International Civil Aviation Organization
South American Regional Office
Fourteenth Meeting of Civil Aviation Authorities of the South American Region (RAAC/14)
(Santiago, Chile, 27, 28 and 30 October 2015)

Agenda Item 2: **Global and regional civil aviation requirements and challenges**

b) State-industry collaborative process for the transition from existing air navigation-support systems to those specified in the ASBU

ACTIVITIES OF THE REGIONAL AIR NAVIGATION AND SAFETY PLANNING AND IMPLEMENTATION GROUPS (GREPECAS and RASG-PA)

(Presented by the Secretariat)

SUMMARY
This working paper presents the activities carried out by regional air navigation (GREPECAS) and safety (RASG-PA) planning and implementation groups since the Thirteenth Meeting of Civil Aviation Authorities (RAAC/13) held in Bogota, Colombia, 4-6 December 2013.

References:

- Report of the Seventeenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/17), Cochabamba, Bolivia, 21-25 July 2014.
- Report of the Third Meeting of the Programmes and Projects Review Committee (PPRC/3), Mexico City, Mexico, 21-23 July 2015.
- Report of the Seventh Annual Plenary Meeting of the Regional Aviation Safety Group - Pan America (RASG-PA/7) Willemstad, 11-12 September 2014.
- Report of the Eighth Annual Plenary Meeting of the Regional Aviation Safety Group - Pan America (RASG-PA/8) Medellin, Colombia, 25 June 2015.

ICAO Strategic Objectives	*A - Safety*
	C – Security and facilitation
	E – Environmental protection

1 Introduction

1.1 The CAR/SAM Regional Planning and Implementation Group (GREPECAS) has as its objectives the continuous and consistent development of the CAR/SAM Air Navigation Plan and other relevant regional documents in harmony with adjacent Regions, in accordance with ICAO SARPs and based on global requirements; facilitate the implementation of air navigation systems and services identified in the CAR/SAM Air Navigation Plan, prioritising safety; identify and help resolve specific air navigation deficiencies; and coordinate safety matters with the Regional Aviation Safety Groups (RASGs).

1.2 Air navigation systems and services in the SAM Region are being implemented through programmes and projects, based on the restructuring and reorganisation of GREPECAS that took place at the GREPECAS/16 (March 2011). The list of programmes and projects to date is as follows:

✓ PBN Programme, which includes Project A1 *PBN Implementation* and Project A2 *Air Navigation Systems in support of PBN;*

✓ Air traffic flow management (ATFM) programme, which includes Project B1 *Flexible use of air navigation systems in support of PBN*;

✓ ATM automation and situational awareness programme, which includes Projects C1, *ATM automation,* and C2 *Improved ATM situational awareness in the SAM Region;*

✓ Ground-ground/air-ground communications infrastructure programme, which includes Projects D1, *ATN Architecture* (Aeronautical Telecommunications Network), and D2, *SAM ATN ground-ground and air-ground applications*;

✓ Aerodromes programme, which includes Projects F1, *Aerodrome certification in the SAM Region,* and Project F2, *Improve runway safety in the SAM Region;*

✓ AIM (Aeronautical Information Management) programme, which includes Projects G1, *Implementation of provision of electronic terrain and obstacle data (e-TOD) in the States,* G2 *Implementation of information exchange systems,* and G3, *Implementation of the quality management system in AIM units;*

✓ Aeronautical meteorology programme, which includes Projects H1, *Implementation of the world area forecast system (WAFS)*, H2, *Implementation of international airways volcano watch (IAVW)*, and H3, *Implementation of MET quality management* (MET/QMS);

1.3   The Regional Aviation Safety Group – Pan America (RASG-PA) was established in November 2008 to support the development and operation of a performance-based safety system in the Pan American Region. The mission of RASG-PA is to improve civil aviation safety and efficiency in the Pan American Region through coordination and collaboration among all aviation stakeholders under the leadership of ICAO.

1.4   The vision of RASG-PA involves all aviation stakeholders in the reduction of aviation safety risks in ICAO North American, Central American, Caribbean, and South American Regions through harmonisation and coordination of mitigation efforts aimed at promoting the implementation of safety initiatives. RASG-PA uses the ICAO Global Aviation Safety Plan (GASP) as a guide for the development of its work programme, using a regional perspective.

1.5   In order to carry out its activities RASG-PA has established the following groups:

- Annual Safety Report Team (ASRT)
- Aviation Safety Training Team (ASTT)
- Information Analysis Team (IAT)
- Regional Aviation Safety Team — Pan America (PA-RAST)

1.6   RASG-PA activities are aimed at the identification of risks, and the main risk areas in the Pan American Region are runway excursions (RE), controlled flight into terrain (CFIT), loss of control in flight (LOC-I), and mid-air collision (MAC).

2   Discussion

Follow-up to GREPECAS activities

2.1   Since the RAAC/13 meeting, the following GREPECAS activities have been carried out: the GREPECAS/17 meeting and the Third Meeting of the Programmes and Projects Review Committee (PPRC/3). In order to follow up project activities, web-based teleconferences and face-to-face meetings have been scheduled within the framework of the SAM Implementation Group (SAM/IG).

2.2   The progress made in GREPECAS project activities in the SAM Region for the different air navigation areas is shown below.

Projects under the PBN Programme

2.3   The main activities carried out under the *"PBN implementation in the SAM Region"* project (Project A1) have been the updating of national PBN plans; a significant reduction of CO_2 that exceeds annual figures contemplated in the Declaration of Bogota for 2014; implementation of RNAV routes, reaching the implementation percentage contemplated for 2016 in the Declaration of Bogota; development of Action plans for the redesign of selected airspaces using PBN, almost reaching the goal foreseen for 2015; implementation of PBN SIDs/STARs, exceeding the goal foreseen in the Declaration of Bogota; and a not too significant progress in the application of CDO and CCO operational techniques with respect to the Declaration of Bogota.

2.4   Regarding training programmes, four airspace PBN redesign workshops were conducted in the SAM Region. These workshops focused on supporting States in the processes required for effective implementation of airspace PBN design and validation.

2.5   Regarding the implementation of the "*Air navigation systems in support of PBN*" project (Project A2), the implementation of the web-based RAIM availability prediction service in support of PBN operations in the SAM Region (September 2014), available in www.satdis.aero, is worth noting.

Projects under the ATFM Programme

2.6   Regarding the *"Flexible use of airspace – SAM Region"* project (Project B1), the following activities were conducted: two training events: a Theoretical/practical course on ATFM procedures (November 2014 in Rio, Brazil) and a Workshop on the implementation of Air Traffic Flow Management (ATFM) for the CAR and SAM Regions, Panama City, Panama (May 2015); runway and ATC sector capacity calculations in 21% of the States of the Region. With respect to the implementation of ATFM positions and units, there has been no progress regarding the goal foreseen in the Declaration of Bogota.

2.7   With respect to the "*ATM automation"* project (Project C1), note should be made of the operational implementation of AIDC between the Lima ACC and the Guayaquil ACC; pre-operational implementation between the Guayaquil ACC and the Bogota ACC, the Bogota ACC and the Lima ACC, and the Bogota ACC and the Panama ACC. Likewise, 160 controllers were trained through practical AIDC courses for controllers of the Bogota, Guayaquil, Lima, Panama, and Santiago ACCs.

2.8   Regarding the "*Improved ATM situational awareness in the SAM Region"* project (Project C2), the development of the Guide on technical/operational considerations for full implementation of MLAT and the action plan for ADS B implementation in the SAM Region are noteworthy. Activities corresponding to this project, for the time being, are related to the drafting of guides to support the implementation of situational awareness improvements.

Projects under the Ground-ground/air-ground communications infrastructure Programme

2.9   In the "ATN architecture" project (Project D1), the implementation and successful operation of the REDDIG II digital network (first week of February 2015) should be highlighted. The new REDDIG II digital network is a mixed satellite and ground network fully based on IP technology. Likewise, the new interconnection between the REDDIG II and MEVA III VSAT networks was completed in April 2015. No progress was made in the execution of activities corresponding to the *SAM ATN ground-ground and air-ground applications* project (Project D2).

Projects under the Aerodromes Programme

2.10   Regarding the "*Aerodrome certification in the SAM Region*" project *(*Project F1), currently there are 12 international airports certified in the SAM Region (12%) compared to the 8 originally registered, that is, a 50% increase. The goal proposed in the Declaration of Bogota is 20% of international airports certified in the Region by December 2016. With the introduction of the PANS LAR AGA, it is expected that States will be capable of significantly increasing the percentage of certification. There has been no progress in the *Improved runway safety in the SAM Region* project (Project F2).

Projects under the AIM Programme

2.11   Regarding activities under the "*Development for the provision of electronic terrain and obstacle data (e-TOD) in the States*" project (Project G1), there has been some slight progress in implementation in areas 1 and 2. Several SAM States agreed that e-TOD implementation for area 2 by 12 November 2015 was very difficult to meet, taking into account technical, training, and staffing difficulties and the impact of high implementation costs. In this sense, it was deemed advisable to ask States, through the GREPEAS fast-track mechanism, about their expectations in terms of compliance by the date set forth in Annex 15.

2.12   Regarding the *Implementation of Information Exchange Systems* project (Project G2), it has started to show some progress based on a large contribution of human resources by some States. The *Implementation of the Quality Management System in AIM units* project (Project G3*)* has seen some progress in terms of pre-certification activities; however, no concrete progress has been made in terms of certification, which is the requirement defined as an objective.

Projects under the Aeronautical Meteorology Programme

2.13   The "*Implementation of the world area forecast system (WAFS)* project (Project H1), corresponding to the transition from the international satellite communications systems (ISCS) to the WAFS Internet file service (WIFS), was successfully completed. The *Implementation of international airways volcano watch (IAVW)* project (Project H2) conducted a volcanic ash exercise on 11 and 12 December 2014. Regarding the *Implementation of MET quality management* (QMS/MET) project (Project H3), 9 States and 1 Territory have implemented the MET/QMS. Of these, 7 have certified the MET/QMS, and only 1 of the other 3 has started the certification process. The States that have not yet implemented the MET/QMS are Guyana, Panama, Uruguay, and Venezuela.

Difficulties faced in the implementation of GREPECAS Projects

2.14   Regarding the difficulties encountered, note should be taken of non-compliance of the commitment assumed by civil aviation authorities (CAA) to support GREPECAS programme projects with the human resources required for timely conduction of activities, in accordance with the project timetable. States that have designated project coordinators and experts should give them the necessary facilities to conduct the assigned activities, in accordance with conclusion GREPECAS 16/49 – *Contribution by States to GREPECAS resources*, and Conclusion RAAC/6-16 – *Limitations in human and financial resources.*

Other aspects of GREPECAS

2.15   The PPRC/3 meeting urged those States that had not yet prepared their national plans in alignment with the Global Air Navigation Plan (GANP, Fourth Edition) and the SAM Regional Plan (PBIP) to do so as soon as possible in order to harmonise implementations and facilitate inter- and intra-regional interoperability of navigation systems and services, and formulated a conclusion accordingly. The SAM States that have already drafted their national plan in alignment with the GANP, Fourth Edition, and the SAM Regional Plan (PBI) are Argentina, Brazil, Chile, and Colombia.

Follow-up to RASG-PA activities

2.16   Since the RAAC/13 meeting to date, two RASG-PA meetings (RASG-PA/7 and 8) and several meetings of the RASG-PA working groups and the Executive Steering Committee have been held.

2.17   Amongst the most outstanding activities of RASG-PA are the drafting and approval of the Fourth Edition of the Annual Safety Report (2014 edition) and the Fifth Edition of the Annual Safety Report (2015 edition).

2.18   For drafting the Fifth Edition of the Air Safety Report (ASR), safety information provided by ICAO, Boeing, IATA, and the Caribbean and South American Monitoring Agency (CARSAMMA) was used for the different sections of the report. In particular, this edition has an expanded predictive data section, based on the maturity of the safety information capture and analysis process in the Pan American Region.

2.19   In the Fifth Edition of the ASR, a change was made compared to previous versions, since proactive and predictive information precursors are prominent in the categories of interest, such as:

- (RE) precursor: unstable approaches
- CFIT precursor: events related to the enhanced ground proximity warning system
- MAC precursor: Traffic collision avoidance system – Resolution advisory (TCAS-RA)

2.20   The reactive section of the ASR, Fifth Edition, contains valuable information on accident statistics of the last ten years; and the proactive section contains State compliance outcomes of the Universal Safety Oversight Audit Programme (USOAP). A section was also included on the results of the IATA Operational Safety Audit (IOSA) Programme.

2.21   All ASR editions are available in: http://www.icao.int/RASGPA/Pages/asrt.asp.

2.22   Aviation safety seminars have been carried out including a seminar on exchange of safety information to mitigate the risk areas identified in the Pan American Region as well as a seminar on Flight Data analysis program (FDAP). They have also included information from ICAO on the improvement of safety oversight systems.

2.23   Likewise, a seminar on runway excursion (RE) and the first workshop "Training the trainer in standard RASG-PA phraseology based on ICAO Doc 4444" (Mexico City, Mexico, 28-29 October 2014, sponsored by CANSO) were held.

2.24   Regarding RASG-PA projects, the work plan and progress of the pilot project for the development of metrics to measure institutional strengths of civil aviation authorities, now taken over by ICAO Headquarters to turn it into a global project, must be highlighted.

2.25   Regarding safety initiatives, RASG-PA/8 considered that the Aviation safety training team (ASTT) should provide guidance to RASG-PA member States seeking assistance for effective and sustainable compliance with safety oversight obligations, and formulated a conclusion in that respect.

3.   Suggested action

3.1   The Meeting is invited to:

a)   take note of the information presented in this paper;

b)   analyse the results of GREPECAS and RASG-PA activities presented in section 2 of this working paper; and

c)   review any other related issues it may deem appropriate.

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