ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

Twenty Sixth Meeting of the Africa-Indian Ocean Planning and Implementation Regional Group (APIRG/26)

7 - 8 November 2023

Agenda Item 3: Implementation of air navigation goals, targets, and indicators, including the priorities set in the regional air navigation plan

3.6. Other Air Navigation Initiatives

RUBBER REMOVAL FACILITATION

(Presented by Rwanda)

SUMMARY	
This paper presents an update on Rwanda's activities on operational and safety matters related to the safe and efficient runway maintenance in the event of rubber contaminants on the runway. In addition, the paper informs members States on the availability of Rubber removal services offered in Rwanda for the AFI-Region. Action by the Meeting is at paragraph 3.	
Strategic Objectives	This paper relates to the following Strategic Objectives: • Aviation Safety • Rubber removal equipment • Accidents and incidents • Air Navigation Capacity and Efficiency • Facilitation • Economic development
References:	• ICAO Annex 14, Vol 1 • ICAO Doc 9137 Part 2

1 INTRODUCTION

1.1 Annex 14 — Aerodromes, Volume I — Aerodrome Design and Operations, 10.2.3, specifies that a paved runway shall be maintained in a condition so as to provide surface friction characteristics at or above the minimum friction level. On improving surface friction characteristics of runways Airport Services Manual (Doc 9137), Part 2, contains further information.

1.2 Runway surface friction measurements is required periodically for maintenance purposes using a continuous friction measuring device. The frequency of these measurements shall be sufficient to determine the trend of the surface friction characteristics of the runway and determine whether the rubber accumulation must be removed.

1.3 Corrective maintenance action shall be taken to prevent the runway surface friction characteristics for either the entire runway or a portion thereof from falling below a minimum friction level to ensure safe landing and take-off.

1.4 Once the measurements have indicated friction levels to be below the required minimum, rubber deposits and other contaminants shall be removed from the surface of runways as rapidly and completely as possible, to minimize rubber accumulation, thereby reducing the potential of aircraft incidents and accidents on the runway.

1.5 Based on the ICAO 2023 Global Safety Report, 35% of the accidents were due to Runway Excursion (RE). In many instances, runway condition is a major causal factor for RE.

2 DISCUSSION

2.1 *Rubber removal Serviceability*

2.1.1 It is the responsibility of Airport Operators to ensure that Runway surface friction characteristics meet the minimum requirements by ensuring that preventive maintenance purposes are periodically planned and implemented. If rubber contaminants are detected by the runway friction measurements to be below minimum level, corrective actions are taken immediately to ensure no rubber contaminants on the runway.

2.1.2 Runway contamination such as rubber deposit on the runway, may cause runway excursions and or major accidents, which may lead to the loss of lives, equipment damage and Airport operations disruption.

2.2 *Availability of Rubber removal Equipment in Africa*

2.2.1 Rwanda Airports Company has acquired a state-of-the-art and purchased the rubber removal machine manufactured by Jetting system ltd based in UK. LI 1000 linear Osprey rubber removal machine mounted on 8*4 Mercedes Arocs chassis) to ensure safety and operations are not compromised, and is available at Kigali International Airport to serve Rwanda's and Africa's needs.

2.3 Effective rubber removal requires:

- *Planning*: Airport operators are mandated to ensure the surface of a runway is maintained in a condition such as to prevent formation of harmful irregularities (e.g. contaminants and rubber deposit);
- *Preparation*:
    - *Training.* Identify training needs of all personnel based on competence, expertise, and the hazard risk related to position and type of work to ensure an effective/efficient execution maintenance plan in relation to the equipment.

- *Qualified personnel*: Only competent personnel ought to carry out the rubber removal exercise to ensure no further damage is incurred during the process. This is based on the individual's background, expertise, training, and experience.

- *Equipment:* Depending on the measurement and preventive measures indicated. The machine is used to maintain the surface of the runway that showed irregularities that showed friction that is under minimum level of operations.

- *Practice*: Consistent with ICAO Doc 9137, part 2, Rwanda has required Aerodrome operators to remove contaminates on the movement area as rapidly and completely as possible to minimize their accumulation on the runway.

- *Maintenance*: Runway movement area is maintained into its original certification standards by constantly measuring and removing runway rubber contaminates.

2.4 Rwanda will continue to collaborate closely with Member States and industry to avail a comprehensive and collaborative approach in regard to rubber removal services in order to support the safe continued operations.

3 ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information provided in this paper; and

b) encourage States and operators who may need Rubber removal equipment and services to contact Rwanda.