



Agenda

Item 2: Report of activities of the GESEA and Subgroups

REPORT OF GESEA/SG1 ACTIVITIES

(Presented by the Coordinator of GESEA/SG1)

SUMMARY

This working paper presents the progress of the activities carried out by GESEA/SG1 and SAM States and proposes the necessary measures to promote the implementation of the EDE and the ATS Contingency Plans of the SAM States.

References

- Report of SAM/IG/25.
- Summary of GESEA/SG1/2 meeting.

1. Background

1.1 The Second Meeting of Sub Group 1 of the SAM – GESEA Airspace Study and Implementation Group (GESEA/SG1/2) was held by virtual means from 27 to 29 April 2021. The meeting was focused on 3 points of the GS1 working programme: Implementation of Strategic Direct Routing (EDE), Update of the SAM States' ATS Contingency Plans and update of the operational concept document (CONOPS) for SAM airspace.

1.2 The GESEA/SG1/2 Meeting reviewed the conclusions of the SAM/IG/25 Meeting (Virtual 2-4 November 2020) and the actions agreed by the GESEA Plenary (Virtual, 16 to 18 March 2021). It was identified that most of SAM/IG current conclusions refer to the continuity of the work carried out in 2021.

1.3 The Working Plan approved by the GESEA Plenary for SG1, which indicates the Rapporteurs of each Task Force – WG, is attached as **Appendix A** to this working paper.

2. Discussion

Implementation of strategic direct routing – EDE

2.1 The GESEA/SG1/2 meeting highlighted that it is necessary to continue the implementation of EDE, in accordance with the action plan prepared during the first meeting and aimed at the SAM States through the letter Ref.: LN3/24.1 – SA5266 Lima, September 11, 2020. In addition, the Meeting concurred that the tests and trials of the application of the EDE and FRA should be promoted to examine their performance and continue to define adjustments in the Action Plan, as well as gradually expanding the implementation to airspaces with higher air traffic density and proposing adjustments to the aeronautical publication, so as to facilitate its use by airlines. The status of EDE implementation in the South American Region is presented as **Appendix B** to this working paper.

2.2 IATA presented test results that have identified requirements for automated ATM systems in the CAR and SAM Regions, including the RDP/FDP workspace configuration represented by a square of 2048 x 2048 NM. Conclusions of tests were presented regarding the location of waypoints in a DCT flight segment.

2.3 In this subject, the specialists analysed several aspects that have been identified in the tests or tactical applications of the EDE, linked to the management of flight plans including the DCT and the AIDC function in ACC concerned. The importance of sharing these experiences and continuing to coordinate the tests very closely, especially between EDE focal points of each State and IATA, was highlighted. Additionally, ATM system manufacturers were considered.

2.4 A summary of the activities carried out in 2020 was prepared which is presented in the Table shown in **Appendix C**, agreeing on a plan of activities to continue promoting the implementation, based on evidence that may indicate the technical-operational feasibility of EDE implementation, considering the aspects related to ATC systems, as well as the characteristics of each airspace. In that regard, the Meeting has requested the participation of all States in the tests, dates will be coordinated with the Secretariat and IATA.

ATS Contingency plans

2.5 GESEA/SG1/2 Meeting discussed the status of contingency plans in the SAM region and agreed that the project should be conducted in 4 phases, as shown in **Appendix D** to this working paper:

- a) Phase 1 – Preparation of the Contingency Framework Plan for the SAM Region. (concluded);
- b) Phase 2 – Formulation of a new version of national contingency plans based on the Contingency Framework Plan for the SAM Region, without the mandatory need for coordination with Neighboring States.
- c) Phase 3 – Standardization and updating of contingency plans in the South American Region, with mandatory coordination between Neighboring States and updated operational letters of agreement.
- d) Phase 4 – Preparation of the Regional ATS Contingency Plan ATS.

2.6 Regarding to phase 2, the ATC Contingency WG is expected to assess the most appropriate part for the publication of the ATS contingency plans, as well as the States prepare their contingency plans based on the Framework Plan, for September 2021, so as to have it published on November 4, 2021.

2.7 Considering that an important part of the new contingency plans is the standardization of the procedures to be applied by pilots, it is expected that IATA develops a card with the standard procedures and distribute it to airlines by November 4, 2021.

Update of the Operational Concept Paper (CONOPS) for SAM airspace

2.8 With respect to CONOPS, the GESEA/SG1/2 Meeting received the draft developed by the CONOPS WG, with a view to providing comments and contributions to the document.

2.9 Based on the comments received, the Rapporteur of the CONOPS WG and the Secretariat consolidated the document and a meeting of the WG was held to approve the consolidated version.

2.10 After reaching the consolidated version, the CONOPS WG will apply the methodology of part 7 of the document, aim at reviewing the CONOPS implementation metrics and preparing the final tables. The final version of CONOPS is presented in NE/2.2.

Optimization of Regional routes 2021 -2022. Implementation of RNAV-5

2.11 The Secretariat informed the Meeting that there are currently only 29 conventional regional ATS routes. Considering that it is desirable for the region to have an exclusive RNAV-5 airspace, with a view to facilitating the optimization of airspace, SG1 has created an RNAV-5 working group, to establishing coordination among the States involved for the modification of the designators of the 29 conventional routes for RNAV designators.

2.12 This Task Force is expected to interact with SG2 PANS PAHO, as its members are usually also linked to ATS route activities.

Optimization of TMA airspace

2.13 The GESEA/SG1/2 meeting considered that the Optimization of TMA should be a joint work of GS 1, 2 and 3, taking into account that it will involve the planning/management of airspace, as well as the regional standardization of the PANSOPS criteria applied in the SAM region.

Reduction of conventional longitudinal separation from 40 to 20 NM and Reduction of longitudinal separation with ATS Surveillance to 10 NM

2.14 Taking into account that the reduction of conventional longitudinal separation and with ATS surveillance, it is proposed that this activity be included in the SG1 work program, with a view to allowing implementation monitoring.

3. Suggested action

3.1 The Meeting is invited to:

- a) Request SAM States to evaluate the SG1 working programme, which is attached as Appendix A to this working paper and propose the changes deemed appropriate;
- b) request SAM States to implement or expand the application of Strategic Direct Routing, based on the guidelines provided through letter LN3 / 24.1 - SA5266, dated September 11, 2020, as well as the plan of activities attached as Appendix C, including, if necessary, testing on ATC automated systems and specific flights;
- c) request SAM States to update the EDE implementation status shown in Appendix B;
- d) request the SAM States to prepare their contingency plans based on the Contingency Framework Plan for the SAM Region for September 2021, so that they are published on November 4, 2021;
- e) request IATA to develop a card with standard procedures and distribute the information to airlines before November 4, 2021; and

- f) request the SAM States to evaluate the inclusion of the activity “*reduction of conventional longitudinal separation and with ATS surveillance*” in the SG1 Working Programme.

APPENDIX A

GESEA/SG1 Working Programme

ACTIVITY	GROUP	REFEREN CE	JOB CARD	TERM	AREA	DESCRIP TION	RAPPOR T EUR	STATE/ ORG	MEETING PLANNING	STATUS
DCT - EDE	SG1	SAM/IG/23 and 25	JC- GESE A/		Implement ation	Implementa tion based on 2020 SG1 studies. Work with STATES, CANSO, IATA, airlines. Developme nt of KPIs	Julio Pereira	IATA		IN PROGRESS
CONT PLAN	SG1	SAM/IG/23 and 25	JC- GESE A/04		Implement ation	Preparation of harmonized and agreed States' Contingenc y Plans, based on the approved MCATS Framework	Ricardo David	BRAZIL		IN PROGRESS
CONCEPT OF SAM AIRSPACE	SG1	SAM/IG/23			Planning	Complete Studies. Participatio n of States for methodolog y understandi ng. Deliver input to VOL III	Hector Ibarra	CHILE		IN PROGRESS

ACTIVITY	GROUP	REFEREN CE	JOB CARD	TERM	AREA	DESCRIP TION	RAPPOR T EUR	STATE/ ORG	MEETING PLANNING	STATUS
						ANSP CAR SAM.				
RULES PLANNING EA	SG1	SAM/IG/23 and 25			Rules	Guidance on Air Space projects	Marcos Peçanha	BRAZIL		IN PROGRESS
TRAINING PLANIFICADOR EA	SG1	SAM/IG/23 and 25			Training	Training regarding Guidance on Air Space projects	Marcos Peçanha	BRAZIL		IN PROGRESS
RNAV 5 RUTES	SG1- SG2	PLEN GESEA 2			Implement ation	Optimize last 29 conventiona l routes. Exclusive RNAV5 for upper airspace regional- domestic. Action Plans.	Secretariat	STATES		IN PROGRESS
OPTIMIZATION OF TMA AIRSPACE	SG1- SG2	PLEN GESEA 2			Implement ation	Selected TMA optimizatio n. Initial application of ASM/ATF M synergies.	TBD			IN PROGRESS

ACTIVITY	GROUP	REFEREN CE	JOB CARD	TERM	AREA	DESCRIP TION	RAPPOR T EUR	STATE/ ORG	MEETING PLANNING	STATUS
POST-IMPLEM	SG1	SAM/IG/23			Rules		Julio Pereira	IATA		2022 OR LATER
FAVA	SG1	PANSOPS 4			Rules					2022 OR LATER

APPENDIX B

EDE implementation in SAM Region

(GESEA/SG1/2, Virtual 27 to 29 April 2021)

- Argentina. – The Baires TMA is in the process of implementation, which is expected to affect the airspace of several FIRs neighboring Ezeiza, therefore, the issue of EDE implementation has not been defined yet.
- Bolivia. – The progress in the implementation of the ATS surveillance service in the La Paz FIR was reviewed, with the expectation that the coverage of VHF pilot-controller communications will also be extended, foreseeing that with the fulfillment of these technical conditions, the EDE will be able to be implemented.
- Brazil. – The EDE is implemented in the Recife and Amazonica FIRs, and implementation in the Brasilia and Curitiba FIRs is being studied. The respective AIP documentation was shared with the Coordination and Secretariat (ENR 1.9 AIR TRAFFIC FLOW MANAGEMENT AND AIRSPACE MANAGEMENT) which will be uploaded to the meeting file and/or GESEA cloud. Same for States to be mentioned below.
- Chile. – It was informed the publication of AIC NR 19 - 28 OCT 2020. Basically the EDE will be applied to a oceanic airspace portion.
- Colombia.- It was reported the publication of the SUP AIP A64 / C86, 04 NOV 2020. Some limitations originated due to the location of the Palanquero military zone near Bogota were detailed. It was indicated that SUP data will be reviewed before May 20, 2022 given some changes in RNAV routes that come into force on that date, as well as the incorporation of the Supplement to the AIP Colombia will be evaluated.
- Ecuador. – Has published in AIP as part of ENR 1.10. The recent tests carried out with Peru, COCESNA and IATA were reviewed, having determined how to implement pseudo-points at 50 NM from the FIR limit so that the flight plan is processed, as well as aspects of the EST and CDN messages. A summary of the test results is presented in Appendix C.
- Panama. – It was mentioned that there is a tactical application for direct flight for a long time. The conditions that apply have been published in AIP ENR 1.8-1.
- Peru. – A SUP AIP will be published in June 2021. It is planned to start the implementation in the Oceanic part. In consultation with LATAM, it was explained that a second phase has been considered for the continental space. Trials have been carried out with Delta Airlines, with satisfactory results (Guayaquil - ATATU and ISREN - Guayaquil segments). The capacity of the INDRA Lima ACC system to manage AIDC messaging with LAT / LON data from points on the border of FIR Lima - FIR Guayaquil was verified.
- Uruguay. – It was stated that all the SID / STAR procedures and ATS routes within the Montevideo FIR have a direct and very efficient configuration. The option of publishing specific information in AIP was analyzed, in a way that facilitates the knowledge of the airlines for the presentation of flight plans originating in Montevideo, which could access the EDE application in neighboring FIR spaces.
- Venezuela. – The NOTAM A0514 with details of the application of EDE in FIR Maiquetia is up to date. An AIP SUP is expected to be published on AIRAC date of May 2021. It was deemed convenient to carry out EDE tests on AIDC and ATS surveillance between Venezuela and Brazil, since they use the same Sagittarius technology in ACC. Then tests with ACCs of different technology can be extended to know interoperability.

APPENDIX C
Table of activities of the Working Group (GT) on EDE

Activity	Responsible	Deliverable	Date	Status	Comments
1. Review the status of Implementation of Strategic Direct Routing in the CAR / SAM Region.	Julio Pereira		17-Jun-20	Concluded	
2. Review the Content of FRTO B0/1 of the Global Air Navigation Plan.	Julio Pereira		17-Jun-20	Concluded	
3. Implement Strategic Direct Routing in airspaces with low volume of air traffic.	States		5-Nov-20	In progress	States that implemented EDE: - Brazil - AIP Brazil ENR 1.9-4 - 20 MAY 21 (FIR AZ and most of FIR RE - initially implemented via NOTAM) - Chile - AIC - AIP VOLUME I - NR 19 - 28 OCT 2020 (portion of oceanic airspace) - Colombia - Ecuador - Guyana - Venezuela
4. Prepare an aeronautical publication model for the implementation of the FRTO B0/1.	Julio Pereira Fernando Hermoza		29-Jul-20	Concluded	2 AIP models are available: only overflights and including airport arrivals / departures in the FIR. Standardize where EDE information should be entered in the AIP.
5. Prepare a model / guide for Operational Safety Assessment for the Implementation of FRTO B0/1.	Fernando Hermoza		12-Aug-20	Concluded	Model for Operational Safety Assessment is available.

Activity	Responsible	Deliverable	Date	Status	Comments
6. Develop an educational brochure to spread the EDE concept for CTAs and Pilots, ARO Officers.	Rosanna Baru		12-Aug-20	In progress	Informative Video concluded and available. Is it necessary to draft a brochure?
7. Update the letters of operational agreement for the implementation of the EDE.	States		5-Nov-20	In progress	Example: Evaluate the need to publish waypoints at the limits of the FIR to promote direct routes that involve more than one FIR.
8. Prepare a guide for training ATCOs involved in FRTO B0/1 implementation.	Rosana Baru		12-Aug-20	In progress	Specific meetings will be held to prepare the guide, as necessary.
9. Establish the requirements for the implementation of FRTO B0 / 1 (ATS Surveillance Coverage, VHF Coverage, MTCD, Trajectory Monitoring).	States		12-Aug-20	In progress	Radar coverage and VHF coverage are essential requirements for EDE implementation. Verify ATC Surveillance Coverage, VHF Coverage, MTCD availability and Trajectory Monitoring. MTCD and Trajectory Monitoring are desirable requirements for the ATCO workload reduction effect.
10. Verify the impact on implementation in AIDC.	Fernando Hermoza / Luis Perales		12-Aug-20	In progress	AIDC is not a requirement for the EDE application. In certain cases, the FPL with the application of the EDE must foresee a LAT / LONG waypoint prior to the transfer point between ATC units, in order for the AIDC to function properly. Verify ATECH, INDRA and THALES systems.

Activity	Responsible	Deliverable	Date	Status	Comments
11. Establish key performance indicators.	Julio Pereira		12-Aug-20	In progress	Develop KPI 04 of the Global Air Navigation Plan. Efficiency is already being measured via ADS-B, with the application of the SIMS system. Seek airline support for KPI sampling.
12. Develop ATC systems testing requirements for EDEs, including AIDC and MTCD.					
13. Define the groups of States that will participate in the ATC - EDE systems tests					
14. Prepare reports of system tests ATC-EDE.					
15. EDE/TF meetings.					

APPENDIX D

Table of activities of the Task Force (WG) on ATS Contingency Plans

Action required	Responsible	Deliverable	Finished	Status	Comments
a) Mapping the status of Contingency Plans in the South American Region.	WG CONT PLAN	Status of Contingency Plans in the South American Region.	Q4/2020	Concluded	
b) Preparation of the Contingency Framework Plan for the SAM Region.	WG CONT PLAN	Contingency Framework Plan	Q4/2020	Concluded	
Establish the part of the AIP for the publication of the national ATS contingency plans in a harmonized way in the SAM Region.	WG CONT PLAN	Part of the AIP harmonized of the publication of the national contingency planes.	Jun-21	In progress	17 and 18 Jun
Follow-up meeting 1 – CONTINGENCY Working Group	WG CONT PLAN	Follow-up to the status of updating of national contingency plan	Jun-21	In progress	17 and 18 Jun
Follow-up meeting 2 – CONTINGENCY Working Group	WG CONT PLAN	Follow-up to the status of updating of national contingency plan	Aug-21	In progress	24 and 25 Aug
c) Preparation of a new version of national contingency plans based on the Contingency Framework Plan for the SAM Region	SAM States	National contingency plan updated	Sep-21	In progress	
Follow-up meeting 3 – CONTINGENCY Working Group	WG CONT PLAN	Follow-up to the status of publications of national contingency plan	Oct-21	In progress	13 and 14 Oct

Action required	Responsible	Deliverable	Finished	Status	Comments
d) Publication of national contingency plans in the AIP, including the English version.	SAM States	AIP updated with national contingency plans, including: - English version - harmonized procedures for pilots (TIBA, self-transfer) - new ATS routes	4-Nov-21	In progress	
e) Development and dissemination of a standard card of harmonized SAM contingency procedures for pilots (TIBA, self-transfer, etc.).	IATA	Standard card of harmonized SAM contingency procedures for pilots (TIBA, self-transfer, etc.).	4-Nov-21	In progress	
Follow-up meeting 4 – CONTINGENCY Working Group	WG CONT PLAN	Follow-up to the publication of the national contingency planes.	Nov-21	In progress	24 and 25 Nov
f) Standardization and updating of contingency plans in the South American Region.	WG CONT PLAN and SAM States	Harmonized contingency plans in the Region.	Q1/2022	In progress	
g) Updating of the letters of agreement with the harmonized national contingency plans.	SAM States	Updated letters in the Region.	Q1/2022	In progress	
h) Preparation of the Regional ATS Contingency Plan.	WG CONT PLAN and SAM States	Regional ATS Contingency Plan.	Q4/2022	In progress	
i) Updating of letters of agreement with the ATS Regional Contingency Plan.	SAM States	Updated letters in the Region.	Q4/2022	In progress	