

Title 14—AERONAUTICS AND SPACE

Chapter I—Federal Aviation Agency

[Docket Nos. 7438, 7172; Amdts. 25-9, 121-20]

PART 25—AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY AIRPLANES

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

Miscellaneous Amendments

Requirements for emergency evacuation ropes at certain exits and for megaphones aboard aircraft; postponement of effective dates for cockpit voice recorders and certain emergency lighting requirements; and miscellaneous amendments affecting emergency evacuation requirements.

The purpose of this amendment is to make certain changes in the emergency evacuation equipment requirements of Parts 25 and 121 of the Federal Aviation Regulations, to postpone the effective date of some of these requirements, and to postpone the effective date of the requirement for cockpit voice recorders on large turbine engine powered airplanes.

The portions of this amendment relating to megaphones and emergency evacuation ropes are based on a notice of proposed rule making (Notice No. 66-13) issued on April 4, 1966, and published in the FEDERAL REGISTER on April 7, 1966 (31 F.R. 5495). The comments received in response to that notice generally concurred with the proposals contained therein. One comment, while agreeing that at times ropes from over wing exits can become entangled and impede evacuation, nevertheless felt that the Agency should require the use of ropes for all over wing exits for ditching purposes. The Agency believes that, pending completion of the current task force study discussed in Notice 66-13, both Parts 25 and 121 should be amended to restore the Part 25 requirement that existed before Amendment 25-1. Therefore, ropes or some other assisting means will be required at all exits more than 6 feet from the ground except over the wing exits. In addition, while the preamble to Notice 66-13 indicated that Part 25 would be amended to reinstate the requirement that existed before Amendment 25-1, the Agency believes that the 400-pound static load test and attachment requirements contained in that amendment should be retained. Therefore, for the reasons set forth in Notice 66-13, §§ 25.809(f) and 121.310(a)

are amended to substantially reinstate the requirements for means to assist passengers in an emergency evacuation that existed before the adoption of Amendments 25-1 and 121-2, with the modifications mentioned above. In addition § 121.310(h) is amended to clarify the megaphone location requirement in Part 121.

Paragraph (b) (2) of § 121.310 requires that each passenger exit marking and locating sign required by paragraph (b) (1) "must have white letters 1 inch high on a red background 2 inches high, be self or electrically illuminated, and have a minimum luminance (brightness) of at least 160 microlamberts." The Agency has discovered that in at least one airplane type the retrofitting necessary to comply with this requirement for over-the-wing exit signs would result in the placing of the sign at such an angle that part of the advantage gained by the larger sign is offset by decreased visibility. Accordingly, this section is amended to permit approval of a deviation from the 2 inch background requirement so that a slightly smaller but more effective sign could be approved where literal compliance would be impractical. Since the Agency still believes that the required exit marking signs are necessary it will approve deviations only where it can be shown that strict compliance with the requirement is impractical, and where the proposed configuration provides at least an equivalent level of safety.

A large number of Part 121 operators planned to comply with this exit marking and locating sign requirement by installing radioactive signs. The Agency has been informed by the airlines that because of the large number of orders placed with a few vendors, the vendors will be unable to deliver all the equipment in time to make installations before the July 1 compliance date. Therefore, since numerous airplanes will not be retrofitted by July 1 and would have to be grounded thereafter, the Agency believes that a postponement until September 15, 1966, is warranted. For the interim period the requirements of § 121.309(g) are being extended.

In establishing the original minimum brightness level for exit marking signs in §§ 25.811(d) and 121.310(b) (2) the Agency recognized that radioactive signs deteriorate. Therefore, while a minimum brightness level of 100 microlamberts was considered adequate for safe operations, the Agency established an installation minimum of 160 microlamberts. It was intended that this would be an adequate "manufacturing" minimum that would allow for a reasonable lifespan before a sign would deteriorate to a point where it would become inadequate and require replacement. However, since the 160 microlambert figure

was specified in both Parts 25 and 121 without further qualification, this intent was not carried out. Therefore, § 121.310 (b) (2) is being amended to make it clear that all retrofit and replacement signs must be manufactured to the minimum specified in FAR Part 25. This figure (160 microlamberts) reflects present state of the art deterioration factors and insures that the signs installed in new aircraft and those purchased for retrofitting or replacement will have a reasonable lifespan. However, since the Agency considers a brightness level below 100 microlamberts inadequate for safety, Part 121 is being amended to require replacement of a sign that deteriorates below this level. Since the basic purpose of the 160 microlambert figure is to insure a reasonable useful life before deterioration to the 100 microlambert level, the Agency would also consider as meeting an equivalent level of safety under Part 25, a sign manufactured to an initial brightness level below 160 microlamberts but with a useful life (i.e., above the 100 microlambert level) at least equal to the useful life of signs presently being manufactured to or above the 160 microlambert level.

Section 121.310(c) (2) requires that after June 30, 1966, each passenger-carrying airplane must have a source of light, independent of the main lighting system, to provide enough general lighting in the passenger cabin so that the average illumination, when measured at 40 inch intervals at seat armrest height on the centerline of the main passenger aisle, is at least 0.05 foot-candles. Prior to the adoption of this requirement, the Agency-industry task force had found that the general emergency lighting in several of the then newer turbine engine powered airplanes was of a desirable minimum level and in fact met the 0.05 foot-candle requirement. Based on these findings the Part 121 operators owning these aircraft types did not arrange for any retrofitting to meet the general illumination requirements. Within the past several weeks it was discovered that due to a combination of lighting deterioration (aging), and the soiling of cabin interiors this requirement is no longer met by these airplanes. While the affected airplane manufacturers immediately started preparing the engineering data to accomplish the necessary changes, the required installations cannot be accomplished before July 1, 1966. For the foregoing reasons, the Agency is postponing the compliance date of § 121.310 (c) and (d) from July 1, 1966, to September 15, 1966. For the interim period the requirements of § 121.309(h) are being extended.

While these extensions should allow sufficient time for the necessary retrofitting, the Agency realizes that the

changes required to bring all of the affected airplanes up to the general lighting minimum of § 121.310(c) (2) and to obtain the necessary signs to comply with paragraph (b) could cause a problem for some operators with large fleets. Therefore, a provision is included whereby such an operator can obtain a further extension, not beyond December 1, 1966, from the FAA Air Carrier District Office charged with the overall inspection of its operations.

On June 26, 1964, the Agency adopted amendments to former Civil Air Regulations Parts 40, 41, and 42 (29 F.R. 8401) requiring each air carrier and commercial operator to install a cockpit voice recorder on each large turbine engine powered airplane to be operated under those parts after July 1, 1966. This requirement was recodified as § 121.359 of the Federal Aviation Regulations. Until recently, it appeared that the airlines would meet the compliance date. However, several airlines found that their recorder installations had to be modified to fully meet the requirement of § 25.1457 (d) (2) that an automatic means be provided to stop each erasure feature from functioning at the instant of crash impact. The airlines affected petitioned the Agency for exemptions in order to avoid the grounding of airplanes after July 1, 1966, while the modifications were being made. In addition, recently several airlines discovered that one model voice recorder failed after from 30 to 70 hours of operation. The manufacturer of the affected recorder has corrected this problem. However, those voice recorders already delivered will have to be returned to the factory for repair and the manufacturer indicates that, despite its efforts to accomplish this work on an expedited basis, it will require at least 60 days after the July 1 compliance date to complete this work. Therefore, in order to provide the additional time necessary to accomplish the work required to correct these problems, the Agency is postponing the compliance date in § 121.359 for large turbine engine powered airplanes from July 1, 1966, to September 15, 1966. A provision similar to that discussed above is included to permit extensions beyond September 15, but not beyond December 1, 1966, where an operator is able to show that for reasons beyond its control it is unable to comply by the earlier date.

Interested persons have been afforded an opportunity to participate in that portion of this amendment relating to emergency evacuation ropes and megaphone requirements, and due consideration has been given to all relevant matter presented. The portion of this amendment not proposed in Notice 66-13 imposes no additional burden on any person and in view of the imminence of the effective date of the affected sections, I find that notice and public procedure thereon are impractical, and that good cause exists for making this amendment effective on less than 30 days' notice.

In consideration of the foregoing, Parts 25 and 121 of the Federal Aviation Regulations are amended as follows, effective June 30, 1966.

1. Paragraph (f) of § 25.809 is amended to read as follows:

§ 25.809 Emergency exit arrangement.

(f) Each landplane emergency exit (other than over the wing) more than 6 feet from the ground with the airplane on the ground and the landing gear extended must have an approved means to assist the occupants in descending to the ground. The assisting means for a floor level passenger emergency exit must be a slide, or an equivalent approved device. If the assisting means is a rope or an approved device equivalent to a rope, it must be—

(1) Attached to the fuselage structure at or above the top of the emergency exit opening, or, for a device at a pilot's emergency exit window, at another approved location if the stowed device, or its attachment, would reduce the pilot's view in flight; and

(2) Able (with its attachment) to withstand a 400-pound static load.

§ 121.309 [Amended]

2. Paragraphs (f), (g), and (h) of § 121.309 are amended by striking out in each paragraph the date "July 1, 1966" and inserting the date "September 16, 1966" in place thereof and § 121.319 is amended by striking out the word "No" and inserting the words "Until September 16, 1966, no" in place thereof.

§ 121.310 [Amended]

3. Section 121.310 is amended—

(a) By amending paragraph (a) to read as follows:

(a) *Means for emergency evacuation.* After September 15, 1966, each passenger-carrying landplane emergency exit (other than over the wing) more than 6 feet from the ground with the airplane on the ground and the landing gear extended must have an approved means to assist the occupants in descending to the ground. The assisting means for a floor level emergency exit must be a slide or equivalent approved device suitable for rapid evacuation of passengers. During flight the slide, or equivalent approved device, must be kept readily accessible for immediate installation and use. This paragraph does not apply to the rear window emergency exit of DC-3 airplanes operated with no more than 35 occupants including crewmembers and, no more than four exits authorized for passenger use.

(b) By amending the opening sentence of paragraphs (b), (c), and (d) by striking out in each paragraph the date "June 30, 1966" and inserting the date "September 15, 1966" in place thereof; and by amending subparagraph (2) of paragraph (b) to read as follows:

(2) Each passenger emergency exit marking and each locating sign must

have white letters 1 inch high on a red background 2 inches high, be self or electrically illuminated, and must be manufactured to meet the requirements of § 25.811(d) of this chapter. No sign may continue to be used if its luminescence (brightness) decreases below 100 microlamberts. The colors may be reversed if it increases the emergency illumination of the passenger compartment. However, the Administrator may authorize deviation from the 2 inch background requirements if he finds that special circumstances exist that make compliance impractical and that the proposed deviation provides an equivalent level of safety.

(c) By amending subparagraphs (1) and (2) of paragraph (h) to read 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.

(2) Two megaphones on each airplane with a seating capacity of more than 99 passengers, one installed at the forward end and the other at the most rearward location in the passenger cabin where it would be readily accessible to a normal flight attendant seat.

(4) By adding a new subparagraph (i) to read as follows:

(i) *Extension of compliance date.* Notwithstanding paragraphs (b) and (c) of this section, a certificate holder may obtain an extension for compliance with the requirements stated therein beyond September 15, 1966, but not beyond December 1, 1966, from the FAA Air Carrier District Office charged with the overall inspection of its operations, if it shows that due to circumstances beyond its control it cannot comply by the earlier date.

4. Paragraph (a) of § 121.359 is amended by striking out the date "June 30, 1966," and by inserting the date "September 15, 1966," in place thereof and by adding a flush sentence at the end thereof to read as follows:

§ 121.359 Cockpit voice recorders.

(a) * * *

A certificate holder may obtain an extension for compliance with the requirements of this paragraph for turbine engine powered airplanes beyond September 15, 1966, but not beyond December 1, 1966, from the FAA Air Carrier District Office charged with the overall inspection of its operations, if it shows that due to circumstances beyond its control it cannot comply by the earlier date.

(Secs. 313(a), 601, 603, 604, Federal Aviation Act of 1958 (49 U.S.C. 1354, 1421, 1423, 1424))

Issued in Washington, D.C., on June 23, 1966.

WILLIAM F. MCKEE,
Administrator.