International Civil Aviation Organization
South American Office
Eleventh Meeting/Workshop of the Scrutiny Group (GTE/11)
Lima, Peru, 21 to 25 November 2011

GTE/11-WP/04
09/11/11

Agenda Item 2: Large Height Deviation (LHD) Analysis

Application of the GTE Methodology to LHD Events

(Presented by the Secretariat)

SUMMARY

This working paper proposes a new experimental work mechanism for the Scrutiny Working Group (GTE), based on the strengthening and expansion of the terms of reference of the Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA) concept, in support of the data-based risk identification process and the implementation of mitigation measures.

References:

- GTE/10 meeting report (Mexico City, Mexico, 13-17 December 2010)
- ICAO Doc 9735 – Universal Safety Oversight Audit Programme
- RASG-PA – Procedural Handbook (2nd edition)
- GREPECAS/16 final report

ICAO Strategic Objectives	*This working paper is related to Strategic Objectives A and D.*

1. Background

1.1. The Scrutiny Working Group (GTE) is holding its eleventh meeting. Its achievements have fostered bilateral and multilateral discussions amongst air navigation service providers (ANSPs) of the CAR/SAM and neighbouring Regions. Likewise, the group has significantly contributed to the maintenance of the required TLS in the Regions. Each of its meetings has produced mitigation measures, based on observed trends, which have then been analysed by ANSPs with a view to correcting or mitigating the most frequent errors.

1.2. The work of the group relies mainly on voluntary contributions by many experts, who perform their task by analysing and scrutinising data the collected by CARSAMMA. The review and analysis of large amounts of data is time-consuming and cannot always be completed in a five-day meeting, reason why teleconferences have been held periodically to analyse LHD reports. However, the meeting of the group offers an opportunity to characterise parameter values in the collision risk model and to consider the best mitigation measures to be adopted by ANSPs.

1.3. This methodology has provided GTE experts with a high level of maturity and experience in addressing occurrences and factors affecting collision risk estimates in RVSM airspace in both Regions.

2. Discussion

2.1. In order to draft a proposal that takes into account the strengthening and expansion of the terms of reference of the USOAP CMA concept, the Meeting is invited to analyse the following issues:

Scrutiny Working Group (GTE), GTE/10 Final Report

2.2. According to the report of the tenth meeting of the Scrutiny Working Group (GTE/10), M and N errors continue to be the two main categories, accounting for approximately 94-97% of reported LHDs. These are not caused by RVSM operation; rather, the main contributing factor is the common aircraft hand-over procedures between ATC units. The assessment shows that the collision risk in the CAR/SAM Regions significantly exceeds the reference TLS of 5.0×10^{-9} fatal accidents per hour of flight of the aircraft.

2.3. The report recognised that height deviations resulting from ATC operational errors and in-flight contingencies occur all over the airspace, regardless of the separation minima applied. Therefore, risk mitigation measures should not be limited to RVSM airspace.

2.4. Furthermore, the Meeting agreed on the need for air navigation service providers (ANSPs) to make a safety assessment of all ATC operational incidents and errors, based on ICAO SMS provisions.

Regional Aviation Safety Group – Pan America (RASG-PA)

2.5. According to its terms of reference, the RASG-PA was created as a focal point and to harmonise and coordinate safety efforts with a view to reducing aviation safety risks in the North American, Central American and Caribbean (NAM/CAR), and South American (SAM) Regions, and to promote the implementation of safety initiatives by all stakeholders.

2.6. This will be achieved through the participation of all stakeholders, including ICAO, the States, international organisations and the industry.

2.7. Therefore, the RASG-PA has been conceived to minimise duplication of efforts through the creation of working groups that will perform their tasks by applying mitigation strategies based on the acquisition and processing of safety information and data. These mitigation strategies will focus on the Global Aviation Safety Plan and the respective Global Safety Initiatives.

Continuous Monitoring Approach (CMA)

2.8. The new concept and methodology developed within the framework of the USOAP is known as the CMA. The USOAP CMA provides a mechanism for ICAO to collect safety information from member States and other stakeholders, and to analyse it using a risk-based approach for the identification and prioritisation of the activities to be performed by the organisation.

2.9. The USOAP CMA provides a mechanism for collecting safety data and information from three main sources--member States, internal stakeholders and external stakeholders--, which, in parallel to State safety programmes (SSP), will generate safety data to improve the efficacy of the USOAP CMA.

3. Conclusion

3.1. Taking into account the need for close continuous monitoring of the trends of possible operational errors, a more efficient work mechanism would be to generate a database, not only of the reported LHDs, but also with information of the air safety reports (ASR) received and processed by the ICAO South American Office, in order to produce statistical data and detailed reports of factors identified as having an impact on safety, to be assessed by the GTE.

3.2. The proposal is based on the understanding that RASG-PA is a process that identifies risk based on data (**inputs**) and acts upon them by coordinating mitigating actions (**outputs**). With this in mind, GREPECAS is a source of air navigation safety information which could be share as an input to the RASG-PA process, for example Air Navigation Deficiencies, LHD, etc., and GREPECAS is also a mechanism that implements safety risks mitigation actions, for example pavements improvements, airports certification, PBN, situation awareness.

3.3. The strengthening and expansion of the terms of reference of the USOAP CMA concept should also be taken into account when assessing the safety risk indicators of the State. Based on this information, the GTE will regularly report to GREPECAS for the purpose of processing the data and coordinating mitigation measures.

3.4. As an input to the RASG-PA process, GREPECAS should prepare and present WPs to the RASG-PA ESC containing statistical information on the processes and/or projects that are producing valuable air navigation safety information, for consideration of RASG-PA within the Annual Safety Report.

4. Suggested action

4.1. The Meeting is invited to:

a) review the information contained in this working paper;

b) assess the application of the new safety analysis concepts in RVSM airspace;

c) approve the strategy for assessing the data contained in air safety reports (ASRs), using the periodic teleconference modality;

d) propose other actions it may deem appropriate.

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