International Civil Aviation Organization
PNUD/ICAO RLA/98/003 Regional Project
Transition to the CNS/ATM Systems in the CAR/SAM Region

Third Meeting/Workshop of Air Traffic Management (ATM) Authorities and Planners.
(Lima, Perú, 20 to 24 May 2002)

Agenda Item 4: Analysis of the Action Plan for RVSM Implementation in the CAR/SAM Regions, for its approval.

Selection of the methodology to be used for the evaluation of safety.

(Presented by IATA)

SUMMARY

The purpose of this working paper is to point out the two methods that can be used in order to asses the safety of an airspace for implementing RVSM or RNP, and apply the most suitable one.

1 Introduction

1.1 The ICAO Doc. 9689 AN/953 “Manual on Airspace Planning Methodology for the Determination of Separation Minima” in its Chapter VI entitled “ Methods of Evaluating Safety” provides the possibility of assessing the safety of a proposed system using two methods. The first method is by comparison with a Reference System, which has already been established and has proved its integrity. The second method is based on an evaluation of the proposed system risk against a threshold. This second method uses a Collision Risk Model that must yield a numeric index of accidents per hour that should exceed the target level of safety established by ICAO or by regional agreement in order for RVSM to be implemented.

2 Discussion

2.1 In other to use the first method to evaluate the safety in the CAR/SAM Region, it is necessary to investigate if any other region or sub-region, that has already implemented RVSM, has similar characteristics to the CAR/SAM Region. These characteristics are separation between aircraft, communications, surveillance, navigation performance, etc…. Once the comparison of both regions is completed, and if it is proven that the risk involved in the proposed region is less or equal to the region being compared, the implementation of RVSM can be achieved.

2.2 The second method is based on a mathematical model, that when applied the necessary parameters, yields a number that represents the risk of accidents per flying hour for a particular airspace. If the resulting collision risk surpasses the established Target Level of Safety, then the implementation of RVSM is feasible.

2.3 The " Comparison Method" would take less time to develop and is substantially more cost efficient. Based on this statement, the RVSM Task Force of the ATM/CNS Subgroup, with support from the Secretary can investigate if the application of the "Comparison Method" can be used in the CAR/SAM Region for implementing RVSM, RNP or both.

3 Action suggested

3.1 The Group is invited to examine the information provided in this working paper and investigate in conjunction with the Air Navigation Commission the possibility of the application of the "Comparison Method" to evaluate the safety of the CAR/SAM Region for application of RVSM.