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New ICAO Methodology for Assessing and Reporting Runway Surface Conditions

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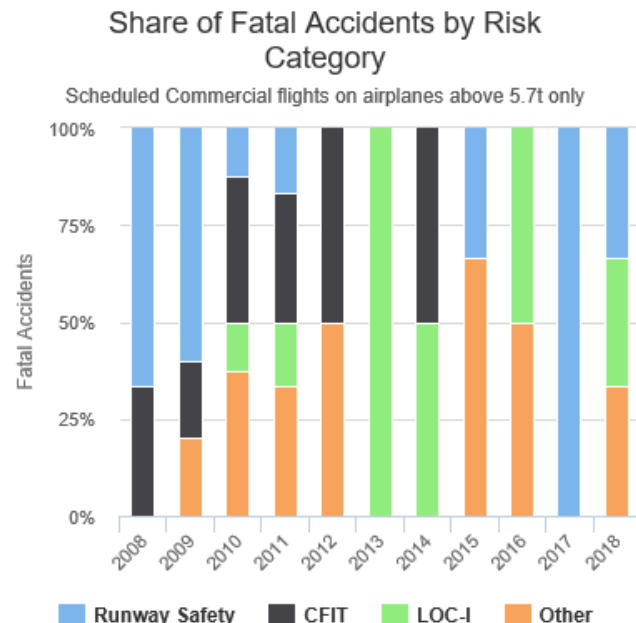
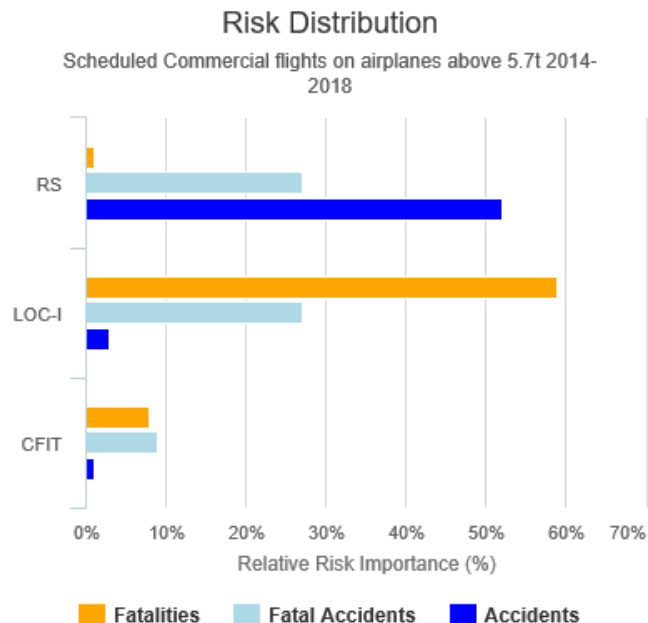
ICAO APAC Regional Seminar - Bangkok, Thailand, 27 - 28 June 2019

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



APAC Runway Safety: A Top 3 Priority



What is the GRF

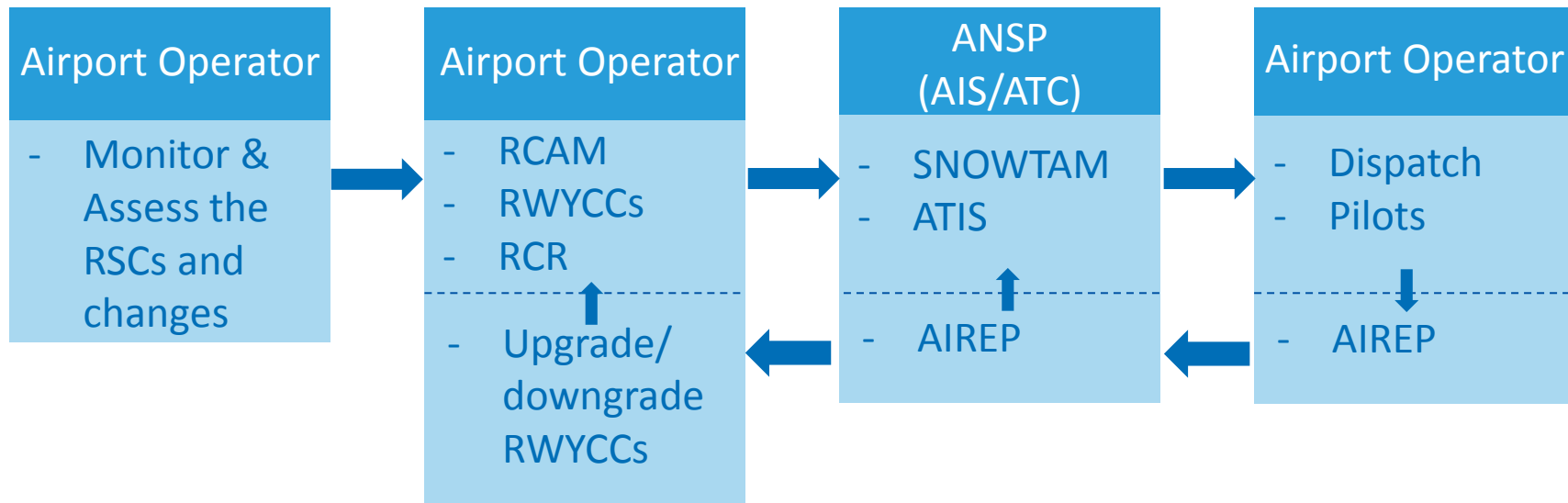
- New ICAO methodology and terminology for assessing and reporting the runway surface conditions to improve safety in aircraft landing and take-off
- Includes standing water: water of depth greater than 3 mm
- New ICAO international & global requirements (similar objective to the existing US FAA TALPA)



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





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



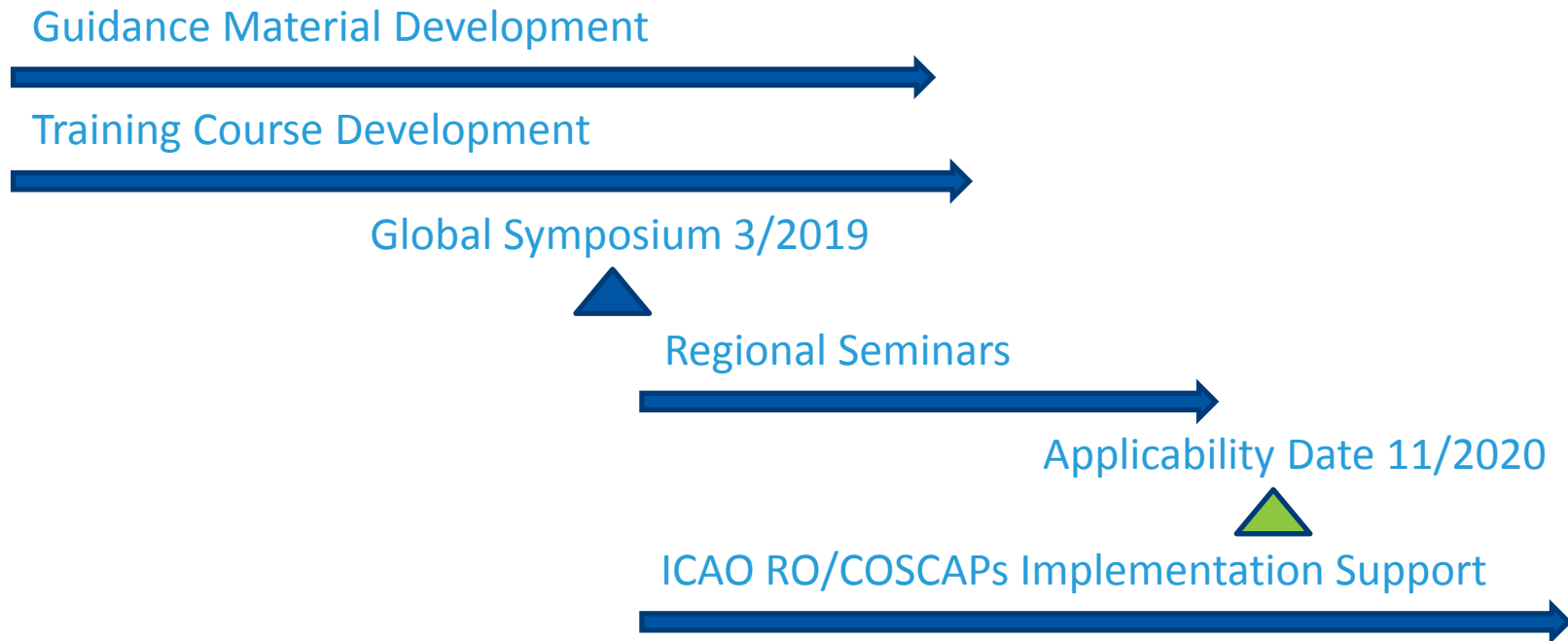
ICAO/ACI Global Symposium

(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





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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

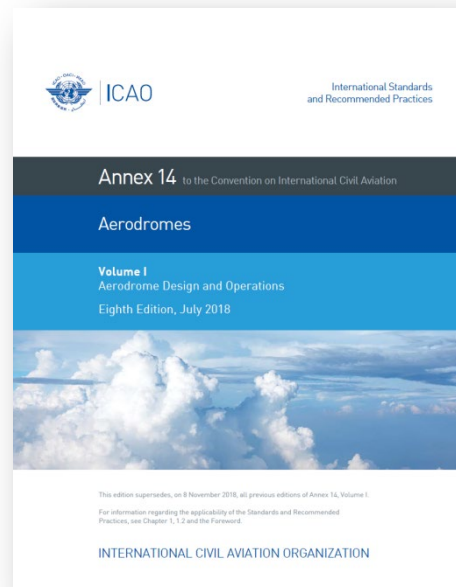
Q1 2015

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)



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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

