



**Thirty Seventh Regional Aviation Safety Group — Pan America Executive Steering Committee
Meeting
(ESC/37)**

Mexico City, Mexico, 25 to 26 May 2022

Agenda Item 1: Items related to RASG-PA’s internal operation

PA-RAST REPORT

(Presented by the Secretariat)

EXECUTIVE SUMMARY

This working paper presents the status of current PA-RAST projects, how they have evolved during 2021 and their relation to the PA-RAST Working Plan. As in person meetings have been restored for 2022, the PA-RAST Working Plan for 2022-2023 has been updated and is also presented as an attachment to this Working Paper.

Action:	Action is presented in paragraph 4.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> Organization and Operation of the RASG-PA
<i>References:</i>	<ul style="list-style-type: none"> RASG-PA Procedural Handbook

1. Introduction

1.1 By leveraging a collaborative safety analysis, based on a data-driven approach to monitor precursors to relevant safety scenarios¹ and the associated fatality risk indicator, the PA-RAST developed projects for the RASG-PA which had become the first five RASG-PA Safety Advisories (RSA). Said material was published, discussed upon, implemented by several stakeholders in the Pan-American Region, and monitored through 2010 to 2018.

1.2 As a result of enhanced operational safety throughout the region, indicators of the main relevant safety scenarios, otherwise indicated as *High-Risk Categories* (HRC) – Runway Excursion (RE), Loss of Control In-Flight (LOC-I), Controlled Flight Into Terrain (CFIT) and Mid-Air Collision (MAC) currently present a stable state, year after year, with values considered fluctuating minimums, a situation that poses some difficulties in identifying emerging risks.

1.3 During 2018 and 2021, the Team was required to refine the methodology for identifying safety opportunities² and their associated safety performance indicators (SPI) metrics and targets. As a result,

¹ A relevant safety scenario is related to accidents, serious incidents, and incidents that can potentially lead to more severe outcomes and are usually associated with one or more Occurrence Categories as established by the CAST-ICAO Common Taxonomy Team (CICTT) – <http://www.intlaviationstandards.org>.

² Previously called by “hot spots”.

the PA-RAST has extensively redesigned its approach to identifying opportunities for safety improvements in the Pan-American Region, mainly by leveraging the establishment of Collaborative Safety Teams (CST) by as many States as possible.

1.4 CSTs may act as working partners of the PA-RAST for evaluating specific causes of safety issues, designing, and implementing safety enhancements locally, with support from the RASG-PA. In turn, such active CSTs can provide their observations and conclusions back to the PA-RAST, for evaluating the applicability of such strategies at a regional level. Therefore, the PA-RAST currently has two ways of capturing relevant safety projects for the Pan-American Region, by its own data-driven monitoring process and by participating CSTs.

1.5 Collaboration with CSTs has allowed the PA-RAST Working Plan to move ahead during the COVID-19 pandemic, as in-person meetings are a hard requirement for the data-driven approach. CSTs from the US and Brazil have actively provided inputs to the PA-RAST and helped advance the current Working Plan. The PA-RAST was also able to directly support the development of a CST in Mexico, marking another milestone in enhancing safety mechanisms in the region.

1.6 Promotional efforts by the RASG-PA in the past decade have made such collaboration and fostering establishment of the CSTs possible, while noting that a functional CST can be regarded as an integral part of the full implementation of a State Safety Programme (SSP) Risk Management Process. With active local data-driven efforts, regional integration by means of the CSTs participation in the RASG-PA is one of the main benefits for the State, and consequently for the entire region.

1.7 This Working Paper updates the PA-RAST Working Plan, for the High-Risk Categories (HRC), which include areas of known or otherwise measured safety performance, aligned to those set by the Global Aviation Safety Plan (GASP) and Additional Risk Categories (ARC), for which the group is developing new and specific Safety Enhancement Initiatives, usually characterized by subsets of the HRC with very specific safety outcomes that require new data to be fully assessed.

2. Discussion

2.1 Throughout 2021, the PA-RAST has kept meeting at least once per month, in a virtual environment, gathering inputs from participants and from active CSTs, to better outline its Working Plan for 2022, as the pandemic restrictions were already expected to be lifted. Accordingly, the PA-RAST has managed to regain the in-person meetings for a first time in two years (since the outbreak of the new Coronavirus), during three days at the IATA's Office for the Americas, in Miami, FL (US)³.

2.2 The team was able to restart reviewing available data and get insights for the Team's Working Plan. It was also agreed that the monthly time dedicated to the virtual meetings would be shifted to the specific working groups (Safety Enhancement Teams – SET), one per each active HRC project.

3. Proposed Working Plan – 2022-2023

3.1 The team considered a structure for the Working Plan directly based upon the initial working structure (that of 2010) that consisted of smaller teams, the SET, to increase focus on the HRC and its expected deliverables.

³ <https://www.icao.int/RASGPA/Pages/MeetingsDocumentation.aspx?m=2022-PA-RAST>

Runway Excursion (RE)

3.2 The Runway Excursion SET is championed by ALTA and its objectives have been set in accordance with the work provided by the CST of Brazil (BCAST) regarding an assessment between the required landing performance and the touchdown zone markings and definitions as set by the SARPS in Annex 14. The BCAST has identified⁴ three relevant safety scenarios that arise from incompatibilities on those definitions (aircraft landing performance, operations and TDZ markings) and the PA-RAST has considered that such scenarios are present in the Region.

3.3 Therefore, the current plan for the RE-SET is:

Deliverable:	Develop a new RASG-PA Safety Advisory - Touchdown Zone Markings and Required Landing Performance Assessment
Rationale and objectives:	Touchdown Zone Markings definitions in SARPS and Required Landing Performance are not mutually compatible in certain cases for short runways (around 2000m in total length). Precursor data also show some scenarios on long runways (length greater than 2400m) and on narrower (30m) runways. Those scenarios are based on the outcomes of the BCAST SE-RE-02, which identified inconsistencies on TDZ markings regulations (based on Annex 14) and required aircraft landing performance.
Development landmarks:	<ol style="list-style-type: none"> 1. PA Survey on airports (RWY) [2 months] – <i>in progress</i> 2. Survey on Air Operators Procedures [2 months] 3. Review SARPS (Annex 14) [2 months] – <i>in progress</i> 4. Outline safety recommendations [3 months] 5. Final RSA Draft [2 months]
Expected due time:	October/2022

Loss of Control In-Flight (LOC-I)

3.4 The LOC-I SET is championed by Boeing and its objectives have been set by revisiting the first five RSA, which contained LOC-I relevant material. During discussions, the team agreed that such projects remain highly relevant, although no specific data points to lack of implementation or to increased levels of precursor data.

3.5 The main RSA to be reviewed are RSA 001 (Mode Awareness and Energy State Management Aspects of Flight Deck Automation) and RSA 002 (Closing of DIPs, LOC Training – Human Factors and Automation; Advanced maneuvers), that could be updated and serve as introduction to the ARC Go-Around Outcomes and Aircraft Misconfiguration.

3.6 Therefore, the current plan for the LOC-I-SET is:

⁴ <https://www.gov.br/anac/pt-br/assuntos/seguranca-operacional/grupos-brasileiros-de-seguranca-operacional-bast/bcast/BCASTSE002GTREv014092021ImportnciadoPontodeToquenaPerformancedePouso.pdf>

Deliverable:	Develop a new RASG-PA Safety Advisory - Updated State Awareness Guidance Material
Rationale and objectives:	Revision of RSA-01 and RSA-02 LOC-I topics. A new RSA on LOC-I will prompt another round of promotion efforts while introducing ARC on Aircraft Misconfigurations and Go-Around Outcomes. Objectives include: <ul style="list-style-type: none"> - Increase organizational awareness to “permanent attention topics” - Prevent increased rates of occurrences - New (specific) data collection for ARC studies
Development landmarks:	<ol style="list-style-type: none"> 1. Review RSA 001 [3 months] – <i>in progress</i> 2. Review RSA 002 [3 months] 3. Outline safety recommendations [3 months] 4. Final RSA Draft [2 months]
Expected due time:	March/2023

Controlled Flight Into Terrain (CFIT)

3.7 The CFIT SET is championed by the US (FAA/CAST) and its objectives have been set on the outcomes of a study of both the US CST (CAST) and the Brazil CST (BCAST) for standardization of EGPWS/TAWS update procedures for air operators.

3.8 Therefore, the current plan for the CFIT-SET is:

Deliverable:	Develop a new RASG-PA Safety Advisory - Fleet EGPWS/TAWS Obstacle Database/Software Update Guidance Material
Rationale and objectives:	Fleet EGPWS/TAWS Obstacle Database/Software Update Guidance Material can be developed as a collaborative evaluation of the CAST SE 120/184 and BCAST SE-CFIT-002. Both documents highlight the importance of implementing explicit regulatory calls for updating those systems. Objectives include: <ul style="list-style-type: none"> - Enhance data quality (FDX, ASIAs, etc.) - Increase organizational awareness to operations changes - Prevent increased rates of occurrences
Development landmarks:	<ol style="list-style-type: none"> 1. Review CAST SE 120/184 [2 months] – <i>in progress</i> 2. Review BCAST SE-CFIT-002 [2 months] 3. Outline safety recommendations [3 months] 4. Final RSA Draft [2 months]
Expected due time:	December/2022

Mid-Air Collision (MAC)

3.9 The MAC SET is championed by IATA and its objectives include the collaboration between the PA-RAST and the GTE/GREPECAS, in identifying safety opportunities, confirming precursors from operations, CNS or other factors and jointly develop mitigation strategies. The current state of work is well established and both teams are reviewing data.

3.10 Therefore, the current plan for the MAC-SET is:

Deliverable:	MAC-SET and GTE Collaboration
Rationale and objectives:	<p>Assessment of results from the PA-RAST/GTE Collaboration</p> <ul style="list-style-type: none"> - Joint validation of hot-spots regarding MAC - Identification of region-wide safety scenarios to address (non-local). <p>Those results could form new RSA or recommended actions for the RASG-PA and the GREPECAS, providing an integral approach to MAC safety enhancement opportunities (lower and upper airspace challenges), in a way that:</p> <ul style="list-style-type: none"> - Facilitates implementation of safety enhancements - Provisions of “neutral approach” to identified issues - Provides uniform perception of priorities on MAC issues in the region
Development landmarks:	<ol style="list-style-type: none"> 1. Establishment of MAC-SET/GTE monthly meetings – <i>completed</i> 2. Survey types of safety opportunities [2 months] – <i>in progress</i> 3. Survey States [3 months] 4. Outline safety recommendations [3 months]
Expected due time:	October/2022 – Next Plenary Meeting (updates)

Other action items

3.11 CST fostering is a continuing effort and the PA-RAST has identified that some States are currently regaining the CST establishment. Those efforts can be directly supported, by means of coordination with the ICAO ROs and the PA-RAST Co-Chairs.

3.12 Lastly, it should be noted that the PA-RAST is planning to hold its usual four *in person* meeting in 2022 following the same arrangements for 2019: two data analysis meetings (MIA, February and August) and project review meetings (Mexico in May and a SAM State in late November). Therefore, meetings should continue as planned, considering the successful meeting in February.

4. Suggested Actions

4.1 The Meeting is invited to:

- Take note of the information presented;
- Discuss the items brought under Item 3 of this WP; and
- Provide any feedbacks and additional guidance for the PA-RAST.