Agenda Item 2: **Report of activities and deliverables of the GESEA and Subgroups**

b) **ATM implementation. Progress of the Subgroups**

REGIONAL GUIDANCE ON IMPLEMENTATION OF AIRSPACE CONCEPTS

(Presented by Brazil)

SUMMARY

This paper aims to present the development of Part II (Implementation of Airspace Concepts) of the Airspace Planning Guide Manual for the SAM Region.

References:

- SAM/IG meetings
- Doc 9613 – Performance-Based Navigation (PBN) Manual
- Doc 9992 - Manual on the Use of Performance Based Navigation (PBN) in Airspace Design
- ERNIP - European Route Network Improvement Plan. Part 1 –Airspace Design Methodology Guidelines
- ICA 100-44 (BRASIL) - Conceito de Espaço Aéreo

1. Background

1.1 Airspace planning requires several competencies and skills for the new operational scenario and the new enroute circulation and TMA to meet the strategic objectives established for a given airspace concept implementation project: air traffic data collection and analysis; understanding of the geographical distribution of flows, air traffic mix and aircraft performance; definition of new flows of arrivals and departures for an aerodrome, definition of the structure of routes and air navigation procedures, among other aspects.

1.2 Airspace concept implementation projects are directly affected by airspace organization techniques and the performance of the specialist responsible for airspace planning, since the development of operational scenarios, which describe airspace organization and air traffic, are directly related to airspace planning activity. This is the main task to be developed for the implementation of new airspace concepts and requires great specialization and competence of the professionals who carry it out.

1.3 However, there is still no regional standard (or guide) on airspace planning, nor adequate course or training for specialists who carry out this activity, which has generated obstacles to the efficient implementation of airspace concepts in South America:

a) Lack of alignment with international best practices;

b) Different TMA/CTR structured with different airspace organization techniques;
c) Dependence on the individual talent of the specialist;
d) Lack of standardization in the application of airspace organization techniques;
e) Delays, *rework* and difficulties in the implementation of airspace concepts;
f) Dissatisfaction and disbelief from users in general (ATCOs, pilots, airlines, etc.).

1.4 During the SAM/IG/25 meeting, in November 2020, the proposal (Job Card) was approved for the formulation of regional standards and guidelines on airspace planning, as well as courses and training for specialists for the development of this activity, to solve this important gap that currently exists regarding airspace planning in South America.

2. Preparation and delivery of the Second workshop for Airspace planners

2.1 As part of the actions carried out through Project RLA/06/901, regarding the optimization of the process of implementation of Airspace Concepts in the SAM Region, the SAM ICAO Regional Office, based in Lima, Peru, requested the mission of an ATM specialist to develop the tasks of the Job Card "Airspace Planning" of activity SG1/PANSOPS/01/2020 of the 2022 Work Plan of GESEA (Study Group on Airspace):

- ✓ Task 1: Develop an Airspace Planning Manual for the SAM Region containing harmonized airspace structure organization techniques (trajectories, airspace, FUA, PBN concept, etc.);

- ✓ Task 2: Develop and deliver a Workshop on Airspace Planning for specialists from the States of the SAM Region that presents the harmonized techniques for the organization of the airspace structure (trajectories, airspaces, FUA, PBN concept, etc.).

2.2 For this year, following the development of the Job Card, the following tasks were scheduled:

- ✓ Task 3: Develop a Guide on Project Management of Airspace Concepts of the SAM Region containing harmonized guidelines and good practices for the implementation of Airspace Concepts;

- ✓ Task 4: Develop a training course for specialists from the SAM Region on Airspace Planning and Project Management of Airspace Concepts.

2.3 Task 3 (Develop and deliver a Guide on Project Management of Airspace Concepts of the SAM Region) was developed between April 17 and 28, 2023, at the SAM ICAO Regional Office, based in Lima, Peru, providing the SAM Region with a first draft of requirements and criteria regarding the implementation phases of airspace concepts projects: planning, design, validation and implementation.

2.4 Task 4 was carried out in the first week of the mission, from August 14 to 18, 2023, to develop the workshop material, based on the Regional Guide on Project Management of Airspace Concepts of the SAM Region (draft version), which basically contains the following topics (with theoretical presentations and practical exercises):

- ✓ Airspace Concepts Implementation Process;
- ✓ Planning Phase;
- ✓ Design Phase;
- ✓ Validation Phase;
- ✓ Implementation Phase.

2.5 In the second week, from August 21 to 25, 2023, the Workshop was held in the sense of promoting basic training for specialists in the SAM Region on Project Management of Airspace Concepts. The Workshop was attended by representatives of the following States: Bolivia, Brazil, Chile, Ecuador, Panama, Peru, and Uruguay.

3. Activities deployed

Preparation and planning stage of the Workshop

3.1 The work plan was drawn up, the objectives and scope of the Workshop were set. The work plan for the development of the Workshop material is shown in Appendix A (Spanish only).

3.2 All the presentations and theoretical exercise were prepared for the application of all the criteria and requirements that would be discussed during the workshop. At all times, coordination was maintained with the ATM/SAR Officer, who gave guidance for the development of the work, as well as verified the daily progress.

Workshop delivery

3.3 The airspace concept implementation management workshop was held in the second week of the mission, from August 21 to 25, at the Lima Office. The weekly work schedule is shown in Appendix B (Spanish only).

3.4 The topics presented and the dynamics of the presentation of the workshop were the following:

- ✓ Module 1 (Review of the 1st Workshop);
- ✓ Module 2 (Implementation of Airspace Concepts);
- ✓ Module 3 (Planning Phase) – Model Forms – GANP (KPA/KPI);
- ✓ Module 4 (Design Phase);
- ✓ Module 5 (Validation Phase);
- ✓ Module 6 (Implementation Phase);
- ✓ Module 3 (Exercises): The practical activity for the development of the 4 forms (models) that were presented in Module 3 (Planning Phase):
  - o Preparation of the CEA Project Proposal;
  - o Project Terms of Reference;
  - o Project Analytical Structure (EAP);
  - o Performance Measurement Plan.

Analysis of CEA Implementation Guide

3.5 As part of the programming of the workshop, a general revision of the CEA Implementation Guide was developed at that time, with the aim of contributing to its development and ensuring that its criteria are appropriate to the States of the MAR Region.

3.6 Workshop participants were divided into groups and then presented their comments and suggestions for improving the regional guide and forms. The most significant suggestions for modifications were:

a) Adjustments in technical terminologies;
b) Definition of activity managers;
c) Designation of a manager for the performance measurement activity;
d) Adjustments to model forms (e.g., TAP is redesignated as TRP);

e) Model forms will be in a folder in the clouds (facilitates future refinements);
f) Reorganization of the Parts of the Regional Guide: CEA Implementation (Part I) and EA Organizational Techniques (Part II).

Outcomes

3.7 At the end of the work period, the tasks of preparation and delivery of the workshop were carried out as planned and within the expected objectives. The materials for the workshop were handed over to the ATM/SAR Officer at the Lima Office. The material presented at the Workshop can be found at the following GESEA channel link:

https://oaci.sharepoint.com/:f:/r/sites/SAM-CAR-ANS-GESEA/Shared%20Documents/GESEA/SG1%20PLANESPA/Talleres%20y%20GUIA%20PLANIF%20ESP%20AEREO/TALLER%202%20x%20agosto%202023?csf=1&web=1&e=yQnSXW

3.8 The workshop was successful once the participants were able to have contact with the criteria and requirements applied to the development of the project management activity of implementation of airspace concepts.

3.9 It is important to note that the participants also made a complete revision of the CEA Implementation Guide Manual and the material produced will be used to refine the manual.

3.10 It is suggested continuing the optimization of the process of implementation of Airspace Concepts in the SAM Region, including in conjunction with the CAR Region, to seeking the full development of air navigation in these regions, always aligned with the sustained evolution of the global ATM Operational Concept. The draft (version 2) of the SAM Region Airspace Planning Guide Manual, Parts I and II, reorganized, is presented at the following link:

https://oaci.sharepoint.com/:f:/r/sites/SAM-CAR-ANS-GESEA/Shared%20Documents/GESEA/SG1%20PLANESPA/Talleres%20y%20GUIA%20PLANIF%20ESP%20AEREO/MANUAL%20GUIA%20circular%20SAMIG30?csf=1&web=1&e=4LlhcI

4. Suggested actions

4.1 The meeting is invited to:

a) analyse the information provided and make comments and/or suggestions that may help in the process of developing the Airspace Planning Guidance Manual (current version 2) and in the training of specialists in the SAM Region; and

b) define the mechanisms to achieve the best feedback from the aforementioned Guidance Manual.

— FIN —

APPENDIX A

(Spanish only)

HORA	14 AGO	15 AGO	16 AGO	17 AGO	18 AGO
0800-1000	Presentación y Orientación de Trabajo	Preparación del Módulo 1: Implementación CEA	Preparación del Módulo 3: Fase de Diseño	Preparación del Módulo 4: Fase de Validación	Preparación del Módulo 5: Fase de Implementación
1000-1200	Análisis del material de referencia	Preparación del Módulo 2: Fase de Planificación	Preparación del Módulo 3: Fase de Diseño	Preparación del Módulo 4: Fase de Validación	Preparación del Módulo 2: Ejercicio
1200-1300					
1300-1430	Análisis del material de referencia	Preparación del Módulo 2: Fase de Planificación	Preparación del Módulo 3: Fase de Diseño	Preparación del Módulo 5: Fase de Implementación	Preparación del Módulo 2: Ejercicio
1430-1600	Preparación del Módulo 1: Implementación CEA	Preparación del Módulo 2: Fase de Planificación	Preparación del Módulo 4: Fase de Validación	Preparación del Módulo 5: Fase de Implementación	Preparación del Módulo 2: Ejercicio

APPENDIX B

(Spanish only)

HORA (Lima)	Lunes 21	HORA (Lima)	Martes 22	Miércoles 23	Jueves 24	Viernes 25
0800-0820	Registro	0830-0940	Módulo 3.1: Fase de Planificación Marco de Performance	Módulo 6: Fase de Implementación	Análisis del Guía de Implementación CEA	Presentación de los Ejercicios
0820-0900	Apertura del Taller					
0900-0920	Pausa	0940-1000	Pausa	Pausa	Pausa	Pausa
0920-1100	Módulo 1: Repaso 1er Taller	1000-1100	Módulo 4: Fase de Diseño	Módulo 6: Fase de Implementación	Módulo 3: Ejercicio	Presentación de los Ejercicios
1100-1200	Módulo 2: Implementación CEA	1100-1200	Módulo 4: Fase de Diseño	Módulo 6: Fase de Implementación	Módulo 3: Ejercicio	Presentación de los Ejercicios
1200-1320	Pausa	1200-1320	Pausa	Pausa	Pausa	Pausa
1320-1400	Módulo 3: Fase de Planificación	1320-1400	Módulo 5: Fase de Validación	Análisis del Guía de Implementación CEA	Módulo 3: Ejercicio	Conclusiones del Taller y siguientes pasos
1400-1440	Módulo 3: Fase de Planificación	1400-1440	Módulo 5: Fase de Validación	Análisis del Guía de Implementación CEA	Módulo 3: Ejercicio	Cierre del Taller
1440-1530	Módulo 3: Fase de Planificación	1440-1530	Módulo 5: Fase de Validación	Análisis del Guía de Implementación CEA	Preparación de la Presentación	

— END —