

Aircraft Operating in U.S. Airspace Already Approved for RVSM

Approximately 38 percent of flights in U.S. airspace are already conducted by aircraft that have been approved for RVSM operations. Approximately 5,400 aircraft of U.S. registry have been FAA-approved for RVSM operations under the existing RVSM regulation. Many U.S. operators have obtained RVSM approval for these aircraft so they can be flown in airspace outside the U.S. where RVSM has been implemented.

Existing and New Regulations: Criteria for Aircraft and Operator Approval

Part 91, Section 91.706 (Operations within airspace designed as Reduced Vertical Separation Minimum Airspace) and part 91, Appendix G (Operations in Reduced Vertical Separation Minimum (RVSM) Airspace) contain the FAA requirements for aircraft and operator approval for RVSM operations outside the U.S. They have been applied to operations outside the U.S. since they were published in April of 1997. The objective of this rulemaking is to add Section 91.180 (Operations Within Reduced Vertical Separation Minimum Airspace in the United States) and amend Part 91 Appendix G Section 8 (Airspace Designation) so that part 91 Appendix G standards can be applied within the domestic U.S. and the other airspaces being added to Appendix G, Section 8.

Domestic RVSM Implementation Plan

We have selected January 20, 2005, as the target date to implement RVSM between FL 290 and FL 410 in the airspace described in this rulemaking. When RVSM is implemented, to fly in RVSM airspace civil operators and aircraft must comply with the RVSM standards of part 91 with only limited exceptions.

In accordance with part 91, Appendix G, Section 5 (Deviation Authority Approval), the FAA may accommodate the following noncompliant operators in RVSM airspace:

- The FAA may accommodate unapproved aircraft conducting air ambulance flights using a Lifeguard call sign as described in the Aeronautical Information Manual.
- In accordance with the FAA/Department of Defense (DoD) Memorandum of Understanding, the FAA may accommodate unapproved DoD aircraft.
- Unapproved aircraft may be allowed to climb through RVSM flight levels without intermediate level off to operate above RVSM airspace at FL 430 and above, traffic permitting and

- After coordination and consultation provided for in Appendix G, Section 5, the FAA may accommodate flights conducted for aircraft certification and development and customer acceptance purposes.

When such aircraft operate in RVSM airspace, their lack of RVSM approval status will be displayed to FAA controllers and the controllers will apply a 2,000-foot vertical or the appropriate lateral or longitudinal separation standard.

Safety

Since its initial implementation in the North Atlantic in March 1997, RVSM has proven to be safe in both oceanic and continental operations. To date approximately 10 million flights representing 19 million flight hours have been conducted safely in RVSM airspace worldwide.

FAA personnel will apply the experience they have gained in safely implementing RVSM in other areas to the domestic U.S. implementation program. To date, they have served as implementation program managers in three major oceanic areas and have played significant leadership roles in developing and implementing standards and programs under which RVSM could be implemented safely.

In preparation for RVSM implementation in the domestic U.S., FAA Flight Standards and Air Traffic specialists and safety analysts have reviewed the elements contributing to RVSM safety. They concluded that U.S. RVSM operations will meet the level of safety endorsed by the International Civil Aviation Organization and adopted in other regions in the world. In addition, in the period leading up to implementation and during the post-implementation period, they will continue to evaluate the elements of RVSM safety against the accepted level of safety.

Exploration of Tactical RVSM

We explored allowing controllers to apply "tactical RVSM" prior to the target RVSM implementation date. We have decided not to pursue this initiative. It has been found to present unacceptable difficulties related to scheduling and completing document updates and controller and pilot training. Application of tactical RVSM would have allowed controllers to use 1,000-foot vertical separation between FL 290 and FL 410 prior to the target implementation date, at the controller's discretion, if both passing aircraft were RVSM approved.

Specific Airspace Issues

Coordination with Mexico and Canada. We are coordinating RVSM implementation plans with the civil aviation authorities of Canada and Mexico. RVSM was implemented in Northern Canadian Domestic airspace in April 2002, and Canada is planning to implement RVSM in Canadian Southern Domestic airspace at the time that it is implemented in the U.S.

Gulf of Mexico, San Juan FIR and Florida-San Juan FIR Airspace. The airspace in the Gulf of Mexico, the San Juan FIR, and the airspace between the San Juan FIR and Florida have been included in this final rule. Inclusion of this airspace in the final rule allows the FAA to harmonize operations between RVSM airspace in the domestic U.S., RVSM airspace already established in the New York Oceanic FIR and the San Juan FIR.

Hawaiian Airspace. The airspace of the Hawaiian Islands is surrounded by Pacific Oceanic RVSM airspace. RVSM approved aircraft operate to and from Hawaiian airspace, however, there is currently no plan to require RVSM approval for all aircraft to operate within that airspace. Instead, 1,000-foot vertical separation is applied between FL 290 and FL 410 when two passing aircraft are both RVSM approved and 2,000-foot vertical or horizontal separation is applied if either of the passing aircraft is not RVSM approved.

TCAS II Version 7.0 Requirement. A significant majority of the aircraft that operate in the domestic U.S. at and above FL 290 are already required to be equipped with TCAS II, Version 6.04a. Requirements for aircraft TCAS equipage are published in 14 CFR parts 121, 125, 129, and 135. These requirements were revised in a final rule published in April 2003 and are discussed in detail in the TCAS section of the Discussion of Comments. Approximately 85% of domestic operations above FL 290 are conducted by large jet aircraft operating under parts 121, 129, or 135. An FAA Airworthiness Directive published in 1994 mandates TCAS II, Version 6.04a, for all TCAS II installations.

Part 91, Appendix G, section 2, paragraph (g) states that "after March 31, 2002, unless otherwise authorized by the Administrator, if you operate an aircraft that is equipped with TCAS II in RVSM airspace, it must be a TCAS II that meets TSO C-119b (Version 7.0), or a later version." This provision was adopted on December 10, 2001 (66 FR 63888). Version 7.0 incorporates Traffic Alert and Resolution Advisory thresholds that mitigate unnecessary