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WORKING PAPER

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Twenty-third Meeting of the Working Group on Scrutiny (GTE/23) of the CAR/SAM Regional Planning and Implementation Group (GREPECAS)

Lima, Peru, from September 11 to 15, 2023

Agenda Item 2: Review of the results of the Large Altitude Deviations (LHD) analysis

CAR/SAM RVSM AIRSPACE MONITORING PROGRAMME

(Secretariat)

EXECUTIVE SUMMARY	
The purpose of this Working Paper is to present a summary of the participation of the CAR/SAM States in the RVSM airspace monitoring programme, in response to those established by Annex 11, Doc. 9574, and the regional agreements of the Caribbean and South American regions.	
Action:	Listed in section 4 of this working paper
<i>Strategic objectives:</i>	<ul style="list-style-type: none">• Safety
<i>References:</i>	<ul style="list-style-type: none">• ICAO Doc. 9574 - Manual on Implementation Vertical Separation (Doc 9574)• Guidance Manual for Points of Contact (POC) credited to CARSAMMA.• GTE/22 Meeting report.

1. Introduction

1.1 The establishment of RVSM airspace monitoring it is a requirement for ICAO member States in compliance with Annex 11, section 3.3.5.1, which establishes the following:

“3.3.5.1 In all airspaces where a reduced vertical separation minimum of 300 m (1 000 ft) is applied between FL 290 and FL 410 inclusive, a program must be established, at the regional level, to monitor the performance of altitude maintenance of aircraft operating at those levels, to ensure that the continued application of this minimum vertical separation meets safety objectives. The scope of the regional monitoring program will be adequate to carry out performance analysis of groups of aircraft and evaluate the stability of the error of the altimetry system.”

1.2 As part of the monitoring program, it is necessary to establish the surveillance of the system performance. Doc. 9574 states, “System performance monitoring is essential to ensure that the

continuous application of RVSM meets safety objectives. The monitoring program is the responsibility of the States and the Regional Monitoring Agency (RMA).

1.3 Based on regional agreements, in the Caribbean and South American region, the responsibilities of the RMA are assigned to CARSAMMA, the agency in charge of carrying out the system performance analysis using the data provided by the Caribbean and South American States.

1.4 To carry out a complete system performance analysis, the RMA needs a series of data that are used to calculate RVSM airspace performance. The participating States provide two of the most critical pieces of information in this process:

- i. LHDs identified in the area of responsibility of the States or international organizations
- ii. Movement information for a representative month of each of the FIRs participating in the program, in the case of CAR/SAR, for December of each year.

2. Analisis

2.1 The efficiency of the airspace monitoring program depends on the quality and quantity of data received by the RMA; these data are mainly used in calculating the collision model (CRM), one of the primary measurements performed by the RMA.

2.2 Although the support of the RVSM airspace monitoring program is an obligation for the States based on Annex 11 3.3.5.1, sending the data on time to CARSAMMA is not always done according to what it is established in the CARSAMMA Contact Points Manual, a guide document for sending these data.

2.3 Regarding the movement data corresponding to December 2022, the data of five FIRs were not received; this has a direct impact on the assessment of the total performance of the CAR/SAM airspace. Likewise, it prevents calculating the specific performance of the FIRs that did not send the movement data. Table I presents the States or international organizations that did not complete this information, either because the data was not sent, or did not meet the requirements.

No	Estate or International Organizations	FIR
1	CENAMER	MHTG
2	Guyana Francesa	SOOO
3	Jamaica	MKJK
4	Trinidad y Tobago	TTZP
5	Uruguay	SUEO

2.4 Regarding sending the LHDs information, the delay in the data exchange continues, with five months of delay in some cases. Appendix I presents information regarding the submission of data from LHDs.

3 **Conclusiones**

3.1 Although it is recognized that participation in the RVSM airspace monitoring program may represent an additional workload for States or international organizations, mainly due to the collection and submission of data to the RMA, it is essential to consider that this task is Mandatory according to the requirements of Annex 11, ICAO guidance documentation and international agreements.

3.2 To send to CARSAMMA, in time and form, the movement data and the LHDs, it is essential for the calculation of the performance of the RVSM airspace.

3.3 States and international organizations must take the necessary measures to comply with the requirements of international Standards and regional agreements regarding RVSM airspace monitoring.

4 **Suggested actions:**

4.1 The Meeting is invited to:

- a) Take note of the information contained in this working paper;
- b) Implement the necessary measures to provide CARSAMMA on time with the RVSM movement data and LHDs;
- c) Request CARSAMMA to inform the secretariat of the compliance of the States and international organizations regarding the data for the RVSM airspace-monitoring program; and
- d) That the rapporteur report to GREPECAS on the participation of States in the RVSM airspace-monitoring program.

APPENDIX

STATES	FIR	DELAY (Months)
Antillas Holandesas	Curasao - TNCF -	4
Argentina	Córdoba - SACU -	1
	Ezeiza - SAEU -	1
	Mendoza - SAMV -	1
	Resistencia - SARU -	1
	Comodoro Rivadavia - SAVU -	1
Bolivia	La Paz - SLLF -	2
Brasil	Atlántico - SBAO -	3
	Amazónica - SBAZ -	1
	Brasília - SBBS -	3
	Curitiba - SBCW -	2
	Recife - SBRE -	1
Chile	Antofagasta - SCFZ -	1
CENAMER	Central America - MHTG -	2
Colombia	Barranquilla - SKEC -	4
	Bogotá - SKED -	5
Cuba	Havana - MUFH -	1
Ecuador	Guayaquil - SEFG -	2
Guyana	Georgetown - SYGC -	2

Guyana Francesa	Cayenne - SOOO -	3
Haiti	Port Au Prince - MTEG -	2
Jamaica	Kingston - MKJK -	5
Panamá	Panamá Oceanic - MPZL -	3
Paraguay	Asuncion - SGFA -	1
Peru	Lima - SPIM -	5
República Dominicana	Santo Domingo - MDCS -	3
Suriname	Paramaribo - SMPM -	3
Trinidad y Tobago	Piarco - TTZP -	
Uruguay	Montevideo - SUEO -	3
Venezuela	Maiquetía - SVZM -	