DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 91

[Docket No. 27717; Amdt. No. 91-244] RIN 2120-AF35

Notification to Air Traffic Control (ATC) of Deviations From ATC Clearances in Response to Traffic Alert and Collision **Avoidance System Resolution Advisories**

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action codifies the previously announced policy extended to pilots during the initial testing of the Traffic Alert and Collision Avoidance System (TCAS) during the Limited Implementation Plan for TCAS, and during the actual implementation of TCAS under the TCAS Transition Plan (TTP). This policy permitted pilots to deviate from an air traffic control (ATC) clearance, in non-emergency situations, when responding to a TCAS resolution advisory (RA). The language contained in current regulations suggests that deviation from an ATC clearance is authorized only in an emergency situation. The intended effect of this action is to add the TCAS RA as a reason to deviate from a clearance, and to require that whenever a pilot deviates from an ATC clearance, ATC will be advised as soon as possible.

EFFECTIVE DATE: October 30, 1995. FOR FURTHER INFORMATION CONTACT: Mrs. Ellen Crum, Air Traffic Rules Branch, ATP-230, Airspace Rules and Aeronautical Information Division, Federal Aviation Administration, 800 Independence Avenue, SW.,

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SUPPLEMENTARY INFORMATION:

Background

On December 26, 1989, the FAA published a petition for rulemaking, received from the Air Transport Association of America (ATA), that requested the FAA amend section 91.75(a) of the Federal Aviation Regulations (FAR) to permit a pilot to deviate from an ATC clearance when responding to a TCAS RA (54 FR 52951). (Effective August 18, 1990, part 91 of the FAR was revised (54 FR 34284; August 18, 1989) to renumber all of its sections. Section 91.75(a) was renumbered as section 91.123(a).)

Section 91.123 of the FAR states, in pertinent part, that each pilot in

command who, in an emergency, deviates from an ATC clearance shall notify ATC of that deviation as soon as possible. The ATA petition states that TCAS is an advisory system and not an emergency system. The ATA feels that pilots should be able to comply with a TCAS RA without exercising emergency authority. The ATA petition mirrors current FAA policy and guidance for the use of TCAS II. The petition drew no negative comments and one positive comment from the Airline Pilots Association (ALPA) that supported the proposal.

On April 9, 1994, the FAA published a Notice of Proposed Rulemaking (59 FR 22142, Notice No. 94-16) that proposed to amend Section 91.123(a) of the FAR in accordance with the ATA petition. In addition, this NPRM proposed to amend § 91.123(c) of the FAR to require pilots to notify ATC as soon as possible if they deviate from a clearance in response to a RA. The comment period for this NPRM closed on May 31, 1994 and comments are discussed later in this document.

Currently, regulations do not provide for any deviation from an ATC clearance except in an emergency situation. However, during the initial trial and implementation of TCAS II, the FAA notified pilots that no enforcement action would be initiated if the pilot deviated from an ATC clearance when responding to a TCAS RA. A letter signed by former FAA Administrator James B. Busey was published as Appendix C to the TTP Project Management Plan, dated August 1, 1990. The FAA also provided procedural guidance in Advisory Circular 120–55, "Air Carrier Operational Approval and Use of TCAS II" dated October 23, 1991, and later amended as AC 120-55A dated August 27, 1993. The policy and guidance proved successful during the testing and implementation of TCAS II.

Related Agency Actions

On January 10, 1989, the FAA published a final rule (54 FR 940), known as the "TCAS rule," that required airplanes having more than 30 passenger seats and operated under part 121, 125, or 129 to be equipped with TCAS II by December 30, 1991. The TCAS rule also required airplanes having 10 to 30 passenger seats and operated under part 129 or 135 to be equipped with TCAS I by February 9, 1995; this compliance date was subsequently extended to December 31, 1995 (59 FR 67584, December 29, 1994). On April 9, 1990, the FAA amended the TCAS rule by revising the schedule for the installation of TCAS II equipment in airplanes having more than 30 passenger seats (55 FR 13242). Operators of airplanes having more than 30 passenger seats and operated under part 121 were required to install TCAS II equipment in accordance with a phased-in schedule so that 100% of an operator's covered airplanes would be equipped by December 30, 1993. Operations conducted under part 125 or 129 with airplanes having more than 30 passenger seats were also required to install TCAS II equipment by December 30, 1993.

TCAS

TCAS is airborne equipment that interrogates ATC transponders of other aircraft nearby. By computer analysis of the replies, TCAS equipment determines which transponderequipped aircraft are potential collision hazards and provides appropriate advisory information to the flight crew. If a TCAS-equipped airplane interrogates an aircraft that is equipped with a transponder without altitude reporting capability (Mode A), range and azimuth information will be provided to the TCAS-equipped aircraft. If the interrogated aircraft is equipped with an altitude encoding transponder (Mode C or Mode S), then relative altitude information will be provided in addition to range and azimuth. TCAS equipment cannot detect the presence of an aircraft that is not equipped with a transponder.

TCAS equipment performs proximity tests on each detected target. If the path of a target is projected to pass within certain horizontal and vertical distance criteria, then that target is declared an intruder. An intruder that is determined to pose an even greater risk of collision is declared a threat. When a threat is declared, TCAS equipment will determine the appropriate direction that the TCAS-equipped aircraft must move (climb or descend) and the vertical rate that must be maintained to achieve

separation from the threat.

There are two classes of advisories provided by TCAS equipment. The first class, the "traffic advisory" (TA), provides supplemental information to the pilot that aids in visual detection of other aircraft. TA's include the range, bearing, and if the intruder has altitudereporting equipment, the altitude of intruding aircraft relative to the TCAS equipped aircraft. TA's without altitude information may also be provided from non-altitude reporting transponderequipped intruders. TCAS I equipment provides TA's that only assist the pilot in visually detecting an intruder aircraft. The second class of advisory, the "resolution advisory" (RA), indicates