

**INTERNATIONAL CIVIL AVIATION ORGANIZATION  
NORTH AMERICAN, CENTRAL AMERICAN AND CARIBBEAN OFFICE**

**FIRST MEETING OF DIRECTORS OF CIVIL AVIATION  
OF THE CARIBBEAN REGION (DCA/CAR/1)**

(Grand Cayman, Cayman Islands 8-11 October 2002)

**Agenda Item 4:           Air Navigation  
                              4.1 ATM Developments**

**Status of RVSM Implementation in the NAM and CAR/SAM Regions**

(Information Paper presented by the United States)

**SUMMARY**

This paper presents the current status of implementation of RVSM in the United States and in the CAR/SAM Regions.

**1.                   Introduction**

1.1               In February 2001, the Federal Aviation Administration committed to implementing RVSM throughout the United States domestic airspace. Since that time, the FAA, in coordination with the aviation industry, has evaluated the factors that will affect the implementation date and scenario. Factors, such as controller workload and operator readiness have been evaluated. The FAA is now working on the specifics of its implementation plan.

**2.0               Work Programme**

**2.1               Step 1, Creating an Implementation Team**

2.1.1           An FAA domestic RVSM (DRVSM) team was created, co-chaired by the Flight Technologies and Procedures Division (AFS-400) and Enroute/Terminal Operations and Procedures (ATP-100). They are assisted by the National Airspace System (NAS) and International Airspace Analysis office (ACT-520) at the FAA WJHTC. Staff from regional offices, field facilities, the controllers' and pilots' unions, Department of Defense, operators, aircraft and equipment manufacturers, NAV CANADA, the Canadian Air Traffic Services provider, among others, participate in meetings.

**2.2               Step 2, Identifying Benefits**

2.2.1           DRVSM benefits have been identified as increasing airspace capacity, a reduction in fuel burn of approximately 2% (preliminary estimate approximately \$371 million annual savings; benefit/cost ratio of 9 to 1) and enhancing controller flexibility.

## 2.3 **Step 3, Rule Changes**

2.3.1 FAA regulations addressing vertical separation standards, requirements, airspace and applications must be amended to enable RVSM throughout the NAS and Gulf of Mexico. This is accomplished through publication of a National Proposed Rule-Making (NPRM) followed by publication of a Final Rule.

## 2.4 **Step 4, Implementation Scenario**

2.4.1 Background. In February 2000, the FAA proposed creating exclusionary RVSM airspace in the stratum from FL350 to FL390, inclusive. In June 2000, the Air Transport Association advocated implementing RVSM from FL290 to FL390, inclusive. During the same time period, two other user groups, the National Business Aviation Association (NBAA) and the Aircraft Operators and Pilots Association (AOPA) advocated the phased implementation from FL350 to FL390.

2.4.2 Simulations have been completed at the FAA WJHTC to determine, from the air traffic control perspective, the optimum stratum for implementation. Factors evaluated were sector and controller workload, complexity, and human factors including the effect on controller performance, training and procedures.

2.4.3 Operator and airframe factors are also being considered. There are 13,500 turbo-jet aircraft operating routinely in the NAS between FL 290 and 410, only 2,600 of which are currently RVSM approved. Approximately 250 commercial operators and 2200 general aviation operators must receive RVSM approvals. The capability of the operator/aircraft fleet to meet an implementation schedule will directly affect implementation planning and schedules.

2.4.4 The FAA target implementation date is December 2004.

2.4.5 The FAA has determined an RVSM altitude stratum of FL290 to FL410, inclusive, is feasible.

## 3.0 **Coordination**

3.1 The FAA will be working closely with our neighbors in the coming months to ensure a smooth implementation occurs. Once the CAR/SAM RVSM Task Force begins its work programme we will actively participate to address issues of harmonization.

3.2 FAA facilities will develop plans for transitioning aircraft to conventional vertical separation standards prior to transferring control to facilities utilizing CVSM. Numerous inter-facility letters of agreement will be re-negotiated as the implementation date approaches.

#### **4.0 Major Milestones**

4.1	January 31 2002:	Announce implementation plan feasibility
	1 <sup>st</sup> Quarter 2002:	Start seminars for operators and field inspectors
	April 2002:	Publish the National Proposed Rule-Making
	June 2003:	Publish Final Rule
	April 2003	Controller training
	At 3-month intervals	
	starting Dec 2003	Evaluate aircraft and operator readiness
	6-9 months prior	Go/no-go decision

#### **5.0 FAA RVSM Website**

5.1 [www.faa.gov/ats/ato/rvsm1.htm](http://www.faa.gov/ats/ato/rvsm1.htm)

#### **6.0 RVSM in the Caribbean and South American regions**

6.1 As it is known, last year GREPECAS agreed, through Conclusion 10/11 to implement RVSM in all the flight information regions under jurisdiction of the CAR/SAM States/Territories/International Organizations in two phases in accordance with a basic reference programme developed by the RVSM Task Force of this Committee.

6.2 In the aforementioned Conclusion, GREPECAS agreed that the implementation of a first phase from FL350 to FL390 as of April 2004 and a second phase from FL290 to FL410 on a date to be determined would take place.

6.3 Additionally, the last GREPECAS, through Conclusion 10/16, urged the States/Territories/International Organizations to support the RLA/98/003 Project as a tool to assist with the planning an implementation of RVSM in the regions.

6.4 During the meeting sponsored by the RLA/98/003 project in August this year, the group agreed:

- That all States in the region should make efforts to plan the regional implementation to harmonize with adjacent regions,
- That each State provide a point of contact for RVSM implementation in each of the areas of air traffic control, operations and data gathering.
- That each State assess the impact of RVSM implementation from an ATC as well as an airspace occupancy perspective.
- That the CARSAMMA, supported by Brazil, be confirmed as the Regional Monitoring Agency for the CAR/SAM Regions.

6.5 Two weeks ago, the RVSM task force of the ATM/CNS Subgroup of GREPECAS met in Rio de Janeiro and agreed that a harmonized implementation is highly desirable and in that regard issued the following proposal for approval by GREPECAS:

- a) That in order to harmonize with adjacent regions, RVSM implementation in the States/Territories/International Organizations of the CAR/SAM Regions, be carried out in a single phase from FL290 to FL410, inclusive.
- b) That CAR/SAM RVSM be implemented simultaneously with that of the NAM Region, currently scheduled for December 2004 and that,
- c) States/Territories/International Organizations that are unable to fully implement RVSM as per the CAR/SAM concept of operations (CONOPS) be accommodated, if feasible, so as to prevent delays in those parts of the region that are ready to implement RVSM.

6.6 The task force also agreed that the ICAO NACC and SAM Regional Offices issue a inquiry to States/Territories/International Organizations requesting that they provide the following information before 15 January 2003:

- a) The flight level strata within which their administrations will permit RVSM operations as of December 2004, unless it differs from the recommendation.
- b) Whether or not it is to accommodate non-RVSM approved aircraft in domestic flights within its RVSM airspace. \*

\* State aircraft and humanitarian flights will automatically be accommodated if it is operationally feasible

## **7.0 Conclusion**

7.1 The members are invited to note the information herein provided.

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