SOUTH AMERICAN AIG REGIONAL COOPERATION MECHANISM (ARCM)

FOURTH MEETING OF AIG AUTHORITIES
(Brasilia, Brazil, 23 to 25 May 2017)

Item 16: Other agenda items

ACTIVITIES BEING CARRIED OUT BY THE RASG-PA PA-RAST AND THE MAC TEAM

(Presented by Brazil)

SUMMARY

This working paper presents the activities being carried out by the RASG-PA PA-RAST group through its MAC team. It also presents the work done by Brazil through its BCAST (Brazilian Commercial Aviation Safety Team) MAC team to improve resolution advisory (RA) reporting.

Strategic objectives:	• Safety • Air navigation capacity and efficiency
Financial repercussions:	• There are no financial repercussions
References:	• GASP – Global Aviation Safety Plan (ICAO)

1. Background

1.1 At its work meetings, the RASG-PA (Regional Aviation Safety Group - Pan America) PA-RAST group is presented with unidentified FOQA data concerning safety-related areas, such as CFIT, LOC-I, RE, and MAC. Regarding MAC (mid-air collision), TCAS-RA alert indicators are of special significance. The number and concentration of TCAS-RA alerts in certain locations of the Pan American region drew the attention of the group to the need for a thorough analysis of the reasons for their occurrence and measures to mitigate them.

1.2 In May 2016, the 24th PA-RAST meeting (PA-RAST/24), held in Miami, United States, established a MAC-specific group, coordinated by Brazil, tasked with defining and implementing a strategy for mitigating TCAS-RA events in Central American, Caribbean, and South American (CAR-SAM) countries. The composition of this group included representatives of Brazil (ANAC and DECEA), Costa Rica, Argentina, United States, IATA, ALTA, IFALPA, ICAO NACC and SAM, in addition to Embraer, Boeing, and Airbus. The group started working in coordination with Brazil's MAC group (BCAST) and its work plan was defined in June 2016.

2. Activities of the RASG-PA PA-RAST and the MAC team

2.1 The work plan of the PA-RAST MAC group is based on two main approaches (approaches 1 and 2) that will be followed simultaneously. Approach 1 involves the identification of areas of greater concentration of TCAS-RA occurrences and the initiation of a reactive mitigation cycle. This cycle relies on full participation of, and cooperation between, airlines and the air traffic service provider in sharing and assessing occurrences, supported by pilot and controller reports.

2.2 These analyses are possible with the use of software applications such as Google Earth, where occurrences are mapped with respect to airspace design. Based on data display and pilot and controller report analyses, it is possible to identify the root cause of the corresponding occurrences and assign corrective action to eliminate them. This is a continuous process and must be conducted until Hot-Spots are completely eliminated. Brazil (BCAST) has already carried out this work through the analysis of occurrences in terminal areas and the development of corrective actions.

2.3 The PA-RAST MAC group reached the conclusion that approach 1 should only be coordinated by the affected State, since it involves the airspace and the airlines that are regulated and supervised by the State. In this regard, at the PA-RAST/25 meeting, held in Bogota, the Colombian authority (Aerocivil) offered to apply approach 1 in its territory, taking advantage of the creation of its national safety team, the NAST. As for next steps, it is expected that other States will also establish similar initiatives to mitigate TCAS-RA occurrences.

2.4 Approach 2 involves identifying and proactively applying existing recommendations to mitigate mid-air collision occurrences. The PA-RAST MAC team selected six different recommendations (DIPs), which will be common to all States and operators. These recommendations included the use of Level Bust e-learning for pilots and controllers, Visual Scanning techniques and standard phraseology, as well as the adoption of operational practices, such as reducing the vertical speed of the aircraft when approaching the levelling phase.

3. Proposal for improving resolution advisory (RA) reporting to accident investigation authorities

3.1 The BCAST MAC group has made an active contribution to PA-RAST through the development of a methodology to mitigate Hot Spots using Google Earth, the definition of a call sign numbering criterion using a standard algorithm for all airlines, the development of mid-air collision and Level Bust tool kits and recommendations for pilots and controllers, which are now available at the BCAST website (http://www.anac.gov.br/assuntos/paginas-tematicas/gerenciamento-da-seguranca-operacional/bcast/trabalhos-realizados).

3.2 As a result of the work done to mitigate Hot Spots in Brazil, the need was identified to encourage controllers to increase TCAS-RA reporting. At the meeting of the DECEA safety committee in December 2016, ASEGCEA (Safety Advisory of DECEA) presented the Safety Managers of CINDACTA, SRPV-SP, and INFRAERO with a graph comparing 2015 TCAS-RA pilot and ATCO reports, by region, confirming the need to start a campaign among all air traffic controllers of Brazil to encourage TCAS-RA reporting.

3.3 This event ratified the mandatory nature of these reports, which are high-impact indicators required by DECEA by virtue of regulation ICA 63-38 (safety performance indicators in SISCEAB). These reports are also required on a monthly basis under the Aircraft Accident Prevention Programme of the Airspace Control Department (ICA 63-16). Accordingly, it was agreed that each organisation would inform ATCOs, at their operational briefings, about this legal requirement and the importance of this information for safety purposes.

3.4 DECEA underscored to the areas involved that, in addition to mandatory reporting, ATCO briefing should draw from the mid-air collision accident and incident mitigation work carried out by the BCAST MAC group, thus promoting a safety culture within the organization.

3.5 This work is being carried out since 2016 and the efficacy of the measures will be established at the time of the 2016 closing reports to be submitted to ASEGCEA for collection and final analysis. Following verification, the comparative table will be available.

4. Conclusions

4.1 The PA-RAST MAC group has developed a reactive and proactive methodology for mitigating TCAS-RA occurrences, which may be used by SAM States.

4.2 The Brazilian BCAST group develops initiatives for mitigating TCAS-RA occurrences in Brazilian territory, and this type of learning can be adapted to the national reality of the different SAM States.

4.3 The TCAS-RA HotSpot mitigation work has shown the need to strengthen the ATCO reporting culture. Safety initiatives by the Brazilian air navigation service provider also point in that same direction.

4.4 The work done shows that it is possible to mobilise an ANSP for the promotion of ATCO reporting.

5. Suggested action

5.1 The Meeting is invited to:

a) take note of, and comment on, the contents of this working paper; and

b) support the initiatives developed by the RASG-PA PA-RAST.

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