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AIC
01/21
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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 Thailand. 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

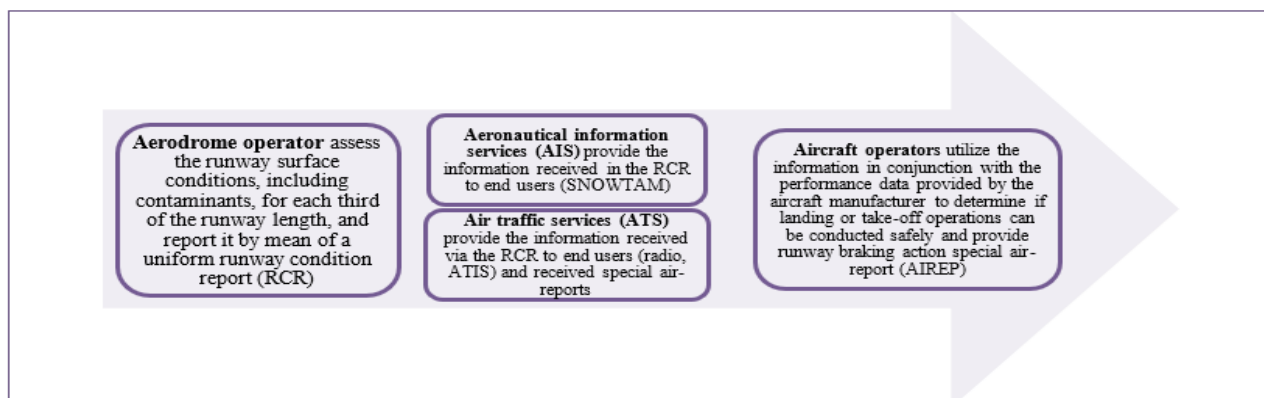
- Annex 14 - Aerodromes, Volume I - Aerodrome Design and Operations;
- Annex 3 - Meteorological Service for International Air Navigation;
- Annex 6 - Operation of Aircraft;
 - Part I - International Commercial Air Transport - Aeroplanes and
 - Part II - International General Aviation — Aeroplanes;
- 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)

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 Regulations mandates that Pilots-in-command in commercial air transport shall make special air reports (AIREPs) whenever they observe worse runway braking action than previously reported, the pilots-in-command for International GA are also encouraged to make special air reports (AIREPs) as well. 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 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	<ul style="list-style-type: none"> • DRY 	---	---
5	<ul style="list-style-type: none"> • FROST • WET (The runway surface is covered by any visible dampness or water up to and including 3 mm depth) <i>Up to and including 3 mm depth:</i> <ul style="list-style-type: none"> • SLUSH • DRY SNOW • WET SNOW 	Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	GOOD
4	<i>-15°C and Lower outside air temperature:</i> <ul style="list-style-type: none"> • COMPACTED SNOW 	Braking deceleration OR directional control is between Good and Medium.	GOOD TO MEDIUM
3	<ul style="list-style-type: none"> • WET ("slippery wet" runway) • DRY SNOW or WET SNOW (any depth) ON TOP OF COMPACTED SNOW <i>More than 3 mm depth:</i> <ul style="list-style-type: none"> • DRY SNOW • WET SNOW <i>Higher than -15°C outside air temperature:</i> <ul style="list-style-type: none"> • COMPACTED SNOW 	Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	MEDIUM
2	<i>More than 3 mm depth of water or slush:</i> <ul style="list-style-type: none"> • STANDING WATER • SLUSH 	Braking deceleration OR directional control is between Medium and Poor.	MEDIUM TO POOR
1	<ul style="list-style-type: none"> • ICE 	Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	POOR
0	<ul style="list-style-type: none"> • 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 contained in the Procedures for Air Navigation Services (PANS) - Aerodromes (PANS-Aerodromes, Doc 9981) and ICAO Circular 355 (Assessment, Measurement and Reporting of Runway Surface Conditions).

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 CAAT 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).

4 IMPLEMENTATION PLAN

4.1 Date of implementation

- The new ICAO GRF including the new SNOWTAM format will be implemented in Thailand on 4 November 2021 at 0000 UTC.

- New ICAO Methodology for Assessing and Reporting Runway Surface Conditions (GRF) Implementation Action Plan is contained at attachment to this AIC.

4.2 National GRF implementation Team

The Thailand GRF implementation team are including Airport operators, Commercial Air Transport Operators, ATS, CAAT, AIS, etc.

4.3 Stakeholders involved

The following stakeholders in Thailand are involved in the implementation of the GRF:

- Public used Aerodromes
- Air Traffic Services (ATCOs)
- Aeronautical Information Services
- Airlines (flight operations departments, dispatchers, pilots)
- Civil Aviation Authority of Thailand

4.4 Coordination between aerodromes, AIS and ATS units

Aerodrome, AIS and ATS will close cooperation to ensure flow of information will reach to the end users.

4.5 Training and awareness

- Aerodrome operator personnel who respond runway condition assessment and report shall be sufficiently trained with Global Reporting Format for Runway Surface Condition Assessment and Reporting.
- Airlines (flight operations departments, dispatchers, pilots) shall be sufficiently trained with Global Reporting Format (GRF) for Aircraft Operators and Flight Crew.
- ANSPs and Air Traffic Controllers shall be sufficiently trained with the Global Reporting Format (GRF) for Runway Surface Conditions for ANSPs and Air Traffic Controllers.
- AIS personnel shall be sufficiently trained with the new SNOWTAM format.

4.6 Tests and trials

Up on CAAT notice through POC again.

5 CONTACT

For further information contact via the following:

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6 VALIDITY

This AIC will remain current until 6 November 2023.



**NEW ICAO METHODOLOGY FOR ASSESSING AND REPORTING RUNWAY SURFACE CONDITIONS (GRF)
IMPLEMENTATION ACTION PLAN TEMPLATE¹**

THAILAND

ID	ACTION	ENTITY RESPONSIBLE	TARGET DATE²	IMPLEMENTATION DATE³	REMARKS³
GRF 1	Review ICAO provisions and guidance and other Organisations guidance (see References)	CAA	31/12/2020	15/05/2020	
GRF 2	Designate a focal point to coordinate implementation activities at the national level	CAA	31/12/2020	15/05/2020	
GRF 3	Identify concerned focal points in each entity (CAA, Airport, ANSP, Aircraft operators – include BA, GA and military as applicable)	CAA, Airports, ANSP, Aircraft operators	31/12/2020	15/05/2020	
GRF 4	Establish an Implementation Coordination Team including staff from the identified stakeholder entities	CAA	15/01/2021	29/05/2020	
GRF 5	Conduct the initial training for the CAA, Airports, ANSP and Aircraft Operators' personnel (e.g. ICAO/ACI/IATA online courses, national awareness workshop, etc.)	CAA	01/03/2021	30/12/2020	
GRF 6	Identify regulations, standards, procedures and guidance material to be developed/amended	National Focal Point and the Implementation Coordination Team	01/04/2021	29/01/2021	
GRF 7	Develop a detailed national implementation plan and safety risk assessment. Each entity should also establish its specific implementation plan and safety risk assessment.	CAA, Airports, ANSP, Aircraft operators	01/04/2021	29/01/2021	
GRF 8	Identify the necessary means and resources for the implementation (human, financial and material resources)	National Focal Point and the Implementation Coordination Team	01/04/2021	29/01/2021	
GRF 9	Consult with Airport Runway Safety Teams	Airports	14/05/2021	12/02/2021	
GRF 10	Develop and promulgate regulations and standards	CAA	14/05/2021	3/11/2021	

ID	ACTION	ENTITY RESPONSIBLE	TARGET DATE ²	IMPLEMENTATION DATE ³	REMARKS ³
GRF 11	Develop procedures and guidance material (translate if required)	National Focal Point and the Implementation Coordination Team	15/06/2021	12/03/2021	
GRF 12	Provide the necessary means and resources for the implementation (human, financial and material resources)	CAA, Airports, ANSP, Aircraft operators	30/06/2021	30/04/2021	
GRF 13	Conduct On-the-Job Training (OJT) on the implementation (ACI on-site GRF training course is available to support Airports)	CAA, Airports, ANSP, Aircraft operators	01/08/2021	14/05/2021	
GRF 14	Update SNOWTAM Format/template (NOTAM/SNOWTAM system) and train on new SNOWTAM Format	CAA, Airports, ANSP, Aircraft operators		2/07/2021	
GRF 15	Perform tests/trials prior to the effective implementation	All	01/10/2021	15/10/2021	
GRF 16	Applicability date for the new methodology for assessing and reporting runway surface conditions	All	04/11/2021	4/11/2021	

Notes: ICAO Runway Safety Go-Team Assistance Missions may be arranged to support States and Airports. ACI APEX Safety Reviews are also available to support Airports.

Remarks: ¹ To be tailored and detailed by States; ² Target dates are indicative only; ³ For input by States

References

Publications / Websites

- Annexes 3, 6, 8, 14, & 15 – applicability date 4 Nov 2021
- PANS Aerodromes (Doc 9981), Aeronautical Information Management (Doc 10066), & Air Traffic Management (Doc 4444)
- Assessment, Measurement and Reporting of Runway Surface Conditions (Cir 355)
- Aeroplane Performance Manual (Doc 10064)
- ICAO GRF website <https://www.icao.int/safety/Pages/GRF.aspx>
- ICAO EUR/NAT Guidance on the Issuance of SNOWTAM <https://www.icao.int/EURNAT/EUR%20and%20NAT%20Documents/EUR%20Documents/NOUWATAM%20Guidance.pdf>

Training / Events

- ICAO/ACI Online Course for Airport Operators <https://www.olc.aero/product/icao-global-reporting-format/>
- ICAO/IATA Online Course for Aircraft Operators & Flight Crew <https://www.iata.org/en/training/courses/grf-runway-surface/talp38/en/>
- *Future* ICAO-IATA-CANSO Online Course for ANSPs, ATS & AIS staff
- ICAO APAC Regional GRF Seminar <https://www.icao.int/APAC/Meetings/Pages/2019-AOP-SG3-GRF-Seminar.aspx>
- ICAO Global GRF Symposium <https://www.icao.int/Meetings/grf2019/Pages/default.aspx>