

Runway Surface Conditions Assessment and Reporting Symposium

31 March and 1 April 2016

DGAC – Paris 15

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Rapporteur ICAO Friction Task Force

SCOPE

- Illustrate forthcoming evolutions of the regulatory framework.
- Share feedbacks
- Present state of knowledge
- Research and innovative works

WHY?

ANC JOB CARD AP001

PROBLEM STATEMENT

Runway surface conditions have contributed to many safety events and investigations have revealed **shortfalls in the accuracy and timeliness of assessment and reporting methods** currently provided for in ICAO provisions and guidance material.

KEY IMPROVEMENT

SNOWTAM

Runway Condition Assessment Matrix (RCAM)			
Assessment Criteria		Downgrade Assessment Criteria	
Runway Condition Code	Runway Surface Description	Aeroplane Deceleration Or Directional Control Observation	Pilot Braking Action Advisory Report
6	• DRY	---	---
5	• FROST • WET (The runway surface is covered by any visible dampness or water less than 3 mm deep) <i>Less than 3 mm depth:</i> • 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> • COMPACTED SNOW	Braking deceleration OR directional control is between Good and Medium	GOOD TO MEDIUM
3	• WET ("Slippery wet" runway) • DRY SNOW or WET SNOW (Any depth) ON TOP OF COMPACTED SNOW <i>3 mm and more depth:-</i> • DRY SNOW • WET SNOW <i>Higher than -15°C outside air temperature:</i> • COMPACTED SNOW	Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	MEDIUM
2	<i>3 mm and more depth of water or slush:</i> • STANDING WATER • SLUSH	Braking deceleration OR directional control is between Medium and Poor.	MEDIUM TO POOR
1	• ICE ²	Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	POOR.
0	• WET ICE ² • WATER ON TOP OF COMPACTED SNOW ² • DRY SNOW or WET SNOW ON TOP OF ICE ²	Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.	LESS THAN POOR

- Single standardised reporting format
- Structured information according to pilots need

Written procedures

Simplicity

*Simplicity is
the ultimate
sophistication*



*Simplicity is
the ultimate
sophistication*

LEONARDO DA VINCI



*Omnia e qualunque cosa
per sottile ch'ella sia, la
quale s'interposiga in
mezo infra lle cose
insieme confregate,
allegrerisue la difficulta
di tale confregazione.*

Ca 1500.

LEONARDO DA VINCI



All things and everything whatsoever, however thin it be, which is interposed in the middle between objects that rub together, lighten the difficulty of this friction.

Ca 1500.

SL 30 - WHAT IS NEW

- Runway Condition code – RWYCC
- Runway condition descriptions (Definitions)
- Slippery when wet has an assigned RWYCC
- Runway Condition Assessment Matrix – RCAM
- AIREP – Procedures for Pilot reported braking action
- Structured information string

SNOWTAM

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6	• DRY	---	---
5	<ul style="list-style-type: none"> • FROST • WET (The runway surface is covered by any visible dampness or water less than 3 mm deep) <i>Less than 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
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- RCAM
- RWYCC
- Runway Condition Description (Definitions)
- AIREP
- Assessment
- Reporting

Written procedures

INFORMATION STRING

[Aeroplane performance calculation section]

09111400 09L 3/3/2 25/50/50 02/05/02 DRY SNOW
ON TOP OF COMPACTED SNOW/WET SNOW ON TOP OF
COMPACTED SNOW/WATER ON TOP OF COMPACTED SNOW
30.

[Situational awareness section]

LDA RWY 22 REDUCED BY NOTAM TO 1150. DRIFTING
SNOW. RWY 09 LOOSE SAND. RWY 09 CHEMICALLY
TREATED. RWY 09 SNOWBANK LR22 FROM CL. RWY 06
ADJACENT SNOWBANKS. TWY B POOR. APRON NORTH
POOR. *[State set format and associated procedures],*

Performance and safety

The more we **understand** about
performance

the more we **understand** about
safety

Co-operation
across
various stakeholders

that what makes this work so valuable

Welcome to the Symposium

AMENDMENTS

- Annex 3
- Annex 6, Part II
Aeroplane Performance Manual (New)
- Annex 8
- Annex 11
 - PANS ATM
- Annex 14, Vol I
 - PANS Aerodromes
 - Circular 329
- Annex 15

TIMELINESS

- Timeliness is fully achieved when the entire aeronautical data chain from the point of origin to the point of use are able to identify the operational significant information and make this information available to the user in real time.

TIMELINESS

- Modern technology make this possible in automated systems and this is achieved by some aerodromes, however the majority of aerodromes do not provide such systems.
- The SNOWTAM is suitable to be used both in manual and automated systems.