

## **The New Reporting Format for Runway Surface Conditions**

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 5 November 2020, is described through amendment 13-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-AIM, 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 *Aeroplane Performance Manual* (in preparation).

All of the above reference documents are available through the [ICAO publications portal](#).

Various activities are being conducted to raise awareness and support deployment of the GRF such as a global symposium and regional seminars that will take place between June 2019 and November 2020.

<https://www.icao.int/Meetings/grf2019/Pages/default.aspx>

<https://www.icao.int/APAC/Meetings/Pages/2019-AOP-SG3-GRF-Seminar.aspx>

<https://www.icao.int/WACAF/Pages/GRF-2019.aspx>

<https://www.icao.int/training/Pages/training-catalogue-details.aspx?catid=2658&language=0&region=&ITP=0>

<https://www.icao.int/safety/SiteAssets/Pages/GRF/GRF%20implementation%20check%20list%20-%202011%20October%202019.pdf>



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# New ICAO Methodology for Assessing and Reporting Runway Surface Conditions

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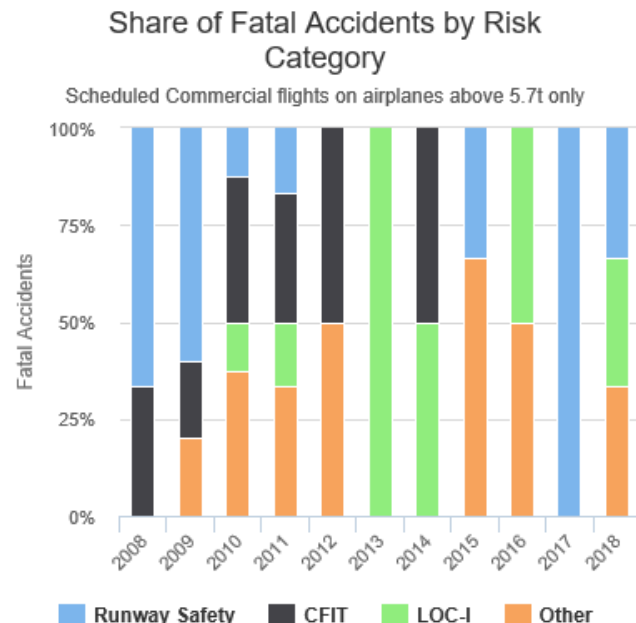
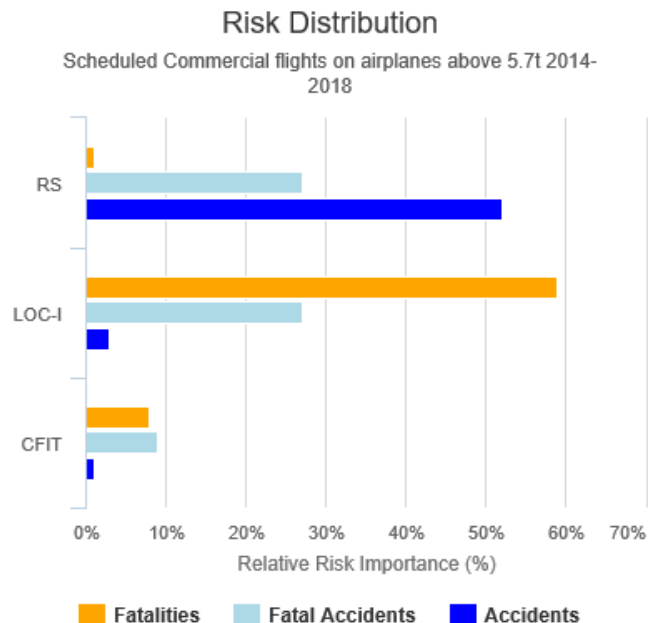
ICAO APAC Regional Seminar - Bangkok, Thailand, 27 - 28 June 2019

# Introduction

- Runway Safety: A global safety priority (GASP)
- Runway excursions: highest risk category
- Poor braking action: a top contributing factor
- Mitigation by ICAO's new Global Reporting System and Format (GRF)
  - Applicability 5 November 2020
- Global Runway Safety Action Plan component
- [www.icao.int/runwaysafety](http://www.icao.int/runwaysafety)



# APAC Runway Safety: A Top 3 Priority



# What is the GRF

- New ICAO methodology and terminology for assessing and reporting the runway surface conditions to improve safety in aircraft landing and take-off
- Includes standing water: water of depth greater than 3 mm
- New ICAO international & global requirements (similar objective to the existing US FAA TALPA)

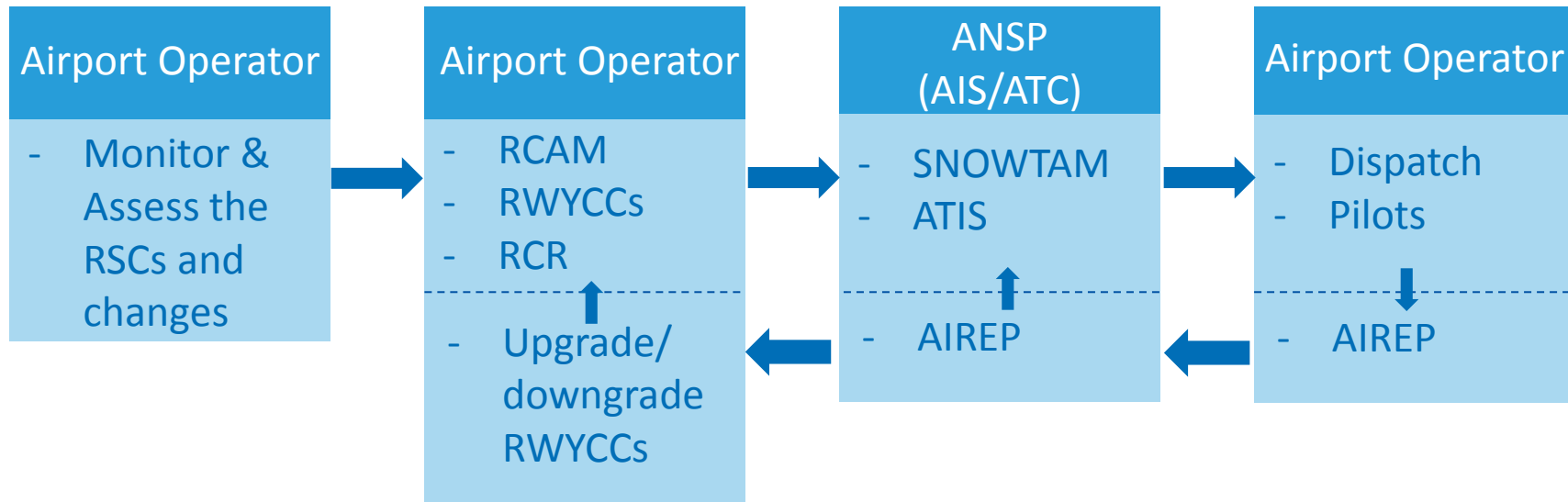




# Acronyms

- Runway surface condition (RSC)
- Runway condition assessment matrix (RCAM)
- Runway condition code (RWYCC)
- Runway condition report (RCR)
- Runway safety team (RST)
- SNOWTAM - special series NOTAM
- Automatic terminal information service (ATIS)
- AIREP (Air-report) - report from an aircraft

# GRF Information Flow



# Challenges

- Global harmonised implementation required
- Simple concept but complex implementation
- Implementation by multiple stakeholders - regulators, aerodrome operators, ANSPs, aircraft operators, manufacturers
- Insufficient awareness and common understanding
- Standardised and correct implementation essential for safety
- Local languages, work practices, seasons, MET conditions
- Lessons learnt from Canada and US confirm challenges



# Roles

- **ICAO:** SARPs, PANS, guidance material, training, awareness, support to States
- **State CAAs:** Ensure awareness, training and deployment
- **International Organisations:** Provide training, support awareness and deployment
- **Aerodromes, ANSPs, and aircraft operators:** deployment, training
- **Aircraft manufacturers:** Provide training support, tools

# Benefits

- **Improved safety**
  - Better understanding of runway conditions
  - Fewer runway excursions
- **Improved efficiency**
  - Better decision making
  - Fewer runway closures
- **Reduced environmental impact**
  - Better traffic management
  - Better management of de-icing products





# GRF2019

Symposium on Implementation of  
the New Global Reporting Format  
for Runway Surface Condition



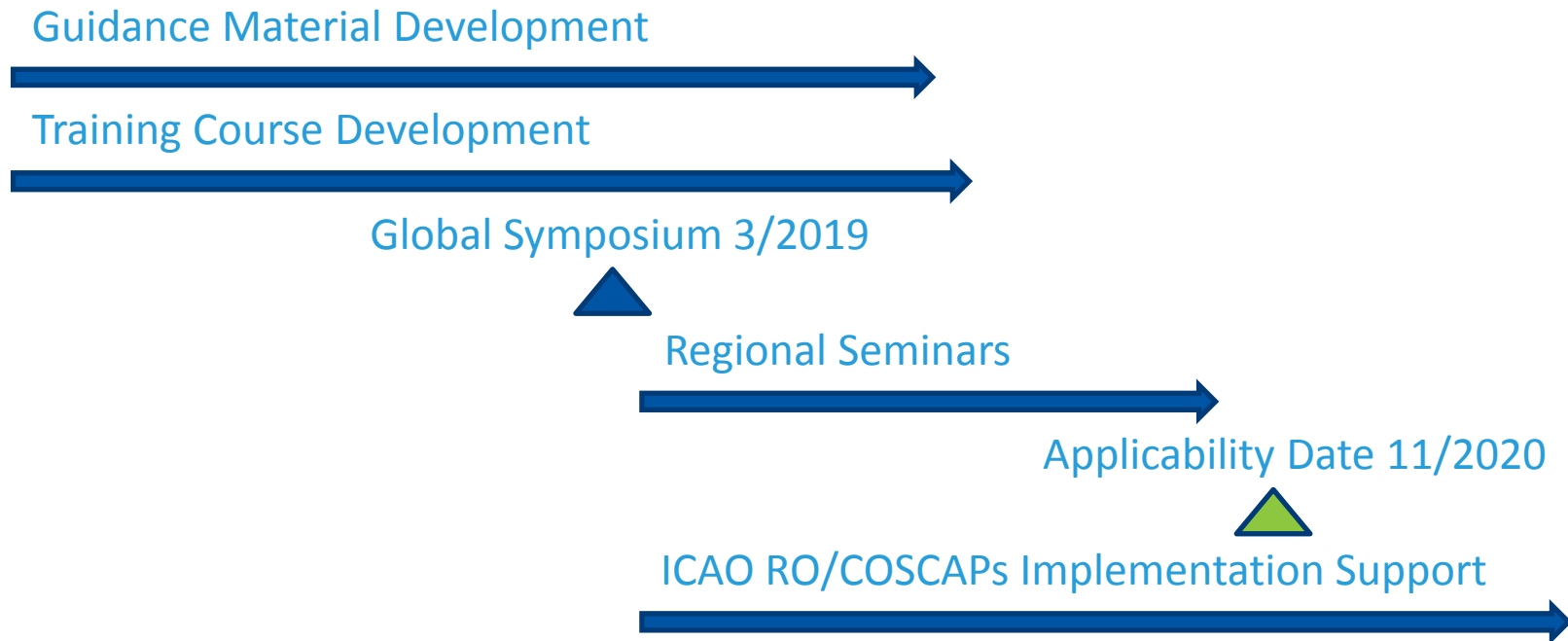
## ICAO/ACI Global Symposium

(Montreal, 26 – 28 March 2019)

- Increased awareness and knowledge of requirements
- Understanding ICAO SARPs, PANS, training needs
- Awareness of implementation challenges
- Exchange of best practices
- <http://www.icao.int/Meetings/grf2019>



# ICAO Implementation Support





# GRF2019

Symposium on Implementation of  
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## Regional Seminars

Dates	Location
June 2019	
27 - 28 Jun	Bangkok
July 2019	
2 - 3 Jul	Dakar
10 - 11 Jul	Paris
August 2019	
14 - 15 Aug	Nairobi
21 - 22 Aug	Lima
2019 – 2020	
Tbc	Accra, Astana, Beijing, Bogota, Frankfurt, Helsinki, Johannesburg, Madrid, Mexico City, MID region

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# Background

- Runway Friction included in the ICAO Aerodromes Panel work programme in 2004;
- Questionnaire on Runway Surface Friction Characteristics sent to States (SL06/48) in 2006
- Friction task force (FTF) established in 2008
- Supported by other ICAO panels: METP, FLTOPS, AIRP, AIM-AIS SG, ATMOPSP
- Developed a globally-harmonized methodology for runway surface condition assessment and reporting



# Development of GRF SARP



Friction Task Force  
10 Member States  
7 IOs



ADOP/1  
17 Member States  
7 IOs



SL Replies  
59 States  
6 IOs



Approval by  
ANC  
19 Members



Adoption by  
Council  
36 Members States

2008

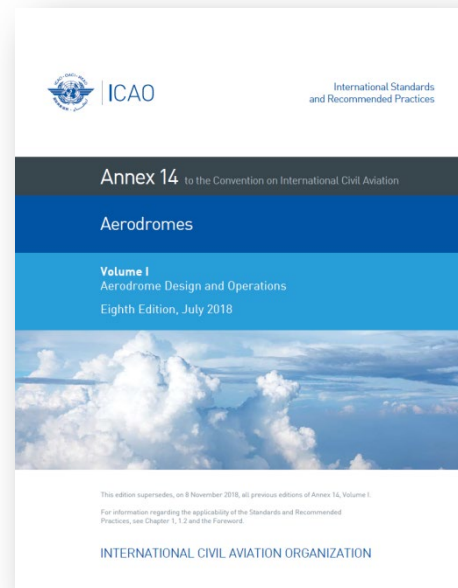
Q1 2015

Q2 2015

Q1 2016

# Development of GRF SARPs (cont'd)

- Proposals for the amendment of Annexes 3; 6, Parts I and II; 8; 14, Volume I; 15; PANS-Aerodromes; PANS-ATM and PANS-AIM
- States and International organizations consultation from May to August 2015
- Adoption of amendment during the 207th Session of the Council in February 2016
- Effective on 11 July 2016
- Applicable on 5 November 2020



# ICAO Provisions on GRF

- **Annex 14, Volume 1 and PANS-Aerodromes:** fundamental provisions for assessing and reporting runway surface conditions
- **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 and PANS-AIM:** syntax and format used for dissemination;
- **PANS-ATM:** phraseology and communication of special air-reports concerning runway braking
- **Guidance materials**
  - *Aeroplane Performance Manual (Doc 10064)*
  - *Circular 355 Assessment, Measurement and Reporting of Runway Surface Conditions*

# Stakeholder responsibilities

- **Aerodromes** assess the runway surface conditions, including contaminants, for each third of the runway length, and report them in a runway condition report (RCR)
- **Air traffic services (ATS)** convey the information received in the RCR and/or special air-reports (AIREP) to pilots (voice communications, ATIS, CPDLC)
- **Aeronautical information services (AIS)** provide the information received in the RCR to aircraft operators (SNOWTAM)
- **Aircraft operators** utilize the information in conjunction with the performance data provided by the aircraft manufacturers to determine if landing or take-off operations can be conducted safely and provide runway braking action special air-reports (AIREP)
- **Aircraft Manufacturers** provide the necessary performance data in the aeroplane flight manual

# States Implementation Actions

- update State's regulatory framework;
- establishment of a national implementation plan;
- notification to aerodromes, ANSPs and aircraft operators of the new requirements;
- Safety risk assessment
- training of inspectors and oversight by the State of the implementation of regulations;
- encourage the establishment of an **Implementation Team** for planning and coordination at the State level.



# Training is essential

- Aerodrome personnel
- Air traffic controllers
- AIS personnel
- Dispatchers
- Pilots







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## Highlights: ICAO

- ICAO regions should lead implementation
- International and regional organizations should support
- ICAO organise regional seminars (ROs)
- ICAO coordinate sub-regional workshops (COSCAPs & PASO)
- FTF will remain active during implementation



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## Highlights: States

- Appoint implementation focal point
- Establish implementation team including regulator, service providers, industry/professional associations
- Develop national implementation plan
- Complete State level safety risk assessment
- Organise national workshop and safety promotion
- Conduct trial prior to applicability
- Update AIP in 2020

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## Highlights: Aerodrome Operators and ANSPs

- Commence implementation preparation
- Use airport Runway Safety Teams (RSTs) for implementation planning, coordination, support, follow-up, monitoring, reporting
- Complete airport level safety risk assessment under SMS
- Conduct airport level On-the-Job Training (OJT)

## Highlights: Aircraft Operators

- Ensure training of crews and dispatchers (future IATA training)
- Harmonized timely implementation



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## Recommendations

- Commitment to timely implementation by all stakeholders
- Aerodromes to use Runway Safety Teams to implement GRF
- States and Aerodromes to complete safety risk assessments for the implementation of GRF
- Know the ICAO provisions and guidance (translate if needed)
- Complete the ICAO/ACI online training GRF course  
(<https://www.icao.int/training/Pages/ACI-AND-ICAO-JOINT-COURSES.aspx>)
- Assistance available from ICAO Runway Safety Go-Teams and ACI APEX Safety Reviews

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# Thank You

