Aeronautical Information Circular

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AERONAUTICAL INFORMATION SERVICE

AIC
A No. 03/21
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SUBJECT: ***Implementation of the Global Reporting Format (GRF)***

1 Introduction

With effective from 4 November 2021, the purpose of this AIC is to inform all concerned of implementation of the global reporting format in Macao, China. The details are as follows:

2 General

2.1 The new ICAO methodology for assessing and reporting runway surface conditions, commonly known as the Global Reporting Format (GRF), enables the harmonized assessment and reporting of runway surface conditions and a correspondingly improved flight crew assessment of take-off and landing performance.

The GRF, applicable on 4 November 2021, is described through

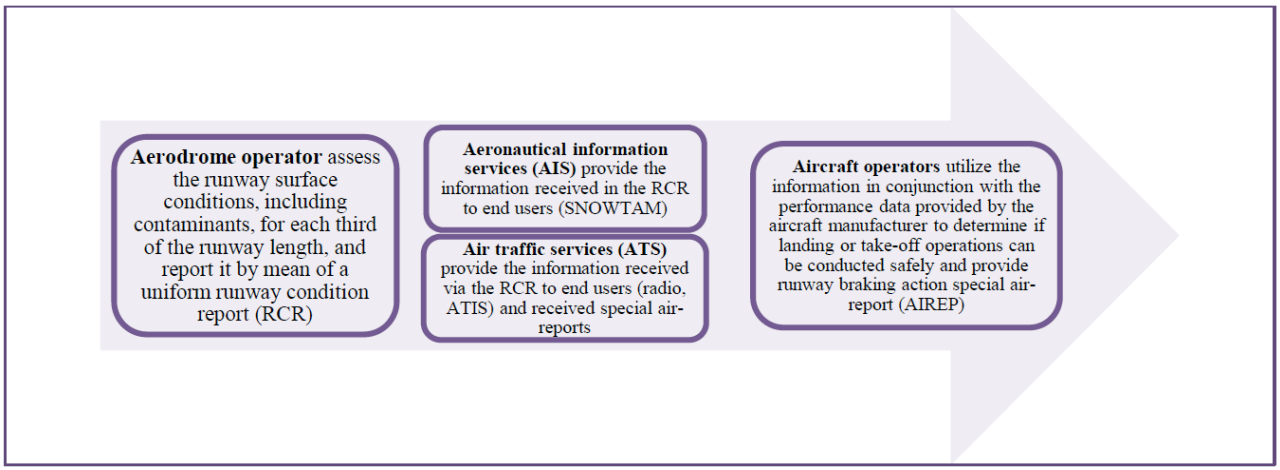
- Annex 14 - Aerodromes, Volume I - Aerodrome Design and Operations;
- Annex 3 - Meteorological Service for International Air Navigation;
- Annex 6 - Operation of Aircraft;
  - Part I - International Commercial Air Transport - Aeroplanes and
  - Part II - International General Aviation — Aeroplanes;
- Annex 8 - Airworthiness of Aircraft;
- Annex 15 - Aeronautical Information Services;
- Procedures for Air Navigation Services (PANS) - Aerodromes (PANS-Aerodromes, Doc 9981);
- Procedures for Air Navigation Services (PANS) - Air Traffic Management (PANS-ATM, Doc 4444);
- Procedures for Air Navigation Services (PANS) - Aeronautical Information Management (PANS-AIM, Doc 10066)
- ICAO Circular 355 (Assessment, Measurement and Reporting of Runway Surface Conditions).

2.2 The report methodology adopted by runway inspectors in estimating the surface condition on contaminated runways, as well as the reporting format is different. Aerodromes may no longer report measured friction values (Mu-meter) or base the condition assessment on these measurements only. The report is made to the template and content of NOTAM regarding runway condition (SNOWTAM), named Global Reporting Format (GRF). ICAO Circular 355 contains information on assessment, measurements and reports on runway condition.

2.3 The outcome of the assessment from runway inspectors by using a Runway Condition Assessment Matrix (RCAM) and the consequent assignment of a runway condition code (RWYCC) are transmitted using a Runway Condition Report (RCR) forwarded to air traffic services and the aeronautical information services for dissemination to pilots. The pilots will use the RWYCC to determine their aircraft's performance by correlating the code with performance data provided by their aircraft's manufacturer. This will help pilots to correctly carry out their landing and take-off performance calculations for wet or contaminated runways.

2.4 Pilots-in-command shall make special air reports (AIREPs) whenever they observe worse runway braking action than previously reported. It is the pilot's assessment of the manner in which an aircraft responds to the application of wheel brake. These reports provide feedback to the aerodrome operator regarding the accuracy of the assigned RWYCCs (Runway Condition Code) relative to the runway surface conditions actually experienced.

3 Flow of Information



3.1 Collection of information

Aerodrome operator is responsible to assess the condition of the runway for each third of the runway and issue a Runway Condition Report (RCR). This report contains the RWYCC (Runway Condition Code) and information which describes the runway surface condition: type of contamination, depth, coverage for each third of the runway, etc. and other relevant information. This code is derived from the Runway Condition Assessment Matrix (RCAM) and associated procedures for downgrading and upgrading.

Runway condition assessment matrix (RCAM)

Assessment		Downgrade assessment criteria	
Runway condition code	**Runway surface description**	**Aeroplane deceleration or directional control observation**	**Pilot report of runway braking action**
6	•DRY	---	---
5	•FROST •WET (The runway surface is covered by any visible dampness or water up to and including 3 mm depth) ***Up to and including 3 mm depth:*** •SLUSH •DRY SNOW •WET SNOW	Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	GOOD
4	***−15°C and Lower outside air temperature*:** •COMPACTED SNOW	Braking deceleration OR directional control is between Good and Medium.	GOOD TO MEDIUM
3	•WET ("slippery wet" runway) •DRY SNOW or WET SNOW (any depth) ON TOP OF COMPACTED SNOW ***More than 3 mm depth:*** •DRY SNOW •WET SNOW ***Higher than −15°C outside air temperature*:** •COMPACTED SNOW	Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	MEDIUM
2	***More than 3 mm depth of water or slush:*** •STANDING WATER •SLUSH	Braking deceleration OR directional control is between Medium and Poor.	MEDIUM TO POOR
1	•ICE	Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	POOR
0	•WET ICE •WATER ON TOP OF COMPACTED SNOW •DRY SNOW or WET SNOW ON TOP OF ICE	Braking deceleration is minimal to non- existent for the wheel braking effort applied OR directional control is uncertain.	LESS THAN POOR

Note: Details of the Global Reporting Format is referred to the guidance documents mentioned in 2.1 of this AIC.

3.2 Dissemination of information

- Aeronautical information services (AIS) provide the information received in the RCR to end users through SNOWTAM in the new format.

Note: Details of the new SNOWTAM format is contained in the Procedures for Air Navigation Services (PANS) - Aeronautical Information Management (PANS-AIM, Doc 10066). Additional information on the SNOWTAM format could be found in the ICAO EUR/NAT Guidance on the Issuance of SNOWTAM.

- Air traffic services (ATS) provide the information received via the RCR to end users through radio, ATIS, etc. and received special air-reports.

3.3 Using the information

Aircraft operators utilize the information in conjunction with the performance data provided by the aircraft manufacturer to determine if landing or take-off operations can be conducted safely and provide runway braking action special air-report (AIREP).

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