $156,256.

FAA Response: The FAA disagrees with this commenter. They did not notice that the further text in part 121.313(c) reads ". . . or that is able to produce and distribute the load for the required instruments and equipment, . . ." The requirement allows the use of a power supply and distribution system that has been shown to perform its functions. Thus, compliance can be established by means other than part 25. As a result, there are no compliance costs.

Out-of-Service Time to Install Airplane Equipment. Four commenters note that the FAA failed to include the cost for the additional out-of-service time that will be needed to install all the equipment required to comply with the proposal. Although no exact costs were provided, these commenters assert that this time out of service would result in a substantial revenue loss.

FAA Response: Even though the FAA attempted to design the proposed rule to minimize out-of-service time, the agency agrees with these commenters that there would be some out-of-service time for some of the affected airplanes. However, as a result of the changes from the NPRM to the final rule, the FAA contends that all of the required equipment by the final rule can be installed during regularly scheduled maintenance and there will be no additional out-of-service time.

4. Maintenance

The Alaska Air Carriers Association (AACA), citing the uniqueness of the Alaskan operating environment and the absolute necessity of air travel in Alaska, notes that most Alaskan operators utilize mixed fleets and employ maintenance personnel who work on all airplanes in such mixed fleets. The AACA maintains that requiring the scheduling of maintenance personnel according to part 121 standards would place an additional administrative burden and financial compliance cost on air carriers at locations with limited personnel and mixed fleets. The AACA contends that the part 121 specification of maintenance personnel duty time limitations would require the air carrier either to develop and apply separate work schedules for part 121 and part 135 mechanics or to hire additional mechanics.

FAA Response: With few exceptions, the FAA agrees with the commenters. Part 121 requires 24 hours off during any 7 consecutive days; part 135 makes no such provision. In its original assessment of maintenance and preventive maintenance personnel duty time limitations, the FAA assumed the issue to be non-controversial; the existence of union work rules, Department of Labor regulations and the generally accepted notion of a "day of rest" were believed to be sufficient to accomplish the same result. As a consequence, the FAA did not assess any costs associated with the burden of scheduling and providing a day of rest for part 135 mechanics as is required under part 121 where operators must ensure adequate rest for their mechanics.

The FAA maintains that mechanics, similar to pilots and flight attendants, must receive adequate rest in order to perform their duties properly and that the minimum standard required under part 121 would ensure that the opportunity for rest is provided. The FAA, however, concurs with the AACA that the extending of duty time limitations to the Alaskan operators of mixed fleets utilizing maintenance personnel under both parts 121 and 135 would be an additional cost burden. Therefore, based on cost information provided by the AACA, the FAA has adjusted its original maintenance cost estimates accord-

FAA Response: The FAA concurs and has adjusted its original maintenance cost estimates accordingly. In this instance, however, the FAA has apportioned the added required maintenance recordkeeping costs between 10-to-19-seat and 20-to-30-seat airplanes for the total domestic commuter industry.

Maintenance Recordkeeping Requirements (Records Transfer). One commenter objects to the proposed change requiring engine and propeller total time in service to be added to the list of required recorded items. Typically, under part 121, only the total hours in service of an airplane's airframe is transferred information on older airplanes because operators have not been required to retain engine and propeller time in service data. According to the commenter, this change would necessitate operators of older 121 airplanes to undergo an extensive search of maintenance records to determine the historical times on the engine and propeller if such data is available at all.

FAA Response: The FAA concurs with the commenter. The adoption of part 135 wording imposes the more comprehensive part 135 maintenance recording requirements on part 121 operators and this might require an extensive search of maintenance records with some additional cost to an operator of older part 121 airplanes. The FAA, however, believes that any additional cost as a result of such a search would be minimal and has been taken into account with the cost adjustment provided under the maintenance recordkeeping requirements for recording addressed in an earlier comment. The FAA believes that the additional cost would be minimal because only seven existing part 121 operators of older propeller-driven airplanes would be affected by the new requirement. Typically, most part 135 operators utilizing propeller-driven airplanes already retain engine- and propeller-total-time-in-service data and most part 121 operators utilize jet-driven airplanes.

Continuous Airworthiness Maintenance Program (CAMP). One commenter estimates that the cost associated with the CAMP was considerably greater ($1.6 million) relative to the FAA's estimate to develop or revise and upgrade the CAMP ($105,000) as a result of the commuter rule.

FAA Response: The FAA does not concur with the commenter's estimate. The FAA maintains that nearly all operators of airplanes with 10-to-19- or 20-to-30-seat configurations regardless of whether operating under part 121 or part 135, are either conducting their scheduled maintenance under an approved CAMP or have adopted a CAMP as the basic guideline for their scheduled maintenance. As a consequence, the FAA based its original estimates on the cost associated with the minimum editorial changes to operators' CAMP's necessitated by the commuter rule.

The FAA however, has adjusted its maintenance cost estimates for recordkeeping requirements based on the comments already discussed and detailed above. The FAA believes the costs described by the commenter are costs associated with the new recordkeeping requirements, not administrative costs associated with the modifications to existing CAMP's.

5. Part 119

Single-Engine Airplanes. Several commenters state that the NPRM cost estimates for not allowing a passenger to sit in the co-pilot seat on a single-engine Otter are understated. One commenter states that the data the FAA used was based on national averages while all of the airplanes in question are located in Alaska. The commenters also state that the load factors and operating costs in Alaska are much higher than the rest of the country.

FAA Response: The FAA agrees with the commenters and will not prohibit qualified (as prescribed by § 135.113) single-engine airplanes, namely single-engine Otters, from carrying a revenue passenger in the copilot seat.

Proving Tests. Several commenters suggest that for operators who are switching from part 135 to part 121, the FAA should allow proving tests on revenue flights. Other commenters contend that since the airplanes they are using and the routes they are flying are not changing, the FAA should not require a proving test. Still other commenters state that the FAA's estimate of $437 hourly airplane operating costs was too low. (This rate includes crew, maintenance, and fuel costs.) The commenters' estimates range from $750 to $1,050 per hour versus the FAA's average estimate of $483 per hour for 20-

As for the hourly airplane operating cost, some of the commenters provided hourly-charter rates. However, the cost of the rule would not necessitate that operators give up a revenue or charter flight to complete the proving test. Therefore, the cost of the rule would be only the direct operating cost of the airplane based on a direct operating cost rate and not the charter rate. The FAA's estimate was consistent with estimates provided by several airplane manufacturers.

Management Personnel. One commenter says that a number of their management personnel would not meet the new criteria and that they would have to hire all new personnel or a consultant. Other commenters argue that existing personnel should be "grandfathered in" under the final rule. Another commenter says that the requirement for part 121 operators that a director of maintenance have five years of experience within the past five years excludes people who may have not worked for an extended period during a job search.

FAA Response: The FAA contends that most currently employed directors meet the new standards. However, for those directors who do not, section 119.67(e) allows for operators to request deviation for the continued employment of those directors. The FAA anticipates that operators whose directors do not meet the new requirements would request deviation.

In addition, the FAA agrees that the five years experience within five years places an unnecessary burden on those directors who may have extended periods of unemployment within the five year period prior to being hired. Thus, the FAA is changing the requirement to three years of experience in the past six years.

Definition of Commuter Air Carrier. Several commenters disagree with the FAA's proposal to remove the frequency of operation from the definition of a "commuter operations". The existing requirement defines a commuter as one conducting five or more scheduled round-trips per week. This allows on-demand operators to conduct up to four scheduled operations per week. The commenters provide only general comments that the new definition would impose costs.

FAA Response: The FAA agrees with the commenters that the frequency of operations test in part 135 should remain.

6. Benefits

The comments received on the estimated benefits mostly pertained to the FAA's use of a general-accident-rate approach to estimating benefits. The commenters object to the FAA's use of a broad-based accident rate rather than identifying specific historic accidents that the NPRM could have prevented. Other commenters note that the FAA deviated from its usual method of calculating benefits. This method is to identify specific types of accidents (based on the historical record) that would be prevented by a corresponding requirement of the proposed rule. Also, commenters indicate that the commuter accident rate has been declining over the past several years thereby making much of the rule unnecessary. Finally, commenters note that most of the accidents involved pilot error, which is not being addressed by the NPRM.

FAA Response: The FAA agrees that most of the historic accidents involved pilot error. However, many of the pilot error accidents were the result of the pilot's improper response to an emergency situation. An example of this would be an accident where an airplane experiences some mechanical problem or adverse weather and the pilot fails to follow the appropriate corrective procedures to prevent the accident. Even if the accident could not have been prevented, the pilot may have reacted in such a way that the damage or casualties were not mitigated to the extent that they could have been.

The FAA used a general or broad-based accident rate because the scope of the NPRM was broad, encompassing a wide range of safety issues from certification, operations, cabin safety, maintenance, etc. Similarly, the types of accidents the NPRM would prevent are also broad, based on a wide range of probable causes of historic accidents. For most of the accidents, the FAA could not determine if any one requirement of the NPRM alone could have prevented or mitigated the accident. This made

adhered to the higher part 121 standards of safety.

7. Other Areas of Interest

Projected Ticket Prices. Several commenters state that the projected ticket price increases of $1.91 and $.68, respectively for 10-to-19- and 20-to-30-seat airplanes is far off. Commenters from Alaska presented the strongest disapproval of FAA's projected ticket-price estimates.

FAA Response: The FAA's cost estimates of $1.91 and $.68 were not far off because most of the commenters' higher costs claims did not have merit. Except for some commenters from Alaska, the FAA did not receive any direct-cost comments related to these two estimates. Since these two cost estimates were based on the total cost of compliance for the proposed rule, they would only change if there were a change in costs for the commuter rule.

The FAA reviewed all of the cost comments submitted on the proposed rule and rejected the vast majority of them due to the comments' failure to substantiate their claims of higher costs.

In terms of the comments received from Alaskan operators, the FAA agrees that their costs would be higher than $1.91 and $.68, respectively. It is important to note that these projected ticket price increases represent averages over the 10-year period. They are based on the cost of compliance for each of the 10 years, summed over the period, and divided by the number of years. Therefore, if particular operators were to incur disproportionate higher costs, they would be expected to pass those costs on, to the extent possible, in the form of higher ticket prices. Ticket price increases would be highest for all impacted operators during the first two to three years and decrease gradually thereafter.

After accepting some of the cost comments and making adjustments for changes in performance and certain equipment requirements, the commuter rule is estimated to cost $118 million (as opposed to $275 million in the NPRM). Based on this estimate, the average annual per ticket price increase for each of the two airplane-seat categories, over the next 15 years, will be far less than the original estimates.

VIII. Regulatory Evaluation Summary

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic effect of regulatory changes on small entities. Third, the Office of Management and Budget directs agencies to assess the effect of regulatory changes on international trade. In conducting these analyses, the FAA has determined that this Final Rule will generate benefits that justify its costs and is "a significant regulatory action" as defined in the Executive Order. The FAA estimates, however, that the final rule will not have a significant economic impact on a substantial number of small entities. No part of the final rule will constitute a barrier to international trade. These analyses, available in the docket, are summarized below.

A. Sections Without Cost Impacts

Those part 121 sections that the FAA has determined will not impose additional costs on part 135 commuter operators are not described in this summary evaluation. Each of those part 121 sections will not impose costs for one of the following reasons: (1) Current practice is identical or very similar to the new requirement; (2) the new requirement represents minor procedural changes; (3) the section determines general applicability and does not specifically impose any costs; or (4) certain requirements of part 135 would be incorporated into part 121 without change. Those part 121 sections without costs are described in the full evaluation under each of the areas for which they apply. While not shown in this summary evaluation, it is important to note that 10 of the sections in the final rule were identified as having negligible costs. These negligible costs, even when combined, will not be significant.

Operations	$48.32	$24.87	$73.19	$46.18
Maintenance	12.93	5.26	18.19	11.93
Cabin Safety	5.99	5.58	11.57	8.20
Part 119	2.73	0.63	3.36	2.30
Certification	10.39	1.10	11.49	6.58
Total	$80.36	$37.44	$117.80	$75.19

Based on the $80.36 million figure shown above, the FAA estimates that, on average over the next 15 years, the price of a one-way airline ticket will increase by $0.62 for affected operators with 10-to-19-seat airplanes. Similarly, based on the $37.44 million figure, the ticket price will increase by $0.30 for affected operators with 20-to-30-seat airplanes.

It is important to note that the total cost per airplane in each of the first four years of the rule sheds light on the initial compliance costs. These costs per airplane are as follows:

	10-to-19-seat airplanes	20-to-30-seat airplanes
1996	$19,400	$21,900
1997	7,600	6,600
1998	7,000	6,300
1999	7,200	5,900

1. Operations

This section of the regulatory evaluation examines the costs of the changes with regard to operations. Fifteen-year costs for operations requirements will total $73.19 million ($46.18 million, present value). The cost items, by section, are provided below.

Section 121.97: Airports Required Data. Each domestic and flag air carrier must show that each route it submits for approval has enough airports that are properly equipped and adequate for the proposed operation. Consideration is given items as size, surface, obstructions, etc. In short, this requirement will ensure that in the event of a single-engine failure each operator's airplane type (regardless of the number of airplanes) can either stop at the end of the runway or, if it continues to fly, can safely clear all of the obstacles in the flight path.

To estimate the potential cost of this requirement, the FAA contacted several commuter operators. According to these operators, the potential cost of compliance is based on performance-obstacle-data analyses for airplane types at particular airports. To ensure that the performance objective will be met, operators are required to make certain that the maximum-allowable-takeoff weight is always achieved under certain temperature conditions. This is done by conducting performance analyses for each airplane type at the airport it intends to operate. To achieve this objective, operators typically hire a contractor to perform obstacle-location and height surveys. The contractor uses the airplane's flight-manual-performance data to assess flap settings and runway-end capability for a particular airport for information related to takeoff-run-acceleration distance, runway length, anti-skid, etc.

The typical contractor fee is $20 per runway. For example, ABC airlines is a commuter operator with 5 types of airplanes that it wishes to operate at airports in 10 cities. Each city has an airport with 10 runways. The operator, however, only intends to use two runways per airport in each of the 10 cities. The cost performing the needed obstacle performance data analyses is $2,000 ($20 per runway × 10 airports × 2 runways per airport × 5 airplane types). While this is a simple example of estimating a fictitious operator's potential cost of compliance, it sheds light on the difficulty of deriving such costs reliably. Although reliable information is available on the cost of contractor conducted obstacle-performance-data analyses, the same reliability does not apply to the number of runways or airports commuter operators will use. Potential costs for this requirement cannot be estimated reliably without knowing what airports, runways, and the types of airplanes operators will use. It is for this reason that this section of the

To estimate the potential cost, the FAA contacted several industry sources, including operators and data link service venders. These sources indicated that the least expensive option for most operators would be a voice data link service from an FAA-approved vender. According to Aeronautical Radio, Inc. (ARINC) and several operators with operations specifications for parts 121 and 135 (scheduled), the needed voice-data-link service consists of a monthly access fee of $35 per operator and a fee of $14 per contact. Contact refers to any form of voice communication between the pilot while in flight and the home dispatcher.

If, from a worst case standpoint, none of the current commuters have this access service, the total cost will be the number of affected operators times the monthly access fee of $35 over the next 15 years. This evaluation estimates that the number of commuter operators will range from 63 in 1996 to 73 in 2010. This will result in a total cost of $445 million ($269 million, present value). The contact fee cost can be estimated in a similar manner, though it employs a great deal more of uncertainty because the actual number of contacts each operator will make annually is unknown and usually varies among operators. According to industry sources, there will be a certain percentage of contacts per annual departures for each airplane in an operator's fleet. Based on information contained in the Regional Airlines Association's Annual Report for 1994, each airplane in the U.S. commuter fleet makes an average of 5.68 departures per day or 2,074 annually. The number of airplanes with 10 to 30 seats in the U.S. commuter fleet is projected to range from 950 in 1996 to 1,099 in 2010.

Initially for this evaluation, the FAA assumed at least one contact per departure. Multiplying the 2,074 annual departures times the $14 contact fee gives the total potential contact cost of $445 million ($269 million, present) over the next 15 years. In realistic terms, however, this cost estimate is too high because it does not reflect the actual practice in industry. According to several operators, contacts via ARINC or a similar service would only be made during emergency situations (for example, flight delays, inclement weather, etc.). Within an average radius of 50 nautical miles, contacts can be made directly between the airplane pilot and the home dispatcher, without the aid of an external-communications-voice-data network (e.g., ARINC or a similar service). In flat lands, this communication can be made up to 100 miles, when the dispatcher is located at the hub. In high terrain areas, communication with the home dispatcher would have a radius of less than 50 miles. In emergency situations that arise beyond the average radius of 50 miles, ARINC or similar service would be needed. This would be especially true in remote areas such as the U.S. northern frontier (Montana, Idaho, etc.), Alaska, American Samoa, and Hawaii. This information indicates that frequency of use of ARINC or a similar service may not be as high as originally expected. According to some operators, the likelihood of having at least one contact via ARINC per airplane departure by an operator, on average, could range from 5 to 10 percent. When considering that contacts via ARINC or a similar service beyond the 50-mile radius would only be made in emergency situations, operators, on average, would make contact on 10 percent of their airplane departures. Employing this approach, costs will amount to $44 million ($26 million, present value) over the next 15 years.

In addition to the information above, industry sources contacted indicated that commuter operators with dual or split operations specifications (both parts 121 and 135) already have this capability. These operators (approximately 19) account for over 60 percent of all the airplanes in the U.S. commuter fleet. This scenario will result in estimated costs of $18.9 million ($11.5 million, present value) over the next 15 years. This cost estimate also recognizes that the number of contacts will be lower because pilots typically contact ATC for information related primarily to weather and air traffic delays. Therefore, this evaluation assumes only 10 percent of the commuter airplane departures, by operators without dual operations specifications, will engage in contacts via ARINC or similar service.

Section 121.135—Contents of Manual. This section will require an extensive list of manual contents for operators. Unlike part 135, part 121 requires more detailed instructions to flight and ground personnel, including dispatch procedures, airport information, and approach procedures. The manuals of part 121 operators are, on average, three times as voluminous as those of part 135 operators. Thus, compliance with the final rule will result in major rewrites of manuals. Based on cost information received from

to use fixed equipment such as oxygen masks and smoke goggles at each pilot station. Depending on the present airplane configuration, this may require substantial modifications.

According to FAA's technical personnel, airplanes with 20-to-30 seats already have fixed PBE units for pilot stations in the cockpit for smoke and fume protection but they are not equipped with a portable PBE unit for fire fighting. In terms of operators with 10-to-19-seat airplanes, the FAA is uncertain as to how many part 135 operators are already equipped with PBE (portable or fixed) in the cockpit. As the result of this uncertainty, this evaluation assumes that part 135 operators with 10-to-19-seat airplanes are not currently equipped with PBE in the cockpit. This evaluation also assumes that operators with 20-to-30-seat airplanes do not have portable PBE in the cockpit for firefighting. The installation of fixed PBE in some commuter airplanes could be prohibitively expensive because of complex breathing gas supply requirements. Since portable PBE is much cheaper than fixed PBE, operators with 10-to-19-seat commuter airplanes are assumed to acquire and install portable smoke and fume PBE in the cockpit if not equipped with an oxygen system. Each portable PBE is estimated to cost $400 per unit. In 1996 and subsequent years, operators with 10-to-19-seat airplanes are assumed to install two smoke-and-fumes portable PBE units in the cockpit: one at each of the two pilot stations. Over this same period, operators with 20-to-30-seat airplanes are assumed to install one additional fire-fighting-portable PBE unit in the cockpit. In addition to PBE units, costs are also estimated for the weight penalty of each PBE unit. Each of the cost components multiplied by the number of airplanes in existence, over the next 15 years, will result in an estimated cost of $2.64 million, ($1.81 million, present value).

Section 121.357—Airborne Weather Radar. This section will require part 135 commuters to equip their airplanes with approved weather radar. Currently, section 135.173 requires that operators equip their airplanes with either thunderstorm detection equipment or approved weather radar. However, section 135.175 requires operators of airplanes with 20 to 30 passenger seats to equip their airplanes with weather radar. An estimated 90 percent of all commuter airplanes with 10-to-19 passenger seats already have approved weather radar equipment. Based on this information, the rule will only affect an estimated 10 percent of those operators of airplanes with 10-to-19 seats (excluding commuter operators in Alaska and Hawaii which are not covered by the rule). Because of their unique flying environments, commuter operators in Hawaii and Alaska are not required under current regulations to be equipped with weather radar equipment. Weather radar costs approximately $30,000 per airplane, including installation. Each weather radar unit weighs 25 pounds. This weight translates into an average weight penalty of 87 gallons of fuel per airplane per year. The sum of these cost components multiplied by the number of commuter airplanes over the next 15 years will total $5.08 million ($3.73 million, present value).

Sections 121.593–595: Dispatching authority for domestic and flag air carriers; 121.107: Dispatch centers; 121.533–535: Responsibility for operational control; 121.683: Crewmember and dispatcher record; 121.687: Dispatch release; and other sections that assign specific duties to dispatchers. The rule will require that flights in scheduled commuter operations with 10-to-30 seat airplanes be authorized by a dispatcher. Dispatchers currently are not required under part 135. The FAA assumes that the majority of operators currently certificated only under part 135 do not employ fully qualified dispatchers. These operators primarily employ full-time flight locators. The FAA further assumes that operators conducting both parts 121 and 135 operations currently employ half as many qualified dispatchers as they will need to dispatch all of their flights.

The number of dispatchers was primarily calculated using information provided by Airline Dispatchers Federation (ADF) and industry sources. The ADF estimated that an air carrier with 30 airplanes will need eight or nine dispatchers to staff a 24-hour operation. The FAA used a ratio of eight dispatchers to 30 airplanes of 10 or more passenger seats for each part 135 commuter air carrier. The total number of required dispatchers was computed by multiplying the number of airplanes with 10 or more passenger seats operated by each air carrier by the ratio 8 to 30. However, to take into account that an 8-hour day might not cover all of an air carrier's daily flights, as well as vacation and sick leave, the FAA assumes that each air carrier will need at least two dispatchers. In 1996, 307 dispatchers will be needed to meet the requirements of this rule. In 1997, the number of dispatchers will be 318 and will grow to 353 by 2010.

ADF's comments on the NPRM), about 67 percent of the required flight dispatchers will come from existing part 135 flight locators and approximately 33 percent of the required dispatchers will be hired from outside by operators. Some of these new hires will be supervisors/trainers. According to several commuter operators contacted recently, they will have to hire dispatchers from outside of their company in order for them to meet the proposed dispatcher requirements. The decision to hire dispatchers from the outside is based primarily on: (1) The need for additional supervisory personnel because of the projected number of inexperienced dispatchers to be hired under part 121 and (2) all of their existing personnel (flight locators and to some flight followers) cannot be trained at once without seriously disrupting daily operations. Thus, of all the new dispatchers projected to be hired over the next 15 years, about 67 percent will be from existing personnel (upgraded from flight locators and some flight followers) with the affected commuter operators and 33 percent from the outside (or non-upgraded employees).

Training costs include 40 hours of initial training, 10 hours of recurrent training, and 5 hours of operating familiarization for dispatchers who authorize turbopropeller flights (as required by sections 121.422(c)(1)(ii), 121.427(c)(4)(ii), and 121.463(a)(2)). Air carriers are assumed to incur the cost of dispatchers' salaries during training. In addition to salary costs, the FAA assumes that the air carrier will incur $1,000 in costs for initial training for each dispatcher and $500 in costs for recurrent training for each dispatcher. The FAA estimates that each carrier will incur $1,000 in administrative costs for each dispatcher hired. The FAA recognizes that during the initial and follow-up training for new dispatchers, operators may incur additional costs in the form of reduced operational efficiency, though to what extent is unknown. However, in view of all available information, the FAA has no indication that such costs would be significant.

Total personnel-related costs were calculated by adding the salary, training, administrative costs, and multiplying by the number of new dispatchers required. The FAA estimates that the dispatcher requirement will cost $42.86 million ($25.9 million, present value) over the next 15 years. Approximately $25.66 million ($15.49 million, present value) will be borne by operators of 10-to-19-seat airplanes, and the remaining $17.20 million ($10.38 million, present value) will be borne by operators of 20-to-30-seat airplanes.

According to the ADF, most part 135 operators already have facilities and communications equipment that satisfy the dispatch requirements under part 121. Accordingly, the FAA has not included estimates of additional costs attributable to facilities and equipment. The FAA acknowledges that this is a reasonable assessment since all commuter operators exercise some degree of operational control with the use of either flight locating or flight following. The provision of either one of these services requires communication facilities and associated equipment.

Section 121.383: Age-60 Requirement. This section will prohibit operators of airplanes in scheduled service with 10-to-30 passenger seats from using people over the age of 60 as pilots for that service. Currently there is no age restriction for pilots in part 135 operations. Based on data provided by the Air Line Pilots Association (ALPA), the FAA estimates that only about 0.55 percent of part 135 commuter pilots are currently over the age of 60. The FAA estimates that about 45 pilots will be affected if the requirement takes effect in the year 1999. The FAA also estimates, based on ALPA data, that 0.32 percent of current part 135 pilots would reach age 60 in subsequent years and thus about 27 pilots would need to be replaced each year from 1999 on.

The FAA is unable to quantify the costs to operators or to affected pilots. The nature and magnitude of these costs depend upon the alternatives available to each party, which the FAA has been unable to identify in sufficient detail to estimate costs. The FAA believes that the four-year phase-in of this requirement will help to minimize any potential disruptions the rule may cause and that the resulting cost are not likely to be substantial. The FAA also believes that the age 60 requirement is essential to achieve the "one level of safety" goal established by the Secretary of Transportation and that any cost of this requirement is justified by its benefits.

manuals is $61,600 ($47,200, present value). The costs involve the preparation of the manual contents and the copying and binding of the finished manual. FAA analysis projects 277 20-to-30-seat airplanes in 20 air carriers in 1996, increasing to 556 such airplanes in 39 air carriers by 2010. Each air carrier will employ a flight attendant supervisor (paid at $24.19 per hour) and a clerical worker (paid at $11.00 per hour) to spend 40 hours each preparing a manual; hence, it will cost each air carrier about $1,400 to prepare a manual. The manual is an average of 100 pages long; at $.10 to copy each page, and $2 to bind each manual, total copying and binding costs is expected to total $12 for each manual. Existing air carriers with new airplanes in the future will have to reproduce a new manual for each airplane. All new air carriers with 20-to-30-seat airplanes, which will total 19 by 2010, will also have to prepare and publish flight attendant manuals.

Section 121.285 and 121.589—Carry-On Baggage. These sections will require affected operators to stow carry-on baggage and develop a program to screen carry-on baggage. Screening, in this context, refers to a visual check to ensure that the carry-on baggage is the proper size and could be stored properly on the airplane; it does not refer to security screening. Currently, part 135 airplanes adhere to substantive baggage stowage procedures, but part 121.589 requires that a crewmember verify that all baggage is properly secured before all doors are closed and the airplane leaves the gate. Some air carriers argue that this requirement will increase time at the gate, reduce airplane utilization time, and thus result in lower revenue to air carriers. The FAA contends that there will be no costs for this procedure due to the minimal time necessary to properly secure carry-on baggage and the fact that airplanes experience routine delays anyway while waiting for clearance on the runway. The cost of the rule will involve the preparation of an addendum to the Operations Specifications in which each carrier will outline its procedures for a baggage program.

The 15-year cost for operators of 10-to-30-seat airplanes to prepare a carry-on baggage addendum to the Operations Specifications will be $20,600 ($18,500, present value). This cost is divided between 10-to-19-seat airplanes ($12,300) and 20-to-30-seat airplanes ($8,300). For each air carrier, this process involves two people—a flight attendant supervisor for 20-to-30-seat airplanes or a crewmember supervisor for 10-to-19-seat airplanes (both paid at $24.19 per hour) and a clerical person ($11.00 per hour) to do the paperwork (average of 8 hours each) and to develop the addendum. Each carrier will bear the cost of developing the addendum for the airplanes in its fleet; it costs each air carrier about $280 for this work. The number of air carriers is projected to rise from 63 in 1996 to 73 in 2010. Finally, the actual baggage screening function will not impose costs because part 135 crewmembers are already required to screen baggage in order to secure it.

Section 121.291(d)—Ditching Demonstration. This section requires new air carriers to conduct a ditching demonstration for each airplane type it proposes to operate in extended overwater operations. There is no similar requirement in part 135.

In the NPRM, the FAA used an estimate that 25 percent of all 10-to-30-seat airplanes conduct extended overwater flights. Upon further examination, this assumption turned out to be too high. Based on a recent survey, the FAA has ascertained that less than 3 percent of all 10-to-19 seat airplanes (14 airplanes) and no 20-to-30-seat airplanes currently conduct overwater flights. The percentages were projected into the future. Based on this paucity of airplanes certificated for extended overwater flights, the FAA tried to estimate the costs for part 135 operators to conduct ditching evacuation demonstrations for new 10-to-30-seat airplanes using two different methods. In both cases, as will be shown below, the 15-year cost for part 135 operators to conduct ditching evacuation demonstrations for new 10-to-30-seat airplanes will be zero.

The first method involves taking an aggregate approach and examining the entire fleet using the same methodology used in the NPRM. This involves a demonstration which requires crewmembers to perform ditching evacuation drills and safety procedures including the deployment of one raft. For both 10-to-19- and 20-to-30-seat airplanes the annual incremental change in the number of airplanes times the applicable percentage of airplanes conducting extended overwater flights was zero for every year between 1996 and 2010. Accordingly, using this methodology, the cost will be zero.

need to conduct a ditching demonstration, the FAA estimates the cost for a 10-to-19 seat airplane at $1,025 per demonstration.

Section 121.309—Medical Kits. This section will require affected commuters to have one medical kit on each 20-to-30-seat airplane for those operators. The FAA has decided to except 10-to-19-seat airplanes from this requirement due to their smaller size and the unlikelihood that a medical professional will be on board or a flight attendant to administer the use of the kit.

The FAA estimates that the 15-year cost for providing medical kits on the 20-to-30-seat airplanes operating under part 135 will be $1.11 million ($674,300, present value). The costs of providing medical kits are composed of acquisition ($200 each) with a 60 percent spares reserve, installation, annual replacement (5 percent), annual maintenance ($20 per kit), a weight penalty (7 pounds per unit), physician consultation expenses ($500 per consultation), engineering and administrative costs, and record keeping (1 hour each time a kit is used at $20.58 per hour).

Acquisition, replacement, and maintenance costs for kits are a function of the number of airplanes. In the first year of the rule, the bulk of the medical kits will be purchased; 443 kits will be needed for 277 airplanes, which takes into account the 60 percent spares reserve. Additional kits are purchased in the future as the airplane fleet increases to 556 airplanes in 2010, and to take into account a 5 percent annual replacement rate. Maintenance costs are calculated based on the number of units that were in use the previous year. The annual maintenance cost equals $8,860 ($20 per kit × 443 kits) for all kits (active and spares) in 1997.

Historical data on part 121 airplanes shows one medical emergency for every 124,647 passenger enplanements. The FAA assumes that the medical emergency rate is the same on 20-to-30-seat airplanes since all air carriers serve the same base population. The FAA estimates 70 medical emergencies in 1996 and 77 medical emergencies in 1997. A physician consultation will be required twice a year per air carrier to obtain certain contents, such as prescription drugs, for the medical kits at a cost of $500 per consultation. In 1996, for the 20 projected air carriers, total consultations will total $20,000. Record keeping will be needed per medical emergency; it will take one hour to write up each emergency. At $20.58 per hour, in 1996, record keeping costs will total $1,433.

In the NPRM, the FAA assumed that the medical kits could be secured and installed with industrial strength Velcro tape. The FAA still believes that securing these kits with Velcro (a low cost option, at $20 per kit plus two hours for a Maintenance worker at $20.58 per hour) will meet the 18–G requirement. Also, airplane manufacturers will need to spend $1,500 for each make and model to account for the design and administrative costs involved with securing these kits and to comply with FAA regulations; with 8 makes and models, this totals $12,000. This cost will be spread across the entire population of each make and model.

Section 121.309—First Aid Kit. This section will require 10-to-19-seat airplanes to have at least one first aid kit. Currently, part 135 requires all airplanes with greater than 19 seats to have one kit, but there is no requirement for airplanes with 10 to 19 seats to have a kit.

The 15-year cost of this requirement will be $371,400 ($267,400, present value). The costs of providing first aid kits are composed of acquisition ($70 each based on industry survey) with a 35 percent spares reserve, installation, annual replacement rate (5 percent of total), a weight penalty (4 pounds), engineering and administrative costs, and annual maintenance ($7 per kit). Costs are a function of the 10-to-19-seat airplane count, which ranges from 673 in 1996 to 543 in 2010.

Section 121.309—Halon Fire Extinguisher. This section will require commuter operators of 10-to-30-seat airplanes to replace existing or install fire extinguishers (2 per 10-to-30-seat airplane (one in cabin and one in cockpit) with halon fire extinguishers. For this analysis, the FAA assumes that no part 135 airplanes are currently equipped with halon fire extinguishers. Since part 135 airplanes are already equipped with fire extinguishers prior to complying with part 121 standards, there will be no additional maintenance costs or weight penalties for this equipment.

The 15-year cost of this requirement will be $134,400 ($82,000, present value) broken out between $56,500 for 10-to-19-seat airplanes and $77,900 for 20-to-30-seat airplanes. The cost of this provision will involve purchasing the requisite number of flashlights for airplanes in 1996 and for airplanes added to the fleet through 2010, 10 percent spares, 5 percent replacement rate for every year after 1996, and a weight penalty (1 pound per flashlight). The analysis also assumes that all batteries will be replaced each year.

Section 121.313—Cockpit Key. This section will require all required crewmembers of affected operators to have access to a key for the locking cockpit door. This lock and key requirement will provide additional security for equipment and instruments in the cockpit. This requirement only applies to 20-to-30-seat airplanes. Airplanes with 10 to 19 seats are not required to have locking cockpit doors and will not be affected by this requirement. The rule will require 20-to-30-seat airplanes to retrofit the cockpit door with a lock and copy a key ($1 per key). If an airplane does not have a lock, then the operators will be required to install one.

The 15-year cost is $102,900 ($78,500, present value). The highest yearly cost ($51,245) will occur in 1996 when all of the 277 20-to-30-seat airplanes will have their cockpit doors retrofitted with locks and keys. Subsequent yearly costs are based on the annual increase in airplanes. Hence, in 1997, with 30 new airplanes, costs total $5,550 ($90 for new keys + $5,460 for door retrofit costs).

Section 121.333—Portable Oxygen. This section will require airplanes that are certificated to fly above 25,000 feet to have a portable oxygen unit for each flight attendant. This requirement will only apply to commuter airplanes having more than 19 seats. This is because currently no 10-to-19-seat airplanes in commuter operations are certificated to fly above 25,000 feet.; also, 10-to-19-seat airplanes are not required to have flight attendants on board. Of the 249 20-to-30 seat airplanes in 1995, 146 fly over 25,000 feet.

The 15-year cost to equip all affected 20-to-30-seat part 135 airplanes will be $472,900 ($299,200, present value). Costs primarily are composed of $400 per oxygen unit and weight penalty.

Parts 121.333, 121.571, 121.573—Passenger Information. New cards will have to be prepared for 20-to-30-seat airplanes. Industry experience has shown that each card has a lifetime of approximately 3 years. Thus, every year, only one-third of the cards will normally be replaced.

The 15-year cost for the preparation of these cards will be $125,000 ($72,300, present value). Each air carrier having 20-to-30 seat airplanes (20 in 1996 growing to 39 in 2010) will incur preparation costs and will then need to prepare enough passenger information cards for all airplanes in its fleet. Preparation costs involve two people two hours each: a flight attendant supervisor ($24.19 per hour) and a paperwork layout specialist ($20.58 per hour). There will be no training costs, as the flight attendant could read the new passenger information material directly from the manual. Based on an industry survey, the FAA assumes that it costs $1 to print and distribute each information card; a total of 5,353 cards will need to be produced in 1996.

Section 121.337—Protective Breathing Equipment (PBE) for the Cabin. This section requires a fire fighting PBE unit in the cabin on all 20-to-30-seat airplanes. The 15-year costs to supply all 20-to-30-seat airplanes total $936,800 ($595,600, present value). Costs are composed of PBE acquisition ($400 per unit) with a 40 percent spares reserve ratio, installation (two hours of mechanic labor), engineering and administration costs, a 5 percent replacement rate per year, annual maintenance ($40 per unit performed annually), and a weight penalty (5 pounds per unit, one unit per airplane).

Section 121.339—Life Rafts. This section requires all affected commuters conducting extended overwater operations to carry an additional life raft. The 15-year cost to equip the affected airplanes with an additional life raft will be $265,100 ($183,800, present value).

Section 121.340—Flotation Cushions and Life Vests. This section requires operators to provide a flotation cushion or life vest for each passenger seat on each airplane. In 1995, 10-to-19-seat airplanes

the same amount, there will not be a weight penalty on the 20-to-30-seat airplanes. The total number of life vests and cushions per year is derived by multiplying the number of seats per airplane times the projected airplane count for the 10-to-19-seat and 20-to-30-seat airplane categories.

Section 121.391—Flight Attendants At The Gate. This section requires a flight attendant or other authorized person to stay on the airplane during intermediate stops while passengers are on board. The final rule adopts new section 121.393(a) for 10-to-19 seat airplanes to allow crewmembers (not necessarily a flight attendant) to stay near the airplane.

The only costs imposed on operators, as a result of this rule will be the training and documentation of authorized substitute personnel. Based on information received from FAA technical personnel, there will be no additional crewmember personnel costs for flight attendants or other crewmembers at the gate requirement due to the delay. In the NPRM, the FAA attributed additional compensation costs to operators in the event of a flight delay due to additional time spent by personnel to monitor passengers. FAA technical personnel state that delay costs are a result of the air carrier operations system and not the final rule. The air carrier operations system currently compensates any additional personnel costs due to delays.

Individual operators can comply by having a flight crewmember near the airplane (no cost) or by following one of three scenarios. Under the first scenario, operators could require all passengers to deplane during intermediate stops at the gate. Because deplaning will cause inconvenience to the passengers, air carriers will not use this option all the time. The FAA acknowledges that the deplanement of passengers under this scenario may impose some cost on passengers in the form of inconvenience; however, the FAA is unable to quantify this cost. Under the second scenario, operators can require either a flight attendant or pilot to remain on the airplane at intermediate stops as long as passengers are on board. Generally, the 20-to-30 seat airplanes will use a flight attendant, while 10-to-19 seat airplanes will use a pilot. Under the third scenario, operators can allow a trained, authorized person to stand in for the flight attendant or pilot when coverage is needed due to flight delay. Not all air carriers have authorized personnel at all intermediate stops; this will put a cap on the amount of time that this option will be used. This third scenario will require 24 hours of training for each authorized person ($16.48 per hour) and documentation of personnel records by a clerical worker (paid at $11.00 per hour for one hour of work per record). In the NPRM, the FAA assumed that non-Alaska operators would use the third scenario 20 percent of the time, and the FAA is keeping this percentage. Based on industry sources, the FAA does not believe it is very likely that air carriers in Alaska will have trained substitute personnel waiting at the intermediate stops to be used in the event that the airplane is delayed; thus, the third scenario will not be used. Currently, 88.4 percent of all 20-to-30 seat airplanes and 91.9 percent of all 10-to-19 airplanes fly in areas other than Alaska, and this analysis projects these percentages into the future.

The 15-year cost for training and documentation of authorized personnel in areas other than Alaska on 10-to-30-seat airplanes will be $20,500 (present value, $12,700). This cost is the summation of the 10-to-19-seat airplane cost and the 20-to-30-seat airplane category cost. The cost for the 10-to-19-seat category is derived by multiplying the total 15-year cost for training and documentation ($67,500) by the expected probability of occurrence for the third scenario (20%) and then multiplying by the percentage of the fleet not operating in Alaska (91.9%). The cost for the 20-to-30-seat category is derived by multiplying the total 15-year cost for training and documentation ($45,500) by the expected probability of occurrence for the third scenario (20%) and then multiplying by the percentage of the fleet not operating in Alaska (88.4%).

3. Certification

This section examines the costs of the rule with regards to airplane certification and performance. The total 15-year costs for certification are $11.49 million with a present value of $6.58 million.

Part 121 Subpart I: Performance Criteria. In the NPRM, the FAA had stated its belief that all of the commuter airplanes would be able to meet the part 121 performance standards. Consequently,

airplane models.

For example, the SFAR 41 and predecessor category commuter airplane performance capabilities are such that compliance with the part 121 performance requirements would require them to offload so many passengers or cargo as to become unprofitable to operate in scheduled passenger service. Due to the potential substantial economic loss and the potential safety reduction that would result when many of these airplane operators substitute airplanes with fewer than 10 passenger seats for these airplanes, the FAA decides that they will have 15 years to meet the part 121 performance requirements. By allowing these airplanes to remain in scheduled passenger service, their operators will have a sufficient amount of time to profitably exploit these airplanes, to plan their replacement, and to reduce the potential impact on the resale price in other uses of these airplanes. In addition, this 15-year period will provide an opportunity for manufacturers to develop future airplanes that may be better substitutes than the current available substitute airplane models. Further, this 15-year allowance will reduce the tendency for many of these operators to substitute smaller airplanes with less than 10 seats. These airplanes have an accident rate 14 times that of 10-to-15-seat commuter airplanes. Nevertheless, some of these airplanes will be phased out of scheduled passenger service before they would have been phased out if there were no commuter rule.

Currently, there are 112 pre-SFAR 41 commuter airplanes in part 135 scheduled service. As the FAA was unable to directly obtain the ages of these airplanes, the FAA used a data source to construct an approximate age-profile distribution for each of these airplane models and then assigned the appropriate number of airplanes to individual years based on those distributions. The FAA determines that, due to the increasing maintenance costs as airplanes age, the economic lifespan of these airplanes in scheduled passenger service is 30 years for the Twin Otter and 25 years for all of the other models. On that basis, the FAA projects that, in the absence of the commuter rule, 4 of these airplanes would still be in scheduled passenger service after 15 years.

Finally, these airplanes' market values will fall over time because the airplane ages because it takes an increasing level of expenditure on maintenance and replacement to keep the airplane airworthy for scheduled passenger service. Currently, the average market values for the pre-SFAR 41C airplanes are $500,000 for the Twin Otter and the EMB–110; $350,000 for the Beech 99; and $250,000 for the SA–226 and the Beech 200.

In light of those factors as they relate to the pre-SFAR 41 airplanes, the FAA determines that a one-year compliance date would generate a 60 percent loss in these airplanes' average market values and this percentage loss is reduced by 2.5 percentage points per year for four years (e.g., the second year would have a percentage loss of 57.5 percent, the third year will be 55 percent, etc.) and by 5 percentage points per year thereafter. Thus, the percentage loss of the market value of these airplanes in 15 years will be 5 percent of that airplane's market value. On that basis, the FAA determines that in 15 years these airplanes will incur a reduction in market value of $56,000 ($20,000, present value).

SFAR 41 airplane models would also be affected by the part 121 performance criteria because these criteria are stricter than those in part 135. However, the part 121 performance requirements are very similar to the performance requirements in the ICAO Annex 8 flight operating requirements—the flight operating requirements under which these airplanes must fly in European scheduled service. As all of these airplanes are used in European scheduled service, they can comply with the part 121 performance requirements, but at a potential payload loss. There are some combinations of temperature, airport elevation (pressure altitude) and airport runway length that would require SFAR 41C airplanes either: (1) To unload one, two, or even three passengers from the currently permitted part 135 gross take-off weight; or (2) to operate out of airports with longer runway lengths in order to meet the ICAO Annex 8 performance requirements. For example, the minimum runway length for a Beech 1900–C airplane with a 16,600 lb. maximum takeoff weight (its maximum certificated load) from a pressure altitude of 1,000 ft. (a typical Midwestern airport) at 13 degrees Centigrade (standard day) would be 4,700 ft. under part 135 but would be 5,900 ft. under ICAO Annex 8. From another perspective, in order for a Beech 1900–C to operate under ICAO Annex 8 from an airport with a 4,700 ft. runway, the maximum allowable

airplane/airport pairings, etc. such that the costs in 15 years will be minimal.

Finally, the commuter category airplanes have the performance capability of meeting part 121 performance requirements. However, the manufacturers will need to document these capabilities for the approved flight manuals. This documentation will require about 20 hours of flight time at a per hour cost of $1,500 (includes instrument calibration, engineering analysis, ground personnel review, etc.) for a total cost of $30,000 per type certificate. In addition, there will be a one-time manufacturer's cost of $5,000 per type certificate to obtain FAA approval for this flight manual revision. Thus, the one-time first-year cost for commuter category airplanes will be $105,000.

Section 121.161(a)—Airplane Limitations: Type of Route. Section 121.161(a) requires that an adequate airport be within one hour flying time at single engine cruising speed along all points of the designated flight route. There is no similar requirement in part 135. This requirement is not expected to affect scheduled operators in the lower 48 states. In the Regulatory Evaluation for the NPRM, the FAA had estimated that 150 round-trip flights in Alaska would be affected annually, with reroutings adding one-half hour to each round-trip, for a total of 75 hours increased flying time. Applying an hourly variable operating cost for Alaskan air carrier commuter category airplanes of $500, the FAA had estimated that annual operating costs would increase $37,500. The 15-year total costs would be $375,000 ($265,000, present value). As no comments were made on the estimated costs of this provision, the FAA affirms its previous calculations. However, carrying them out for 15 years generates a cost of $570,000 ($346,000, present value).

Section 121.191—Engine Out En Route Net Flight Data. Although the FAA had not estimated a compliance cost for this provision in the Regulatory Evaluation for the NPRM, three commenters report that these data do not currently exist for 10-to-19-seat airplane models and there is a cost to developing these data. Based on those comments, the FAA determines that manufacturers' will incur a one-time first-year cost of $1,900 per type certificated model, resulting in a one-time first-year compliance cost of $24,700 for the 13 type-certificated airplanes.

Section 121.305(j)—Third Attitude Indicator. This section requires that a third attitude indicator be retrofitted on all affected airplanes (manufactured before March, 1997) within 15 years of the rule's effective date. Any affected airplane manufactured after March, 1997, must have the device. This device is not required under part 135 or part 23.

In the Regulatory Evaluation for the NPRM, the FAA had estimated that it would cost $16,000 for a retrofit that would add about 5 lbs. of weight while the annual maintenance, inspection, and replacement costs would be about 10 percent of the retrofitting costs. The FAA had also estimated it would cost $8,000 for an installation on a newly-manufactured airplane. The FAA had also determined that a third attitude indicator is standard equipment on the Beech 1900–D. The proposed rule had a 1-year compliance date. On that basis, the FAA had estimated that the 10-year cost would be $19.2 million ($18.4 million, present value).

The FAA estimates that the retrofitting cost will be $16,000 and will add 15 lbs. of weight to the airplane. To eliminate the potential for down time, operators will retrofit this device during one of the airplane's 200-hour scheduled checks. On that basis, the FAA expects that this device will be installed in half of the 58 SFAR 41C airplanes in scheduled passenger service during the 13th year and in the remaining half during the 14th year. On that basis, the FAA determines that the 15-year compliance cost will be $319,000 ($116,000, present value).

Section 121.308—Lavatory Fire Protection. This section requires each lavatory to have a smoke detector system connected to either: (1) a warning light in the flight deck; or (2) a warning light or an aural warning in the passenger cabin that can be readily detected by a flight attendant. Section 121.308(b) requires each lavatory to have a built-in automatic fire extinguisher in each of its disposal receptacles. These requirements are also found in section 25.854 but only for airplanes type certificated after 1991. There are no such provisions in part 135 or part 23.

there will be a per airplane cost of $50 for a retrofit and $25 for an installation on a newly-manufactured airplane. It will increase the airplane's weight by 2 lbs. In addition, there will be a one-time engineering design, development, and FAA approval cost of $250 for each type certificated model. As there are no flight attendants in 10-to-19-seat airplanes, no flight attendant flashlight will be required and there will be no compliance cost for those airplanes. For 20-to-30-seat airplanes, the first-year cost will be $42,000 and the annual cost thereafter will be between $2,000 and $6,000. The 15-year total cost will be $88,000 ($68,000, present value).

Section 121.312(b)—Passenger Seat Cushion Fire Blocking Materials. This section requires that 10-to-30-seat airplane seat cushions comply with the fire protection standards in § 25.853(b) within 15 years. The proposed rule had allowed a two-year compliance period with an option for two additional years if there were demonstrated compliance difficulties.

In the Regulatory Evaluation for the NPRM, the FAA had assumed that this provision would affect only the 10-to-19-seat airplanes because the 20-to-30-seat airplanes are type-certificated under part 25, which requires fire-blocked seats for airplanes type-certificated after 1991. As those airplanes are used in both part 121 and part 135 service, the FAA believed that they have already been retrofitted and are being manufactured with fire blocking cushions. As there were no comments to the contrary, the FAA has retained that assumption.

In the Regulatory Evaluation for the NPRM for 10-to-19-seat airplanes, the FAA had estimated that it would cost $20,000 for a retrofit, $5,000 for installation on newly-manufactured airplanes, and fire blocking would add 2 lbs. per seat cushion. In addition, the FAA had believed that the incremental compliance costs from replacing a fire-blocked cushion with another fire-blocked cushion (due to normal wear and tear) would be only due to the difference in the costs of the fire-blocking material, which was estimated to be $5,000. There would be no incremental labor costs because it would take as long to replace a fire-blocked cushion with a fire-blocked cushion as it would take to replace a non-fire-blocked cushion with a non-fire-blocked cushion. The FAA had also estimated that 10 percent of the 10-to-19-seat airplanes have fire blocked seats because they are offered as an option on currently manufactured models. Further, the FAA had estimated that it would cost $50,000 for engineering, developing, testing, and documenting the results for FAA approval for those airplanes no longer in production. Finally, allowing operators four years to comply means that they can schedule this retrofitting to fit into the normal cushion reupholstery schedule. Consequently, the existing cushions would not have been prematurely replaced before they would have been replaced due to normal wear and tear.

Based on information received from industry, the FAA estimates that the average retrofitting cost (weighted by the number of each type of airplane model in the existing fleet) will be $21,500 and the average new-installation cost (weighted by the number of new airplanes projected to be sold by each manufacturer) will be $4,875. The average weight of 38 lbs. (for a 19 seat airplane) results in a yearly per airplane fuel cost of $105. In addition, an industry source reports that airplane operators normally reupholster their seat cushions every four years. Further, the FAA estimates that there will be no engineering costs for current commuter category airplanes because all of the manufacturers offer the fire blocked seat cushions as an option and the engineering and FAA-approval costs have already been incurred. However, the FAA revises its engineering costs for each out-of-production airplane model from $10,000 to $5,000 because there are a sufficient number of fabrics that have been approved so that each manufacturer will not have to completely reengineer its seats.

In response to the increase in time (from 4 years to 15 years) to comply with the rule, the FAA assumes that no airplane that will be withdrawn from scheduled-passenger service during those 15 years will be retrofitted with fire-blocking-seat-cushion materials. Further, an operator of an existing airplane that will be employed in scheduled passenger service beyond the 15-year period will wait until the last moment (13 to 14 years) before performing the retrofit. Based on industry statements, commuter-category airplanes are being built with the expectation of a 25-to-30-year lifespan. Also based on industry statements, the initial cost (plus one or two cushion reupholsteries) is less than or about the same as a retrofit 10 or fewer years in the future. The FAA anticipates that beginning in 5 years, operators

the total 15-year cost for the 2 lb. device will be $522,000 ($269,000, present value).

Section 121.342—Pitot Heat Indication System. This section requires all affected airplanes, within 4 years of the rule's effective date, to have a pitot heat indication system that indicates to the flight crew whether or not the pitot heating system is operating. Section 23.1323 requires a pitot heat system for most commuter category airplanes, but there are no requirements for a heat indication system.

In the Regulatory Evaluation for the NPRM, the FAA estimated a per airplane cost of $500 for a retrofit and $250 for installation on a newly-manufactured airplane. The FAA did not estimate a weight penalty or costs for inspection, maintenance, and repair, but it had estimated a one-time manufacturer cost of $10,000 for initial engineering design, testing, and documentation for FAA approval. On that basis, the FAA had estimated that the compliance cost during each of the first four years would be $280,000 and $10,000 per year thereafter. The 10-year total costs were estimated to be $1.184 million or $993,000, present value.

After additional analysis, the FAA is persuaded that its initial cost estimates need revision. Based on its analysis of the technology required to install these devices, the FAA determines that there is a per airplane cost of $4,000 for a retrofit and $2,000 for installation in a newly-manufactured airplane. However, the number of airplanes expected to be sold by the manufacturer who reported this device is standard equipment is subtracted from the expected number of newly-manufactured airplanes that will need to install this device. In addition, the associated equipment and wiring will add 5 lbs. to the airplane. Finally, there will be a $10,000 one-time cost to engineer, design, test, and obtain FAA approval for the manufacturer of each type certificate.

On that basis, the annual costs in each of the first 4 years will be between $515,000 and $535,000 and the annual costs in each year thereafter will be between $17,000 and $23,000. The 15-year total costs will be $2.29 million ($1.87 million, present value).

Section 121.349(c)—Distance Measuring Equipment. This section requires at least one approved distance measuring equipment (DME) unit within 15 months of the final rule publication date for operations under VFR over routes not navigated by pilotage or for operations under IFR or over-the-top. The FAA had estimated no compliance costs for this provision and there were no comments on this provision. After additional analysis, however, the FAA determines that some airplanes are affected by this requirement.

Based on the 1994 AOPA Pilot General Aviation Aircraft Directory and Avionics Directory and Buyer's Guide, the FAA estimates that the average price of a 25 lb. DME for an airplane is $7,000 and it will cost another $7,000 to retrofit for a total cost of $14,000. The FAA General Aviation and Air Taxi Activity and Avionics Survey for 1993 reports that 3.1 percent of the turboprops in service (twenty-three 10-to-19-seat airplanes and ten 20-to-30-seat airplanes) do not have this device but that all newly-manufactured airplanes will have this device installed. On that basis, the FAA estimates that the first-year-compliance cost is $434,000 ($294,000 for 10-to-19-seat airplanes and $140,000 for 20-to-30-seat airplanes) and the 15-year-compliance cost is $452,000 of which $303,000 is for 10-to-19-seat airplanes and $149,000 is for 20-to-30-seat airplanes ($418,000, present value of which $281,000 is for 10-to-19-seat airplanes and $137,000 is for 20-to-30-seat airplanes).

4. Maintenance

The FAA estimates that over the 15-year period, the total cost of compliance for the relevant maintenance sections affected by the final rule will amount to an estimated $18.18 million ($11.92 million, present value). A discussion of the individual maintenance costs is presented below.

Section 121.361 Applicability. The final rule requires all affected commuter operators to have an airplane maintenance program that is appropriate for part 121 operations. All part 135 commuters currently operating under a part 135 continuous airworthiness maintenance program (CAMP) will be required to revise and possibly upgrade their programs in accordance with the new part 121 standards. Currently, commuter operators of airplane type-certificated with a passenger seating configuration of 10 seats or more operate under a CAMP as specified in section 135.411(a)(2). Most differences among the respective

each operator will be approximately $1,650 (80 × $20.58).

Section 121.377 Maintenance And Preventive Maintenance Personnel Duty Time Limitations. The final rule will require all commuter operators to adhere to the part 121 limitation of time that maintenance and preventive maintenance personnel can be required to remain on duty. Section 121.377 requires maintenance personnel to be relieved from duty for a period of at least 24 consecutive hours during any 7 consecutive days, or the equivalent thereof within any one calendar month. Maintenance and preventive maintenance personnel employed by part 135 operators have no such duty time limitation.

The FAA maintained in the NPRM that simple adjustments in work scheduling or duty requirements of maintenance personnel were on-going costs of doing business which would not be affected by the commuter rule. Furthermore, the FAA held that the existence of union work rules, Department of Labor regulations and the generally accepted notion of a "day of rest" would be sufficient to limit the amount of time that part 135 maintenance and preventive maintenance personnel remained on duty. The FAA, therefore, did not estimate any incremental costs associated with this section, and treated it as one not contributing to the total maintenance costs.

For the final rule, in considering the unique operating environment of Alaska, the FAA has determined that imposing the requirements of the maintenance and preventive-maintenance-personnel-duty-time limitations for part 121 operators onto part 135 operators will be a cost factor. The cost for the Alaskan operators is $312,000 per year for all Alaskan 10-to-19-seat airplane operators. This cost estimate was provided by the Alaskan Air Carriers Association (AACA) and adopted by the FAA for this analysis. For the remaining operators, the annual cost is an estimated 80 hours per year at $20.44 per hour for the maintenance foreman to perform the additional scheduling necessary to comply with the rule. The FAA estimates that a maintenance foreman will spend approximately 80 additional hours per year to meet the part 121 standards. Thus, the cost for non-Alaskan 10-to-19-seat operators in 1996 will be 23 operators × $20.58 × 80 hours or $37,870. For 20-to-30-seat seat operators, the cost in 1996 will be 25 operators × $20.58 × 80 hours or $41,000. The calculations would be the same in subsequent years.

Over the 15-year period, the total cost imposed due to the new duty-time-limitation requirement will be approximately $6.02 million ($3.65 million, present value). Most of this cost, $4.68 million, falls on Alaskan part 135 operators of 10-to-19-seat airplanes. This disproportionate amount reflects the probable added labor requirements of Alaskan operators owing to the uniqueness of the Alaskan operating environment.

Section 121.380 Maintenance Recording Requirements. This section provides for the preparation, maintenance, and retention of certain records using the system specified in the certificate holder's manual. It further specifies the length of time records must be retained and the requirements for records to be transferred with the airplane at the time the airplane is sold. Section 121.380a, Transfer Of Maintenance Records, develops the transfer of records in more detail. It requires the certificate holder to transfer certain maintenance records to the purchaser, at the time of sale, in either plain language or coded form which provides for the preservation and retrieval of information. The section ensures that a new owner receives all records that are to be maintained by an operator as required under section 121.380.

In the NPRM, the FAA maintained that because section 135.439 was essentially identical to 121.380, there would be minimal new recordkeeping requirements imposed on part 135 operators and thus, assumed no incremental costs would result from changes to this section. The FAA also maintained that there would be no incremental cost impact resulting from changes to part 121.380a. Upon review of the proposal and subsequent comments received, the FAA has determined that the merging of the recordkeeping requirements of sections 121.380 and 135.439 brought on by the commuter rule will involve incremental administrative costs. The FAA therefore, has revised its NPRM position of no costs, and estimated the administrative costs for the new requirements incorporated in the changes to sections 121.380, 121.380a and 135.439.

The cost was derived from averaging the total recording cost for Alaskan commuter airplanes as provided by the AACA and applied to the total 10-to-19-seat airplane fleet. The AACA estimated the

on operators of part 135 airplanes due to the additional recordkeeping required to merge parts 121 and 135 maintenance recording requirements is approximately $11.5 million ($7.8 million, present value) for the 15-year period.

As a final point, this rule will impose costs on some part 121 operators by requiring them to maintain information on engine and propeller time in service as specified in section 135.439/121.380. The FAA concurs with a commenter's objection that for the few operators of older, part 121 propeller-driven airplanes, this will necessitate a substantial search-cost for historical records. In this instance the costs will not be borne by part 135 operators who, for the most part, utilize propeller-driven airplanes, but rather, by a few part 121 operators who do not utilize jet-driven airplanes. However, in the final rule, the FAA will make this requirement prospective only; those part 121 operators of propeller-driven airplanes will be required to maintain information on engine and propeller time in service only from the date of the first overhaul of the engine or propeller as applicable. Thus, this new requirement should only impose negligible costs on these part 121 operators.

5. Part 119

Part 119 is a new part that consolidates the certification and operations specifications requirements for persons who operate under parts 121 and 135. Most of these regulations are currently in SFAR 38–2; therefore, moving them to part 119 would not impose any additional cost. However, some sections currently under parts 121 and 135 would be moved to part 119. The costs imposed on affected operators by those sections are presented below. Over 15 years, the costs of these provisions are estimated to be $3.36 million ($2.30 million, present value).

Sections 119.33(c) and 121.163—Proving Tests. When an operator changes the type of operation it conducts or purchases an airplane that is new to a certain type of operation, that operator must undertake a proving test. A proving test generally consists of a non-passenger flight in which the operator proves that it is capable of safely conducting that type of operation or airplane. Going from a part 135 operation to a part 121 operation would be a change in operation and be subject to a proving test. Under the final rule, there would be two costs associated with proving tests—initial and recurring. The initial cost would be proving tests for upgrading the existing part 135 fleet that would become part 121. The recurring costs would be for any future operational or airplane changes that would normally require a proving test (as required by the existing rule).

The current regulation prescribes 50 hours of flight for a part 121 (section 121.163(b)(1)) proving test. This is the number that part 135 operators switching to part 121 will be subject to. However, the current rule also allows for deviations from the 50-hour requirement. A sample of FAA records on proving tests shows that, since 1991, there has been a wide range of hours actually flown for proving tests. This is because the amount that the operator is allowed to deviate from the prescribed number of hours is based on what that operator requests and on what the FAA will allow. However, based on the above sample, the FAA assumes for the purposes of this analysis that the average deviation will be down to a total of 15 hours.

The FAA recognizes that some operators who currently operate under a split certificate already have experience operating under part 121. Also, some part 135 operators already voluntarily comply with part 121 requirements for much of their operation. To the extent practicable, for these and possibly other operators, the FAA will not require a proving flight. However, some operators who will have to make significant changes to the operation as a result of the final rule will have to have a proving flight. The FAA anticipates that 50 percent of the estimated number of proving tests will not have to include a proving flight. The only cost to these operators will be the preparation and completion of the test for the dispatch system. For this analysis, the FAA assumes three days preparation for the manager, maintenance director, and secretary.

For those operators who must take the proving test, the cost will be the same three days preparation plus the 15 hours of flight time. The FAA estimates that the 15 hours of proving test flights will

The recurring costs would accrue over the next 15 years as affected operators conduct part 121 proving tests instead of part 135 proving tests. If the prescribed number of hours for part 135 and part 121 operators is 25 and 50 respectively, and the average deviation is 50 percent, then the difference in hours would be 13 [(50–25) × .5]. Also, the FAA found from the survey of its records that, on average, operators conduct one proving test every four years, which equates to approximately 3 tests over the 15-year period.

The average number of operators in any given year over the next 15 years is 68. Based on this, the FAA will conduct approximately 14 ((68 operators × 3 tests)/15 years) proving tests annually: 8 for 10-to-19-seat airplanes and 6 for 20-to-30-seat airplanes. The FAA estimates that the increased cost of a proving test per part 135 operator would be $6,050 for a 20-to-30-seat airplane and $5,800 for a 10-to-19-seat airplane. For all affected operators, the final rule will impose approximately $82,700 annually in additional costs for proving tests. Over the next 15 years, the total recurring cost of this provision would be $1.24 million ($0.75 million, present value).

Sections 119.65, 119.67, 119.69, and 119.71—Directors of Maintenance, Operations, and Safety; Chief Inspector; and Chief Pilot. The existing requirements for establishing and the eligibility of management personnel only apply to part 135 operators (excluding those that use only one pilot) and supplemental and commercial part 121 operators. The final rule will expand the applicability of the requirement for management positions to all part 121 operators as well. However, the FAA contends that part 121 operators, by the very nature and size of their operations, already have personnel in these positions (or the equivalent of these positions). Thus, there will be no cost to incorporate part 121 operators under these requirements.

There are three other potential cost areas for the management positions required in the final rule. First, is the new recency of experience for first time Directors of Operations and Maintenance. Second, is the new Director of Safety position for both part 121 and part 135 operators. Third is the Chief Inspector, which will be a new position for those part 135 commuters who upgrade to part 121.

Recency of Experience. The final rule will impose new recency of experience requirements for those Director of Maintenance and Operations candidates who will have that title for the first time. In addition to other requirements, these candidates will have to have three years of experience (within their respective fields) within the past six years to be eligible for a Director position. This will ensure that those candidates who do not have any experience as a Director at least have recent on-the-job experience in their respective fields.

The potential cost of the recency of experience requirement is the reduction at any given time in the number of first-time candidates available for these positions. This is because some first-time candidates may have to acquire additional years of experience if they do not have it at the time that they are being considered for a Director position. It is extremely difficult to project how many future first-time Director candidates will be affected by the final rule. However, this will have little if any effect on an operator's ability to find potential applicants to fill a Director position. This is for three reasons. First, the FAA contends that the number of potential candidates who do not meet the recency of experience requirement both now and in the future is small in relation to the total number of potential applicants for a Director position. Second, the FAA contends that the supply of existing personnel who would qualify for a Director position, plus those who are already a Director, is sufficient to keep wages from increasing as a result of the new qualification requirements. Further, the new requirements are not substantive enough to cause wages to increase. Third, operators can always request authorization from the FAA to hire an applicant who has comparable experience. For the initial upgrade to part 121, the FAA will approve these authorizations to the extent practicable. Thus, the FAA contends that the final rule will not impose a hardship on operators in having enough potential qualified applicants to fill the Director positions.

Director of Safety. This is a new position for part 121 but the FAA contends that this position will impose little if any additional cost to operators. The rationale for this assessment is based on two factors: (1) There are no eligibility requirements for the Director of Safety so virtually anyone can be designated as such; and (2) most operators already have a Director of Safety or the equivalent.

scheduled passenger flight with a 10-to-30-seat airplane, then that airplane must be upgraded to and the operation flown under part 121. The FAA has identified 5 airplanes in the current fleet with 10 to 19 seats that are used by on-demand operators in scheduled service. To bring these airplanes up to the part 121 standards will cost approximately $1.73 million ($1.18 million, present value). The components behind this estimate are provided below (explanations of these costs components are provided in their respective sections).

C. Benefits

The commuter segment of the U.S. airline industry is a vital and growing component of the nation's air transportation system. Commuter airplanes transport passengers between small communities and large hubs, and they play a vital role in transporting passengers over short distances, regardless of airport or community size. In many cases, they are a community's only convenient link to the rest of the nation's air transportation system.

Over the past 15 years, the size of the commuter industry has grown considerably. In 1993, for example, enplanements for commuter carriers grew by over 10 percent, far outpacing the one percent growth of enplanements on larger carriers. Forecasts of commuter industry activity give every indication that growth in this segment of the airline industry will continue to be robust during the next 15 years.

Many commuter carriers operate in partnership with large air carriers, providing transportation to and from hub locations that would be unprofitable with larger airplanes. These partnerships frequently operate within a seamless ticketing environment, in which the large carrier issues a ticket that often includes a trip segment on a commuter airplane. As these relationships between large carriers and commuter airlines continue to grow, it will become more common for the average long distance flyer to spend at least one flight segment on commuter airplanes.

The combined effect of a continuing growth in the commuter industry and the ever growing relationship between large carriers and their commuter counterparts will progressively blur the distinction between commuter carriers and larger air carriers. In other words, passengers will no longer readily distinguish between one type of carrier and another, but will simply view each component as a part of the nation's air transportation system. It is imperative, therefore, that a uniform level of safety be afforded the traveling public throughout the system. Air carrier accidents, perhaps more than accidents in any other mode, affect public confidence in air transportation.

What is the public value or benefit of air transportation? It would be nearly impossible to calculate something that has been so widely accepted in the American lifestyle. One figure that represents the very least value the public places on traveling by air is the annual amount the public spends on air transportation, or in other words, annual air carrier revenues. In 1994, the FAA estimated that amount to be $88 billion. If public confidence wavers by only one percent, annual total air carrier revenues would be reduced by $880 million, which is a minimum dollar estimate of the cost that would be experienced by the public in terms of being denied a fast, safe means of transportation.

Some studies have been done to measure the effect of change in public confidence. In 1987, the FAA studied the impact of terrorist acts on air travel on North Atlantic routes. The study investigated the relationship between the amount of media attention given to a specific terrorist act and reductions in air traffic. The study concluded that there was a measurable, short-term, carrier-specific correlation between the two. Following a well-publicized incident, ridership on the carrier experiencing the incident dropped by as much as 50 percent for a few months. In another instance, a major air carrier reported that two catastrophic accidents in 1994 resulted in a half-year-revenue loss to that carrier of $150 million. These examples relate to carriers operating large airplanes, but they illustrate how the prevailing level of public confidence can affect the public use of air transportation.

It is clear that the American public demands a high degree of safety in air travel. This is manifested by the large amount of media attention given to the rare accidents that do occur, by the short term

What follows is a quantified analysis of the potential benefits of the final rule based on the assumption that it will reduce the number of commuter airplane accidents and (possibly mitigate the severity of those casualties in accidents that will occur). The analysis finds that measurable potential benefits substantially exceed the cost of the final rule, but the FAA believes that the larger but unquantifiable benefit is continued public confidence in air transportation.

Safety Benefits From Preventing Accidents. The intent of the Commuter Rule is to close, to the extent practicable, the accident rate gap between airplanes with 10 to 30 seats currently operating under part 135 and airplanes with 31 to 60 seats operating under part 121. The smaller "commuter-type" part 121 airplanes were used for comparison because their operations best resemble those of commuters than do larger part 121 airplanes. If the accident rate gap were completely closed, the FAA estimates that up to 67 accidents involving airplanes with 10 to 30 seats could be prevented from 1996 to 2010. This would generate a benefit of $588 million, with a present value of $350 million.

Typically, the FAA estimates aviation safety benefits based on rates of specific types of accidents that the rulemaking would prevent in the future. For this rulemaking, however, the FAA used a more broad-based accident rate. This approach was adopted because the scope of the various components of the rule covers such a wide range, and many of those components are interrelated.

To estimate the benefits of the rule, the FAA assembled a database of applicable part 121 and part 135 accidents between 1985 and 1994 using National Transportation Safety Board (NTSB) accident reports. These accidents were categorized by the passenger seating configuration of the airplanes involved—10 to 19, 20 to 30, and 31 to 60. The FAA then divided the annual number of accidents by the annual number of scheduled departures for each group to derive the annual accident rates. After calculating the 10-year historical average accident rates, the FAA took the difference in the accident rates between the part 135 airplanes and the part 121 airplanes. The difference in rates was then multiplied by the projected annual number of scheduled part 135 departures of airplanes with 10 to 19 seats and 20 to 30 seats from 1996 to 2010. Each step of this estimation procedure is described in detail below.

The Accident Database. The NTSB defines an accident as an occurrence associated with the operation of an airplane which takes place between the time any person boards the airplane with the intention of flight and the time such that persons have disembarked, and in which any person suffers death or serious injury or in which the airplane receives substantial damage. The FAA looked at only those accidents for which the final rule could have an effect. Accidents in which the probable cause was undetermined, the result of turbulence, or was related to the ground crew were not included in the database. The FAA also excluded midair collisions, since the current airspace rules (Mode C, TCAS, positively-controlled-airspace areas, etc.) would not be affected by the final rule. Finally, the FAA excluded accidents involving unscheduled and all-cargo operations.

Annual Accident Rate. Based on the annual number of accidents from the database and the annual number of departures, the FAA estimated the accident rates for 10-to-30-seat airplanes operating under part 135 and 31-to-60-seat airplanes operating under part 121. From 1986 to 1994, the FAA found that part 135 airplanes with 10 to 19 seats were involved in accidents at a rate of .32 accidents per 100,000 departures and airplanes with 20 to 30 seats occurred at an average rate of .17 accidents per 100,000. Accidents involving part 121 airplanes with 31 to 60 seats had an average accident rate of .13 accidents per 100,000 departures.

The Average Cost of a Part 135 Accident. From the accident database discussed above, the FAA found that the average part 135 accident involving 10-to-19- and 20-to-30-seat airplanes cost $6.3 million and $24.6 million, respectively.

Estimating Potential Benefits. To estimate the benefit of closing the accident-rate gap between part 135 and part 121 airplanes, the FAA took the difference in average accident rates for 10-to-30-seat part 135 airplanes and 31-to-60-seat part 121 airplanes and multiplied them by the projected annual number of departures for 10-to-30-seat part 135 airplanes. This gives the projected annual number of

Over the next 15 years, the Commuter Rule will impose total costs of $117.80 million, with a present value of $75.19 million. Of the total costs, $80.36 million will be for airplanes with 10 to 19 seats and $37.44 million will be for airplanes with 20 to 30 seats.

The benefit of the Commuter Rule is its contribution to closing the accident rate gap between part 121 and existing part 135 commuter operators. The FAA estimates that closing this gap will prevent 67 accidents over the 15 year period for a total present value benefit of $350 million. It is not certain how much of the accident-rate gap the final rule will close. In view of this uncertainty, the FAA contends that the final rule will be cost-beneficial because it will have to be only 21 percent effective for costs to equal benefits. Given the broad scope of the rule, the FAA anticipates that, at a minimum, the rule will be this effective and more.

One additional observation needs to be made. The FAA considers the Commuter Rule to be complementary to the Air Carrier Training Program final rule and the Flight Crewmember Duty Period Limitations and Rest Requirements NPRM. A common goal of these three rulemaking actions is to prevent the 67 accidents that represent the accident-rate gap between part 135 commuters and part 121 operators.

In terms of the accident-rate gap, the benefits of the Commuter Rule are a part of this total benefit. However, it is not possible to allocate that benefit among the three rulemaking actions because it is difficult to determine which rulemaking action would prevent a given accident. For example, individual accidents may be prevented by any one or a combination of several factors such as:

- Preventing the occurrence of a problem with an airplane in the first place (Commuter rule);
- Providing more or better crew training to properly respond to the problem after it occurs (Air Carrier Training Program rule);
- Providing a dispatcher to help identify a problem before it becomes a potential accident (Commuter rule); and
- Ensuring pilots are not over-worked and tired (The Rest and Duty NPRM).

The Commuter Rule only addresses a portion of the necessary requirements to close the accident-rate gap. If the $75 million present value cost of this rule is combined with the $51 million in cost-savings of the Flight and Duty NPRM, and the cost of Pilot Training, $34 million, the total cost, $58 million ($34 – $51 + $75), is still less than the estimated $350 million benefit of eliminating the accident-rate gap. These rules combined need only be 17 percent effective to be cost-beneficial.

E. International Trade Impact Assessment

Overview. The final rule will have a minimal effect on international trade. Although there are a number of across-the-border commuter services between the U.S., Canada, and Mexico, they represent a small number of routes and airplanes. The only other concern with regard to international trade is airplane sales. There is the potential that increased equipment requirements and standards may limit the ability of commuter airplanes manufactured for the U.S. market to be resold to buyers in developing nations. Often, these countries do not have extensive safety requirements and may prefer less sophisticated airplanes.

International Routes. Most of the nation's 63 commuter airlines operate almost exclusively on domestic routes, with only limited international operations and no transoceanic routes. The majority of these international operations are across-the-border services between cities in the United States and locations in Canada and Mexico. There are relatively few carriers engaging in this kind of commuter service, with only a limited number of flights. Most of these services are between points in the border states, such as California, Arizona, Texas, Wisconsin, Michigan, Washington, and New York, flying to Mexican and Canadian cities. Although the final rule may require some foreign carriers to comply with its requirements, the primary effect will still be borne by the domestic air carrier market with a minimal affect on international trade.

exceed their countries' minimum requirements. Further, these operators sometimes lack the facilities, equipment, and expertise that are necessary to keep sophisticated systems operational. Therefore, when purchasing either new or second-hand airplanes, operators tend to focus on airplanes that rely on a minimum of complex systems and equipment and that meet their basic requirements at the lowest cost.

Although sales of smaller airplanes to the developing countries represent an important component of the market, the largest market by far is in North America. In this case, since the airplanes will have to operate under the same standards as before their resale, there would be no impact. According to recent estimates, the worldwide market for commuter airplanes is estimated to be almost $20 billion over the next 15 years, with a projected 59 percent of those sales occurring in North America. Sales to Europe account for approximately 20 percent of the total sales.

F. Regulatory Flexibility Determination Summary

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily or disproportionately burdened by Federal regulations. The RFA requires a Regulatory Flexibility Analysis if a final rule will have "a significant economic impact on a substantial number of small entities." The definitions of small entities and guidance material for making determinations required by the Regulatory Flexibility Act of 1980 are contained in the *Federal Register* [47 FR 32825, July 29, 1982]. Federal Aviation Administration (FAA) Order 2100.14A outlines FAA's procedures and criteria for implementing the RFA. With respect to the final rule, a "small entity" is defined as a commuter operator (with 10 to 30 seats) that owns, but does not necessarily operate nine or fewer airplanes. A "significant economic impact on a small entity" is defined as an annualized net compliance cost to a small scheduled commuter operator that is equal to or greater than $67,000 (1994 dollars). The entire fleet of a small scheduled commuter operator has at least one airplane of seating capacity of 60 or fewer seats. The annualized net compliance cost to a small operator whose entire fleet has a seating capacity of over 60 seats is $119,900 (1994 dollars). A substantial number of small entities is defined as a number that is 11 or more and that is more than one-third of small commuter operators subject to the final rule.

The FAA is requiring certain commuter operators that now conduct operations under part 135 to conduct those operations under part 121. The commuter operators that will be affected are those conducting scheduled passenger-carrying operations in airplanes that have a passenger-seating configuration of 10 to 30 seats and those conducting scheduled passenger-carrying operations in turbojets regardless of seating configuration. The rule will revise the requirements concerning operating certificates and operations specifications. The rule will also require certain management officials for all operators under parts 121 and 135. The rule will increase safety in scheduled passenger-carrying operations and clarify, update, and consolidate the certification and operations requirements for persons who transport persons or property by air for compensation or hire.

The total present value cost to small entities with 10-to-19-seat airplanes is $16.7 million. The section on operations represents $10.1 million or 64 percent of the total. The section on maintenance represents $4.0 million or 24 percent of the total. The total present value cost to small entities with 20-to-30-seat airplanes is $4.0 million. The section on operations represents $2.9 million or 73 percent of the total. The section on part 119 represents $416,000 or 10.4 percent of the total.

This determination shows that for an operator with only 10-to-19-seat airplanes, the average annualized cost will be $61,900 and for an operator with 20-to-30-seat airplanes, the average annualized cost will be $35,600. Given the threshold annualized cost of $67,000 for a small commuter operator (with 60 or fewer seats), the FAA estimates that this final rule will not have a significant economic impact on a substantial number of small entities. A complete copy of the Regulatory Flexibility Determination is in the public docket.

of Management and Budget, until December 1998, in accordance with 44 U.S.C. Chapter 35 under OMB No. 2120–0593, TITLE: Commuter Operations and General Certification and Operations Requirements.

Conclusion

For the reasons set forth under the heading "Regulatory Analysis," the FAA has determined that this regulation: (1) Is a significant rule under Executive Order 12866; and (2) is a significant rule under Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). Also, for the reasons stated under the headings "Trade Impact Statement" and "Regulatory Flexibility Determination," the FAA certifies that the rule will not have a significant economic impact on a substantial number of small entities. A copy of the full regulatory evaluation is filed in the docket and may also be obtained by contacting the person listed under "FOR FURTHER INFORMATION CONTACT."

The Amendments

In consideration of the foregoing and under the authority of 49 U.S.C. 44702, the Federal Aviation Administration amends the Federal Aviation Regulations (14 CFR parts 91, 119, 121, 125, 127, and 135) effective January 19, 1996.

The authority citation for part 125 continues to read as follows:

Authority: 49 U.S.C. 106(g), 1153, 40101, 40105, 40103, 44113, 44701–44705, 44707–44714, 44716–44717, and 44722.

The heading for part 125 is revised to read: "Certification and Operations: Airplanes Having a Seating Capacity of 20 or More Passengers or a Maximum Payload Capacity of 6,000 Pounds or Greater."

Amendment 125–24

Revision of Authority Citations

Adopted: December 20, 1995 **Effective: December 28, 1995**

(Published in 60 FR 67254, December 28, 1995)

SUMMARY: This rule adopts new authority citations for Chapter I of Title 14 of the Code of Federal Regulations (CFR). In 1994, the Federal Aviation Act of 1958 and several other statutes conferring authority upon the Federal Aviation Administration were recodified into positive law. This document updates the authority citations listed in the Code of Federal Regulations to reference the current law.

DATES: This final rule is effective December 28, 1995. Comments on this final rule must be received by March 1, 1996.

FOR FURTHER INFORMATION CONTACT: Karen Petronis, Office of the Chief Counsel, Regulations Division (AGC–210), Federal Aviation Administration, 800 Independence Ave., SW., Washington, DC 20591; telephone (202) 267–3073.

SUPPLEMENTARY INFORMATION: In July 1994, the Federal Aviation Act of 1958 and numerous other pieces of legislation affecting transportation in general were recodified. The statutory material became "positive law" and was recodified at 49 U.S.C. 1101 *et seq.*

The Federal Aviation Administration is amending the authority citations for its regulations in Chapter I of 14 CFR to reflect the recodification of its statutory authority. No substantive change was intended to any statutory authority by the recodification, and no substantive change is introduced to any regulation by this change.

has no known or anticipated economic impact; accordingly, no regulatory analysis has been prepared.

Adoption of the Amendment

In consideration of the forgoing, the Federal Aviation Administration amends 14 CFR Chapter I effective December 28, 1995.

The authority citation for part 125 is revised to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701–44702, 44705, 44710–44711, 44713, 44716–44717, 44722.

Amendment 125–25

Extended Overwater Operations With a Single Long-Range Communication System (LRCS) and a Single Long-Range Navigation System (LRNS)

Adopted: February 20, 1996 **Effective: February 26, 1996**

(Published in 61 FR 7186, February 26, 1996)
(Correction in 61 FR 10430, March 13, 1996)

SUMMARY: This action revises the Federal Aviation Regulations for certain overwater operations for air carriers, commercial operators, and general aviation operators of large and of turbine-powered multiengine airplanes. It defines and clarifies requirements for using long-range navigation systems (LRNS) and long-range communication systems (LRCS) and sets forth criteria for navigation and communication equipment for certain overwater operations. Under this rule, air carriers and commercial operators are authorized to use a single LRCS and a single LRNS for extended overwater routes detailed in their operations specifications. Affected general aviation operators, who already are authorized to use a single LRCS when they have two very high frequency (VHF) communication systems, are authorized to use a single LRNS in overwater operations in the Gulf of Mexico, the Caribbean Sea, and part of the western Atlantic Ocean. This rule gives the FAA greater flexibility in responding to advances in aviation technology and changes in the operational environment and allows operators to conduct extended overwater operations without carrying unnecessary communication and navigation equipment.

FOR FURTHER INFORMATION CONTACT: Daniel V. Meier, Jr., Project Development Branch (AFS–240), Air Transportation Division, Office of Flight Standards, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591, telephone (202) 267–3749.

SUPPLEMENTARY INFORMATION:

Background

Air traffic in the Gulf of Mexico, the Caribbean Sea, and part of the western Atlantic Ocean (subsequently referred to in this document as the geographic area) has increased substantially during the last 20 years. With this increase has come corresponding technological advances inherent with more modern aircraft and improved navigation and communications systems.

Advances in aircraft technology have increased the overall speed and functional reliability of modern airplanes. These high-speed airplanes can cover routes in the geographic area much more quickly than their predecessors. Because of their higher speeds, they also can cover greater distances during the time between hourly fixes. Thus, the number of routes in the geographic area where time between reliable fixes was 1 hour or more has been reduced for these airplanes. Similarly, the airplane's exposure to the loss of its LRNS before the next reliable fix can be obtained is reduced. Since such aircraft also

geographic area ensures that many routes now can be flown with a VHF communications gap of no more than 30 minutes.

The increased reliability of modern LRNS reduces navigation errors. Sophisticated flight management systems (FMS) integrate control and navigation systems of an airplane and combine several navigation inputs to provide greater position reliability. The multiple navigation inputs into an FMS increase the accuracy of the system, and its reliability when compared to earlier navigation systems which only received a single source input. If the LRNS fails on an airplane using such sophisticated equipment, navigation errors inherent in dead-reckoning procedures from the moment of the failure until the next reporting point or fix should be well within the navigational performance capability required for the route to be flown.

Just as navigation systems have experienced several enhancements, ongoing developments in data link and satellite technology also have resulted in enhanced communications. The airborne equipment that aircraft use has improved due to advances in avionics reliability and miniaturization. These smaller units mean less weight on board the airplane.

The FAA believes that the probability that an airplane would experience a failure of both its single long-range communications system (LRCS) and its single LRNS when suitable navigation aids cannot be received is minimal. Advanced technology notwithstanding, however, a single LRCS could fail during a flight segment in which the airplane is operated beyond the range of VHF radio communication equipment. Even if such a failure did occur, the increased density of other air traffic in the vicinity could provide the affected airplane with some backup VHF communications with ATC. Moreover, regardless of the number of other aircraft in the area, if the flightcrew adheres to proper operational procedures, failure of the LRNS should not lead to an increased potential for conflict between aircraft before the airplane could come into range of suitable navigation aids (e.g. non-directional beacon, very high frequency omnirange (VOR), etc.).

Because of the increased speeds and higher altitudes at which airplanes now operate, improved equipment, improved reliability, and greater accuracy of LRNS systems, the FAA has concluded that, where exposure time for a critical equipment failure is 1 hour or less, the following is true:

- The probability of a failure is less than the probability of a failure with less modern equipment;
- With the accuracy of the present equipment, operators have better knowledge of their position if a failure does occur.

All of the factors discussed above have brought about the need to update the regulations to conform current technology to the types of operations that are currently being authorized. Namely, the FAA has found that operations in the geographic area can be conducted without the burden of additional navigation and communication systems carried in the aircraft. Therefore, on a case-by-case basis, and with certain conditions and limitations, the FAA has allowed a number of operators to conduct operations in the geographic area with a single LRCS and a single LRNS. To date, such operations have had no adverse effect on safety.

General Discussion of Current Requirements for Extended Overwater Operations

General Aviation Operations

With one exception, set forth in § 91.511(d), 14 Code of Federal Regulations part 91, subpart F, the FAA currently requires large and turbine-powered multiengine airplanes engaged in overwater operations to be equipped with two independent communication and two independent navigation systems. Communication equipment must be appropriate to the facilities to be used and able to transmit to and receive from at least one surface facility at any place on the route. Navigation equipment must be able to provide the pilot with the information necessary to navigate the airplane within the airspace assigned by ATC. Under the exception in § 91.511(d), if a route requires the use of both VHF and LRCS communica-

nication equipment. Specifically, part 121 requires two independent communication systems able to communicate, under normal operating conditions, with (1) at least one appropriate ground station from any point on the route and with (2) appropriate traffic control facilities from any point in the airspace within which the flights are intended. These communication systems also must be able to receive meteorological information from any point en route. Unlike part 91, however, parts 121, 125, and 135 do not allow the use of a single LRCS where the airplane is also equipped with two VHF radios or systems. Thus, if a route requires use of both VHF and LRCS, airplanes operating under parts 121, 125, and 135 must have two VHF radios and two LRCS.

Section 121.349(b) allows for the use of a single automatic direction finder (ADF) when two VOR navigation units are installed and VOR navigation aids are so located and the airplane is so fueled that, in the case of a failure of the ADF, the flight may proceed safely to a suitable airport by means of VOR aids. In all other cases, when use of ADF, VOR navigation equipment, or both, is needed for primary navigation, the current rules for parts 121, 125, and 135 require the airplane to be equipped with two ADF and two VOR navigation units, as appropriate.

General Discussion of the Rule

The FAA is expanding, under certain conditions, the authority for air carriers and commercial operators to amend their operations specifications to use a single LRCS and a single LRNS. The FAA has determined that, for the time being, the authority will be limited to the geographic area. This limitation is based primarily on the ready availability of navigation and communication facilities within the geographic area, which provide a crucial buffer in the event of a communication or navigation failure. In appropriate circumstances, the FAA may expand the areas in which operations with a single LRCS and a single LRNS will be permitted for part 121, 125, and 135 operators.

Aside from the current authority set forth in §§ 91.511(d) and 121.349(b), this rule does not change the general requirements under parts 91, 121, 125, and 135 for two VHF communication systems and two each of any appropriate navigation systems required for the route to be flown except in the geographic area. The FAA has concluded that, by maintaining these requirements, air transportation safety is not compromised.

The FAA is amending part 91 and creating operation specification authority for operators under parts 121, 125, and 135 based on the factors mentioned above and on the operator's ability to maintain two-way communications with ATC and, where appropriate, the certificate holder's dispatch office. Without such factors, ATC's ability to control airplanes in the geographic area would be adversely impacted, increasing the potential for air traffic conflicts. The flightcrew must be able to notify ATC of an LRNS failure and must be able to tell ATC whether the flightcrew can reliably fix the airplane's position using other means.

Part 91

As a result of changes in technology, the operational environment described, and experience gained with exemptions allowing a single LRNS, the FAA has concluded that part 91 operators of large and of turbojet multiengine airplanes should be able to operate safely with a single LRCS and a single LRNS in the geographic area. In conducting operations in the geographic area, these general aviation operators should consider how long they may be without two-way VHF communications. For flight planning purposes, the FAA recommends that this gap should not exceed 30 minutes. The operator also should consider whether the position of the airplane can be reliably fixed at least once each hour if the LRNS fails.

Parts 121, 125, and 135

The FAA believes that the only appropriate method for authorizing single LRCS/single LRNS operations for part 121, 125, and 135 certificate holders is through FAA-approved authorizations, which will be set forth in the certificate holder's operations specifications. This method of approval is necessary because it will provide both the FAA and the certificate holder greater flexibility in dealing with varied equipment

In the proposal, the FAA defined an LRNS as an electronic navigation unit that is approved for use under instrument flight rules (IFR) as a primary means of navigation and has at least one source of navigational input, such as INS, Omega/very low frequency, and Loran C. In this definition, the FAA did not limit the scope of acceptable LRNS to radio-based or ground-based systems. Such nonradio, nonground-based systems as INS are included within the scope of acceptable alternatives as long as the system chosen has been approved for use under IFR. If approved, GPS or similar navigation systems also would fall within this definition. Where ADF or VOR radio navigation is impractical or unusable, the FAA interprets the current regulations to require the airplane to be equipped with two LRNS for extended overwater operations. This final rule changes this dual LRNS requirement. For parts 121, 125, and 135, authorization for a single LRNS and a single LRCS will be approved in the certificate holder's operations specifications. Since affected part 91 operators do not use operations specifications, they would be authorized to use a single LRNS, but only in the geographic area.

Although not defined in the proposal, the FAA has determined that, for clarity, LRCS, like LRNS, should be defined in the final rule. The FAA defines an LRCS as a long-range communication system that uses satellite relay, data link, high frequency, or other approved communication system which extends beyond line of sight. The FAA also has determined that the definitions for LRNS and LRCS would be better placed in part 1, Definitions and Abbreviations, for easy reference of all affected operators and to avoid the redundancy of repeating the definitions in all affected parts. Therefore, the definitions for LRCS and LRNS will be added to § 1.1, General definitions. These definitions will be added to this section, in appropriate alphabetical order, following the currently listed definition of "load factor."

Conditions and Limitations for All Operators

Because part 91 operators are not required to have operations specifications, this rule limits general aviation single LRNS operations to the geographic area. The areas of operation covered in this rule for affected general aviation operators include the Gulf of Mexico, the Caribbean Sea, and the Atlantic Ocean west of a line which extends from 44°47′00″ N / 67°00′00″ W to 39°00′00″ N / 67°00′00″ W to 38°30′00″ N /60°00′00″ W south along the 60°00′00″ W longitude line to the point where the line intersects with the northern coast of South America. This geographic area does not include the North Atlantic Minimum Navigational Performance Specifications (NAT/MNPS) airspace, where operations are governed by § 91.705 and appendix C to part 91.

Limitations for air carrier and commercial operations will be set forth in the certificate holders' operations specifications. As in the case of general aviation operations, the area of operation for air carrier and commercial operators will not include NAT/MNPS airspace. At a minimum, these operators must always comply with International Civil Aviation Organization (ICAO) requirements for the area of operations.

Discussion of Comments

On October 5, 1993, the FAA published a notice proposing to allow extended overwater operations with single LRCS and single LRNS (58 FR 51938). The FAA received six comments on the proposal. The National Business Aircraft Association, Inc. (NBAA), the Aircraft Owners and Pilots Association (AOPA), and the Air Transport Association (ATA) expressed support with recommendations. Northwest Airlines expressed neither support nor opposition but did provide a recommendation. The Boeing Commercial Airplane Group acknowledged the proposal but had "no comment" and an aviation consulting firm was opposed to the proposal. These comments are discussed as follows:

NBAA

The NBAA indicated that it "strongly supports" the proposed changes to allow single LRNS and LRCS. It recommended, however, that proposed § 121.99 be incorporated into parts 91, 125, and 135 since these parts also require the latitude to access new technology communication links without being tied solely to HF.

and other weather conditions. Further, in overwater areas, pilots relay transmissions to ATC through other aircraft and do not depend on their LRCS.

FAA Response: The FAA acknowledges that an LRCS has some disadvantages; however, these disadvantages are offset by the necessity for communications when an airplane is operating in extended overwater beyond the range of VHF ground-based communications. While airplanes operating in accordance with § 91.511 are not involved in the carriage of persons or cargo for compensation or hire, these airplanes nevertheless share airspace in the geographic area with air carriers which are engaged in transporting passengers and cargo. Therefore, the FAA considers it necessary for safety that all aircraft operating in the geographic area be able to communicate with ATC at all times.

ATA

The ATA supported the proposal indicating that it would provide administrative and economic relief from an unnecessary regulatory burden. Apparently in reference to the 15-day comment period however, the commenter noted that, in future proposals, the FAA must abide by the requirements of the Administrative Procedures Act (APA). Northwest echoed this comment regarding the APA.

FAA Response: In allotting the 15-day comment period, the FAA was responding to the large number of requests for relief from the aviation industry. The FAA considered it to be in the best interest of safety and the public to expedite the regulation by every means possible. The FAA did not violate any requirements of the APA, which does not require specific comment periods for rulemaking.

Northwest Airlines

Northwest Airlines suggested that the proposed rule be amended to allow operations in NAT/MNPS airspace for flights to and from SLATIN along or west of A632. According to the commenter, the area of NAT/MNPS airspace traversed by A632 is within VHF coverage except for an area of non-coverage located on either side of the mid point of A632 between Bermuda and the mainland of the U.S. The commenter asserted that this non-coverage area can be traversed within 6 minutes. Northwest further indicated that extending the boundary of the area below 27°00′00″ N from longitude 60°00′00″ N to 58°00′00″ W, would include the island of Barbados and thereby preclude any confusion regarding coverage of the total Caribbean island chain. Lastly, Northwest indicated that the coordinates describing operations under part 91 do not have the same boundaries as defined by part 91, appendix C. According to the commenter, this presents confusion to ATC with respect to the different requirements for air carrier and general aviation operations.

FAA Response: The route from SLATIN along A632 to approximate 38°30′00″ N and 67°30′00″ W is NAT/MNPS airspace and, as such, is governed by ICAO agreements which require redundant navigation and communication systems. It is not within the scope (authority) of this rule to alter those agreements. This airspace represents an extremely small part of the total geographic area considered in this rule and can be crossed in 6 minutes by a turbine-powered air transport category airplane. Airlines may operate through this airspace with one LRNS and one LRCS provided they obtain a letter of agreement with ATC. These operations have been successful in the past and the FAA does not consider it to be in the public interest for the U.S. government to file a difference with ICAO.

The boundaries defined in the rule represent a general oceanic area, outside NAT/MNPS airspace, in which a single LRNS and single LRCS may be used when an airplane is unable to navigate by reference to standard ICAO navigational aids such as VOR or ADF. The location of the island of Barbados outside the western boundary of the geographic area does not exclude it from operations conducted under this regulation since VOR coverage extends well into the geographic area.

The commenter's concern regarding possible conflict between the requirements of part 91, appendix C and the boundaries of the geographic area of the rule is unfounded. Part 91, appendix C refers to operations within NAT/MNPS airspace whereas the regulation limits operation to airspace outside NAT/MNPS airspace.

for improved navigation safety not a reduction in safety standards. Indicating that errors are not mechanical but human, this commenter recommended maintaining the requirement for dual LRNS and LRCS and also improving training requirements.

FAA Response: The FAA realizes that cost differences exist among LRNS and LRCS equipment and that there may be some differences in accuracy; however, all equipment used for operations under this rule must meet certain standards of approval established by the FAA. These standards serve to assure that an acceptable level of safety is maintained regardless of the cost and availability of the equipment.

The safe operation of LRNS and LRCS is a part of the operators' approved training program and is assured by FAA inspection and surveillance. Knowing that mistakes in navigation occasionally will be made, the FAA established certain operational factors in the rule to minimize any potential threat to safety which may result from potential errors.

One of the major factors considered in this rule is the question of economic burden to the air transportation industry. The FAA believes that this rule will relieve the airlines of a significant cost burden. If GPS LRNS units, and subsequently approved operations, present a cost savings above other, more prevalent, systems in use today, the FAA would certainly favor such a potential.

Economic Summary

This final rule reduces costs to operators by eliminating the requirements for two LRCS and two LRNS in the Gulf of Mexico, part of the western Atlantic Ocean, and the Caribbean Sea (the geographic area). Savings will come from reduced avionics costs, reduced fuel consumption from less aircraft weight, and reduced risk of flight cancellations due to inoperative equipment.

The FAA estimates the fleet size operating in the geographic area will be approximately 158 airplanes in 1995. The FAA assumes that the size of the fleet serving the geographic area will grow by 5.5 percent annually over the 10-year period, 1995–2004. Although the fleet composition varies from jumbo jets to smaller twin-engine turboprop planes, commercial operators most often use Boeing 727's in the geographic area. In addition to the scheduled commercial fleet, general aviation and non-commercial operators operating in the geographic area will gain some relief from this rule as well. The FAA, however, does not have an accurate measure of the size of the fleet operating in the geographic area.

Each commercial operator will save approximately $17,000 per airplane in equipment costs and will reduce aircraft weight 20 pounds per airplane by eliminating one LRCS; each commercial operator will save about $36,000 per airplane in equipment costs and will reduce aircraft weight 20 pounds per airplane by eliminating one LRNS. For existing airplanes with equipment made redundant by this rule, the resulting avionics cost savings will total about $53,000 per converted airplane. The FAA also estimates that each additional pound on an airplane costs an operator an additional 15 gallons of fuel annually. Assuming a converted airplane removes two 20-pound pieces of equipment, the reduction in weight will save 600 gallons of fuel each year. Using a 1993 average jet fuel price of $.675 per gallon, the reduction in weight of 600 gallons of fuel per year will result in annual savings totaling over $400 per converted airplane.

Additional savings from the rule will also come from reduced flight cancellations as operators experience fewer equipment failures as a result of the reduced equipment requirements. Cost reduction resulting from the prevention of a cancellation depends on passenger time, passenger handling costs, lost revenue, and operating costs. The approximate cost of a Boeing 727 cancellation is estimated to equal just over $28,000. The FAA, however, does not have an accurate estimate for the number of flight cancellations attributable to non-functioning LRCS or LRNS for airplanes operating in the geographic area from which to estimate the total cost savings resulting from reduced cancellations.

The FAA assumes that 50 percent of the commercial fleet serving the geographic area will reduce the equipment in its airplanes to only one LRCS and one LRNS, and that this conversion will occur during the first 2 years after implementation of the rule. Thereafter, the FAA assumes that one-half

The FAA has determined that no safety problem exists with the reduction in requirements for dual LRCS and dual LRNS for certain overwater operations. In the past two decades, the FAA has granted limited exemption from the requirements for dual LRCS and LRNS to certain qualified operators operating in the geographic area. No airplane operating under exemption has had an accident which can be attributed to having only one LRCS or one LRNS. During that time, the accuracy and reliability of navigation equipment has continuously improved. Thus, the FAA believes that this rule presents no degradation in aviation safety in the geographic area.

International Trade Impact Analysis

Domestic air carriers will receive a negligible cost reduction, but there will be no impact on foreign operators. Hence, this rule will have no effect on the sale of foreign aviation products or services in the U.S. or on the sale of U.S. products or services in foreign countries.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) ensures that government regulations do not needlessly and disproportionately burden small businesses. The RFA requires the FAA to review each rule that may have ''a significant economic impact on a substantial number of small entities.''

FAA criteria define ''a substantial number'' as not less than eleven nor more than one-third of the small entities subject to the rule. Among air carriers, a small entity is defined as one which owns, but does not necessarily operate, nine or fewer aircraft. The criteria define ''a significant impact'' as follows: $102,000 for scheduled air carriers with 60 or more seats; $57,000 for scheduled air carriers with fewer than 60 seats.

This amendment is wholly cost relieving. By eliminating the need for two LRCS and LRNS in the geographic area, the estimated cost savings to an operator is $53,000. This savings is less than the threshold amount for small, scheduled operators.

Federalism Implications

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this rule would not have federalism implications requiring the preparation of a Federalism Assessment.

International Civil Aviation Organization and Joint Aviation Regulations

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with ICAO Standards and Recommended Practices (SARP) to the maximum extent practicable. For this amendment, the FAA has reviewed the SARP of Annex 6, Parts I and II, applicable to international commercial air transportation operations and international general aviation operations respectively. The FAA has determined that this rule would not present any differences.

Paperwork Reduction Act

This rule contains no information collection requests requiring approval of the Office of Management and Budget pursuant to the Paperwork Reduction Act (44 U.S.C. 3507 *et seq.*).

Conclusion

For the reasons discussed in the preamble, and based on the findings in the Regulatory Flexibility Determination and the International Trade Impact Statement, the FAA has determined that this regulation is not significant under Executive Order 12866. In addition, it is certified that this rule will not have a significant economic impact, positive or negative, on a substantial number of small entities under the

which have a seating configuration of 20 or more passengers, or a maximum payload capacity of 6,000 pounds or more when common carriage is not involved.

(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 part 121, 129, 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 by a part 125 certificate holder 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 the rules of parts 121, 135, or 137 of this chapter, they are being operated under the applicable rules of part 121 or part 135 of this chapter by an applicant for a certificate under part 119 of this chapter or they are being operated by a foreign air carrier or a foreign person engaged in common carriage solely outside the United States under part 91 of this chapter; or]

(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.

(Amdt. 125–4, Eff. 10/12/82); (Amdt. 125–5, Eff. 8/31/84); (Amdt. 125–6, Eff. 2/28/86); (Amdt. 125–7, Eff. 3/4/87); (Amdt. 125–9, Eff. 8/25/87); [(Amdt. 125–23, Eff. 1/19/96)]

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 [Administrator].

(c) A request for deviation authority must be submitted to the [Flight Standards District Office], no 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.

(Amdt. 125–13, Eff. 10/25/89)

§ 125.5 Operating certificate and operations specifications required.

(a) After February 3, 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 February 2, 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 of a Letter of Deviation Authority issued under § 125.3.

(Amdt. 125–1, Eff. 4/1/81); (Amdt. 125–1A, Eff. 2/3/81)

(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, propeller. The zero fuel weight figure may be found in either the airplane type certificate data sheet or 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 or operations specifications under this part if that person holds the appropriate operating certificate and/or operations specifications necessary to conduct operations under part 121, 129, or 135 of this chapter.

(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.

(c) No person holding operations specifications under this part may operate or list on its operations specifications any aircraft listed on any operations specifications or other required aircraft listing under part 121, 129, or 135 of this chapter.

(Amdt. 125–9, Eff. 8/25/87)

or 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 without violating that Annex or those regulations. Annex 2 is incorporated by reference in [§ 91.703(b)] of this chapter.

(Amdt. 125–12, Eff. 8/18/90)

§ 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.

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 Issues 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.

been grounds for denying an application for a certificate.

(c) If the Administration 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 kind 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

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.

(Amdt. 125–13, Eff. 10/25/89)

§ 125.37 Duty [period] limitations.

(a) Each flight crewmember [and flight attentant] 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).

[(Amdt. 125–21, Eff. 9/19/94)]

basis for suspending or revoking the certificate.

(Amdt. 125–12, Eff. 8/18/90)

§ 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.

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, or 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

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.

sion 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;

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, marketing, 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;

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.

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

(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.

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 upholstering, floors, and furnishings must be flame resistant.

§ 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.

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-extinguisher 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 control 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.

from entering any compartment occupied by the crew or passengers.

(2) Ventilation and drafts must be controlled within 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 fireresistant 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 stations.

(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.

crewmembers to shut off the supply of fuel in 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 fight 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.

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 position 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 breathe 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 pilot's windshield.

(c) Engine breathers may not discharge into the engine-air induction system.

§ 125.143 Firewalls.

Each engines 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.

(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 contains 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

§ 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 and 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.

(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.

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

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.

§ 125.177 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.

equivalent safety.

§ 125.181 Induction system ice prevention.

A means for preventing the malfunctioning of each engine 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.

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 in 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 the contents of a handheld fire extinguisher.

§ 125.187 Landing gear: aural warning device.

[(a) Except for airplanes that comply with the requirements of § 25.729 of this chapter on or after January 6, 1992, each airplane must have a landing gear aural warning device that functions continuously under the following conditions:]

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.

(Amdt. 125–16, Eff. 1/6/92)

§ 125.189 Demonstration of emergency evacuation procedures.

(a) Each certificate holder must show, by actual demonstration conducted in accordance with paragraph (a) of Appendix C of this Part, that the emergency evacuation procedures for each type and model of airplane with a seating of more than 44 pessengers, 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 demonstrating must be conducted by the certificate holder upon the initial introduction of 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 operation, 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.

ing certification responsibility has issued the certificate holder operations specifications authorizing operations in accordance with an approved Minimum Equipment List. The flight crew shall have direct access at all times prior to flight to all of the information contained in the approved Minimum Equipment List through printed or other means approved by the Administrator in the certificate holders operations specifications. An approved Minimum Equipment List, as authorized by the operations specifications, constitutes an approved change to the type design without requiring recertification.

[(3) The approved Minimum Equipment List must:

[(i) Be prepared in accordance with the limitations specified in paragraph (b) of this section.

[(ii) Provide for the operation of the airplane with certain instruments and equipment in an inoperable condition.

[(4) Records identifying the inoperable instruments and equipment and the information required by paragraph (a)(3)(ii) of this section must be available to the pilot.

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

[(b) The following instruments and equipment may not be included in the Minimum Equipment List:

[(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 safer operations under all operating conditions.

a special flight permit under §§ 21.197 and 21.199 of this chapter.]

[(Amdt. 125–15, Eff. 6/20/91)]

§ 125.202 [Removed]

§ 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) [Except as provided in paragraph (e) of this section,] 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

fications. The following are among the operational factors the Administrator may consider in granting an authorization: (1) the ability of the flightcrew to reliably fix the position of the airplane within the degree of accuracy required by ATC, (2) the length of the route being flown, and (3) the duration of the very high frequency communications gap.]

[(Amdt. 125–25, Eff. 2/26/96)]

§ 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 of 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.

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.

125.206 Pitot heat indication systems.

(a) Except as provided in paragraph (b) of this section, after April 12, 1981, no person may operate a transport category airplane equipped with a flight instrument pitot heating system unless the airplane is equipped with an operable pitot indication system that complies with § 25.1326 of this chapter in effect on April 12, 1978.

(b) A certificate holder may obtain an extension of the April 12, 1981, compliance date specified in paragraph (a) of this section, but not beyond April 12, 1983, from the Director, Flight Standards Service if the certificate holder—

(1) Shows that due to circumstances beyond its control it cannot comply by the specified compliance date; and

(2) Submits by the specified compliance date a schedule for compliance acceptable to the Director, indicating that compliance will be achieved at the earliest practicable date.

(Amdt. 125–3, Eff. 9/30/81); (Amdt. 125–13, Eff. 10/25/89)

§ 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 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 GGK–391a, as revised, or as approved by the Administrator.

(ii) Required first aid kits must be readily accessible to the cabin flight attendants

Antiseptic swabs	20
Ammonia inhalants	10
Bandage compressors, 4 in	8
Triangular bandage compressors, 40 in	5
Arm splint, noninflatable	1
Leg splint, noninflatable	1
Roller bandage, 4 in	4
Adhesive tape, 1-in standard roll	2
Bandage scissors	1
Protective latex gloves or equivalent nonpermeable gloves	1 pair]

[(iv) Protective latex gloves or equivalent nonpermeable gloves may be placed in the first aid kit or in a location that is readily accessible to crewmembers.]

(2) A crash axe carriet has 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 flight attendant seat, and one installed in a readily accessible location in the mid-section of the airplane.

(Amdt. 125–19, Eff. 1/12/94); [(Amdt. 125–22, Eff. 12/2/94)]

§ 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 CO_2 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;

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, an approved survival type emergency locator transmitter. 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 one cumulative hour, or, when 50 percent of their useful life (or for rechargeable batteries, 50 percent of their useful life of charge) has expired, as established by the transmitter manufacturer under its approval. The new expiration date for replacing (or recharging) the battery 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.]

[(Amdt. 125–20, Eff. 6/21/94)]

§ 125.211 Seats 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 and divan seat may share one approved safety belt during en route flight only.

(b) [Except as provided in paragraphs (b)(1) and (b)(2) of this section, each person on board an airplane operated under this part shall occupy an approved seat or berth with a separate safety belt properly secured about the surface, takeoff, and landing. A safety belt provided for the occupant of a seat may not be used for more than one person who has reached his or her second birthday. Notwithstanding the requirements of this section, provided:

(i) The child is accompanied by a parent, guardian, or attendant designated by the child's parent or guardian to attend to the safety of the child during the flight;

(ii) The approved child restraint system bears one or more labels as follows:

(A) Seats manufactured to U.S. standards between January 1, 1981, and February 25, 1985, must bear the label: "This child restraint system conforms to all applicable Federal motor vehicle safety standards." Vest- and harness-type child restraint systems manufactured before February 26, 1985, bearing such a label are not approved for the purposes of this section;

(B) Seats manufactured to U.S. standards on or after February 26, 1985, must bear two labels:

(1) "This child restraint system conforms to all applicable Federal motor vehicle safety standards", and

(2) "THIS RESTRAINT IS CERTIFIED FOR USE IN MOTOR VEHICLES AND AIRCRAFT" in red lettering;

(C) Seats that do not qualify under paragraphs (b)(2)(ii)(A) and (b)(2)(ii)(B) of this section must bear either a label showing approval of a foreign government or a label showing that the seat was manufactured under the standards of the United Nations; and

(iii) The certificate holder complies with the following requirements:

(A) The restraint system must be properly secured to an approved forward-facing seat or berth;

(B) The child must be properly secured in the restraint system and must not exceed the specified weight limit for the restraint system; and

(C) The restraint system must bear the appropriate label(s).]

(c) [No certificate holder may prohibit a child, if requested by the child's parent, guardian, or designated attendant from occupying a child restraint

appropriate passenger seat location for the child restraint system.]

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

[(e)] No certificate holder may take off or land an airplane unless each passenger seat 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.

[(f)] 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.

[(Amdt. 125–17, Eff. 10/15/92)]

§ 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.

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 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:

§ 125.217 Passenger information.

(a) [Except as provided in paragraph (b) of this section, no person may operate an airplane carrying passengers unless it is equipped with signs that meet the requirements of § 25.791 of this chapter and that are visible to passengers and flight attendants to notify them when smoking is prohibited and when safety belts must be fastened. The signs must be so constructed that the crew can turn them on and off. They must be turned on during airplane movement on the surface, for each takeoff, for each landing, and when otherwise considered to be necessary by the pilot in command.]

(b) [No passenger or crewmember may smoke while any "No Smoking" sign is lighted nor may any passenger or crewmember smoke in any lavatory.]

[(c) Each passenger required by § 125.211(b) to occupy a seat or berth shall fasten his or her safety belt about him or her and keep it fastened while any "Fasten Seat Belt" sign is lighted.]

[(d) Each passenger shall comply with instructions given him or her by crewmembers regarding compliance with paragraphs (b) and (c) of this section.]

[(Amdt. 125–17, Eff. 10/15/92)]

§ 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);

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 rate 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 a 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 a 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

powerplant installation, or to an airspeed, altimeter, rate of climb, or flight attitude instrument system, except under the follow conditions:

[(1) Takeoffs may be made with frost adhering to the wings, or stabilizing or control surfaces, if the frost has been polished to make it smooth.

[(2) Takeoffs may be made with frost under the wing in the area of the fuel tanks if authorized by the Administrator.

[(b) No certificate holder may authorize an airplane to take off and no pilot may take off an airplane any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the airplane unless the pilot has completed the testing required under § 125.287(a)(9) and unless one of the following requirements is met:

[(1) A pretakeoff contamination check, that has been established by the certificate holder and approved by the Administrator for the specific airplane type, has been completed within 5 minutes prior to beginning takeoff. A pretakeoff contamination check is a check to make sure the wings and control surfaces are free of frost, ice, or snow.

[(2) The certificate holder has an approved alternative procedure and under that procedure the airplane is determined to be free of frost, ice, or snow.

[(3) The certificate holder has an approved deicing/anti-icing program that complies with § 121.629(c) of this chapter and the takeoff complies with that program.]

([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—

(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.

([d]) Except for an airplane that has ice protection provisions that meet appendix C of this part

tions since the forecast, the restrictions in paragraphs [(c) and (d)] of this section based on forecast conditions do not apply.

[(Amdt. 125–18, Eff. 1/31/94)]

§ 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.

§ 125.224 Traffic alert and collision avoidance system.

(a) After December 30, 1993, no person may operate a large airplane that has passenger seating configuration, excluding any pilot seat, or more than 30 seats unless it is equipment with an approved TCAS II traffic alert and collision avoidance system and the appropriate class of Mode S transponder.

be operating for the TCAS II to function properly.

Docket No. 25355 (54 FR 951) Eff. 1/10/89, (Amdt. 125–11, Eff. 2/9/89); (Amdt. 125–14, Eff. 5/9/90)

§ 125.225 Flight recorders.

(a) Except as provided in paragraph (d) of this section, after October 11, 1991, no person may operate a large airplane type certificated before October 1, 1969, for operations above 25,000 feet altitude, nor a multiengined, turbine powered airplane type certificated before October 1, 1969, unless it is equipped with one or more approved flight recorders that utilize a digital method of recording and storing data and a method of readily retrieving that data from the storage medium. The following information must be able to be determined within the ranges, accuracies, resolution, and recording intervals specified in appendix D of this part:

(1) Time;

(2) Altitude;

(3) Airspeed;

(4) Vertical acceleration;

(5) Heading;

(6) Time of each radio transmission to or from air traffic control;

(7) Pitch attitude;

(8) Roll attitude;

(9) Longitudinal acceleration;

(10) Control column or pitch control surface position; and

(11) Thrust of each engine.

(b) Except as provided in paragraph (d) of this section, after October 11, 1991, no person may operate a large airplane type certificated after September 30, 1969, for operations above 25,000 feet altitude, nor a multiengined, turbine-powered airplane type certificated after September 30, 1969, unless it is equipped with one or more approved flight recorders that utilize a digital method of recording and storing data and a method of readily retrieving that data from the storage medium. The following information must be able to be determined within the ranges, accuracies, resolutions, or from air traffic control;

(7) Pitch attitude;

(8) Roll attitude;

(9) Longitudinal acceleration;

(10) Pitch trim position;

(11) Control column or pitch control surface position;

(12) Control wheel or lateral control surface position;

(13) Rudder pedal or yaw control surface position;

(14) Thrust of each engine;

(15) Position of each thrust reverser;

(16) Trailing edge flap or cockpit flap control position; and

(17) Leading edge flap or cockpit flap control position.

(c) After October 11, 1991, no person may operate a large airplane equipped with a digital data bus and ARINC 717 digital flight data acquisition unit (DFDAU) or equivalent unless it is equipped with one or more approved flight recorders that utilize a digital method of recording and storing data and a method of readily retrieving that data from the storage medium. Any parameters specified in appendix D of this part that are available on the digital data bus must be recorded within the ranges, accuracies, resolution, and sampling intervals specified.

(d) No person may operate under this part an airplane that is manufactured after October 11, 1991, unless it is equipped with one or more approved flight recorders that utilize a digital method of recording and storing data and a method of readily retrieving that data from the storage medium. The parameters specified in appendix D of this part must be recorded within the ranges, accuracies, resolutions and sampling intervals specified. For the purpose of this section, ''manufactured'' means the point in time at which the airplane inspection acceptance records reflect that the airplane is complete and meets the FAA-approved type design data.

(e) Whenever a flight recorder required by this section is installed, it must be operated continuously

§ 125.227(a) of this chapter. A total of 1 hour of recorded data may be erased for the purpose of testing the flight recorder or the flight recorder system. Any erasure made in accordance with this paragraph must be of the oldest recorded data accumulated at the time of testing. Except as provided in paragraph (g) of this section, no record need be kept more than 60 days.

(g) In the event of an accident or occurrence that requires immediate notification of the National Transportation Safety Board under 49 CFR part 830 and that results in termination of the flight, the certificate holder shall remove the recording media from the airplane and keep the recorded data required by paragraphs (a), (b), (c), or (d) of this section, as applicable, for at least 60 days or for a longer period upon the request of the Board or the Administrator.

(h) Each flight recorder required by this section must be installed in accordance with the requirements of § 25.1459 of this chapter in effect on August 31, 1977. The correlation required by § 25.1459(c) of this chapter need be established only on one airplane of any group of airplanes:

(1) That are of the same type;

(2) On which the flight recorder models and their installations are the same; and

(3) On which there are no differences in the type design with respect to the installation of the first pilot's instruments associated with the flight recorder. The most recent instrument calibration, including the recording medium from which this calibration is derived, and the recorder correlation must be retained by the certificate holder.

(i) Each flight recorder required by this section that records the data specified in paragraphs (a), (b), (c), or (d) of this section must have an approved device to assist in locating that recorder under water.

Docket No. 25530 (53 FR 26148) Eff. 7/11/88, (Amdt. 125–10, Eff. 10/11/88)

of the final checklist at the termination of the flight.

(b) Each certificate holder shall establish a schedule for completion, before the prescribed dates, of the cockpit voice recorder installations required by paragraph (a) of this section. In addition, the certificate holder shall identify any airplane specified in paragraph (a) of this section he intends to discontinue using before the prescribed dates.

(c) The cockpit voice recorder required by this section must also meet the following standards:

(1) The requirements of part 25 of this chapter in effect after October 11, 1991.

(2) After September 1, 1980, each recorder container must—

(i) Be either bright orange or bright yellow;

(ii) Have reflective tape affixed to the external surface to facilitate its location under water; and

(iii) Have an approved underwater locating device on or adjacent to the container which is secured in such a manner that it is not likely to be separated during crash impact, unless the cockpit voice recorder and the flight recorder, required by § 125.225 of this chapter, are installed adjacent to each other in such a manner that they are not likely to be separated during crash impact.

(d) In complying with this section, an approved cockpit voice recorder having an erasure feature may be used so that, at any time during the operation of the recorder, information recorded more than 30 minutes earlier may be erased or otherwise obliterated.

(e) For those aircraft equipped to record the uninterrupted audio signals received by a boom or a mask microphone the flight crew members are required to use the boom microphone below 18,000 feet mean sea level. No person may operate a large turbine-engine powered airplane or a large pressurized airplane with four reciprocating engines manufactured after October 11, 1991, or on which a cockpit voice recorder has been installed to record the uninterrupted audio signal received by a boom

§ 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.

(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) Inspections, 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 a program approved by the Adminstrator; and

(2) The engine overhaul periods are specified in the inspection programs required by § 125.247(a)(3).

ommended 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.

(Amdt. 125–2, Eff. 4/30/81)

§ 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 cetificate holder has arranged for performance of inspections under this part. The list shall include the person's 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 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 the person performed the item of work required to be inspected.

man 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.

§ 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

and model of airplane, assign to each category of required crewmember, as appropriate, the necessary functions to be performed in an emergency evacu-

manual the functions of each category of required crewmembers under paragraph (a) of this section.

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 takeofffs 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 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 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;

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;

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

[(9) Knowledge and procedures for operating during ground icing conditions, (i.e., any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the airplane), if the certificate holder expects to authorize takeoffs in ground icing conditions, including:

[(i) The use of holdover times when using deicing/anti-icing fluids.

[(ii) Airplane deicing/anti-icing procedures, including inspection and check procedures and responsibilities.

[(iii) Communications.

[(iv) Airplane surface contamination (i.e., adherence of frost, ice, or snow) and critical area identification, and knowledge of how contamination adversely affects airplane performance and flight characteristics.

[(v) Types and characteristics of deicing/anti-icing fluids, if used by the certificate holder.

[(vi) Cold weather preflight inspection procedures.

[(vii) Techniques for recognizing contamination on the airplane.]

(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 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 manufacturers, 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.

[(Amdt. 125–18, Eff. 1/31/94)]

§ 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

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, 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 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

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.

NOTE: (Compliance with § 125.295 is not required until 30 days after a notice of approval of the requirement of this section by the Office of Management and Budget is published in the *Federal Register*.)

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.

(1) If the crewmember's absence is necessary for the performance of duties in connection with 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 section 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) A representative of the Administrator 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.

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 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 Saturday, 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.

NOTE—(Compliance with § 125.319 is not required until 30 days after a notice of approval of the requirement of this section by the Office of Management and Budget is published in the Federal Register.)

§ 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.

NOTE.—(Compliance with § 125.323 is not required until 30 days after a notice of approval of the requirement of this section by the Office of Management and Budget is published in the Federal Register.)

§ 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. [Each passenger shall be briefed on when, where, and under what conditions smoking is prohibited. This briefing shall include a statement that the Federal Aviation Regulations require passenger compliance with the lighted passenger information signs, posted placards, areas designated for safety purposes as no smoking areas, and crewmember instructions with regard to these items.]

(2) [The use of safety belts, including instructions on how to fasten and unfasten the safety belts. Each passenger shall be briefed on when, where, and under what conditions the safety belt must be fastened about him or her. This briefing shall include a statement that the Federal Aviation Regulations require passenger compliance with lighted passenger information signs and crewmember instructions concerning the use of safety 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 exists;

(5) Location of survival equipment;

(6) If the flight involves extended over-water 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 the be followed if an evacuation occurs. This paragraphs does not apply to a person who has been given a briefing before a previous leg of a flight in the same 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.

[(Amdt. 125–17, Eff. 10/15/92)]

§ 125.329 Minimum altitudes for use of autopilot.

(a) Except as provided 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, of 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 then reported weather conditions are less than the basic weather conditions in [§ 91.155] 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 authorizing a lower altitude than specified in paragraph (a), (b), or (c) of this section if the system to touchdown will not otherwise adversely affect the safety standards of this section.

(Amdt. 125–12, Eff. 8/18/90)

§ 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 preforming duty as a security of honor guard accompanying as 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 the carriage is specifically authorized by the the appropriate military service.

(f) An authorized representative of the Administrator conducting an en route inspection.

(g) A person authorized by the Administrator.

[§ 125.333 Stowage of food, beverage, and passenger service equipment during airplane movement on the surface, takeoff, and landing.

[(a) No certificate holder may move an airplane on the surface, take off, or land when any food, beverage, or tableware furnished by the certificate holder is located at any passenger seat.

[(b) No certificate holder may move an airplane on the surface, take off, or land unless each food and beverage tray and seat back tray table is secured in its stowed position.

[(c) No certificate holder may permit an airplane to move on the surface, take off, or land unless each passenger serving cart is secured in its stowed position.

ducted. 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 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 estimate the of arrive 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 the airport unless the flight release specifies an alternate airport located within the following distances from the airport of takeoff:

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 purpose 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 of 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

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 persons may change an original destination or alternate airport that is specified in the original flight release to another airport while the airplane is en 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 take off 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.

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 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 and land at the airport to which 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 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 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 marker,

(Amdt. 125–2, Eff. 4/30/81)

§ 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;

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.

(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.

(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.

dure 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) 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 (c) 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.

gency 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 exists, 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 priate 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 reserved 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

senger 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 handles 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 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 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 emer-

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 interia 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 ligher 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:

(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 exits.* 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 exit (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.

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 deenerigized.

(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) 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.

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.

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.

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, applicable because of similarly of the designs, to analyses and tests performed by the applicant for a type certificated model.

	V_{80} to 1.2 V_D.			
Heading	360½	±2°	1	0.5°
Normal Acceleration (Vertical).	−3 to +6g	±1% of max range excluding datum error of ±5%.	8	0.01g.
Pitch Attitude	±75	±2°	1	0.5°
Roll Attitude	±180	±2°	1	0.5°
Radio Transmitter Keying	On-Off (Discrete)		1	
Thrust/Power on Each Engine.	Full range forward	±2%	1	0.2%[2]
Trailing Edge Flap or Cockpit Control Selection.	Full range or each discrete position.	±3° or as pilot's indicator.	0.5	0.5%[2]
Leading Edge Flat or Cockpit Control Selection.	Full range or each discrete position.	±3° or as pilot's indicator.	0.5	0.5%[2]
Thrust Reverser Position	Stowed, in transit, and reverse (Discrete).		1 (per 4 seconds per engine).	
Ground Spoiler Position/ Speed Brake Selection.	Full range or each discrete position.	±2% unless higher accuracy uniquely required.	1	0.2%[2]
Marker Beacon Passage	Discrete		1	
Autopilot Engagement	Discrete		1	
Longitudinal Acceleration	±1g	±1.5% mix range excluding datum error of ±5%.	4	0.01g.
Pilot Input and/or Surface Position-Primary Controls (Pitch, Roll, Yaw)[3].	Full range	±2° unless higher accuracy uniquely required.	1	0.2%[2]
Lateral Acceleration	±1g	±1.5% max range excluding datum error of _5%.	4	0.01g
Pitch Trim Position	Full range	±3% unless higher accuracy uniquely required.	1	0.3%[2]
Gildeslope Deviation	±400 microamps	±3%	1	0.3%[2]
Localizer Deviation	±400 Microamps	±3%	1	0.3%[2]
AFCS Mode and Engagement Status.	Discrete		1	
Radio Altitude	−20 ft to 2,500 ft	±2 ft or ±3% Whichever is Greater Below 500 Ft and _5% Above 500 Ft.		1 ft + 5%[2] above 500′
Master Warning	Discrete		1	
Main Gear Squat Switch Status.	Discrete		1	
Angle of Attack (if recorded directly).	As installed	As installed	2	0.3%[2]

Groundspeed	As installed	Most Accurate Systems Installed (IMS Equipped Aircraft Only).	3	0.25

If additional recording capacity is available, recording of the following parameters is recommended. The parameters are listed in order of significance:

Drift Angle	When available. As installed.	As installed	4	
Wind Speed and Direction.	When available. As installed.	As installed	4	
Latitude and Longitude	When available. As installed.	As installed	4	
Brake pressure/Brake pedal position.	As installed	As installed	1	
Additional engine parameters:				
EPR	As installed	As installed	1 (per engine)	
N1	As installed	As installed	1 (per engine)	
N2	As installed	As installed	1 (per engine)	
EGT	As installed	As installed	1 (per engine)	
Throttle Lever Position	As installed	As installed	1 (per engine)	
Fuel Flow	As installed	As installed	1 (per engine)	
TCAS:				
TA	As installed	As installed	1	
RA	As installed	As installed	1	
Sensitivity level (as selected by crew).	As installed	As installed	2	
GPWS (ground proximity warning system).	Discrete		1	
Landing gear or gear selector position.	Discrete		0.25 (1 per 4 seconds)	
DME 1 and 2 Distance	0–200 NM;	As installed	0.25	1 mi.
Nav 1 and 2 Frequency Selection.	Full range	As installed	0.25	

[1] When altitude rate is recorded. Altitude rate must have sufficient resolution and sampling to permit the derivation of altitude to 5 feet.

[2] Percent of full range.

[3] For airplanes that can demonstrate the capability of deriving either the control input on control movement (one from the other) for all modes of operation and flight regimes, the ''or'' applies. For airplanes with non-mechanical control systems (fly-by-wire) the ''and'' applies. In airplanes with split surfaces, suitable combination of inputs is acceptable in lieu of recording each surface separately.

[4] This column applies to aircraft manufactured after October 11, 1991.

(Amdt. 125–10, Eff. 10/11/88)

SUMMARY: These amendments: (1) Specify and clarify the type of certificate and operations specifications an operator may be issued consistent with the scope and type of its operations; (2) specify and clarify the certification requirements the operator must meet with respect to each type of operation in order to be eligible to have a specified type of operation authorized in its operations specifications; (3) clarify the regulations with which an operator must comply in the conduct of the operations specified; (4) include provisions regarding Part 125 and other regulations which have been promulgated since the adoption of Special Federal Aviation Regulation (SFAR) No. 38 and eliminate provisions that relate to Part 123 and other regulations that are no longer applicable; (5) authorize certain operators of transport category alrplanes having a maximum passenger seating configuration, excluding any required crewmember seat, of 30 seats or less and a maximum payload capacity of 7,500 pounds or less to operate under the provisions of Part 121 rather than Part 135 when a specific authorization is obtained from the Administrator (the related ''pass-through'' provision of SFAR 38 is deleted); (6) require rotorcraft operations that may currently be subject to Parts 121 and 127 to be conducted under Part 135; and (7) include the substance of present Part 129 applicability in order to provide a comprehensive listing of certification and operations specifications requirements.

FOR FURTHER INFORMATION CONTACT: Mr. Larry Bedore, Project Development Branch, Air Transportation Division, Office of Flight Operations, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591, telephone (202) 472–4621.

SUPPLEMENTARY INFORMATION:

Background

On January 30, 1985, the FAA issued Notice of Proposed Rulemaking (NPRM) No. 85–3 (50 FR 4472). This Notice proposed to revise SFAR 38 primarily to specify and clarify FAA requirements for operating certificates and for operations specifications for persons who operate under Federal Aviation Regulations Parts 121 and 135. The Notice was issued to bring SFAR 38 up to date in view of changes in the regulations and in the aviation industry that had occurred since it was issued in 1978 and also as part of the FAA's continuing response to the sunset of the Civil Aeronautics Board.

This amendment updates SFAR 38 in light of changes since 1978 and clarifies those provisions in SFAR 38 that state which FAA regulations apply to a particular air carrier for the type of operation the air carrier is conducting in the areas summarized below. A fuller discussion of each area is contained in the preamble to NPRM 85–3.

One of the purposes of this amendment is to clearly define, for each type of operation (e.g., scheduled common carriage within the United States, all-cargo operations, scheduled common carriage outside the United States, etc.): (1) The type of certificate, (2) the certification requirements, (3) the operations specifications, and (4) the regulations within the applicable Parts of the FAR with which an operator must comply when conducting each type of operation.

As amended, SFAR 38–2 makes it clear that wherever the term ''commuter air carrier'' appears in Part 135 of the FAR, it shall be deemed to mean a holder of an ''Air Carrier Operating Certificate'' that is conducting scheduled passenger carrying operations with a frequency of operations of at least five round trips per week on at least one route between two or more points according to published flight schedules. This frequency of operations is a standard currently accepted by the industry and the FAA for air carrier certification and operation rules. However, this definition would not apply to Part 93 of the FAR. Further, a regulation that

receives authorization from the Administrator to conduct its operation under Part 121.

SFAR 38 is updated by adding provisions which reference Part 125 which became effective February 3, 1981, and deletes the provisions relating to Part 123 which was revoked effective January 1, 1983.

SFAR 38–2 requires rotorcraft operations that are now conducted under Part 121 or Part 127 to be conducted under Part 135. The amendment, in effect, suspends Part 127 and §§ 121.13 and 121.157(e), and requires all rotorcraft operations to be conducted under Part 135.

As amended, SFAR 38–2 includes the substance of the applicability of present Part 129 in order to provide for a comprehensive listing of certification and operations specifications requirements.

SFAR 38 as revised by this amendment will be effective until May 1, 1986, unless sooner superseded or revoked.

Comments on Proposed SFAR 38–2

During the comment period, the FAA received 15 comments. The limited number of comments received and the tone of the comments indicate overall substantial agreement with proposed SFAR 38–2. A few commenters recommended minor changes or raised questions about certain provisions of SFAR 38–2.

One commenter questioned whether the opening sentence of SFAR 38–2 which reads "Contrary provisions of Parts 121, 125, 127, 129, and 135 of the Federal Aviation Regulations notwithstanding," may create confusion. The "notwithstanding" clause is a carryover from original SFAR 38 and it does not appear to have caused the kind of confusion the commenter suggests.

Four commenters request that the phrase "passenger seating capacity" in proposed paragraphs 4(a) and 4(b) be changed to "passenger seating configuration" as it is in current SFAR 38 paragraphs 2(a) and (b) and 3(a) and (b). The reason is that the proposed wording would mean that if an aircraft has been certificated for a certain maximum seating capacity, that figure would be the compliance factor, rather than the number of installed passenger seats in the aircraft. The FAA did not intend to change the criteria for compliance and has, therefore, changed the language back to "passenger seating configuration" as it appears in the provisions of present SFAR 38 cited above.

For consistency of language within SFAR 38–2 and also for consistency of application of the FAR, the term "passenger seating capacity" in paragraph 5(a), which relates to Part 125 has also been changed to "passenger seating configuration" even though Part 125 (section 125.1(a)) presently uses "seating capacity." The FAA does not consider this a substantive change since Part 125 has been applied on the basis of seating "configuration" rather than seating "capacity."

One commenter objected to the phrase "certain procedures" used in Section 3 as being unclear. The commenter suggested changing "certain procedures" to "appropriate regulations." The FAA does not agree. The term "certain procedures" refers to procedures that may be included in operations specifications to reflect requirements imposed on a specific operator in addition to the Federal Aviation Regulations. Examples would include specific procedures that might be tied in with a deviation or an exemption approved for that carrier. The commenter also objected to the phrase "size of aircraft" in Section 3 as not being sufficiently specific.

that the Department of Transportation now has this function formerly handled by the CAB. The FAA agrees. The NPRM preamble was written before the 1984 amendments to the Airline Deregulation Act of 1978, (Pub. L. 98–443, October 4, 1984) which stipulated that DOT will continue the CAB function of determining fitness.

One commenter objects to the explanation in the preamble concerning confusion as to applicable regulations resulting from the sunset of the CAB. This commenter states that an FAA policy change, rather than confusion, was responsible for the FAA's requiring 21 carriers to shift from the supplemental rules of Part 121 to the domestic or flag rules of Part 121, as appropriate. This point was addressed in the preamble to the proposed revision of SFAR 38 as follows:

"It is the FAA's position that an air carrier certificated under current SFAR 38 in accordance with the rules of Part 121 must, if it is engaged in scheduled passenger operations, operate in accordance with the rules applicable to domestic or flag air carriers as required by § 121.3(a) or § 121.3(c) and be issued domestic and flag operations specifications. Furthermore, it is the FAA's position that an air carrier engaged in nonscheduled passenger-carrying operations must operate in accordance with the rules applicable to supplemental air carriers in accordance with § 121.3(e) and be issued supplemental operations specifications. The FAA has issued interpretive material to explain the correct application of these rules, but believes that the regulations should be clarified."

These 21 operators now have the appropriate operations specifications and have been brought in compliance with the applicable regulations in Part 121 so that this revision of SFAR 38 imposes no burden.

This commenter aiso thought that elimination of the "pass-through" provision in paragraph 2(d) of SFAR 38 would impose a similar burden. However, the inclusion of paragraph 4(b) as proposed allows persons operating transport category airplanes to obtain approval from the Administrator to conduct those operations under the appropriate provisions of Part 121. This provision is less limited than the original passthrough provision (which applied only to operations existing on December 1, 1978) and applies only when requested by the operator and approved by the Administrator.

Two commenters object to the definition of "commuter air carriers." One of the commenters seems to object to applying the term "commuter" to air carriers who are operating under Part 121 domestic rules, but who are operating propeller driven aircraft of less than 60 seats. Such operators consider themselves to be "regional" air carriers who compete equally with other types of air carriers. However, the definition of commuter air carriers does not apply to operations under Part 121 because it applies only to operations under Part 135 with aircraft having a maximum passenger seating configuration of 30 seats or less and a maximum payload capacity of 7,500 pounds or less.

A second commenter objects to provisions in the definition of "commuter air carriers" that state that frequency of operations is "at least five round trips per week on at least one route between two or more points...." The commenter objects on the basis that the definition constitutes a public convenience and necessity requirement and that the authority domestically to issue a Certificate of Public Convenience and Necessity for domestic operations was terminated by Congress on January 1, 1982. In response, the FAA does not intend by this definition to create a public convenience and necessity requirement in the "commuter air carrier" definition. The definition has been used historically in Part 135 to refer to scheduled operations as opposed to non-scheduled. To preclude a change in the operations requirements prescribed in SFAR

occasion, ''charter'' flights are ''announced'' in advance, the charter operator normally does not commit to having the flight operate unless a minimum load of passengers is hooked in advance. Thus, the general public cannot depend upon a chartered flight maintaining a schedule (for example, there may be a last minute flight cancellation because not enough passengers signed up for the flight) as they can on a scheduled flight. An operator who attempts to hold itself out as a charter operator but who, in fact, announces regularly scheduled flights to the public would be considered a scheduled operator and would have to comply with the regulations for scheduled operations under Part 121 or Part 135, as appropriate.

Two commenters expressed concern that the definition of ''air carriers'' in Section 6(c)(1) would require all indirect ''air carriers'' to have operating certificates and operations specifications under Section 1(c) which states that ''no person may operate without, or in violation of, a certificate and operations specifications issued under this SFAR.''

While it is true, as these commenters point out, that the Federal Aviation Act of 1958 defines ''air carrier'' to include one who acts ''indirectly,'' the FAA has never extended its air carrier regulations to persons who are legitimately engaged in indirect operations such as bona fide freight forwarder. SFAR 38–2 does not treat indirect operators any differently than current SFAR 38 and so there is no substantive change. However, this does not mean that an indirect air carrier can avoid air carrier certification requirements if, in fact, that carrier is engaged in the operation of aircraft or exercises its authority over initiating, conducting, or terminating a flight or flights.

One commenter states that the application of Part 135 is somewhat open-ended with respect to rotorcraft having a passenger seating configuration of more than 30 seats or a maximum payload capacity of more than 7,500 pounds. The commenter states that in their responses to other rulemaking proposals concerning rotorcraft, such as Notice No. 85–8 (50 FR 10144, March 13, 1985), industry groups must now consider future operations of larger helicopters under Part 135. In response, the FAA notes that the proposal to require all sizes of rotorcraft to be operated under Part 135 is based on the recognition that there are significant deficiencies in Parts 121 and 127 that must be addressed before authorizing any rotorcraft operations under those rules. The issuance of special operations specifications is identified in the preamble of the proposal as an option to permit the operation of larger rotorcraft under Part 135. In the meantime, Exemptions Nos. 4109 and 4297 have been issued to two operators to permit the operation of BV–234 helicopters under Part 135. The FAA recognizes that additional rulemaking is needed to adequately cover the operation of rotorcraft having a passenger seating configuration of more than 30 seats, excluding any required crewmember seat, or a payload capacity of more than 7,500 pounds. In the interim, since Part 135 does not presently address that size rotorcraft, operators of these rotorcraft will be issued special operations specifications which will provide for the appropriate level of safety required for that size aircraft. New paragraphs 4(d) and 5(d) are added to this SFAR to clarify this point, and to spell out what was intended in the NPRM.

Three commenters suggest changes which are beyond the scope of this Notice of Proposed Rulemaking. As stated earlier in this notice and in the NPRM, this rulemaking updates and clarifies SFAR–38; it does not substantively revise the basic applicability of the affected parts. Therefore, these recommendations for substantive change beyond the scope of Notice 85–3 have not been considered in this rulemaking.

The FAA evaluated the economic impact of this amendment. This amendment is not expected to cause an adverse economic impact on the regulated parties because it is essentially clarifying in nature. The findings of FAA's evaluation are summarized below and a copy of the regulatory evaluation is contained in the docket.

The rule (1) Specifies and clarifies certification requirements and regulations operators must comply with in conducting specific operations, (2) includes regulations that have been promulgated and deletes references to regulations that have been withdrawn since the adoption of SFAR 38, and (3) suspends regulations that are no longer applicable.

As previously pointed out, it is the FAA's position that the current regulations require scheduled operations in airplanes with more than 30 passenger seats to be conducted under the domestic or flag air carrier rules. Therefore, as the result of this rule, there should be minimal economic impact on the approximately 21 carriers previously discussed. Accordingly, a full economic evaluation is not required. Notwithstanding the above position, an evaluation was performed. This evaluation reveals that a small net benefit will accrue to the affected carriers because costs that may result from having to comply with the domestic and flag rules would be more than offset by cost savings associated with relaxation of reserve fuel requirements.

SFAR 38–2 suspends Part 127 and requires all rotorcraft carriers currently operating under Parts 121 and 127 to conduct their operations under Part 135. Such a change is expected to enhance safety because Part 135 contains safety related requirements for rotorcraft not specified in either Part 121 or 127. This rule will not generate any additional costs to regulated parties. At present, only two carriers, under exemption authority, operate rotorcraft with a capacity in excess of 30 seats or a 7,500-pound payload under Part 135. These rotorcraft would normally be subject to the provisions of Part 121 or 127. Moreover, commuter operations with large rotorcraft currently do not appear feasible at locations where the geographical distribution of service points make rotorcraft operations viable.

Trade Impact Statement

The FAA finds that the amendment will have no impact on international trade.

Regulatory Flexibility Determination

The FAA finds that the amendment will have no consequential economic impact on small entities. Accordingly, the FAA finds that an initial regulatory flexibility analysis is not required by the Regulatory Flexibility Act.

Conclusion

For the reasons stated under the heading ''Economic Impact,'' the FAA has determined that this document involves a rule which: (1) Is not a major rule under Executive Order 12291; and (2) is not a significant rule under Department of Transportation Regulatory Policies and Procedures (44 FR 11034; Feb. 26, 1979). Also, for the reasons stated under the heading ''Trade Impact Statement and Regulatory Flexibility Determination,'' I certify that the rule will not have a substantial economic impact on a substantial number of small entities. The total projected impact of the amendment may be found in a copy of the regulatory evaluation contained in the public docket. A copy of that evaluation may be obtained by contacting the person identified above under the caption ''FOR FURTHER INFORMATION CONTACT.''

Special Federal Aviation Regulation 38–3

Certification and Operating Requirements

Adopted: April 30, 1986 **Effective: May 8, 1986**

(Published in 51 FR 17274, May 9, 1986)

SUMMARY: These amendment extends the effectiveness of Special Federal Aviation Regulations (SFAR) No. 38–2(50 FR 23941; June 7, 1985). SFAR revised SRAR 38 primarily by specifying and clarifying FAA requirements for operating certificates and operations specifications for persons who operate under Federal Aviation Regulations (FAR) Parts 121 and 135. The amendment brought SFAR 38 up to date in view of changes in the regulations and the aviation industry that had occurred since it was issued in 1978 and also as part of the FAA's response to the sunset of the Civil Aeronautics Board (CAB). Having generally reviewed the FAA regulations to determine the most appropriate response to the Airline Deregulation Act of 1978 (ADA) and the termination of CAB functions attendant on the CAB sunset, the FAA now concludes that it is necessary to extend the termination date of SFAR 38–2 to allow time for the FAA, in a separate rulemaking action, to propose and receive comments on the incorportaion of SFAR 38–2 into the FAR. The termination date for SFAR 38–2 is extended to June 1, 1987. The FAA intends to publish a notice rescinding SFAR 38–2 and a final rule incorporating SFAR 38–2 into the FAR concurrently in the Federal Register.

Comments must be received on or before June 9, 1986.

ADDRESSES: Send comments on the rule in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC–204), Docket No. 18510, 800 Independence Avenue, SW., Washington, DC 20591, or deliver comments in duplicate to: Federal Aviation Administration, Rules Docket, Room 916, 800 Independence Avenue, SW., Washington, DC. Comments may be examined in the Rules Docket weekdays, except Federal holidays, between 8:30 a.m. and 5 p.m.

FOR FURTHER INFORMATION CONTACT: Mr. Michael Coffey, Project Development Branch, AFS–240, Air Transportation Division, Office of Flight Standards, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591, telephone (202) 426–8096.

Background

On December 12, 1978, the FAA promulgated SFAR 38 in consequence of the ADA (Pub. L. 95–504, 92 Stat. 1705). That Act embodies the Congressional intent that the Federal Government diminish its involvement in regulating the economic aspects of the airline industry. To accomplish this, Congress directed that the CAB be abolished on December 31, 1984. Anticipating its sunset, the CAB curtailed or suspended much of its regulatory activity during the period 1979–1984. On October 4, 1984, additional legislation was enacted further defining the process of CAB sunset. On January 1, 1985, those remaining CAB functions were transferred to the Department of Transportation (DOT).

and other special purpose operations.)

On December 27, 1984, the FAA adopted SFAR 38–2 which merely extended the termination date of the regulation, and allowed the FAA time to propose and receive comments on revising SFAR 38.

On May 28, 1985, the FAA adopted SFAR 38–2, which updated SFAR 38 in light of changes since 1978 and clarified provisions that state which FAA regulations apply to each air carrier and each type of operation. This action was necessary because of the changes in the air transportation industry brought about by economic deregulation. Before deregulation, economic certificates were fairly rigidly compartmentalized and each air carrier typically was authorized to conduct only one type of operation (domestic, flag, or charter (supplemental)). The safety certificate issued to the air carrier by the FAA paralleled the authorization granted in the air carrier's economic certificate. Economic deregulation broke down the barriers between the various types of operations. The economic authority granted an air carrier by the DOT is no longer indicative of the safety regulations applicable to the type of operation authorized by the FAA. Thus, it was necessary for the FAA to establish guldelines to determine what safety standards were applicable to an air carrier's particular operation.

Good Cause Justification for Immediate Adoption

The termination date for SFAR 38–2 and the operating certificates issued under SFAR 38, as amended, is May 1, 1986. The reasons which justified the adoption, and the subsequent revision, of SFAR 38 still exist. The FAA is currently preparing a Notice of Proposed Rulemaking (NPRM) which will consolidate the certification rules now in Parts 121 and 135 into a new Part of the FAR. This NPRM will also propose incorporating the necessary portions of SFAR 38–2 into the FAR. Therefore, it is in the public interest to extend the termination date of SFAR 38–2 from May 1, 1986 to June 1, 1987, although the FAA anticipates that a final rule incorporating SFAR 38–2 in the FAR will be published before then. If it is, a notice rescinding SFAR 38–2 will be published concurrently. This action is necessary to permit continued operations under operating certificates issued under SFAR 38, as amended, and to avoid confusion in the administration of FAA regulations regarding operating certificates and operating requirements.

In addition, since this amendment continues in effect the provisions of a currently effective SFAR and imposes no additional burden on any person, I find that notice and public procedures are unnecessary, impracticable, and contrary to the public interest, and that the amendment should be made effective in less than 30 days after publication. However, interested persons are invited to submit such comments as they may desire regarding this amendment. Communications should identify the docket number and be submitted in duplicate to the address above. All communications received on or before the close of the comment period will be considered by the Administrator, and this amendment may be changed in light of the comments received. All comments will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested parties.

Trade Impact Statement

The FAA finds that this amendment will have no impact on international trade.

In consideration of the foregoing, SFAR 38–2 (14 CFR Parts 121, 125, 127, 129, and 135) of the Federal Aviation Regulations is effective May 8, 1986.

The authority citation for SFAR 38–2 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1421, 1423, and 1502; 49 U.S.C. 106(g) (revised Pub. L. 97–449, January 12, 1983).

Special Federal Aviation Regulation 38–4

Certification and Operating Requirements

Adopted: July 15, 1987 **Effective: August 4, 1987**

(Published in 52 FR 28938, August 4, 1987)

SUMMARY: This amendment reinstates Special Federal Aviation Regulation (SFAR) No. 38–2 (50 TR 23941; June 7, 1985) and establishes a new termination date. The SFAR 38–2 was previously amended by SFAR 38–3 (51 FR 17274; May 9, 1986) to extend its termination date to allow time for the FAA, in a separate rulemaking action, to prepare a Notice of Proposed Rulemaking (NPRM) that would consolidate the certification rules now in Parts 121 and 135 into a new part of the FAR. This NPRM would also propose incorporating the necessary portions of SFAR 38–2 into the FAR. Having generally reviewed the FAA regulations to determine the most appropriate response to the Airline Deregulation Act of 1978 (ADA) and the termination of CAB functions following the CAB sunset, the FAA now concludes that it is necessary to renew the effectiveness of SFAR 38–2 and to establish a new termination date to allow time for the FAA to complete the rulemaking process that will consolidate the certification rules and incorporate SFAR 38–2 into the FAR. The termination date for reinstated SFAR 38–2 is June 1, 1989. The FAA intends to publish a notice rescinding SFAR 38–2 and a final rule incorporating SFAR 38–2 into the FAR concurrently in the Federal Register.

Comments must be received on or before October 5, 1987.

ADDRESSES: Send comments on the rule in duplicate to Federal Aviation Administration, Office of the Chief Counsel; Attn.: Rule Docket (AGC–204), Docket No. 18518, 800 Independence Avenue SW., Washington, DC 20591, or deliver comments in duplicate to: Federal Aviation Administration, Rule Docket, Room 916, 800 Independence Avenue SW., Washington, DC. Comments may be examined in the Rules Docket weekdays, except Federal holidays, between 8:30 a.m. and 5 p.m.

FOR FURTHER INFORMATION CONTACT: Mr. Michael Coffey, Project Development Branch, AFS–240, Air Transportation Division, Office of Flight Standards, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591. Telephone (202) 267–3750.

SUPPLEMENTARY INFORMATION:

defining the process of CAB sunset. On January 1, 1985, the remaining CAB functions were transferred to the Department of Transportation (DOT).

Because some aspects of FAA safety regulation relied upon CAB definitions and authority, the FAA found it necessary in 1978 to adopt an interim measure to provide for an orderly transition from CAB and FAA interlocking authority to a regulatory regime with no CAB in existence. This action was consistent with the Congressional directive contained in Section 107(a) of the Act that the deregulation of airline economics result in no diminution of the high standards of safety in air transportation that existed when the ADA was enacted. The SFAR 38 set forth FAA certification and operating requirements applicable to all ''air commerce'' and ''air transportation'' operations for ''compensaton or hire.'' (SFAR 38 did no address Part 133 External Load Operations, Part 137 Agriculture Aircraft Operations, or Part 91 training and other special purpose operations.)

On December 27, 1984, the FAA adopted SFAR 38–1 (50 FR 450; January 4, 1985), which merely extended the termination date of the regulation and allowed the FAA time to propose and receive comments on revising SFAR 38.

On May 28, 1985, the FAA adopted SFAR 38–2, which updated SFAR 38 in light of changes since 1978 and clarified provisions stating which FAA regulations apply to each air carrier and each type of operation. This action was necessary because of the changes in the air transportation industry brought about by economic deregulation. Before deregulation, economic certificates were fairly rigidly compartmentalized and each air carrier typically was authorized to conduct only one type of operation (domestic, flag, or charter (supplemental)). The safety certificate issued to the air carrier by the FAA paralleled the authorization granted in the air carrier's economic certificate. Economic deregulation broke down the barriers between the various types of operations. The economic authority granted an air carrier by the DOT is no longer indicative of the safety regulations applicable to the type of operation authorized by the FAA. Thus, it was necessary for the FAA to establish guidelines to determine what safety standards were applicable to an air carrier's particular operation.

On May 8, 1986, the FAA adopted SFAR 38–3, which merely extended the termination date of SFAR 38–2 to allow the FAA time to incorporate its contents into an NPRM that will propose consolidation of the certification rules in Parts 121 and 135, and will incorporate various provisions of SFAR 38–2 into a new part of the FAR.

Good Cause Justification For Immediate Adoption

Because of unavoidable, administrative delays, SFAR 38–2 terminated on June 1, 1987. The reasons which justified the adoption, and the subsequent revision, of SFAR 38 still exist. Therefore, it is in the public interest to reinstate SFAR 38–2 and to establish a new termination date of June 1, 1989, although the FAA anticipates that a final rule incorporating SFAR 38–2 into the FAR will be published before then. If it is, a notice rescinding SFAR 38–2 will be published concurrently. This action is necessary to permit continued operations under SFAR 38, as amended, and to avoid confusion in the administration of FAA regulations regarding operating certificates and operating requirements.

For this reason, and because this amendment continues in effect the provisions of a currently effective SFAR and imposes no additional burden on any person, I find that notice and public procedures are unnecessary, impracticable, and contrary to the public interest, and that the amendment should be made effective in less than 30 days after publication. However, interested persons are invited to submit such comments as they may desize regarding this amendment.

Conclusion

The FAA has determined that this document involves an amendment that imposes no additional burden on any person. Accordingly, it has been determined that: The action does not involve a major rule under Executive Order 12291; it is not significant under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and its anticipated impact is so minimal that a full regulatory evaluation is not required.

Adoption of the Amendment

In consideration of the foregoing, SFAR 38–2 (14 CTR Parts 121, 125, 127, 129, and 135) of the Federal Aviation Regulations is reinstated, effective August 4, 1987.

The authority citation for Part 125 continues to read as follows:

Authority: 49 U.S.C. 1354, 1421, through 1430, and 1502; 49 U.S.C. 106(g) (revised Pub. L. 97–449, January 12, 1983).

Special Federal Aviation Regulation 38–5

Certification and Operating Requirements

Adopted: May 26, 1989 **Effective: June 2, 1989**

(54 FR 23864, June 2, 1989)

SUMMARY: This amendment establishes a new termination date for Special Federal Aviation Regulation [SFAR] No. 38–2 [50 FR 23941, June 7, 1985]. SFAR 38–2 was reinstated by SFAR 38–4 [52 FR 28938, August 4, 1987] and was amended to extend its termination date to allow time for the FAA, in a separate rulemaking action, to prepare a Notice of Proposed Rulemaking (NPRM) [Notice No 88–16, 53 FR 39852, October 12, 1988] to consolidate the certification rules now in SFAR 38–2, Part 121, and Part 135 into a new Part 119 of the Federal Aviation Regulations (FAR). The FAA stated in SFAR 38–3 and in SFAR 38–4 that having generally reviewed the FAA regulations to determine the most appropriate response to the Airline Deregulation Act of 1978 [ADA or Act] and the termination of Civil Aeronautics Board (CAB) functions following the CAB sunset, it was necessary to establish a new termination date for SFAR 38–2 to allow time for the FAA to complete the rulemaking process that will consolidate the certification rules and incorporate SFAR 38–2 into the FAR. The current termination date for SFAR 38–2 is June 1, 1989. Because the FAA has not completed this rulemaking process it is necessary to extend the current termination date 1 year. If new Part 119 is issued before June 1, 1989, or before the new termination date, the FAA intends to publish a notice rescinding SFAR 38–2 concurrently with the new Part 119 final rule in the Federal Register.

EFFECTIVE DATE: June 2, 1989. Comments must be received on or before August 1, 1989.

ADDRESSES: Send comments on the rule in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (ACC–10). Docket No. 18510, 800 Independence Avenue, SW., Washington, DC 20591, or deliver comments in duplicate to: Federal Aviation

SUPPLEMENTAL INFORMATION:

Background

On December 12, 1978, the FAA issued SFAR 38 [43 FR 58366, December 14, 1978] in consequence of the ADA (Pub. L. 95–504, 92 Stat. 1705). That Act expresses the Congressional intent that the Federal Government diminish its involvement in regulating the economic aspects of the airline industry. To accomplish this, Congress directed that the CAB be abolished on December 31, 1984, and that various of its functions cease before that date. Anticipating its sunset, the CAB itself curtailed or suspended much of its regulatory activity during the period 1979–1984. On October 4, 1984, additional legislation was enacted further defining the process of CAB sunset. On January 1, 1985, the remaining CAB functions were transferred to the Department of Transportation (DOT).

Because some aspects of FAA safety regulations relied upon CAB definitions and authority, the FAA found it necessary in 1978 to adopt an interim measure to provide for an orderly transition from CAB and FAA interlocking authority to a regulatory regime with no CAB in existence. This action was consistent with the Congressional directive contained in Section 107(a) of the Act that the deregulation of airline economics result in no diminution of the high standard of safety in air transportation that existed when the ADA was enacted. SFAR 38 set forth FAA certification and operating requirements applicable to all "air commerce" and "air transportation" operations for "compensation or hire." (SFAR 38 did not address Part 133 External Load Operations, Part 137 Agriculture Aircraft Operations, or Part 91 training and other special purpose operations.)

On December 27, 1984, the FAA issued SFAR 38–1 [50 FR 450, January 4, 1985], which merely extended the termination date of the regulation and allowed the FAA time to propose and receive comments on revising SFAR 38.

On May 28, 1985, the FAA issued SFAR 38–2 [50 FR 23491, June 7, 1985], which updated SFAR 38 in light of changes since 1978 and clarified provisions stating which FAA regulations apply to each air carrier and each type of operation. This action was necessary because of the changes in the air transportation industry brought about by economic deregulation. Before deregulation, economic certificates were rigidly compartmentalized and each air carrier typically was authorized to conduct only one type of operation (domestic, flag, or charter (supplemental)). The safety certificate issued to the air carrier by the FAA paralleled the authorization granted in the air carrier's economic certificate. Economic deregulation broke down the barriers between the various types of operations. The economic authority granted an air carrier by the DOT is no longer indicative of the safety regulations applicable to the type of operation authorized by the FAA. Thus, it was necessary for the FAA to establish guidelines to determine what safety standards were applicable to an air carrier's particular operation.

On April 30, 1986, the FAA issued SFAR 38–3, which extended the termination date of SFAR 38–2 to allow the FAA time to incorporate its contents into Notice No. 88–16. That notice proposes to consolidate the certification rules in Parts 121 and 135, and to incorporate various provisions of SFAR 38–2 into new Part 119 of the FAR.

On July 15, 1987, the FAA issued SFAR 38–4, which reinstated SFAR 38–2 because it was inadvertently allowed to expire, and extended its termination date to June 1, 1989. That extension allowed the FAA time to incorporate the contents of SFAR 38–2 into Notice No. 88–16.

For this reason, and because this amendment continues in effect the provisions of a currently effective SFAR and imposes no additional burden on any person, I find that notice and public procedures are unnecessary, impracticable, and contrary to the public interest, and that the amendment should be made effective in less than 30 days after publication. However, interested persons are invited to submit such comments as they desire regarding this amendment. Communications should identify the docket number and be submitted in duplicate to the address above. All communications received on or before the close of the comment period will be considered by the Administrator, and this amendment may be changed in light of the comments received. All comments will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested parties.

International Trade Impact Analysis

The FAA finds this amendment will have no impact on international trade.

Federalism Implications

The amendment herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this amendment would not have sufficient federalism applications to warrant the preparation of a Federalism Assessment.

Conclusion

The FAA has determined that this document involves an amendment that imposes no additional burden on any person. Accordingly, it has been determined that: The action does not involve a major rule under Executive Order 12291; it is not significant under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and its anticipated impact is so minimal that a full regulatory evaluation is not required.

Adoption of the Amendment

In consideration of the foregoing SFAR 38–2 (14 CFR Parts 121, 125, 127, 129, and 135) of the Federal Aviation Regulations is amended effective June 2, 1989.

The authority citiation for Part 125 continues to read as follows:

Authority: 49 U.S.C. 1354, 1421, 1423, 1424, and 1502; 49 U.S.C. 106(g) (125 revised Pub. L. 97–449, January 12, 1989.)

Regulation [SFAR] No. 38–2 [50 FR 23941; June 7, 1985], which contains the certification and operating requirement for persons conducting commercial passenger or cargo operations. The FAA stated in previous extensions of SFAR 38–2 that it was necessary to establish a new termination date for SFAR 38–2 to allow time for the FAA to complete the rulemaking process that will consolidate the certification and operating requirements rules and incorporate SFAR 38–2 into the Federal Aviation Regulations (FAR). The current termination date for SFAR 38–2 is June 1, 1990. Because the FAA has not completed that rulemaking process, it is necessary to extend the current termination date 1 year. SFAR 38–2 is extended to ensure that the FAA has adequate time to complete the consolidation of the certification and operating requirements rules; however, if the new consolidation is issued as a final rule before the new termination date, the FAA intends to publish a notice rescinding SFAR 38–2 concurrently with the publication of the final rule in the Federal Register.

DATES: Effective date is June 5, 1990. Comments must be received on or before August 6, 1990.

ADDRESSES: Send comments on the rule in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC–10), Docket No. 18518, 800 Independence Avenue, SW., Washington, DC 20591, or deliver comments in duplicate to: Federal Aviation Administration, Rules Docket, Room 916, 800 Independence Avenue, SW., Washington, DC. Comments may be examined in the Rules Dockets weekdays, except Federal holidays, between 8:30 am. and 5 p.m.

FOR FURTHER INFORMATION CONTACT: Mr. Michael Coffey, Project Development Branch, AFS–240, Air Transportation Division, Flight Standards Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; Telephone (202) 267–3750.

SUPPLEMENTAL INFORMATION:

Background

On December 12, 1978, the FAA issued SFAR 38 [43 FR 58366; December 14, 1978] as a consequence of the Airline Deregulation Act of 1978 (ADA or Act (Pub. L. 95–504, 92 Stat. 1705). That Act expresses the Congressional intent that the Federal Government diminish its involvement in regulating the economic aspects of the airline industry. To accomplish this, Congress directed that the CAB be abolished on December 31, 1984, and that certain of its functions cease before that date. Anticipating its sunset, the CAB itself curtailed or suspended much of its regulatory activity during the period 1979–1984. On October 4, 1984, additional legislation was enacted further defining the process of CAB sunset. On January 1, 1985, the remaining CAB functions were transferred to the Department of Transportation (DOT).

Because some aspects of FAA safety regulations relied upon CAB definitions and authority, the FAA found it necessary in 1978 to adopt an interim measure to provide for an orderly transition to the change in economic regulatory activities. This action was consistent with the Congressional directive contained in Section 107(a) of the Act that the deregulation of airline economics result in no diminution of the high standard of safety in air transportation that existed when the ADA was enacted. SFAR 38 set forth FAA certification and operating requirements applicable to all "air commerce" and "air transportation" operations for "compensation

because of the changes in the air transportation industry brought about by economic deregulation. Before deregulation, economic certificates were rigidly compartmentalized, and each air carrier typically was authorized fo conduct only one type of operation (domestic, flag, or charter (i.e., supplemental)). The safety certificate issued to the air carrier by the FAA paralleled the authorization granted in the air carrier's economic certificate. Economic deregulation broke down the barriers between the various types of operations. The economic authority granted an air carrier by the DOT is no longer indicative of the safety regulations applicable to the type of operation authorized by the FAA. Thus, it was necessary for the FAA to establish guidelines to determine what safety standards were applicable to an air carrier's particular operation.

On April 30, 1986, the FAA issued SFAR 38–3, which extended the termination date of SFAR 38–2 to allow the FAA time to incorporate its contents into Notice No. 88–16. That notice proposes to consolidate the certification and operating requirements rules in parts 121 and 135, and to incorporate various provisions of SFAR 38–2 into new Part 119 of the FAR.

On July 15, 1987, the FAA issued SFAR 38–4, which reinstated SFAR 38–2, because it was inadvertently allowed to expire, and extended its termination date to June 1, 1989. That extension allowed the FAA time to incorporate the contents of SFAR 38–2 into Notice No. 88–16. On May 26, 1989, the FAA issued SFAR 38–5, which extended the expiration date of SFAR 38–2 to June 1, 1990, in order for the FAA to consider comments on Notice No. 88–16 and to issue a final rule which would consolidate the certification and operating requirements rules of SFAR 38–2, Part 121, and Part 135.

Good Cause Justification for Immediate Adoption

The reasons which justify the adoption, and the subsequent revision, of SFAR 38 still exist. Therefore, it is in the public interest to establish a new termination date for SFAR 38–2 of June 1, 1991. If the FAA publishes a final rule incorporating SFAR 38–2 into the FAR before the termination date, a notice rescinding SFAR 38–2 will be published concurrently. This action is necessary to permit continued operations under SFAR 38, as amended, and to avoid confusion in the administration of FAA regulations regarding operating certificates and operating requirements.

For this reason, and because this amendment continues in effect the provisions of a currently effective SFAR and imposes no additional burden on any person, I find that notice and public procedures are unnecessary, impracticable, and contrary to the public interest, and that the amendment should be made effective in less than 30 days after publication. However, interested persons are invited to submit such comments as they desire regarding this amendment. Communications should identify the docket number and be submitted in duplicate to the address above. All communications received on or before the close of the comment period will be considered by the Administrator, and this amendment may be changed in light of the comments received. All comments will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested parties.

International Trade Impact Analysis

The FAA finds this amendment will have no impact on international trade.

The FAA has determined that this document involves an amendment that imposes no additional burden on any person. Accordingly, it has been determined that: The action does not involve a major rule under Executive Order 12291; it is not significant under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and its anticipated impact is so minimal that a full regulatory evaluation is not required.

Adoption of the Amendment

In consideration of the foregoing SFAR 38–2 (14 CFR Parts 121, 125, 127, 129, and 135) of the Federal Aviation Regulations is amended effective June 5, 1990.

The authority citation for Part 125 continues to read as follows:

Authority: 49 U.S.C. 1354, 1421, through 1430, and 1502; 49 U.S.C. 106(g) (revised Pub. L. 97–449, January 12, 1983).

Special Federal Aviation Regulation 38–7

Certification and Operating Requirements

Adopted: May 28, 1991 **Effective: May 28, 1991**

(Publish in 58 FR 25450, June 4, 1991)

SUMMARY: This amendment establishes a new termination date for Special Federal Aviation Regulation [SFAR] No. 38–2 [50 FR 23941; June 7, 1985], which contains the certification and operating requirements for persons conducting commercial passenger or cargo operations. The FAA stated in previous extensions of SFAR 38–2 that it was necessary to establish a new termination date for SFAR 38–2 to allow time for the FAA to complete the rulemaking process that will consolidate the rules regarding certification and operating requirements and incorporate SFAR 38–2 into the Federal Aviation Regulations (FAR). The current termination date for SFAR 38–2 is June 1, 1991. Because the FAA has not completed that rulemaking process, a 1-year extension of the termination date is necessary. SFAR 38–2 is extended to ensure that the FAA has adequate time to complete the consolidation of the rules regarding certification and operating requirements. However, if a final rule, which consolidates those rules, is issued before the new termination date, the FAA intends to publish a notice rescinding SFAR 38–2 concurrently with the publication of the final rule in the Federal Register.

DATES: Effective date May 28, 1991. Comments must be received on or before August 5, 1991.

ADDRESSES: Send comments on the rule in triplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC–10), Docket No. 18518, 800 Independence Avenue, SW., Washington, DC 20591, or deliver comments in triplicate to: Federal Aviation Administration, Rules Docket, Room 916, 800 Independence Avenue, SW., Washington, DC. Comments may be examined in the Rules Dockets weekdays, except Federal holidays, between 8:30 am. and 5 pm.

On December 12, 1978, the FAA issued SFAR 38 [43 FR 58366; December 14, 1978] as a consequence of the Airline Deregulation Act of 1978 (ADA or Act) (Pub. L. 95–504, 92 Stat. 1705). That Act expresses the Congressional intent that the Federal Government diminish its involvement in regulating the economic aspects of the airline industry. To accomplish this, Congress directed that the CAB be abolished on December 31, 1984, and that certain of its functions cease before that date. Anticipating its sunset, the CAB itself curtailed or suspended much of its regulatory activity during the period 1979–1984. On October 4, 1984, additional legislation was enacted further defining the process of CAB sunset. On January 1, 1985, the remaining CAB functions were transferred to the Department of Transportation (DOT).

Because some aspects of FAA safety regulations relied upon CAB definitions and authority, the FAA found it necessary in 1978 to adopt an interim measure to provide for an orderly transition to the change in economic regulatory activities. This action was consistent with the Congressional directive contained in Section 107(a) of the Act that the deregulation of airline economics result in no diminution of the high standard of safety in air transportation that existed when the ADA was enacted. SFAR 38 set forth FAA certification and operating requirements applicable to all "air commerce" and "air transportation" operations for "compensation or hire." (SFAR 38 did not address Part 133 External Load Operations, Part 137 Agriculture Aircraft Operations, or Part 91 and other special purpose operations.)

On December 27, 1984, the FAA issued SFAR 38–1 [50 FR 450; January 4, 1985], which merely extended the termination date of the regulation and allowed the FAA time to propose and receive comments on revising SFAR 38.

On May 28, 1985, the FAA issued SFAR 38–2 [50 FR 23491; June 7, 1985], which updated SFAR 38 in light of changes since 1978 and clarified provisions stating which FAA regulations apply to each air carrier and each type of operation. This action was necessary because of the changes in the air transportation industry brought about by economic deregulation. Before deregulation, economic certificates were rigidly compartmentalized, and each air carrier typically was authorized to conduct only one type of operation (domestic, flag, or charter (i.e., supplemental)). The safety certificate issued to the air carrier by the FAA paralleled the authorization granted in the air carrier's economic certificate. Economic deregulation broke down the barriers between the various types of operations. The economic authority granted an air carrier by the DOT is no longer indicative of the safety regulations applicable to the type of operation authorized by the FAA. Thus, it was necessary for the FAA to establish guidelines to determine what safety standards were applicable to an air carrier's particular operation.

On April 30, 1986, the FAA issued SFAR 38–3, which extended the termination date of SFAR 38–2 to allow the FAA time to incorporate its contents into Notice No. 88–16. That notice proposes to consolidate the certification and operating requirements rules in Parts 121 and 135, and to incorporate various provisions of SFAR 38–2 into new Part 119 of the FAR.

On July 15, 1987, the FAA issued SFAR 38–4, which reinstated SFAR 38–2, because it was inadvertently allowed to expire, and extended its termination date to June 1, 1989. That extension allowed the FAA time to incorporate the contents of SFAR 38–2 into Notice No. 88–16.

On May 26, 1989, the FAA issued SFAR 38–5, which extended the expiration date of SFAR 38–2 to June 1, 1990, in order for the FAA to consider comments on Notice No.

23043].

Currently, the FAA is completing work on the final rule that would make SFAR 38–2 a permanent Federal Aviation Regulation; therefore it is necessary to extend the expiration date for SFAR 38–2 until June 1, 1992.

Good Cause For Immediate Adoption Justification

The reasons which justify the adoption, and the subsequent revision, of SFAR 38 still exist. Therefore, it is in the public interest to establish a new termination date for SFAR 38–2 of June 1, 1992. If the FAA publishes a final rule incorporating SFAR 38–2 into the FAR before the termination date, a notice rescinding SFAR 38–2 will be published concurrently. This action is necessary to permit continued operations under SFAR 38, as amended, and to avoid confusion in the administration of FAA regulations regarding operating certificates and operating requirements.

For this reason, and because this amendment continues in effect the provisions of a currently effective SFAR and imposes no additional burden on any person, I find that notice and public procedures are unnecessary, impracticable, and contrary to the public interest, and that the amendment should be made effective in less than 30 days after publication. However, interested persons are invited to submit such comments as they desire regarding this amendment. Communications should identify the docket number and be submitted in duplicate to the address above. All communications received on or before the close of the comment period will be considered by the Administrator, and this amendment may be changed in light of the comments received. All comments will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested parties.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) was enacted to ensure that small entities are not unnecessarily and disproportionately burdened by Government regulations. The RFA requires agencies to review rules which may have ''a significant economic impact on a substantial number of small entities.''

This rule will not impose any additional incremental costs over those that would have been incurred when SFAR 38–2 was first issued. Therefore, I certify that the amendment will not have a scant economic impact on a substantial number of small entities.

International Trade Impact Analysis

The FAA finds this amendment will have no impact on international trade.

Federalism Implications

The amendment herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this amendment would not have sufficient federalism applications to warrant the preparation of a Federalism Assessment.

In consideration of the foregoing SFAR 38–2 (14 CFR Parts 121, 125, 127, 129, and 135) of the Federal Aviation Regulations is amended effective May 28, 1991.

The authority citation for Part 125 continues to read as follows:

Authority: 49 U.S.C. 1354, 1421 through 1430, and 1502; 49 U.S. C. 106(g) (revised Pub. L. 97–449, January 12, 1983).

Special Federal Aviation Regulation 38–8

Certification and Operating Requirements

Adopted: June 1, 1992 **Effective: June 1, 1992**

(57 FR 23922, June 4, 1992)

SUMMARY: This amendment establishes a new termination date for Special Federal Aviation Regulation [SFAR] No. 38–2 [50 FR 23941; June 7, 1985], which contains the certification and operating requirements for persons conducting commercial passenger or cargo operations. The FAA stated in previous extensions of SFAR 38–2 that it was necessary to establish a new termination date for SFAR 38–2 to allow time for the FAA to complete the rulemaking process that will consolidate the rules regarding certification and operating requirements and incorporate SFAR 38–2 into the Federal Aviation Regulations (FAR). The current termination date for SFAR 38–2 is June 1, 1992. Because the FAA has not completed that rulemaking process, a 1-year extension of the termination date is necessary. SFAR 38–2 is extended to ensure that the FAA has adequate time to complete the consolidation of the rules regarding certification and operating requirements. However, if a final rule, which consolidates those rules, is issued before the new termination date, the FAA intends to publish a notice rescinding SFAR 38–2 concurrently with the publication of the final rule in the *Federal Register*.

DATES: Effective date is June 1, 1992. Comments must be received on or before August 3, 1992.

ADDRESSES: Send comments on the rule in triplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC–10), Docket No. 18518, 800 Independence Avenue, SW., Washington, DC 20591, or deliver comments in triplicate to: Federal Aviation Administration, Rules Docket, Room 916, 800 Independence Avenue, SW., Washington, DC. Comments may be examined in the Rules Dockets weekdays, except Federal holidays, between 8:30 a.m. and 5 p.m.

FOR FURTHER INFORMATION CONTACT: Ms. Donell Pollard, Project Development Branch, AFS–240, Air Transportation Division, Flight Standards Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washingtion, DC 20591; Telephone (202) 267-3750.

SUPPLEMENTAL INFORMATION:

1, 1985, the remaining CAB functions were transferred to the Department of Transportation (DOT). Because some aspects of FAA safety regulations relied upon CAB definitions and authority, the FAA found it necessary in 1978 to adopt an interim measure to provide for an orderly transition to the change in economic regulatory activities. This action was consistent with the Congressional directive contained in Section 107(a) of the Act that the deregulation of airline economics result in no diminution of the high standard of safety in air transportation that existed when the ADA was enacted. SFAR 38 [43 FR 58366; December 14, 1978] set forth FAA certification and operating requirements applicable to all "air commerce" and "air transportation" operations for "compensation of hire." (SFAR 38 did not address Part 133 External Load Operations, Part 137 Agriculture Aircraft Operations, or Part 91 training and other special purpose operations.)

On December 27, 1984, the FAA issued SFAR 38–1 [50 FR 450; January 4, 1985], which merely extended the termination date of SFAR 38 and allowed the FAA time to propose and receive comments on revising SFAR 38.

On May 28, 1985, the FAA issued SFAR 38-2 [50 FR 23941; June 7, 1985], which updated SFAR 38 in light of changes since 1978 and clarified provisions stating which FAA regulations apply to each air carrier and each type of operation. This action was nessessary because of the changes in the air transportation industry brought about by economic deregulation. Before dereguation, economic certificates where rigidly compartmentalized, and each air carrier typically was authorized to conduct only one type of operation (domestic, flag, or charter (i.e., supplemental)). The safety certificate issued to the air carrier by the FAA paralleled the authorization granted in the air carrier's economic certificate. Economic deregulation broke down the barriers between the various type of operations. The economic authority granted an air carrier by the DOT is no longer indicative of the safety regulations applicable to the type of operations authorized by the FAA. Thus, it was necessary for the FAA to establish guidelines to determine what safety standards were applicable to an air carrier's particular operation.

On April 30, 1986, the FAA issued SFAR 38–3 [51 FR 17274; May 9, 1986], which extended the termination date of SFAR 38–2 to allow the FAA time to incorporate its contents into Notice No. 88-16 [53 FR 39852; October 12, 1988]. That notice proposes to consolidate the certification and operating requirements rules in Parts 121 and 135, and to incorporate various provisions of SFAR 38–2 into new Part 119 of the FAR.

On July 15, 1987, the FAA issued SFAR 38–4 [52 FR 28938; August 4, 1987], which reinstated SFAR 38–2, because it was inadvertently allowed to expire, and extended its termination date to June 1, 1989. That extension allowed the FAA time to incorporate the contents of SFAR 38–2 into Notice No. 88–16.

On May 26, 1989, the FAA issued SFAR 38–5 [54 FR 23884; June 2, 1989], which extended the expiration date of SFAR 38-2 to June 1, 1990, in order for the FAA to consider comments on Notice No. 88-16 and to issue a final rule which would consolidate the certification and operating requirements rules of SFAR 38–2, Part 121, and Part 135.

On April 11, 1990, the FAA reopened the comment period for Notice No. 88–16 [55 FR 14404; April 17, 1990] for comments on the definition of "scheduled operations" and the notification requirement for change to operations specifications for a period of 30 days. The reopened comment period closed May 17, 1990.

Good Cause Justification For Immediate Adoption

The reasons which justify the adoption, and the subsequent revision, of SFAR 38 still exist. Therefore, it is in the public interest to establish a new termination date for SFAR 38–2 of June 1, 1993. If the FAA publishes a final rule incorporating SFAR 38–2 into the FAR before the termination date, a notice recinding SFAR 38-2 will be published concurrently. This action is necessary to permit continued operations under SFAR 38, as amended, and to avoid confusion in the administration of FAA regulations regarding operating certificates and operating requirements.

For this reason, and because this amendment continues in effect the provisions of a currently effective SFAR and imposes no additional burden on any person, I find that notice and public procedures are unnecessary, impracticable, and contrary to the public interest, and that the amendment should be made effective in less than 30 days after publication. However, interested persons are invited to submit such comments as they desire regarding this amendment. Communications should identify the docket number and be submitted in duplicate to the address above. All communications received on or before the close of the comment period will be considered by the Administrator, and this amendment may be changed in light of the comments received. All comments will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested parties.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) was enacted to ensure that small entities are no unnecessarily and disporportionately burdened by Government regulation. The RFA requires agencies to review rules which may have ''a significant economic impact on a substantial number of small entities.''

This rule will not impose any additional incremental costs over those that would have been incurred when SFAR 38–2 was first issued. Therefore, I certify that the amendment will not have a significant economic impact on a substantial number of small entities.

International Trade Impact Analysis

The FAA finds this amendment will have no impact on international trade.

Federalism Implications

The amendment herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this amendment would not have sufficient federalism applications to warrant the preparation of a Federalism Assessment.

Conclusion

The FAA has determined that this document involves an amendment that imposes no additional burden on any person. Accordingly, it has been determined that: The action does not involve a major rule under Executive Order 12291; it is not significant under DOT Regulatory Policies and Procedures (44 FR 11034; Fedruary 26, 1979); and the anticipated impact is so minimal that a full regulatory evaluation is not required.

Special Federal Aviation Regulation 38–9

Certification and Operating Requirements

Adopted: June 18, 1993 **Effective: June 18, 1993**

(Published in 58 FR 34514, June 25, 1993)

SUMMARY: This amendment establishes a new termination date for Special Federal Aviation Regulation [SFAR] No. 38–2 [50 FR 23941; June 7, 1985], which contains the certification and operating requirements for persons conducting commercial passenger or cargo operations. The FAA stated in previous extensions of SFAR 38–2 that it was necessary to establish a new termination date for SFAR 38–2 to allow time for the FAA to complete the rulemaking process that will consolidate the rules regarding certification and operating requirements and incorporate SFAR 38–2 into the Federal Aviation Regulations (FAR). The current termination date for SFAR 38–2 is June 1, 1993. Because the FAA has not completed that rulemaking process, an extension of the termination date is necessary. SFAR 38–2 is extended to ensure that the FAA has adequate time to complete the consolidation of the rules regarding certification and operating requirements. However, if a final rule, which consolidates those rules. is issued before the new termination date, the FAA intends to publish a notice rescinding SFAR 38–2 concurrently with the publication of the final rule in the *Federal Register*.

DATES: Effective date: June 18, 1993. Comments must be received on or before August 24, 1993.

ADDRESSES: Send comments on the rule in triplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC–200), Docket No. 18518, 800 Independence Avenue, SW., Washington, DC 20591, or deliver comments in triplicate to: Federal Aviation Administration, Rules Docket, Room 915g, 800 Independence Avenue, SW., Washington, DC. Comments may be examined in the Rules Dockets weekdays, except Federal holidays, between 8:30 a.m. and 5 p.m.

FOR FURTHER INFORMATION CONTACT: Mr. Gary Davis, Project Development Branch, AFS–240, Air Transportation Division, Flight Standards Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 267–8096.

SUPPLEMENTARY INFORMATION:

Background

On December 12, 1978, the FAA issued SFAR 38 [43 FR 58366; December 14, 1978] as a consequence of the Airline Deregulation Act of 1978 (ADA or Act) (Pub. L. 95–504, 92 Stat. 1705). That Act expresses the Congressional intent that the Federal Government diminish its involvement in regulating the economic aspects of the airline industry. To accomplish this, Congress directed that the Civil Aeronautics Board (CAB) be abolished on December 31, 1984, and that certain of its functions cease before that date. Anticipating its sunset, the CAB itself curtailed or suspended much of its regulatory activity during the period 1979–1984. By January

FAA certification and operating requirements applicable to all "air commerce" and "air transportation" operations for "compensation or hire." (SFAR 38 did not address Part 133 External Load operations, Part 137 Agriculture Aircraft operations, or Part 91 Training and Other Special Purpose Operations.)

On December 27, 1984, the FAA issued SFAR 38–1 [50 FR 450; January 4, 1985], which merely extended the termination date of SFAR 38 and allowed the FAA time to propose and receive comments on revising SFAR 38.

On May 28, 1985, the FAA issued SFAR 38–2 [50 FR 23941; June 7, 1985], which updated SFAR 38 in light of changes since 1978 and clarified provisions stating which FAA regulations apply to each air carrier and each type of operation. This action was necessary because of the changes in the air transportation industry brought about by economic deregulation. Before deregulation, economic certificates were rigidly compartmentalized, and each air carrier typically was authorized to conduct only one type of operation (domestic, flag, or charter (i.e., supplemental)). The safety certificate issued to the air carrier by the FAA paralleled the authorization granted in the air carrier's economic certificate. Economic deregulation broke down the barriers between the various types of operations. The economic authority granted an air carrier by the DOT is no longer indicative of the safety regulations applicable to the type of operation authorized by the FAA. Thus, it was necessary for the FAA to establish guidelines to determine what safety standards were applicable to an air carrier's particular operation.

On April 30, 1986, the FAA issued SFAR 38–3 [51 FR 17274; May 9, 1986], which extended the termination date of SFAR 38–2 to allow the FAA time to incorporate its contents into Notice No. 88–16 [53 FR 39852; October 12, 1988]. That notice proposes to consolidate the certification and operating requirements rules in parts 121 and 135, and to incorporate various provisions of SFAR 38–2 into new part 119 of the FAR.

On July 15, 1987, the FAA issued SFAR 38–4 [52 FR 28938; August 4, 1987], which reinstated SFAR 38–2, because it was inadvertently allowed to expire, and extended its termination date to June 1, 1989. That extension allowed the FAA time to incorporate the contents of SFAR 38–2 into Notice No. 88–16.

On May 26, 1989, the FAA issued SFAR 38–5 [54 FR 23884; June 2, 1989], which extended the expiration date of SFAR 38–2 to June 1, 1990, in order for the FAA to consider comments on Notice No. 88–16 and to issue a final rule which would consolidate the certification and operating requirements rules of SFAR 38–2, part 121, and part 135.

On April 11, 1990, the FAA reopened the comment period for Notice No. 88–16 [55 FR 14404; April 17, 1990] for comments on the definition of "scheduled operation" and the notification requirement for changes to operations specifications for a period of 30 days. The reopened comment period closed May 17, 1990.

To allow for additional time to consider comments received during the reopened comment period, the FAA extended the expiration date for SFAR 38–2 until June 1, 1991 [55 FR 23046; June 5, 1990]. Because of the complexity of the comments, the expiration date for SFAR 38–2 was extended until June 1, 1992 [56 FR 25450; June 4, 1991], and subsequently again extended until June 1, 1993 [57 FR 23922; June 4, 1992].

Based on comments received. the FAA has determined that a different definition of "scheduled operation" should be proposed for public comment. That supplemental notice was published June 8, 1993 [58 FR 32248]; the comment period closes July 23, 1993. However, to allow

This action is necessary to permit continued operations under SFAR 38, as amended, and to avoid confusion in the administration of FAA regulations regarding operating certificates and operating requirements.

For this reason, and because this amendment continues in effect the provisions of a currently effective SFAR and imposes no additional burden on any person, I find that notice and public procedures are unnecessary, impracticable, and contrary to the public interest, and that the amendment should be made effective in less than 30 days after publication. However, interested persons are invited to submit such comments as they desire regarding this amendment. Communications should identify the docket number and be submitted in duplicate to the address above. All communications received on or before the close of the comment period will be considered by the Administrator, and this amendment may be changed in light of the comments received. All comments will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested parties.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) was enacted to ensure that small entities are not unnecessarily and disproportionately burdened by Government regulations. The RFA requires agencies to review rules which may have "a significant economic impact on a substantial number of small entities."

This rule will not impose any additional incremental costs over those that would have been incurred when SFAR 38–2 was first issued. Therefore, I certify that the amendment will not have a significant economic impact on a substantial number of small entities.

International Trade Impact Analysis

The FAA finds this amendment will have no impact on international trade.

Paperwork Reduction Act

Information collection requirements in this SFAR have previously been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (Pub. L. 96–511) and have been assigned OMB Control Number 2120–0008.

Federalism Implications

The amendment herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive order 12612, it is determined that this amendment would not have sufficient federalism applications to warrant the preparation of a Federalism Assessment.

Conclusion

The FAA has determined that this document involves an amendment that imposes no additional burden on any person. Accordingly, it has been determined that: The action does not involve a major rule under Executive Order 12291; it is not significant under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and the anticipated impact is so minimal that a full regulatory evaluation is not required.

Special Federal Aviation Regulation 38–10

Public Aircraft Definition and Exemption Authority

Adopted: January 6, 1995 **Effective: April 23, 1995**

(Published in 60 FR 5074, January 25, 1995)

SUMMARY: This rule amends the Federal Aviation Regulations to reflect statutory changes in the definition of public aircraft and the FAA Administrator's new authority to grant exemptions from statutory requirements, under certain conditions, to units of Federal, state, and local government for operations of government-owned aircraft. This rule is necessary to implement the Airport and Airway Improvement Act Amendments of 1987 and Independent Safety Board Act Amendments of 1994.

DATES: This final rule is effective April 23, 1995. Comments must be submitted on or before February 24, 1995.

ADDRESSES: Send comments in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, ATTN: Rules Docket (AGC–200), Docket No. 28060, 800 Independence Avenue SW., Washington, DC 20591.

FOR FURTHER INFORMATION CONTACT: David Catey, (AFS–220), (202) 267–8094, 800 Independence Avenue SW., Washington, DC 20591.

SUPPLEMENTARY INFORMATION: On December 30, 1987, and October 25, 1994, the President signed into law the Airport and Airway Improvement Act Amendments of 1987 and the Independent Safety Board Act Amendments of 1994, respectively, each of which changed the statutory definition of the term "public aircraft." Public aircraft are exempt from many FAA regulations.

Under the 1987 Amendment, an aircraft leased by a government, other than the Federal Government, remains a civil aircraft unless the lease is exclusively for the use of that government for not less than 90 continuous days. Under the 1994 Amendments, many aircraft previously considered public aircraft will be subject to FAA safety regulations on the effective date of those amendments. For example, when the change in the definition enacted by the 1994 Amendment becomes effective, government-owned aircraft used to transport passengers will, except in limited circumstances, no longer be considered public aircraft. Therefore, the operators of such aircraft will have to meet civil aircraft requirements, including those for certification, maintenance, and training, unless they qualify for narrowly defined exemptions. Aircraft operated by the Armed Forces and intelligence agencies, however, will retain their public aircraft status unless operated for a commercial purpose.

Although the 1994 Amendment gives the FAA Administrator certain authority to grant exemptions to "units of government" from the statutory requirements applicable to civil aircraft, the agency expects to invoke that exemption authority only when the public interest clearly demands it. To obtain an exemption under the statute, a unit of government must show that granting the exemption is necessary "to prevent an undue economic burden on the unit of

FAA invited comment on the question whether intergovernmental reimbursement for the use of government-owned aircraft prevents the aircraft involved from meeting the definition of public aircraft and, therefore, requires compliance with all safety regulations applicable to civil aircraft. That issue has been clarified by the 1994 Amendment, and the FAA will not be taking further action on that Notice.

As to whether public aircraft status is lost when one government reimburses another for the use of its aircraft, under the 1994 Amendment, if there is cost reimbursement, the aircraft will be civil aircraft unless the appropriate unit of government certifies ''that the operation was necessary to respond to a significant and imminent threat to life or property,'' and ''that no service by a private operator was reasonably available to meet the threat.''

To implement both the 1987 and 1994 Amendments, this rule amends the definition of ''public aircraft'' in 14 CFR part 1. This rule also amends 14 CFR part 11 to reflect the Administrator's new statutory exemption authority concerning government-owned aircraft. While the Administrator's exemption authority in the past has been limited to exemptions from rules rather than from statutes, in this case Congress granted the Administrator the authority to grant exemptions from the statute—specifically, ''from any requirement of part A of subtitle VII of title 49, United States Code.'' Pub. L. 103–411. As a result, this rule modifies Section 11.25(b)(3) to include exemptions, for government-owned aircraft only, from statutes as well as from rules.

One final conforming change to the regulations is in the applicability section of SFAR No. 38–2, entitled ''Certification and Operating Requirements.'' In its present form, the applicability section provides that: ''This Special Federal Aviation Regulation applies to persons conducting commercial passenger operations, cargo operations, or both . . .'' This rule adds the words ''operating civil aircraft in'' to the applicability statement. The new law permits some public aircraft operations for which compensation is received. This change is necessary to assure that regulations intended only for application to civil aircraft are not inadvertently applied to public aircraft when public aircraft are permitted to be operated for compensation or hire.

Good Cause for Immediate Adoption

The FAA finds that notice and public comment on this rulemaking are unnecessary. This final rule is intended merely to conform the regulations to the statute. It is, in essence, a technical amendment that involves no exercise of agency discretion. The FAA is simply changing the rules to reflect, as closely as possible, the new statutory language. As a result, the agency for good cause finds that ''notice and public procedure thereon'' are unnecessary within the meaning of 5 U.S.C. 553(b)(B) of the Administrative Procedure Act. Individuals will have an opportunity to submit comments concerning this final rule by February 24, 1995.

Economic and Other Analyses

This amendment merely conforms FAA rules to the 1987 and 1994 Amendments to the law. Federal regulations must conform to the law, therefore the FAA has no discretionary power in this matter. Consequently, a Regulatory Evaluation of the costs and benefits of this change would serve no useful purpose and none was prepared. While meeting these new requirements may result in costs to units of government, including the FAA, these costs are a result of the law and not the regulation. The law does give the FAA Administrator discretionary authority to grant exemptions from certain statutory requirements when the existing safety program of the unit of government is effective to ensure safe operations and conformance with federal regulations pertaining to civil aircraft would constitute ''an undue economic burden'' as previously

Paperwork Reduction Act

This rule contains no information collection requests requiring approval of the Office of Management and Budget pursuant to the Paperwork Reduction Act (44 U.S.C. 3507 *et seq.*).

Conclusion

For the reasons discussed in the preamble the FAA has determined that this final rule is not significant under Executive Order 12866 or DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979).

The Amendment

Accordingly, 14 CFR parts 1, 11, 121, 125, 127, 129 and 135 are amended effective April 23, 1995.

The authority citation for part 125 continues to read as follows:

Authority: 49 U.S.C. 106(g), 1153, 40101, 40105, 44113, 44701–44705, 44707–44714, 44716–44717, and 44722.

Special Federal Aviation Regulation 38–11

Special Federal Aviation Regulation No. 38–2; Certification and Operating Requirements

Adopted: May 31, 1995 **Effective: June 1, 1995**

(Published in 60 FR 29753, June 6, 1995)

SUMMARY: This amendment establishes a new termination date for Special Federal Aviation Regulation [SFAR] No. 38–2 [50 FR 23941; June 7, 1985], which contains the certification and operating requirements for persons transporting passengers or cargo for compensation or hire. The current termination date for SFAR 38–2 is June 1, 1995. Because the FAA has not completed a rulemaking process to consolidate and codify the certification and operations specifications requirements, an extension of the termination date is necessary. If this rulemaking process is completed before the new termination date of June 1, 1996, the FAA intends to rescind SFAR 38–2 as part of that rulemaking.

DATES: Effective date June 1, 1995. Comments must be received on or before August 1, 1995.

ADDRESSES: Send comments on the rule in triplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC–10), Docket No. 18510, 800 Independence Avenue, SW., Washington, DC 20591, or deliver comments in triplicate to: Federal Aviation Administration, Rules Docket, Room 916, 800 Independence Avenue, SW., Washington, DC. Comments may be examined in the Rule Dockets weekdays, except Federal holidays, between 8:30 a.m. and 5 p.m.

as a consequence of the Airline Deregulation Act of 1978 (ADA or Act) (Pub. L. 95–504, 92 Stat. 1705). That Act expresses the Congressional intent that the Federal Government diminish its involvement in regulating the economic aspects of the airline industry. To accomplish this, Congress directed that the Civil Aeronautics Board (CAB) be abolished on December 31, 1984, and that certain of its functions cease before that date. Anticipating its sunset, the CAB itself curtailed or suspended much of its regulatory activity during the period 1979–1984. By January 1, 1985, the remaining CAB functions were transferred to the Department of Transportation (DOT).

Because some aspects of FAA safety regulations relied upon CAB definitions and authority, the FAA found it necessary in 1978 to adopt an interim measure to provide for an orderly transition to the change in economic regulatory activities. This action was consistent with the Congressional directive contained in Section 107(a) of the Act that the deregulation of airline economics result in no diminution of the high standard of safety in air transportation that existed when the ADA was enacted. SFAR 38 [43 FR 58366; December 14, 1978] set forth FAA certification and operating requirements applicable to all ''air commerce'' and ''air transportation'' operations for ''compensation or hire.'' (SFAR 38 did not address Part 133—External Load Operations, Part 137—Agriculture Aircraft Operations, or Part 91—Training and Other Special Purpose Operations.)

On December 27, 1984, the FAA issued SFAR 38–1 [50 FR 450; January 4, 1985], which merely extended the termination date of SFAR 38 and allowed the FAA time to propose and receive comments on revising SFAR 38.

On May 28, 1985, the FAA issued SFAR 38–2 [50 FR 23941; June 7, 1985], which updated SFAR 38 in light of changes since 1978 and clarified provisions stating which FAA regulations apply to each operator (including air carriers) and each type of operation. This action was necessary because of the changes in the air transportation industry brought about by economic deregulation. Before deregulation, economic certificates were rigidly compartmentalized, and each air carrier typically was authorized to conduct only one type of operation (domestic, flag, or charter (e.g., supplemental)). The safety certificate issued to the air carrier by the FAA paralleled the authorization granted in the air carrier's economic certificate. Economic deregulation broke down the barriers between the various types of operations. The economic authority granted an air carrier by the DOT is no longer indicative of the safety regulations applicable to the type of operation authorized by the FAA. Thus, it was necessary for the FAA to establish guidelines to determine what safety standards were applicable to an operator's particular operation.

Since that time, the FAA has proposed rulemaking to codify the certification and operations specifications requirements currently found in SFAR 38–2 into a new part 119 [Notice No. 88–16] [53 FR 39852; October 12, 1988].

On April 11, 1990, the FAA reopened the comment period for Notice No. 88–16 [55 FR 14404; April 17, 1990] for comments on the definition of ''scheduled operation'' and the notification requirement for changes to operations specifications for a period of 30 days. The reopened comment period closed May 17, 1990. Based on the complexity of comments received, the FAA subsequently published an SNPRM on June 8, 1993 [58 FR 32248]; the comment period closed July 23, 1993.

Recently the FAA issued a notice proposing that many part 121 requirements should be imposed on certain part 135 operators [60 FR 16230; March 29, 1995]. If that proposal is adopted, the rules specifying the applicability of parts 121, 125, and 135 would be codified

38–2 of June 1, 1996. If the FAA publishes a final rule adopting a new part 119 into the Federal Aviation Regulations before the termination date, that rulemaking will rescind SFAR 38–2. This action is necessary to permit continued operations under SFAR 38–2 and to avoid confusion in the administration of FAA regulations regarding operating certificates and operating requirements.

For this reason, and because this amendment continues in effect the provisions of a currently effective SFAR and imposes no additional burden on any person, I find that notice and public procedures are unnecessary, impracticable, and contrary to the public interest, and that the amendment should be made effective in less than 30 days after publication. However, interested persons are invited to submit such comments as they desire regarding this amendment. Communications should identify the docket number and be submitted in duplicate to the address above. All communications received on or before the close of the comment period will be considered by the Administrator, and this amendment may be changed in light of the comments received. All comments will be available, both before and after the closing date for comments, in the rules docket for examination by interested parties.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) was enacted to ensure that small entities are not unnecessarily and disproportionately burdened by Government regulations. The RFA requires agencies to review rules which may have "a significant economic impact on a substantial number of small entities."

This rule will not impose any additional incremental costs over those that would have been incurred when SFAR 38–2 was first issued. Therefore, I certify that the amendment will not have a significant economic impact on a substantial number of small entities.

International Trade Impact Analysis

The FAA finds this amendment will have no impact on international trade.

Paperwork Reduction Act

Information collection requirements in this SFAR have previously been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (Pub. L. 96–511) and have been assigned OMB Control Number 2120–0008.

Federalism Implications

The amendment herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this amendment would not have sufficient federalism applications to warrant the preparation of a Federalism Assessment.

Conclusion

The FAA has determined that this document involves an amendment that imposes no additional burden on any person. Accordingly, it has been determined that this action is not significant under Executive Order 12866; it is not significant under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and the anticipated impact is so minimal that a full regulatory evaluation is not required.

Special Federal Aviation Regulation 38–12

Commuter Operations and General Certification and Operations Requirements

Adopted: December 12, 1995 **Effective: January 19, 1996**

(Published in 60 FR 65832, December 20, 1995)

SUMMARY: This rule requires certain commuter operators that now conduct operations under part 135 to conduct those operations under part 121. The commuter operators affected are those conducting scheduled passenger-carrying operations in airplanes that have passenger-seating configurations of 10 to 30 seats (excluding any crewmember seat) and those conducting scheduled passenger-carrying operations in turbojet airplanes regardless of seating configuration. The rule revises the requirements concerning operating certificates and operations specifications for all part 121, 125, and 135 certificate holders. The rule also requires certain management officials for all certificate holders under parts 121 and 135. The rule is intended to increase safety in scheduled passenger-carrying operations and to clarify, update, and consolidate the certification and operations requirements for persons who transport passengers or property by air for compensation or hire.

NOTE: Please refer to pages P–200 through P–315 for entire preamble.

(a)(1) Certificates.

(a)(2) Certification requirements.

(a)(3) Operating requirements.

(b) Operations conducted under more than one paragraph.

(c) Prohibition against operating without certificate or in violation of operations specifications.

2. Certificates and foreign air carrier operations specifications.

(a) Air Carrier Operating Certificate.

(b) Operating Certificate.

(c) Foreign air carrier operations specifications.

3. Operations specifications.

4. Air carriers and those commercial operators engaged in scheduled intrastate common carriage.

(a)(1) Airplanes, more than 30 seats/7,500 pounds payload, scheduled within 48 States.

(a)(2) Airplanes, more than 30 seats/7,500 pounds payload, scheduled outside 48 States.

(a)(3) Airplanes, more than 30 seats/7,500 pounds payload, not scheduled and all cargo.

(b) Airplanes, 30 seats or less/7,500 or less pounds payload.

(c) Rotorcraft, 30 seats or less/7,500 pounds or less payload.

(d) Rotorcraft, more than 30 seats/more than 7,500 pounds payload.

5. Operations conducted by a person who is not engaged in air carrier operations, but is engaged in passenger operations, cargo operations, or both, as a commercial operator.

(a) Airplanes, 20 or more seats/6,000 or more pounds payload.

(b) Airplanes, less than 20 seats/less than 6,000 pounds payload.

(c) Rotorcraft, 30 seats or less/7,500 pounds or less payload.

(d) Rotorcraft, more than 30 seats/more than 7,500 pounds payload.

6. Definitions.

(a) Terms in FAR.

(1) Domestic/flag/supplemental/commuter.

(2) ATCO.

(b) FAR references to:

(1) Domestic air carriers.

(3) Foreign air carrier.

(4) Scheduled operations.

(5) Size of aircraft.

(6) Maximum payload capacity.

(7) Empty weight.

(8) Maximum zero fuel weight.

(9) Justifiable aircraft equipment.

in commercial passenger operations, cargo operations, or both, and prescribes—

(1) The types of operating certificates issued by the Federal Aviation Administration;

(2) The certification requirements an operator must meet in order to obtain and hold operations specifications for each type of operation conducted and each class and size of aircraft operated; and

(3) The operating requirements an operator must meet in conducting each type of operation and in operating each class and size of aircraft authorized in its operations specifications.

A person shall be issued only one certificate and all operations shall be conducted under that certificate, regardless of the type of operation or the class or size of aircraft operated. A person holding an air carrier operating certificate may not conduct any operations under the rules of part 125.

(b) Persons conducting operations under more than one paragraph of this SFAR shall meet the certification requirements specified in each paragraph and shall conduct operations in compliance with the requirements of the Federal Action Regulations specified in each paragraph for the operation conducted under that paragraph.

(c) Except as provided under this SFAR, no person may operate as an air carrier or as a commercial operator without, or in violation of, a certificate and operations specifications issued under this SFAR.

2. *Certificates and foreign air carrier operations specifications.*

(a) Persons authorized to conduct operations as an air carrier will be issued an Air Carrier Operating Certificate.

(b) Persons who are not authorized to conduct air carrier operations, but who are authorized to conduct passenger, cargo, or both, operations as a commercial operator will be issued an Operating Certificate.

(c) FAA certificates are not issued to foreign air carriers. Persons authorized to conduct operations in the United States as a foreign air carrier who hold a permit issued under Section 402 of the Federal Action Act of 1958, as amended (49 U.S.C. 1372), or other appropriate economic or exemption authority issued by the appropriate agency of the United States of America will be issued operations specifications in accordance with the requirements of part 129 and shall conduct their operations within the United States in accordance with those requirements.

3. *Operations specifications.*

The operations specifications associated with a certificate issued under paragraph 2(a) or (b) and the operations specifications issued under paragraph 2(c) of this SFAR will prescribe the authorizations, limitations and certain procedures under which each type of operation shall be conducted and each class and size of aircraft shall be operated.

4. *Air carriers, and those commercial operators engaged in scheduled intrastate common carriage.*

Each person who conducts operations as an air carrier or as a commercial operator engaged in scheduled intrastate common carriage of persons or property for compensation or hire in air commerce with—

(2) Scheduled operations to points outside the 48 contiguous states of the United States and the District of Columbia with those airplanes in accordance with the requirements of part 121 applicable to flag air carriers, and shall be issued operations specifications for those operations in accordance with those requirements.

(3) All-cargo operations and operations that are not scheduled with those airplanes in accordance with the requirements of part 121 applicable to supplemental air carriers, and shall be issued operations specifications for those operations in accordance with those requirements; except the Administrator may authorize those operations to be conducted under paragraph (4)(a)(1) or (2) of this paragraph.

(b) Airplanes having a maximum passenger seating configuration of 30 seats or less, excluding any required crewmember seat, and a maximum payload capacity of 7,500 pounds or less, shall comply with the certification requirements in part 135, and conduct its operations with those airplanes in accordance with the requirements of part 135, and shall be issued operations specifications for those operations in accordance with those requirements; except that the Administrator may authorize a person conducting operations in transport category airplanes to conduct those operations in accordance with the requirements of paragraph 4(a) of this paragraph.

(c) Rotorcraft having a maximum passenger seating configuration of 30 seats or less and a maximum payload capacity of 7,500 pounds or less shall comply with the certification requirements in part 135, and conduct its operations with those aircraft in accordance with the requirements of part 135, and shall be issued operations specifications for those operations in accordance with those requirements.

(d) Rotorcraft having a passenger seating configuration of more than 30 seats or a payload capacity of more than 7,500 pounds shall comply with the certification requirements in part 135, and conduct its operations with those aircraft in accordance with the requirements of part 135, and shall be issued special operations specifications for those operations in accordance with those requirements and this SFAR.

5. *Operations conducted by a person who is not engaged in air carrier operations, but is engaged in passenger operations, cargo operations, or both, as a commercial operator.*

Each person, other than a person conducting operations under paragraph 2(c) or 4 of this SFAR, who conducts operations with—

(a) Airplanes having a passenger seating configuration of 20 or more, excluding any required crewmember seat, or a maximum payload capacity of 6,000 pounds or more, shall comply with the certification requirements in part 125, and conduct its operations with those airplanes in accordance with the requirements of part 125, and shall be issued operations specifications in accordance with those requirements, or shall comply with an appropriate deviation authority.

(b) Airplanes having a maximum passenger seating configuration of less than 20 seats, excluding any required crewmember seat, and a maximum payload capacity of less than 6,000 pounds shall comply with the certification requirements in part 135, and conduct its operations in those airplanes in accordance with the requirements of part 135, and shall be issued operations specifications in accordance with those requirements.

(c) Rotorcraft having a maximum passenger seating configuration of 30 seats or less and a maximum payload capacity of 7,500 pounds or less shall comply with the certification require-

6. *Definitions.*

(a) Wherever in the Federal Aviation Regulations the terms—

(1) "Domestic air carrier operating certificate," "flag air carrier operating certificate," "supplemental air carrier operating certificate," or "commuter air carrier (in the context of Air Carrier Operating Certificate) appears, it shall be deemed to mean an "Air Carrier Operating Certificate" issued and maintained under this SFAR.

(2) "ATCO operating certificate" appears, it shall be deemed to mean either an "Air Carrier Operating Certificate" or "Operating Certificate," as is appropriate to the context of the regulation. All other references to an operating certificate shall be deemed to mean an "Operating Certificate" issued under this SFAR unless the context indicates the reference is to an Air Carrier Operating Certificate.

(b) Wherever in the Federal Aviation Regulations a regulation applies to—

(1) "Domestic air carriers," it will be deemed to mean a regulation that applies to scheduled operations solely within the 48 contiguous states of the United States and the District of Columbia conducted by persons described in paragraph 4(a)(1) of this SFAR.

(2) "Flag air carriers," it will be deemed to mean a regulation that applies to scheduled operations to any point outside the 48 contiguous states of the United States and the District of Columbia conducted by persons described in paragraph 4(a)(2) of this SFAR.

(3) "Supplemental air carriers," it will be deemed to mean a regulation that applies to charter and all-cargo operations conducted by persons described in paragraph 4(a)(3) of this SFAR.

(4) "Commuter air carriers," it will be deemed to mean a regulation that applies to scheduled passenger carrying operations, with a frequency of operations of at least five round trips per week on at least one route between two or more points according to the published flight schedules, conducted by persons described in paragraph 4(b) or (c) of this SFAR. This definition does not apply to part 93 of this chapter.

(c) For the purpose of this SFAR, the term—

(1) "Air carrier" means a person who meets the definition of an air carrier as defined in the Federal Aviation Act of 1958, as amended.

(2) "Commercial operator" means a person, other than an air carrier, who conducts operations in air commerce carrying persons or property for compensation or hire.

(3) "Foreign air carrier" means any person other than a citizen of the United States, who undertakes, whether directly or indirectly or by lease or any other arrangement, to engage in foreign air transportation.

(4) "Scheduled operations" means operations that are conducted in accordance with a published schedule for passenger operations which includes dates or times (or both) that is openly advertised or otherwise made readily available to the general public.

(5) "Size of aircraft" means an aircraft's size as determined by its seating configuration or payload capacity, or both.

(6) "Maximum payload capacity" means:

and fuel is as follows:

(A) Crew—200 pounds for each crewmember required by the Federal Aviation Regulations.

(B) Oil—350 pounds.

(C) Fuel—the minimum weight of fuel required by the applicable Federal Aviation Regulations for a flight between domestic points 174 nautical miles apart under VFR weather conditions that does not involve extended overwater operations.

(7) ''Empty weight'' means the weight of the airframe, engines, propellers, rotors, 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.

(8) ''Maximum zero fuel weight'' means the maximum permissible weight of an aircraft with no disposable fuel or oil. The zero fuel weight figure may be found in either the aircraft type certificate data sheet, or the approved Aircraft Flight Manual, or both.

(9) ''Justifiable aircraft equipment'' means any equipment necessary for the operation of the aircraft. It does not include equipment or ballast specifically installed, permanently or otherwise, for the purpose of altering the empty weight of an aircraft to meet the maximum payload capacity.

This Special Federal Aviation Regulation No. 38–2 terminates [March 20, 1997], or the effective date of the codification of SFAR 38–2 into the Federal Aviation Regulations, whichever occurs first.

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