



**Agenda Item 6: Other business**

**SUMMARY OF MEETING REPORT OF THE GREPECAS SCRUTINY WORKING GROUP -  
GTE 18 AND UPDATE ON THE REGIONAL ACTIVITIES FOR THE REDUCTION OF  
LHDS IN SAM STATES**

(Presented by secretariat)

**SUMMARY**

This WP presents a summary of the 18th meeting of the Scrutiny Working Group of GREPECAS (GTE 18) regarding the analysis of the Target Level of Safety (TLS) of the RVSM airspace of the Caribbean and South America regions.

This WP includes the information regarding SAM FIRs, where it is necessary to continue developing CNS/ATM activities that help reduce the Large Height Deviations (LHD) for the improvement of airspace safety.

The GTE has evolved into a group that generates safety data to improve the decision-making process including implementation or planning decisions, that help to reduce the events that may have an impact on safety in the RVSM airspace, this WP presents a summary of the activities that have been carried out in the SAM region during the first quarter of 2019.

**References:**

- GTE 18 Report
- Summary Report of LHDs reduction meeting between Argentina and Peru
- Summary Report of LHDs reduction meeting between Chile and Peru

**1. Background**

1.1 Since the implementation of the Reduced Vertical Separation Minima (RVSM), the GREPECAS Scrutiny Working Group (GTE) in conjunction with the Regional Monitoring Agency for the Caribbean and South American Regions (CARSAMMA), have worked in the continuous monitoring of the airspace system performance, in compliance with the provisions of the ICAO Documents Doc 9937 and Doc 9574 of ICAO.

1.2 With the evolution of the evaluation of the ATM systems from a compliance approach to a performance-based approach, the GTE has migrated from a group of LHD reports validation experts to be a generator of Safety Intelligence Data that could support the decision-making process, including those related to CNS/ATM.

1.3 The GTE 18 meeting validated the data from the analysis of the 32 FIRs of the Caribbean and South America that are under the responsibility of the analysis of CARSAMMA, taking into account for the calculation a total of 1,160,615 flight hours where the contribution of the South America region was 831,471 flight hours, representing 71.64% of the total.

1.4 The analysis of the data shows that the in the Caribbean and South America RVSM airspace the total risk is **1.71 x 10<sup>-9</sup>**, a value that is below the **Target Level of Safety 5.0 x 10<sup>-9</sup>**, also, the estimated risk due to technical error was of **0.0258 x 10<sup>-9</sup>**, below the established limit of **2.5 x 10<sup>-9</sup>**.

1.5 Although the analysis carried out by CARSAMMA and validated by the GTE show that the Caribbean and South America FIRs are within the expected safety level; however, there are factors that are still influencing the LHD number in specific areas, mainly the error in the ATS coordination, based on this, the GTE in 18th meeting made the following conclusion:

*CONCLUSION GTE/18/2 That considering that in the classification of LHD events, the trend in code E events represents 95.03 % of the total events; and that this behavior has been maintained during the last three years, identifying several points in the CAR/SAM Regions where the reduction in the number of events has been low. Include in the GTE work programme the following actions:*

- a) *the States of the CAR/SAM Regions develop the necessary strategies for the reduction of Code E events based on the information provided by CARSAMMA and NAARMO, including the necessary training for air traffic controllers, the improvement of the Communications, Navigation and Surveillance (CNS) infrastructure, including the exchange of radar data and the improvement of ATS communications among the involved FIRs among other activities;*
- b) *ICAO promotes bilateral and multilateral meetings to address specific issues between involved FIRs, especially at the border of the CAR and SAM Regions; and*
- c) *CAR/SAM States notify in the GTE meetings the results of these actions for the reduction of Code E events.*

*\* Code E events refer to ATS coordination errors.*

1.6 Table I shows the analysis of the events in the CAR/SAM FIRs, identifying the FIR that caused the event (generates the risk) and the FIR where the event was manifested (Suffers the Risk):

<b>FIR</b>	<b>Suffers the risk</b>	<b>Generates the risk</b>
AMAZONICA	65	20
ANTOFAGASTA	55	9
ASUNCION	10	8
ATLANTICO	11	1
BARRANQUILLA	3	<b>70</b>
BOGOTA	<b>73</b>	<b>153</b>
BRASILIA	7	18
CAYENNE	1	1
CENTRAL AMERICA	23	32
COMODORO RIVADAVIA	8	0
CORDOBA	42	30
CURAZAO	65	<b>49</b>
CURITIBA	26	18
EZEIZA	3	40
GEORGETOWN	1	3
GUAYAQUIL	<b>135</b>	48
HABANA	6	14
ISLA DE PASCUA	0	0
KINGSTON	<b>75</b>	15
LA PAZ	28	62

<b>FIR</b>	<b>Suffers the risk</b>	<b>Generates the risk</b>
LIMA	<b>93</b>	<b>78</b>
MAIQUETIA	5	47
MENDOZA	13	11
MONTEVIDEO	8	20
PANAMA	10	<b>51</b>
PARAMARIBO	2	11
PIARCO	9	13
PORT AU PRINCE	10	45
PUERTO MONTT	0	0
PUNTA ARENAS	0	0
RECIFE	14	2
RESISTENCIA	42	11
SANTIAGO	1	1
ST. DOMINGO	<b>102</b>	32
<b>TOTAL</b>	<b>946</b>	<b>913</b>
<b>NOTE:</b> Total LHD reports by CAR 290, by SAM 656.		
<b>OTHER FIRs (*) (**)</b>	<b>Suffers the risk</b>	<b>Generates the risk</b>
AERONAVE (*)	0	3
APP SP	0	1
DAKAR	1	2
MERIDA	2	2
MIAMI	6	5
MOUNT PLEASANT (**)	0	7
NEW YORK	6	0
PILOTO (*)	0	24
SAN JUAN	12	16
<b>TOTAL</b>	<b>27</b>	<b>60</b>

**Table I**

## 2. Analysis

2.1 Although the TLS and technical error values are within the limit, the number of events in some FIRs continues to be high as Table I showed, considering these values and Conclusion GTE / 18/2, the SAM Office has begun to hold bilateral meetings aimed to reduce and eliminate the LHDs in the SAM RVSM airspace.

2.2 The ultimate goal of the meetings is the reduction of the LHD'S through the implementation of ATM/CNS corrective measures, with a project management approach that identifies the actions, responsible, dates and the deliverables.

2.3 Up to May of this year, two bilateral meetings have been held to address the events of the Antofagasta-Cordova, and Antofagasta-Lima FIRs, which are identified with a high number of code E LHD events.

2.4 In each of the bilateral meetings, CNS/ATM actions have been identified in coordination with the service providers and the Authority of each State; these actions are presented in Table II.

<b>Antofagasta - Cordova</b>
<p><b>Tasks</b></p> <p>Argentina</p> <ol style="list-style-type: none"> <li>1. Implementation of the automatic estimated message.</li> <li>2. Analysis of the INDRA surveillance equipment software update for AIDC implementation.</li> <li>3. Implementation of the AIDC.</li> <li>4. Improvement of the communication on the Cordova - Antofagasta border.</li> <li>5. Improvement of the surveillance on the Cordova - Antofagasta border.</li> </ol>
<p>Chile</p> <ol style="list-style-type: none"> <li>1. Implementation of automatic estimated message.</li> <li>2. Implementation of the AIDC.</li> <li>3. Improvement of the communication on the Cordova - Antofagasta border.</li> <li>4. Improvement of the surveillance on the Cordova - Antofagasta border.</li> </ol> <p><b>Next meeting: June 28<sup>th</sup> 2019 (tentative)</b></p>
<b>Antofagasta-Lima</b>
<p><b>Tasks</b></p> <ol style="list-style-type: none"> <li>a) Chile and Peru must continue with air traffic controller instruction in the use of the AIDC to eliminate errors in the coordination between FIR Antofagasta and Lima.</li> <li>b) The ICAO SAM Office would coordinate with IATA on the use of the ADS C in the oceanic part of the Antofagasta FIR.</li> <li>c) It will be analyzed with the Authorities of each one of the States regarding the updating of the operational agreements between Chile and Peru, including those related to the AIDC.</li> <li>d) Chile and Peru must coordinate to carry out tests with the automatic estimated message between the Antofagasta Oceanic Center and the Lima, to improve the situational awareness of the controllers.</li> </ol>
<p>Chile</p> <ol style="list-style-type: none"> <li>1. Continue with the use of ADS C in the Oceanic sector of the Antofagasta FIR; the SAM Office would carry out the coordination with IATA for the use of the ADS C in the operators that fly through that area.</li> </ol>
<p>Perú</p> <ol style="list-style-type: none"> <li>1. Would continue with the implementation of the ADS B for the surveillance coverage improvement, it will keep the ICAO office informed about this implementation.</li> </ol> <p><b>Next meeting: July 19<sup>th</sup> 2019 (tentative)</b></p>

**Table II**

### 3 Suggested action

#### 3.1 The meeting is invited to:

- a) Take note of this WP
- b) To support CNS/ATM implementation activities that help reduce the LHD events in the SAM region.
- c) That States and ATS services providers take part of this ICAO SAM initiative aimed to improve the RVSM airspace safety level.

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