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INFORMATION PAPER

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CAR/SAM Regional Planning and Implementation Group (GREPECAS)
Twenty-First Scrutiny Working Group Meeting
(GTE/21)
Zoom Meeting, 23 - 26 August 2021

Agenda Item 4: Other business

DIGITISATION OF FORM F4 OF LARGE HEIGHT DEVIATION (LHD) REPORTS

(Presented by CARSAMMA)

EXECUTIVE SUMMARY	
This document presents the information regarding the migration to the e-LHD F4 form.	
Strategic objectives:	• Modernisation and simplification of the LHD reception process • Future creation of indicators • Safety
References:	• Doc 9937

1. Introduction

1.1 In 2002, the Department of Airspace Control (DECEA), at a meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS), and with the approval of the International Civil Aviation Organization (ICAO), undertook, as a State commitment, the creation of the CAR/SAM Regional Monitoring Agency (CARSAMMA), providing operational, technical and human resources.

1.2 The purpose of CARSAMMA is, *inter alia*, to monitor the reduced vertical separation minimum (RVSM) airspace, which extends from flight level 290 to 410, through the collection of large height deviation (LHD) reports, conducting an annual vertical collision risk analysis (VRA) that supports part of the safety strategies of the 36 States under its supervision.

1.3 The LHD F4 is a 22-field reporting form, completed by the air traffic controller (ATCO), describing any operational and/or technical error that results in a vertical deviation of 90 m (300 ft) or more from the authorised flight level of the aircraft. The most common reports are ATC-to-ATC coordination loop errors, uncertified aircraft flying in RVSM airspace, uncleared climbs or descents, uncoordinated weather deviations, and traffic collision avoidance system (TCAS) resolution advisories.

1.4 To accommodate information technology (IT) developments, the possibility of integrating LHD reports with other systems, studies on the future reduction of vertical and horizontal separations

between aircraft, investments in the quality of services provided, and increasing global aircraft movements, it would appear that the development of a digitised system for reporting high altitude deviations (LHDs) would provide essential benefits to enhance safety in RVSM airspace.

1.5 In this context, from June to August 2021, the CAR/SAM Monitoring Agency (CARSAMMA) started the implementation of the electronic LHD form (e-LHD) in Brazil (SBCW, SBBS, SBRE, SBAO, and SBAZ) and is planning to implement e-LHD in the rest of the CAR/SAM Regions, starting in September 2021, after the GTE meeting.

2. Discussion

2.1 In the last year, CARSAMMA received, via e-mail, through the standard forms, 33,000 pieces of data related to LHD reports, which were then validated by specialised technicians, together with the total number of aircraft movements per year--close to 4.1 million--, for the analysis of the vertical collision risk between aircraft, with the main objective of providing the aeronautical community with information for the adoption of measures to improve safety in CAR/SAM RVSM airspace.

2.2 However, it is noted that, given the importance and amount of information handled, the process lacks a digitised system and, in the future, will lack an automated system, in accordance with the CNS/ATM concept, that is more suited to ATCO workload and to the evolution of calculations related to the vertical collision risk analysis.

2.3 Accordingly, in June 2021, CARSAMMA started the testing and implementation process of e-LHD, as shown in the table below:

DATE	EVENT
1 JUN 2021	Start of the test phase with the RE FIR
5 JUL 2021	Start of the test phase with the other FIRs in Brazil
23 to 26 AUG 2021	GTE - meeting with all POCs in the CAR/SAM Regions
1 SEP 2021	CAR/SAM implementation forecast

e-LHD implementation calendar

2.4 The new form is available in three languages (Portuguese, Spanish and English) at: http://carsamma.provisorio.ws/DevTemp/f4.html.

2.5 The initiative to digitise LHD reports was designed with the main focus on modernising and simplifying the process to increase productivity, motivation, quality of service, better identify errors made in RVSM airspace, and generate a more notifier/reporter-friendly interface.

2.6 Some fields were excluded during the migration to the e-form; of the initial twenty-two fields, only thirteen were kept. The main reason for removing these items was that some provided duplicate information or their data was not used in the CARSAMMA analysis. This was information that did not affect the safety assessment, and in specific cases, if necessary or if specifically requested, the information could be searched in specific software. With the removal of these fields that were not being used, the LHD form was simplified.

2.7 The main benefits would be a more robust and reliable database, a more simplified process (the easier it is to fill out the LHD, the greater the incentive to report), less intervention of the POCs in the control of the delivery of LHD reports (they would be able to focus on safety promotion), and the future creation of a DASHBOARD.

3. Suggested action

3.1 The Meeting is invited to:

a) take note of the implementation of the electronic form (e-LHD) throughout the CAR/SAM Regions, keeping the old method as a backup; and

b) adopt the form according to the implementation timetable.

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