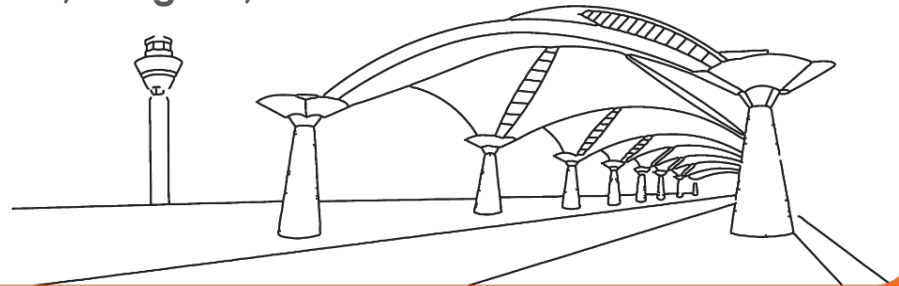


Ninth Meeting of the Aerodromes Operations and Planning Sub-Group (AOP/SG/9)

Presented by: Malaysia

**Implementation of Global Reporting Format (GRF)
for Runway Surface Conditions in Malaysia**

30th June - 4 July 2025, Bangkok, Thailand



Introduction

The Global Reporting Format (GRF), is an internationally standardized method developed by the International Civil Aviation Organization (ICAO) for assessing and reporting runway surface conditions, particularly during contamination (e.g., by water, etc.).

It came into global implementation on 4 November 2021, replacing previous reporting practices to improve runway safety by providing more accurate, consistent and timely information to pilots and air traffic controllers.

The Runway Condition Report (RCR) is used by aerodrome operators for reporting the assessed condition of a runway surface. The RCR provides detailed, objective information such as the type, depth and coverage of contamination, as well as the corresponding Runway Condition Code (RWYCC) to support accurate decision-making by pilots and air traffic controllers.



Runway condition description	Runway condition code (RWYCC)
DRY	6
FROST	5
WET (the runway surface is covered by wet weather conditions or water up to and including 3 mm depth)	
SLUSH (up to and including 3 mm depth)	
WET SNOW (up to and including 3 mm depth)	
WET SNOW (up to and including 3 mm depth)	
COMPACTED SNOW (outside air temperature above 10 degrees Celsius and below 0)	4
WET (Slushy wet snow)	3
DRY SNOW (more than 3 mm depth)	
WET SNOW (more than 3 mm depth)	
DRY SNOW ON TOP OF COMPACTED SNOW (see depth)	
WET SNOW ON TOP OF COMPACTED SNOW (see depth)	
COMPACTED SNOW (outside air temperature above 10 degrees Celsius)	
STANDING WATER (more than 3 mm depth)	2
SLUSH (more than 3 mm depth)	
ICE	1
WET ICE	0
WATER ON TOP OF COMPACTED SNOW	
DRY SNOW OR WET SNOW ON TOP OF ICE	

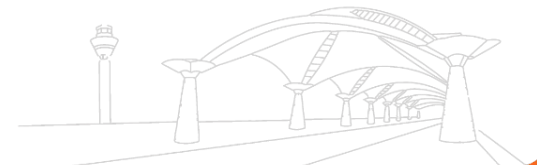


Introduction

Malaysia Airports Holdings Berhad (MAHB), as the aerodrome operator in Malaysia, has implemented the GRF across its network of aerodromes since 4 November 2021. This paper outlines the initiatives undertaken throughout the implementation process, including the structured framework and close coordination with key stakeholders such as the Civil Aviation Authority of Malaysia (CAAM), airlines and air traffic controllers.

These coordinated efforts aimed to ensure a seamless transition to the new ICAO compliant reporting methodology and to enhance the overall safety and efficiency of runway operations.

The successful implementation of Global Reporting Format in Malaysia ultimately benefits all stakeholders within the aviation industry by reinforcing regulatory compliance and strengthening overall aerodrome safety.



GRF Journey for Malaysia



Framework Formation

KSS, Briefing, Reference Documents

Gap Analysis

Certified Runway Inspector Course



Stakeholders Engagement

Collaboration with Key Stakeholders

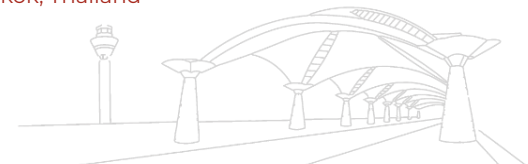
Workshop & Exercise

Comprehensive training programs to all

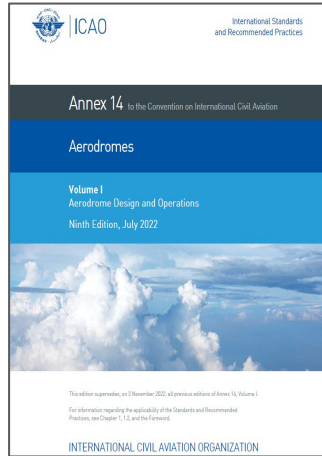


Present

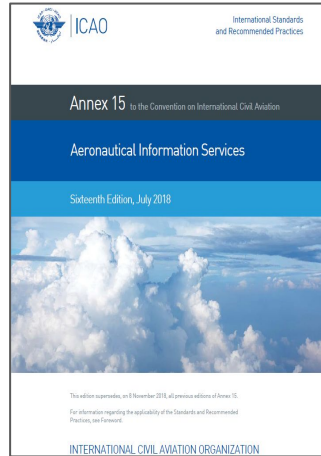
Tabulation at ICAO Ninth Meeting of the Aerodromes Operations and Planning Sub-Group (AOP/SG/9) - Bangkok, Thailand



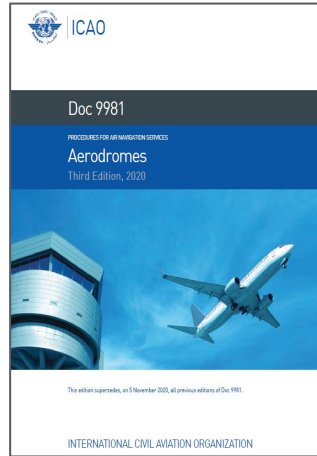
Framework Formation - Reference Documents



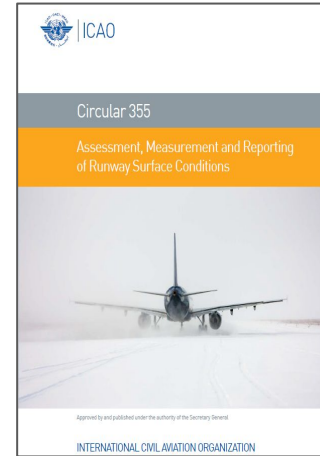
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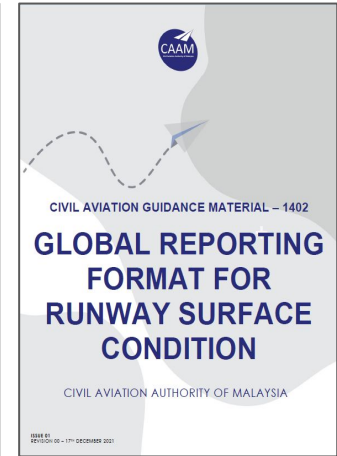
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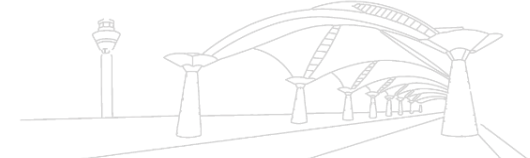
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Circular 355



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Gap Analysis

Previous State



- Shortfalls in the accuracy and timeliness of assessment and reporting of the runway surface conditions.
- Airport uses subjective assessments of runway surface conditions, relying on visual observations and pilot reports without standardized measurement tools.

Actions to Close Gap



- Formulation of GRF Framework to be implemented in Malaysia.
- Module development and trainings.
- Engagement with authorities and stakeholders.
- Airport implement the RCAM, train staff on its use, and adopt the RCR format for reporting runway conditions.

Desired State



- Providing the assessed information in the correct format & reporting significant changes without delay.
- Improved safety and efficiency.
- Airport adopt the GRF, which includes standardized assessment techniques, using the Runway Condition Assessment Matrix (RCAM), reporting Runway Condition Codes (RWYCC), and using a structured reporting format (RCR).



Outcomes from Gap Analysis

01	Formulation of Standard Operating Procedures	- Standardized runway inspections and reporting processes - Clear assignment of roles and responsibilities for operations personnel
02	Unified Reporting Template Based on RCR was Introduced	- Ensure consistent communication - Template incorporated based on best practices by ACI
03	Runway Condition Assessment Matrix Integrated into Daily Operations	- Facilitate accurate and consistent assignment of Runway Condition Code - Incorporated in Aerodrome Manual
04	Internal Guidance Materials Prepared	Closely aligned with ICAO standards and national regulatory requirements



Certified Runway Inspector Course



GRF incorporated in Certified Runway Inspector Course (CRI). CRI is a course designed to ensure aerodrome personnel who perform aerodrome inspection are equipped with sufficient knowledge, skills, well trained and competent to perform their duties.



Stakeholders Engagement



Strong Collaboration with Key Stakeholders

Clear understanding of their roles and responsibilities, ensuring that GRF procedures are applied consistently and the transition is smooth.

Engagement with CAAM, Airlines & ATC

CAAM: ensure all procedures meet national regulatory requirements and align with ICAO standards. Airlines: to help them better understand the RCR and how it affects aircraft performance and flight planning. ATC: ensures that runway condition updates are shared accurately and promptly.

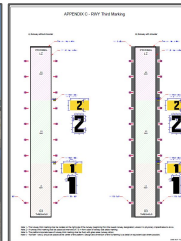


Joint Workshops & Simulation Exercises

Allow teams to apply GRF concepts in realistic scenarios, clarify responsibilities during actual operations, and resolve any questions or uncertainties before going live.

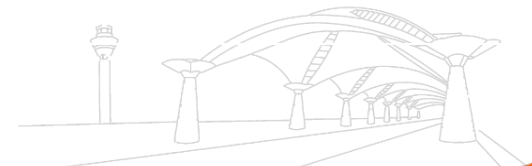
Comprehensive Training Programs For All Relevant Personnel

Include aerodrome inspectors, airport operations staff, ATC personnel and airline operations teams.



Conclusion

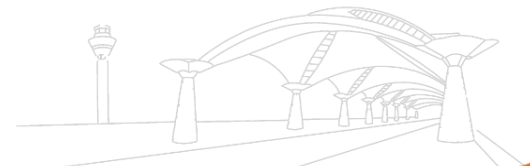
The successful implementation of the GRF by MAHB has significantly improved runway safety and operational efficiency. This was achieved through structured internal preparation, strong stakeholder collaboration and standardized procedures aligned with ICAO and national requirements. Ongoing training efforts, including integration into the CRI Course, ensure long-term compliance and continuous improvement in runway condition reporting.



Action by the Meeting

The meeting is invited to:

- a) deliberate the information contained in this paper; and
- b) discuss any relevant matters as appropriate.



**THANK
YOU**

