



International Civil Aviation Organization

Runway and Ground Safety Working Group

Fourth Meeting (RGS WG/4)
(Cairo, Egypt, 05-07 November 2017)

Agenda Item 3: Implementation of Aerodrome Safety Priorities and Objectives in the MID Region

RUNWAY EXCURSIONS

(Presented by Egypt)

SUMMARY

The aim of this paper is to review the importance of Safety concern of Runway/Taxiway Excursions, and update the approaches used to deal with the issue according to actual status and needs.

Action by the meeting is at paragraph 3.

REFERENCES

- ICAO Annex 14
- ICAOMID, Annual Safety Report Fifth Edition.
- RASG-MID/6

1. INTRODUCTION

1.1 ICAO Annex 14 - Aerodromes, Volume I-“Aerodrome Design and Operations” contains number of Standards and Recommended Practices (SARPs) included indifferent chapters (e.g.: Data, Physical Characteristics, Obstacles, Visual Aids, Services, and Maintenance) which contains safety requirements that contributes to control the issue of Runway/Taxiway Excursions. In addition, ICAO has produced Circular 329 “Runway Surface Condition Assessment, Measurement and Reporting”. It establishes a conceptual understanding of the friction issues and recommends a holistic approach to the reporting of the pavement surface friction characteristics.

1.2 Runway/Taxiway Excursions have been one of the most serious concerns related to runway safety.

2. DISCUSSION

2.1 Runway contamination and related issues represent major runway excursion risk factors and point to an urgent need for a common understanding of the complex interaction between factors that affect the use and performance of aircraft braking systems.

2.2 Contributing factors for this issue from the aerodrome perspective may include:

- a) *Related to Design:*
 - Runways/taxiways not constructed and maintained to maximize effective friction and drainage.
 - Calculation of declared distances not accurately published.
 - Inadequate runway end safety area (RESA) and RWY/TWY strips (dimensions, characteristics).
 - Inappropriate obstacle assessments.
 - Poor or obscured visual aids (Markings/Lighting/Signs).
- b) *Related to Operation:*
 - Late or inaccurate runway condition reports (Competency of staff experience).
 - Failure to close of runway/taxiway when conditions dictate.

2.3 Runway condition reporting must therefore be consistent with the aircraft performance. Also the provision of adequate visual reference during the final stage of approach to land, especially in low visibility, is critical to reduce the risk of runway excursion.

2.4 Experience dealing with this issue showed that some useful mitigations should be taken into consideration for both:

- a) *Preventive Controls:*
 - Ensure that pavements in manoeuvring area are constructed and maintained as required, and changes are communicated in a timely manner.
 - Ensure that visual aids are complete and visible.
 - Mitigate the effects of contamination (e.g., water, sand) and other deposits (e.g., rubber and fluids) on the runway/taxiway.
 - Adopt criteria to determine when to report slippery/close a runway/taxiway to prevent excursions.
- b) *Recovery Measures:*
 - Ensure that all safety areas surrounding runway/taxiway as required or appropriate mitigations implemented (such as an Engineered Material Arresting System (EMAS)).
 - Ensure that aircraft rescue and firefighting (ARFF) service is adequately available at all times during flight operations.

2.5 Still, more effort need to be done in order to achieve a notable reduction for this risk, as IATA Safety Report for 2016 identified that in 2016, runway/taxiway excursion was the most frequently occurring category of accident, making up 19% of the total with the highest rate for Middle East & North Africa region (MENA).

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this working paper;
- b) encourage MID States to develop a policy to ensure the provision of correct, up-to-date and timely standard measurement system for runway condition reports;
and
- c) agree on the way forward to help reducing Runway/Taxiway Excursions with respect to defined proactive safety level appropriate for MID region aerodromes.

-END-