International Civil Aviation Organization
South American Regional Office
Nineteenth Workshop/Meeting of the SAM Implementation Group (SAM/IG/19) - Regional Project RLA/06/901
(Lima, Peru, 22 to 26 May 2017)

SAM/IG/19-IP/13
19/05/17

Agenda Item 4: **Assessment of operational requirements in order to determine the implementation of communication, navigation and surveillance (CNS) capabilities improvement for en-route and terminal areas operations**

STATUS OF GBAS IMPLEMENTATION IN BRAZIL

(Presented by Brazil)

SUMMARY

This Information Paper presents the situation of the GBAS implementation project in Brazil, including the planned activities and the schedule of activities until December 2018.

References:

- Annex 10, Volume I, to the ICAO Convention;
- SIRIUS Program from Brazil;
- SAM/IG/7 – WP/7;
- SAM/IG/8 – WP/18;
- GREPECAS/16 – IP/15;
- SAM/IG/14 – WP/20;
- Final Report from Seminar to Implementation of Navigation Infraestructure to support PBN in NAM/CAR/SAM Regions (15-17/08/16)
- SAM/IG/15 – WP/22.

ICAO strategic objective:	A – *Safety* D - *Efficiency*

1 Introduction

1.1 Since 2003, Brazil has been making efforts to make feasible the operation of GBAS CAT I in its airspace.

1.2 In Brazil, the GBAS project is part of the SIRIUS Program which, aligned with the Global Air Navigation Plan (GANP) and the Aviation Systems Block Upgrade (ASBU) methodology, provides for the modernization of the air navigation service in areas such as CNS, ATM, AIS / AIM, SAR, MET, among others (https://www.decea.gov.br/sirius/).

1.3 In July 2011, a Honeywell (unique certified in the world) SLS-4000 station was installed at the Rio de Janeiro International Airport (SBGL) for tests during the peak of the solar cycle that occurred between 2012 and 2015.

1.4 From the data collected, it was concluded that the threat risk used for the SLS-4000 station does not guarantee the availability and integrity required for CAT I operation in low latitudes (including South America), as presented during SAM/IG/15 (NE/22).

2 Discussion

2.1 Starting in November 2016, DECEA began to coordinate a new phase of efforts with the objective of making feasible the use of the SLS-4000 in Brazil until December 2018, involving several organizations such as ICEA, FAA, USTDA, Honeywell, Mirus Tech, SDTP Foundation, Boston College, Boeing and Gol Airlines.

2.2 A memorandum of cooperation between DECEA and FAA for ionosphere research was signed in March 2017, ensuring the participation of FAA technicians in satellite navigation, ionospheric data collection and data analysis in the process.

2.3 This new project, initiated in November 2016 and expected to be completed in December 2018, has as main objective to configure the SLS-4000 station for operation in SBGL with its best performance.

2.4 Among the actions planned for the project are:

- Development of Safety Case for GBAS;
- GBAS certification;
- Updating the ionospheric threat model;
- Identification of the behavior of the ionosphere in different parts of the Brazilian territory;
- Air carrier participation in flight campaigns;
- Collection and analysis of data on L5 frequency.

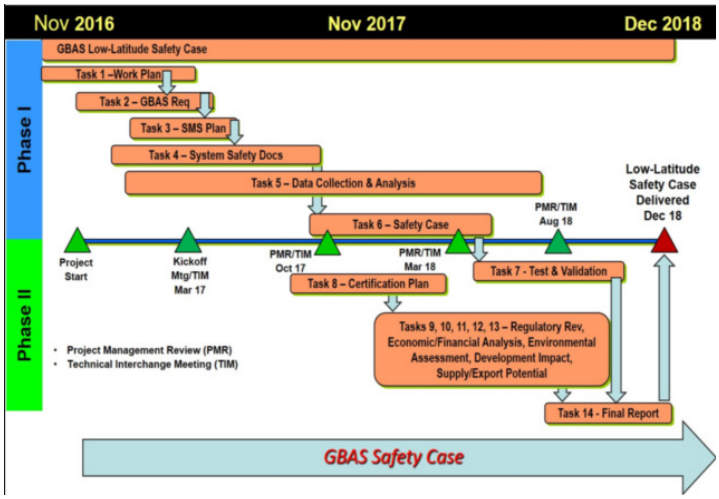

Fig. 1 – Safety Case Schedule

3. Suggested actions

3.1 The meeting is invited to note the information presented.

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