



AFI Workshop on the improvement of NOTAM & the implementation of the new SNOTAM format

AIM Actions to support GRF implementation

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Scope of the GRF provisions

- Provisions outlined by amendments in the following documents:
 - **Annex 14, Volume 1 and PANS-Aerodromes:** elaboration of the information;
 - **Annex 6, Parts I and II:** assessment by the pilot-in-command of the landing performance and report for commercial air transport operations;
 - **Annex 8:** nature of the information provided by the aircraft manufacturers;
 - **Annex 3:** removal of the runway state group for METAR/SPECI;
 - **Annex 15 → PANS-AIM:** syntax and format used for dissemination;
 - **PANS-ATM:** communication of special air-reports concerning runway braking action and transmission of the runway condition report with a harmonized phraseology.
- Review of the guidance material:
 - Circular 355: *Assessment, Measurement and Reporting of Runway Surface Conditions*;
 - Aeroplane Performance Manual (Doc 10064).



Impacts of the GRF provisions

- **Safety impact:**

Runway surface conditions have contributed to many safety events and investigations have revealed shortfalls in the accuracy and timeliness of assessment and reporting methods. The proposed global reporting format is designed to report runway surface conditions in a standardized manner such that flight crew are able to accurately determine aeroplane take-off and landing performance, resulting in a global reduction in runway excursion incidents/accidents.

- **Financial impact:**

For States, the financial cost will be limited to generating a series of regulatory amendments, training CAA inspectors and implementing a robust oversight process. For aerodrome operators, the financial cost will mainly be in the areas of training of staff (runway assessors) exposed to the change. **For AIS providers and information users, there will be a cost to make changes to automated systems. The actual cost will vary with the nature and age of the systems currently implemented.**

- **Efficiency impact:**

Accurate and timely runway state information provided by aerodromes and adjusted to the operational need and promulgated/disseminated according to defined terminology and procedures will have a positive impact on the efficiency of the air transportation system. Occurrences of excursions, disruptions to aerodrome and air traffic operations such as, but not limited to, the removal of aircraft disabled at an aerodrome, are expected to be reduced.

- **Expected implementation time:**

Between two to five years (at least from one to two years for Annex 15).



Involved Stakeholders

National Stakeholders

- Civil Aviation Authority
- Aerodrome operators
- ANSP (ATC, AIM)
- Airlines
- Military
- Aviation training providers
- Other relevant National Organizations

Global/Regional Stakeholders

- ICAO
- IATA
- ACI
- Aircraft Manufacturers
- Training Organizations
- Regional AIS Databases
- AIS System Developers
- IFALPA
- IFATCA
- IFAIMA
- Other relevant Global/Regional Organizations



Implementation plan/checklist

ID	TASK	WHO	WHEN	REMARKS
GRF 1	Establish a <i>GRF implementation team</i> at the State Level	State GRF implementation team <ul style="list-style-type: none"> - CAA (<i>responsible entity for implementation</i>) - Aerodromes (<i>name of the concerned ADs</i>) - ANSP/ATS (<i>name it</i>) - Airlines (<i>name of airlines concerned</i>) - AIM (NOF) 	[planned date]	
GRF 2	<p>Educate by reviewing the following documentation:</p> <ul style="list-style-type: none"> - ICAO Circular 355 - ICAO Annex 14 (Aerodromes) - ICAO Doc 9981 (PANS-AD) - - ICAO Doc 10064 - ICAO Doc 10066 (PANS-AIM) - ICAO GRF Symposium presentations - EUR Guidance on SNOWTAM <p>Educate by attending:</p> <ul style="list-style-type: none"> - ICAO Regional Workshops <p>Educate by conducting:</p> <ul style="list-style-type: none"> - State Level Workshops/Seminars 	State GRF implementation team <ul style="list-style-type: none"> - In coordination with national bodies representing airports, ANSPs, Airlines, AIM, etc. 	[planned date]	



ID	TASK	WHO	WHEN	REMARKS
GRF 3	<p>Promote GRF in context of safety by developing:</p> <ul style="list-style-type: none"> - brochures - website material 	<p>State GRF implementation team</p> <ul style="list-style-type: none"> - distribution should also include GA/BA and Military 	[planned date]	
GRF 4	<p>Train relevant stakeholders on GRF (likely computer based training as provided by e.g. ACI)</p> <p>Train relevant groups that interface with customers on GRF so they can brief their customers when on audit/inspections</p>	<p>Relevant stakeholders:</p> <ul style="list-style-type: none"> - ACI - IATA - IFATCA - IFALPA <p>State GRF implementation team assures training for:</p> <ul style="list-style-type: none"> - ADR/ATM - FO inspectors 	[planned date]	
GRF 5	Update SNOWTAM Format	<p>State GRF implementation team assures SNOWTAM template is updated by:</p> <ul style="list-style-type: none"> - AIM 	[planned date]	
GRF 6	Train on SNOWTAM Format	<p>State GRF implementation team assures training on SNOWTAM format by:</p> <ul style="list-style-type: none"> - AIM 	[planned date]	



ID	TASK	WHO	WHEN	REMARKS
GRF 7	Update AIP	State GRF implementation team assures AIP is updated by: <ul style="list-style-type: none">- AIM	[planned date]	
GRF 8	Conduct parallel test of GRF, if applicable Conduct analysis using archives of SNOWTAM & AIREPS (this should also be considered after implementation to identify errors)	State GRF implementation team coordinates parallel test with the necessary stakeholders: <ul style="list-style-type: none">- Airport operators- ANSP- CAA- Airlines- AIS	[planned date]	
GRF 9	xxx	-	[planned date]	
GRF 10	xxx	-	[planned date]	



Sample AIC

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 8 /2020
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SUBJECT: IMPLEMENTATION OF THE GLOBAL REPORTING FORMAT (GRF)

1. INTRODUCTION:

1.1. 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 amendment 15-B to 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 and Procedures for Air Navigation Services (PANS) — Aerodromes (PANS-Aerodromes, Doc 9981), Aeronautical Information Management (PANS-AM, Doc 10066) and Air Traffic Management (PANS-ATM, Doc 4444)*.

In addition, supporting material is available in Circular 355, *Assessment, Measurement and Reporting of Runway Surface Conditions* and in the Doc 10064 *Aerodrome Performance Manual* (in preparation).

2. FLOW OF INFORMATION:

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      graph LR
      A["Aerodrome operator assess the runway surface conditions, including contaminants, for each third of the runway length, and report it by means of a runway-condition report (RCR)"] --> B["Administrative information service (AIS) provides the information received at its FICR to air traffic services (ATS)"]
      B --> C["Air traffic services (ATS) provide the information received on the FICR to air and public ATS and request special arrangements"]
      C --> D["Aircraft operator assess the aerodrome conditions with the performance data provided by the aircraft manufacturer to determine if taking or landing operations can be conducted safely and provide a runway condition report (RCR)"]
    
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2.1 **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 degrading and upgrading.

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 353 (Assessment, Measurement and Reporting of Runway Surface Conditions).

Runway condition assessment matrix (RCAM)			
Runway condition code	Assessment	Downgrade assessment criteria	
	Runway surface description	Runway degradation or directional control observation	File report of runway braking action
8	+DRY	---	---
7	+WET +ST (the runway surface is covered by any visible dampness or water up to and including 1 mm depth) Up to and including 1 mm depth +SLUSH +DRY SHOW +WET SHOW	Braking degradation is normal for the wheel braking effort applied AND directional control is normal	GOOD
6	-1°C and Lower outside air temperature +COMPACTED SHOW	Braking degradation OR directional control is between Good and Medium	GOOD TO MEDIUM
5	+ST (slipper wet runway) +DRY SHOW or WET SHOW (any depth) ON TOP OF COMPACTED SHOW More than 1 mm depth +DRY SHOW +WET SHOW Higher than -1°C outside air temperature +COMPACTED SHOW	Braking degradation is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	MEDIUM
4	More than 1 mm depth of water or slush +SLASHY WATER +SLUSH	Braking degradation OR directional control is between Medium and Poor	MEDIUM TO POOR
3	+ICE	Braking degradation is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	POOR
2	+WET ICE +SLASHY ON TOP OF COMPACTED SHOW +DRY SHOW or WET SHOW ON TOP OF ICE	Braking degradation is essential to maintain for the wheel braking effort applied OR directional control is essential.	LESS THAN POOR

2.2 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 Format of SNOWTAM.

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



2.3. **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 (ABREP).

3. IMPLEMENTATION PLAN:

Date of implementation

3.1. The new ICAO GRF including the new SNOWTAM format will be implemented in [Name of State] on 4 November 2021 at 0000 UTC.

3.2. The National GRF Implementation Plan of [Name of State] is contained as Attachment to this AIC.

National GRF Implementation Team

3.3. [provide some information about your national GRF implementation team which is in charge of planning and implementation of GRF at the national level]

Stakeholders involved

3.4. The following stakeholders in [Name of State] are involved in the implementation of the GRF:

- Aerodromes
 - [Name of concerned aerodrome]
 - [Name of concerned aerodrome]
 - [Name of concerned aerodrome]
- Air Traffic Services (ATCOs)
- Aeronautical Information Services (International NOTAM Office)
- Airlines (Flight operations departments, dispatchers, pilots)
- Civil Aviation Authority

Coordination between aerodromes, AIS (NOF) and ATS units

3.5. [explain the mechanisms and processes of coordination between aerodromes, ATS and AIS, points of contact, etc. or refer to the other local procedures that contain this information, if available]

Training and awareness

3.6. [explain the awareness, training and promotion activities on GRF, SNOWTAM and other relevant provisions that are planned for different stakeholders]

Tests and trials

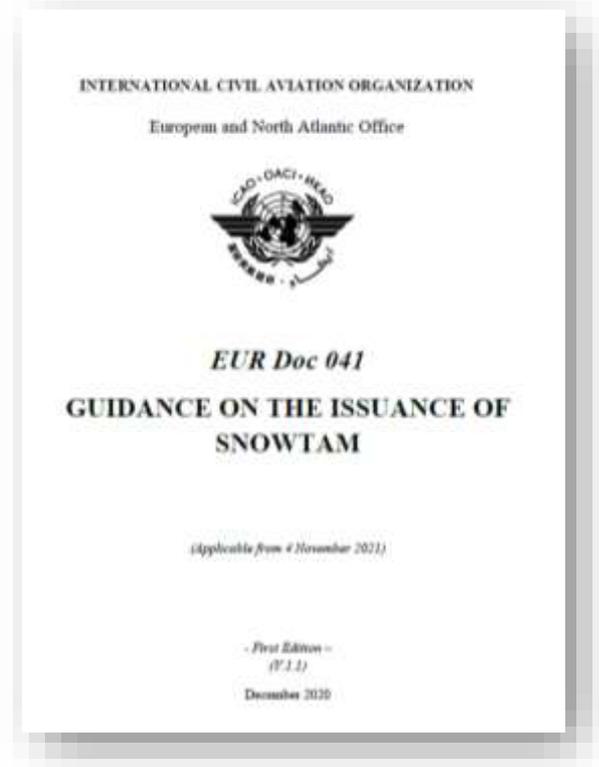
3.7. [insert information about your planned tests and trials, if any]

Other information

3.8. [include any other information that may be useful]



- More information on GRF:
<https://www.icao.int/safety/Pages/GRF.aspx>
- ICAO EUR Doc 041 (SNOWTAM Guidance):
www.icao.int/eurnat > EUR/NAT Documents
> EUR Documents > 041-SNOWTAM
Guidance
- SNOWTAM Webinar:
<https://www.icao.int/Meetings/webinar-series/Pages/SNOWTAM-2020.aspx>





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THANK YOU