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Mexico City, Mexico, 5- 9 September 2016

Agenda Item 3: Large Height Deviation (LHD) Analysis

TRENDS IDENTIFICATION

(Presented by CARSAMMA)

EXECUTIVE SUMMARY	
This note presents a briefing on some LHD trends received by CARSAMMA, when aircraft is still ascending or descending, when aircraft calls in a different point rather than the coordinated, as well as when the organ does not match accurately the level, point or transfer time and the transfer organ does not recognize the mistake.	
Action:	States use the provided information for mitigation actions
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety
<i>References:</i>	<ul style="list-style-type: none">• GTE Methodology• Large Height Deviation (LHD) 2015 Report

1. Introduction

1.1. The CAR/SAM Planning and Implementation Regional Group (GREPECAS) commissioned the CARSAMMA with the reception, analysis and LHD codification functions and its submission to the GTE and to the teleconferences for its validation, in order to obtain information for risk calculations, qualitative (SMS/SGSO) and quantitative (CRM) methods.

1.2. The objective of this work is to provide more information to experts in order to LHD 2015 and first semester of 2016 reports (data up to May), which arrived to CARSAMMA, to be observed and analyzed, additionally, for similar failures not be repeated, mainly in specified points and that involved Flight Information Regions (FIRs) experts take appropriate mitigation actions.

2. Development

2.1. Some 2015 LHD reports (first semester and second semester) and first semester of 2016 (**in bold**), up to May, have as a coordination failure the final parameter intermediate level to the one coordinated, meaning, traffic was still ascending or descending.

2.2. Table 1 shows all LHD reports that are classified in this kind of situation, traffic is coordinated in a level and calls while ascending or descending.

Report	Reporting FIR	FIR that mistakes	Position
22	Resistencia	Asunción	REPAM
61	Guayaquil	Bogotá	UGUPI
71	Bogotá	Guayaquil	BOKAN
89	Bogotá	Panamá	BUSMO
206	Guayaquil	Central América	LIXAS
335	Georgetown	Piarco	MINDA
343	Curazao	Santo Domingo	PALAS
367	Port Au Prince	Santo Domingo	RETAK
448	Maiquetía	Barranquilla	ORTIZ
529	Lima	La Paz	ELAKO
654	Mérida	Central América	PENSO
772	Córdoba	Mendoza	PAMAL
775	Bogotá	Guayaquil	ENSOL
1004	Recife	Brasilia	POSMU
1078	Bogotá	Guayaquil	ENSOL
1092	San Juan	Piarco	ILURI
1189	Bogotá	Panamá	BUSMO
1190	Antofagasta	La Paz	VAGUR
1193	Curitiba	Asunción	REMEK
1261	Córdoba	Mendoza	SOLER
1322	Lima	La Paz	ELAKO
23	Lima	Antofagasta	ALDAX
41	Lima	La Paz	ELAKO
89	Amazónica	Maiquetía	VUMPI
91	Port Au Prince	Santo Domingo	ETBOD
115	Lima	Guayaquil	EVLIM
144	New York	Piarco	BENJEE
146	San Juan	Piarco	TIKAL
147	Bogotá	Guayaquil	ENSOL
161	Amazónica	Cayenne	OIA
507	Lima	Guayaquil	ANPAL
523	Lima	Guayaquil	VAKUD

Table 1 – LHD reports which transfers are performed with a level and calls while ascending or descending

2.3. As observed in **Table 1**, the FIR which reports the most in 2015 was Bogotá (5 times) and then Lima and Guayaquil (2 times each). Most reported were Guayaquil and La Paz (3 times each). Most reported points were: BUSMO, ELAKO and ENSOL. Currently in 2016, first semester (up to May), no point deserves to be highlighted, only ELAKO and ENSOL which are once again presented as points already reported in 2015. The FIR which reported most this kind of mistake was Lima (5 times) and the most reported was Guayaquil (4 times).

2.4. Some 2015 LHD reports (first semester and second semester) and first semester of 2016 (**in bold**), up to May, have as a coordination failure the final parameter, different point than the one coordinated, meaning, aircraft coming in an airway, changes airway and this is not coordinated.

2.5. Table 2 shows all LHD reports that frames this kind of situation, traffic is coordinated in one point and calls in other.

Report	Reporting FIR	FIR that mistakes	Coordinated position	Position in which aircraft calls
30	Montevideo	Curitiba	UGELO	BGE
100	Curitiba	La Paz	SIDAK (*)	SIDAK (*)
143	Kingston	Panamá	ARNAL	DUXUN
192	Curazao	Santo Domingo	IRGUT	VESKA
260	Port Au Prince	Miami	BODLO	JOSES
348	Curazao	Santo Domingo	VESKA	IRGUT
405	Mérida	Central América	GABEN	TAP
439	Guayaquil	Bogotá	UGUPI	ITATA
440	Guayaquil	Bogotá	ANGEL	ENSOL
454	La Paz	Lima	RAXUN	OBLIR
486	Guayaquil	Bogotá	ENSOL	ANGEL
601	Lima	La Paz	ELAKO	ORALO
606	Mérida	Central América	NOTOS	ANREX
<u>746</u>	Mérida	Central América	IMASO	GABEN
<u>779</u>	Bogotá	Panamá	DAKMO	KUBEK
<u>829</u>	Mérida	Central América	GABEN	TAP
<u>928</u>	Lima	Amazónica	LIMPO	LET
<u>1015</u>	Curitiba	Resistencia	ARULA	MCS
<u>1032</u>	Guayaquil	Bogotá	UGUPI	ITATA
<u>1037</u>	Lima	Guayaquil	LOBOT	EVLIM
<u>1076</u>	Antofagasta	Lima	SORTA	IREMI
<u>1182</u>	Curitiba	La Paz	SIDAK (*)	SIDAK (*)
<u>1263</u>	Guayaquil	Bogotá	PULTU (*)	PULTU (*)
<u>1333</u>	Santo Domingo	Port Au Prince	OSIDU	RETAK
<u>1353</u>	Mendoza	Córdoba	ORABA	SOLER
67	Lima	La Paz	ORALO	DOBNI
111	Lima	Guayaquil	EVLIM	LOBOT

206	Mérida	Central América	ULAPA	KATIS
237	Curazao	Santo Domingo	VESKA	IRGUT
239	Amazónica	Maiquetía	UGAGA	VAGAN
362	Mérida	Central América	NOTOS	KATIS
420	Curitiba	Asunción	REMEK (*)	REMEK (*)
495	Bogotá	Panamá	PUDAK	BUSMO
541	Port Au Prince	Habana	DEPSI	URLAM

Table 2 – LHD reports which transfers are performed in one point and call in other

2.6. As observed, in **Table 2**, the FIRs which reported most data in 2015 were: Guayaquil (5 times) followed by Mexico (Merida) (4 times), Lima and Curazao (3 times each). Most reported were: Bogota (5 times) followed by Central American (4 times) and La Paz (3 times). Most reported waypoints were: VESKA switched for IRGUT and vice versa, UGUPI switched for ITATA and vice versa, as well as GABEN switched for TAP and vice versa. Currently in 2016, up to May, the FIRs which most reported this event were Mexico (Merida) and Lima (2 times each). The FIR most reported with that failure was Central American (2 times) detecting changes between NOTOS, KATIS and ULAPA and vice versa. It is good to observe that, between Curazao and Santo Domingo, VESKA and IRGUT points were informed once again.

Observation (*) – the aircraft calls away from the fix, at a considerable distance due to meteorological deviation, probably, not informed by pilots.

2.7. Some LHD reports of 2015 (first semester and second semester) and from the first semester 2016 (**in bold**), up to May, have as a coordination failure the understanding level, fixed or time parameter, meaning, coordination is still done, comparison is wrongly done, and the transferred organ does not notice the failure.

2.8. Table 3 shows all LHD reports that classifies in this kind of situation, traffic is coordinated in one level, fix or time, but as it was wrongly noted, was reason for a LHD report.

Report	Reporting FIR	FIR that mistakes	Time, fix or Coordinated level	Time, fix or Noted level
156	Kingston	Panamá	340	300
219	Mérida	Central América	340	300
423	Antofagasta	Lima	20:45	21:45
582	Mérida	Central América	350	360
627	Central América	Mérida	370	350
1016	Central América	Mérida	NOTOS	ANREX
1336	Curazao	Kingston	370	390
¿	¿	¿	¿	¿

Table 3 – LHD Reports which transfers were done, but with understanding mistakes

2.9. As observed in **Table 3**, FIRs that most reported in 2015 were Central American and Mexico (Merida) (two times each). Most reported were Mexico (Merida) and Central American (2 times each). Currently in 2016, this event has not been reported yet.

3. Suggested actions:

3.1. The Meeting is invited to:

- a) Recognize the terms of this Working Paper, and willing States, could use this information as an LHD mitigation reference; and
- b) present such decision to GTE members for acknowledgement and approval.