



Agenda Item 1: Follow-up to conclusions and decisions adopted by SAM/IG meetings, and presentation of air navigation results at a global, interregional and intraregional level

FOLLOW-UP TO THE WORK OF THE GREPECAS SCRUTINY WORKING GROUP

(Presented by the Secretariat)

SUMMARY

The GREPECAS Scrutiny Working Group (GTE) evolved from a group of experts for validating large height deviation (LHD) reports sent to CARSAMMA, to a group that generated safety intelligence to improve the decision-making process of the States/international organisations of both Regions, including implementation or planning decisions.

During the GTE/17, the Secretariat explained the importance of information exchange between the GTE and the CAR and SAM implementation groups. Accordingly, a formal process of exchange of information between the GTE and the implementation groups started in 2018.

References:

- GREPECAS/18 meeting report
- GTE/17 meeting report

ICAO strategic objectives

*A – Safety
B – Air navigation capacity and efficiency*

1. Background

1.1 Since the implementation of reduced vertical separation between flight levels 290 and 410 inclusive (RVSM), the Scrutiny Working Group (GTE), together with the Caribbean and South American Monitoring Agency (CARSAMMA), has been continuously monitoring system performance and conducting safety assessments, pursuant to ICAO Doc 9937 and Doc 9574.

2. Scope

2.1 This working paper presents the activities carried out by the GTE during the period 2014-2018, as well as a summary of the safety analyses conducted by CARSAMMA within the framework of Doc 9574, Safety analysis based on a safety management system (SMS).

3 Discussion

3.1 During the period 2014-2017, the GTE held face-to-face meetings as well as a series of virtual meetings to ensure the operability of the Group. Virtual meetings have made it possible to address issues that were previously discussed at GTE face-to-face meetings, thus allowing for an efficient use of the short time available at face-to-face meetings.

3.2 The assessments conducted by CARSAMMA using the CRM methodology show that operations in RVSM airspace remain within the acceptable level of safety. **Appendix A** shows a table with the results of CRM assessments during the period 2012-2016.

3.3 The GTE/14 meeting launched the project “Improved RVSM Airspace Safety Assessment”, the purpose of which is to improve the collection and processing of data related to the duties and responsibilities of the CAR/SAM Monitoring Agency. Details of the project can be found in **Appendix B**.

3.4 LHD analysis reveals a continuing trend of 94% of events attributable to coordination errors between adjacent ATC units, which shows that proposed mitigation actions have not been implemented or have not met their objective.

3.5 Although a 13% downward trend was identified in the total number of occurrences in the last two years, States/international organisations need to take concrete action to mitigate these occurrences definitively, including AIDC implementation and RADAR data sharing. Statistical data show that those FIRs that have implemented AIDC and RADAR data sharing have reduced the number of LHDs practically to zero. Such is the case of the Havana and CENAMER FIRs, as well as Havana and Merida.

3.6 In the SAM Region, the Bogota, Barranquilla, Guayaquil and Lima FIRs account for more than 50% of occurrences in this Region. Note should be taken of the absence of Colombia at GTE meetings, and their lack of response to coordination efforts of neighbouring States for LHD validation.

3.7 It is important to note that the analysis of causes leading to LHDs revealed that flight plan duplication in ATS systems has resulted in aircraft being coordinated on one route and the aircraft entering the airspace on a differing route, generating LHD occurrences.

3.8 On various occasions, the GTE has shown concern over the delay of States/international organisations in sending LHD reports as well as data on RVSM airspace operations, which are expected in December each year for CRM assessment. The delivery of information is an obligation of States in compliance with Annex 11 provisions. This information is vital for proper analysis of the level of safety in RVSM airspace.

3.9 It should be noted that the GTE has expressed concern over the number of State aircraft operations in RVSM airspace that insert the letter W in box 10, without being RVSM-approved, instead of inserting STS in box 18, which identifies them as State aircraft. Furthermore, non-RVSM aircraft continue to operate in said airspace, which is a latent hazard that needs to be mitigated.

4. **Suggested action**

4.1 The Meeting is invited to:

- a) take note of the information contained in this working paper on the analysis of the level of safety in RVSM airspace;
- b) continue with the implementation of AIDC and the agreements for the exchange of RADAR data between FIRs of the Region and with adjacent FIRs of the CAR Region;
- c) take the necessary measures to mitigate entirely and definitively flight plan duplication in ATS systems; and
- d) deliver LHD information on the dates and in the format agreed upon at GTE meetings in compliance with Annex 11 requirements.

APPENDIX A

Table of Results of 2012-2016 CRM Assessments

Year	Technical risk	TLS	Operational risk	TLS	Total risk	TLS	Result
2012	7.48×10^{-12}	2.5×10^{-9}	3.38×10^{-9}	----	3.39×10^{-9}	5.0×10^{-9}	Below
2013	9.10×10^{-12}	2.5×10^{-9}	1.17×10^{-8}	----	1.18×10^{-8}	5.0×10^{-9}	Above
2014	0.0508×10^{-9}	2.5×10^{-9}	1.80×10^{-9}	----	1.85×10^{-9}	5.0×10^{-9}	Below
2015	2.46×10^{-11}	2.5×10^{-9}	1.27×10^{-9}	----	1.29×10^{-9}	5.0×10^{-9}	Below
2016	0.0261×10^{-9}	2.5×10^{-9}	1.1956×10^{-9}	----	1.2203×10^{-9}	5.0×10^{-9}	Below
2017		2.5×10^{-9}		----		5.0×10^{-9}	

APPENDIX B

CARSAMMA audit data on non-RVSM aircraft	Total	Year	Total number of validated LHDs	LHD forms received	% of validated LHD	Annual variation of LHDs	LHD forms received without error	Total	LHD forms received	% forms received without error
2011	586	2011	687	824	83.4%	Start of measurement	2011	742	824	89.80%
2012	274	2012	1065	1327	80.3%	(***) Increase: 378 LHDs = 35.5%	2012	1195	1327	90.05%
2013	564	2013	1306	1463	89.3%	Increase: 241 LHDs = 18.5%	2013	1317	1463	90.02%
2014	2967	2014	1451	1717	84.5%	Increase: 145 LHDs = 10%	2014	1546	1717	90.04%
2015	195	2015	1225	1408	87.0%	Reduction: 226 LHDs = 15.6%	2015	1268	1408	90.06%
2016	17	2016	1088	1225	88.8%	Reduction: 131 LHDs = 11%	2016	1083	1280	84.6
2017	0	2017	0	0	0.0%		2017	0	0	0
Total	4603	Total	6822	7964	85.7%		Total	7151	8019	90.03%