

Title 14—Aeronautics and Space
CHAPTER I—FEDERAL AVIATION ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

[Pocket No. 15904; Amdt. Nos. 1-28 and 91-142]

PART 1—DEFINITIONS AND ABBREVIATIONS

PART 91—GENERAL OPERATING AND FLIGHT RULES

Altitude Alerting System—Required Aural Warning

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This amendment gives an operator the option of using an alerting system which emits both aural and visual signals upon approaching a preselected altitude in ascent or descent, or a system which instead provides only a sequence of visual signals when approaching a pre-selected altitude and provides the aural warning only when a deviation from a pre-selected altitude occurs. This regulatory action was initiated in response to a petition filed with the FAA on behalf of certain interested persons.

EFFECTIVE DATE: September 21, 1977.

FOR FURTHER INFORMATION CONTACT:

Mr. Raymond E. Ramakis, Regulatory Projects Branch, Safety Regulations Division, Flight Standards Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, D.C. 20591; telephone 202-755-8716.

SUPPLEMENTARY INFORMATION: Interested persons have been afforded an opportunity to participate in the making of these regulations by a Notice of Proposed Rulemaking (Notice No. 78-15) issued June 30, 1976, and published in the Federal Register on July 12, 1976 (41 FR 28535). Due consideration has been given to all comments received in response to the Notice.

The FAA issued Notice No. 76-15 in response to a petition received from the Air Transport Association (ATA). In the Notice the FAA stated that it believes the present aural signal requirement should be amended substantially as proposed by the ATA petition. As explained in the Notice, the aural signal currently required by the regulations now sounds during the altitude acquisition phase of flight for each preselected setting of the altitude alerter. This requirement, combined with the numerous clearances for

change of flight altitudes associated with turbojet operations, causes the flight crew to be exposed to the aural signal to the extent that their reaction to the signal may become conditioned indifference. As stated in the Notice the FAA believes an amendment to the current regulation which will allow an operator to use an alerting system that gives an aural warning only when a deviation from a preselected altitude occurs will make the alerting signal more effective.

Most of the 26 public comments received in response to the Notice were generally favorable to adoption of the proposed amendment. Comments from those opposed to the proposal generally expressed concern that the alternative alerting system it would allow to be used may allow altitude overruns to occur and result in possible high "g" maneuvers being used to return to the selected altitude. Concern was also expressed that the operation of turbojet-powered aircraft at high rates of ascent and descent in the low altitude airway structure, where 1,000 feet separation is employed, may be hazardous if only a visual warning is used. The FAA does not agree that the proposed alternative alerting system will create a safety hazard as suggested in these comments. They will be approved by the FAA only if they are developed in accordance with criteria similar to that currently specified in AC 91-22A and the FAA is satisfied that they provide flight crewmembers with an appropriate and effective alert. It should also be pointed out that installation of the system allowed under the proposal is optional and those operators who do not favor its use may elect to continue using the altitude alerting system as currently provided for under § 91.51.

In addition to the amendment proposed in Notice No. 76-15, the FAA considers it appropriate to amend the flush paragraph following § 91.51(b)(5) to make it clear that for operations below 3,000 feet above ground level (AGL) a radio altimeter may be used that provides only one signal, either visual or aural, if the operator has an approved procedure for the use of the radio altimeter to determine decision height (DH) or minimum descent altitude (MDA), as appropriate. Also for purposes of clarification, the abbreviation "AGL" and its meaning is added to Part 1 of the Federal Aviation Regulations by this amendment.

Since the amendments to the flush paragraph and Part 1 are clarifying in nature and impose no additional burden on any person, the Administrator finds that notice and public procedure thereon are unnecessary.

REGULATORY EVALUATION

In accordance with the Department of Transportation regulatory reform policy, an evaluation of the anticipated impacts of this amendment has been made. It has been determined that it is probable that only minor maintenance and capital investment costs will be incurred as a result of this amendment. In any event, any costs incurred will be more than offset by the enhancement of safety which is expected to result from the amendment. Accordingly, it has been determined that this amendment is expected to be neither costly nor controversial and will not impose a significant burden on the private sector, on consumers, or on the Federal, state, or local governments.

PRINCIPAL AUTHORS

The principal authors of this document are William T. Brennan, Air Carrier Regulations Branch, Flight Standards Service, and Robert G. Leary, Office of the Chief Counsel.

Accordingly, Parts 1 and 91 of the Federal Aviation Regulations are amended and revised, effective September 21, 1977, as follows:

1. By amending § 1.2 and inserting in alphabetical order the following abbreviation:

§ 1.2 Abbreviations and symbols.

• • • • •
"AGL" means above ground level.
• • • • •

2. By revising § 91.51(b)(1) and the flush paragraph at the end of § 91.51(b)(5) to read as follows:

§ 91.51 Altitude alerting system or device; turbojet-powered civil airplanes.

(b) Each altitude alerting system or device required by paragraph (a) of this section must be able to:

(1) Alert the pilot: (i) Upon approaching a preselected altitude in either ascent or descent, by a sequence of both aural and visual signals in sufficient time to establish level flight at that preselected altitude; or

(ii) Upon approaching a preselected altitude in either ascent or descent, by a sequence of visual signals in sufficient time to establish level flight at that preselected altitude, and when deviating above and below that preselected altitude, by an aural signal;

• • • • •
(5) • • •
However, for operations below 3,000 feet AGL, the system or device need only provide one signal, either visual or

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aural, to comply with this paragraph. A radio altimeter may be included to provide the signal, if the operator has an approved procedure for its use to determine DH or MDA, as appropriate.

(Secs. 118(a), 601, and 603 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421, and 1423); Sec. 6(e), Department of Transportation Act (49 U.S.C. 1655(c)).)

Note.—The Federal Aviation Administration has determined that this document does not contain a major proposal requiring preparation of an Economic Impact Statement under Executive Order 11821, as amended by Executive Order 11849, and OMB Circular A-107.

Issued in Washington, D.C., on August 12, 1977.

J. W. COCHRAN,
Acting Administrator.