



Agenda Item 5: Collision risk assessment (CRA) and LHD

a) RMAs activities on height monitoring.

LHD reports from SAT area

(Prepared by CARSAMMA)

SUMMARY

This working paper presents the LHD reports received and analysed by CARSAMMA that occurred in oceanic region of South Atlantic in 2023.

References:

- ICAO DOC 10063 (Manual on Monitoring the Application of Performance-based Horizontal Separation Minima)
- ICAO DOC 9574 (Manual of Implementation of 300m (100ft) Vertical Separation minimum between FL290 and FL410 inclusive)

1. Background

1.1 From January to December 2023, 30 LHD reports were received involving FIR that have part of their territory in the oceanic region (MAIQUETIA, PIARCO, PARAMARIBO, CAYENNE, AMAZONICA, RECIFE, ATLANTICO, CURITIBA, MONTEVIDEO, EZEIZA and COMODORO RIVADAVIA).

2. Analysis

2.1 Of these 30 reports, 3 positions stood out for having been reported more than once: ITEGO (3 times), ELJEZ (2 times) and ANADA (2 times).

2.2 The following image is a geographical representation of the three points mentioned above.



Figure 1- geographical representation of the most reported point

2.3 In the next table we can see the FIR involved in these reports and the position where the LHD occurred. The highlights are:

- PIARCO x MAIQUETIA – 5 times
- COMODORO RIVADAVIA x Mount Pleasant – 4 times
- ATLANTICO X LUANDA – 4 times
- COMODORO X EZEIZA – 3 times
- PIARCO X SAN JUAN – 2 times
- PIARCO X NEW YORK – 2 times

Report number	Reporting FIR	FIR or whom committed the failure	Position Of risk	CROSSED LEVELS		DURATION (sec)	LHD Code	Risk of value
				S	OPP			
44	ATLANTICO	LUANDA	1200S 01000W	1	1	90	E1	31
143	COMODORO RIVADAVIA	Mount Pleasant	5000S 05600W	1	2	60	E2	17
150	EZEIZA	MONTEVIDEO	3905S 04734W	0	0	3.000	E2	51
151	COMODORO RIVADAVIA	EZEIZA	4408S 05125W	0	0	3.900	E2	46
195	CAYENNE	ATLANTICO	074326N 0382639W	1	1	780	E1	29
218	PIARCO	SAN JUAN	ANADA	0	0	60	E2	22
272	PIARCO	NEW YORK	ELJEZ	1	1	60	E2	34
276	PIARCO	MAIQUETIA	ITEGO	1	1	90	E2	22
304	PIARCO	DAKAR	GANAK	0	0	1.300	E1	13
309	PIARCO	CAYENNE	0927N 05300W	0	0	90	E1	26
336	COMODORO RIVADAVIA	Mount Pleasant	490719S 0583920W (next to KABES)	0	0	60	E2	46
364	COMODORO RIVADAVIA	Mount Pleasant	503420S 0560047W	0	0	90	E2	29
376	COMODORO RIVADAVIA	Mount Pleasant	494900S0544100W	0	0	60	E2	22
384	PIARCO	DAKAR	182500N 0443300W	0	0	90	E2	44
412	PIARCO	MAIQUETIA	145000N 0650500W	0	0	60	E2	17

Report number	Reporting FIR	FIR or whom committed the failure	Position Of risk	CROSSED LEVELS		DURATION (sec)	LHD Code	Risk of value
				S	OPP			
423	CAYENNE	PIARCO	0925N 05301W	1	1	60	E2	34
433	ATLANTICO	DAKAR	PROXIMO A POSIÇÃO MOVGA	0	0	60	E2	22
438	PIARCO	MAIQUETIA	ITEGO	0	0	60	E1	18
442	PIARCO	MAIQUETIA	ABEAM ANADA	1	1	60	E1	18
472	PIARCO	PARAMARIBO	TRAPP	3	3	60	E1	13
505	PIARCO	MAIQUETIA	ITEGO	1	1	60	E2	17
508	MAIQUETIA	SAN JUAN	MILOK	1	1	600	E1	18
512	COMODORO RIVADAVIA	EZEIZA	IREMO	2	2	120	E1	18
541	RECIFE	EQUIPAMENTO	105 NM NE DE FLZ	0	0	60	M	16
548	ATLANTICO	LUANDA	1300S 01000W	0	0	60	E1	26
593	ATLANTICO	LUANDA	130000S 0100000W	0	0	60	E2	22
599	ATLANTICO	MONTEVIDEO	341200S 0340900W	0	0	60	E2	22
617	ATLANTICO	LUANDA	130000S 0100000W	1	1	90	E2	22
625	COMODORO RIVADAVIA	EZEIZA	OTADO	1	2	60	E2	17
651	PIARCO	NEW YORK	ELJEZ	0	0	3.000	E1	13
674	PIARCO	SAN JUAN	GEECE	0	0	3.900	E1	13

Table 1 - summarizes LHD reports from the SAT region.

2.4 Risk value calculation:

The risk value is calculated following the SMS (Safety Management System) table, where values between 1 - 20 present a low risk and are represented by green, the medium risk in yellow, between the values 21 – 75 and high risk, 76 – 100, is represented by the color red.

2.5 Crossed levels:

- S – same: when the aircraft cross a flight level that is in the same direction of the flight level previously authorized.
- OPP – opposite: when the aircraft cross a flight level that is in the opposite direction of the flight level previously authorized.

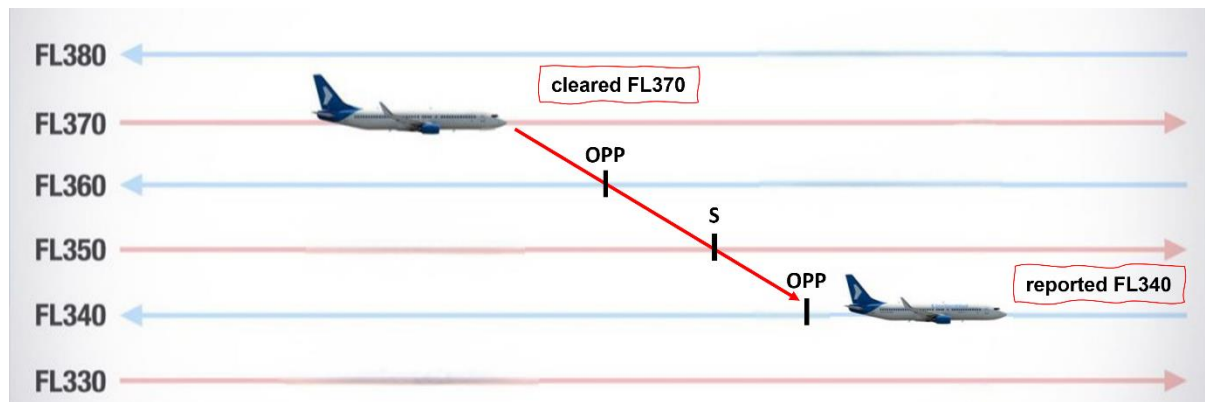
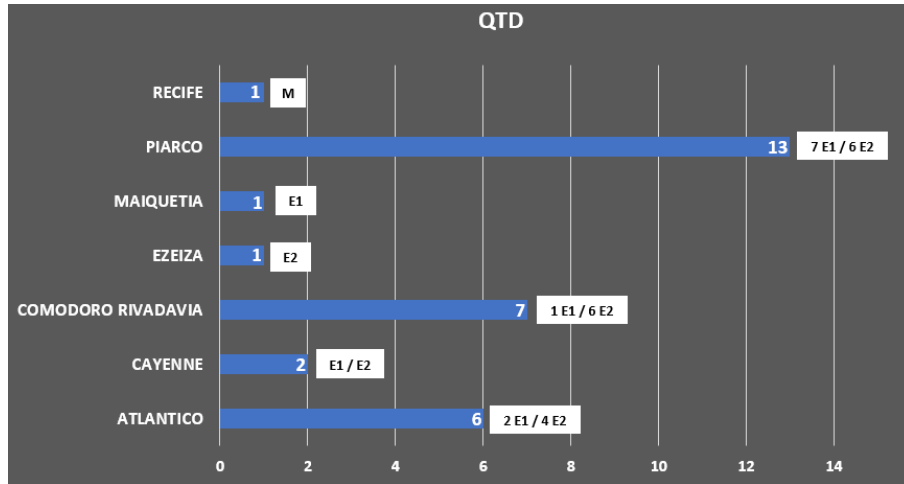


Figure 2 – crossed level representation

2.6 Specification of codes:

- E1 - Poor coordination
- E2 - Lack of coordination
- M – Other



Graf 1 - This graph shows the number of reports per code in each FIR.

2.7 occurred.

In the image below we can see the geographical location of the positions where the reports

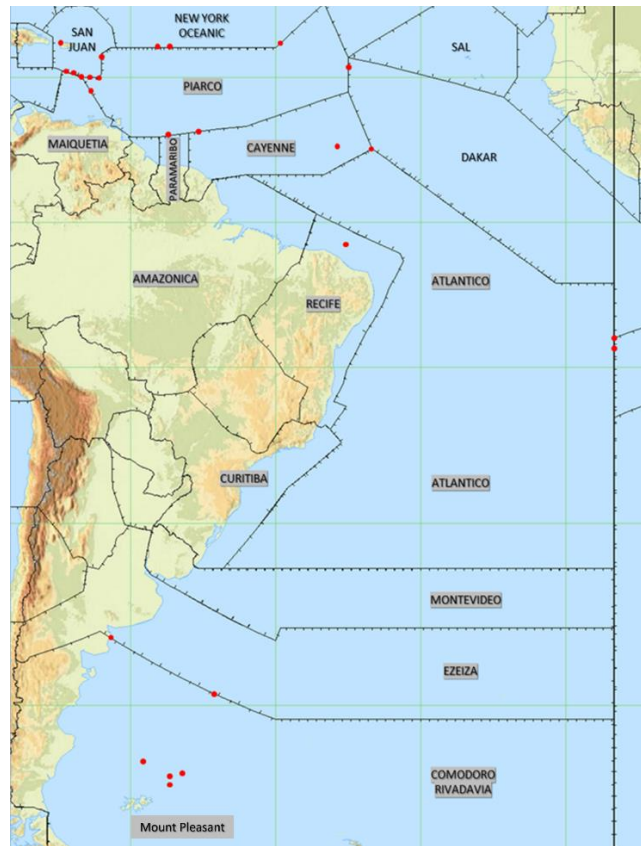


Figure 3 - geographical representation of the most reported points

2.8 We can see in the image above that the highest concentration of incidents was in the area bordering San Juan, Piarco and Maiquetia and in the FIR Comodoro Rivadavia around Mount Pleasant.

3. **Suggested actions**

3.1 The meeting is invited to:

- a) Note the information contained in this paper;
- b) That states take mitigating action on the above-mentioned reports; and
- c) Consider the potential impact of the estimated remaining burden.

END