



Brunei Department of Civil Aviation
Negara Brunei Darussalam
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ADR 024

Global Reporting Format (GRF) for Runway Surface
Conditions

Version 1.0

To provide information pertinent to the implementation of GRF in
Brunei Darussalam

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Foreword

This Civil Aviation Procedure ADR 024 is issued by the Department of Civil Aviation to provide information and guidance for the Runway Global Reporting Format for Runway Surface Condition, pursuant to Brunei Aviation Requirement, BAR 14 Vol. I – Aerodrome

Organisations shall use these guidelines to ensure compliance with the respective provisions of the relevant BAR's issued.

This manual may be updated from time to time based on suggestions received or to incorporate any changes in the guidance and procedures

Approved by:



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Brunei Darussalam



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Global Reporting Format for runway surface conditions in Brunei Darussalam

1. General

1.1. Introduction

- 1.1.1. The new ICAO methodology for assessing and reporting runway surface conditions commonly known as the Global Reporting Format (GRF) enable the harmonized assessment and reporting of runway surface conditions and a correspondingly improved flight crew assessment of take-off and landing performance.
- 1.1.2. The GRF, applicable on 4 November 2021 by ICAO, is described through amendment 13-B to Annex 14-Aerodromes, Volume 1- 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).

1.2. Objective

- 1.2.1. The purpose of this document is to introduce and provide information pertinent to the implementation of GRF in Brunei Darussalam for assessment and reporting of runway surface conditions by aerodrome operators.
- 1.2.2. This document provide guidance to demonstrate compliance with the new ICAO methodology for assessing and reporting of GRF.

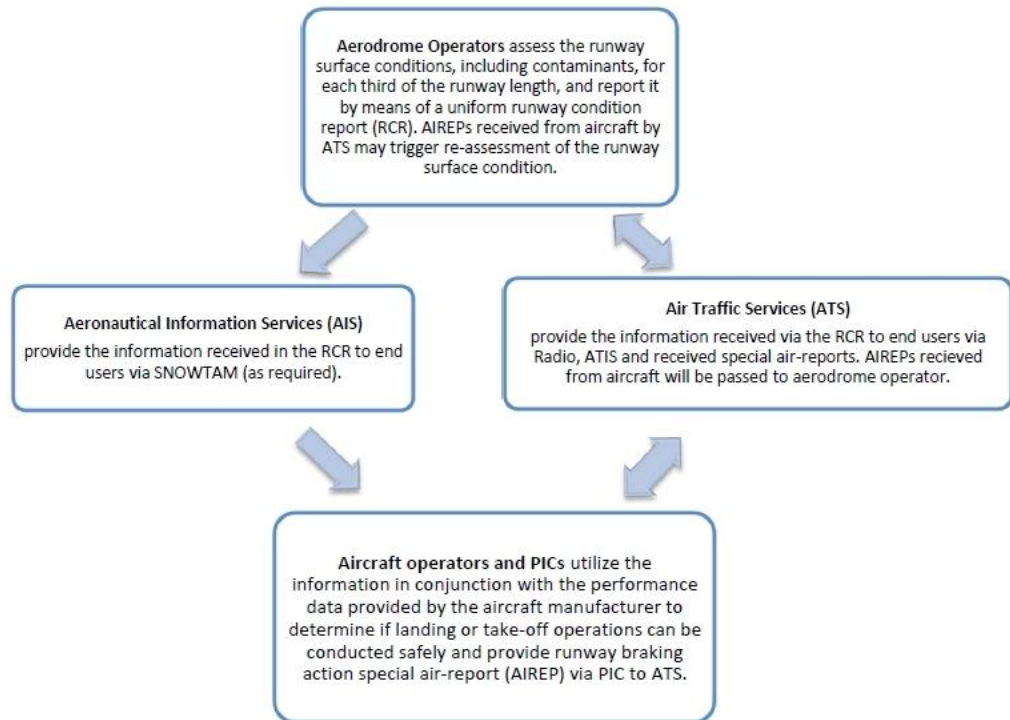
1.3. Other References

- ICAO Circular 355, *Assessment, Measurements and Reporting of Runway Surface Conditions*
- ICAO Doc 10064 *Aeroplane Performance Manual*
- Airport Services Manual, Part 2 – Pavement Surface Conditions, Part 8 – Airport Operational Services and Part 9 – Airport Maintenance Practices (Doc 9137)

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1.4. GRF Flow of Information

The figure below illustrates the GRF flow of information and the roles of various parties.



1.5. Abbreviations

AIREP - Air Report
AIS - Aeronautical Information Service
GRF - Global Reporting Format
N/A - Not applicable
NOTAM - Notice to airmen
RCAM - Runway Condition Assessment Matrix
RCR - Runway Condition Report
RWY - Runway
RWYCC - Runway Condition Code
TWY - Taxiway

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2. Runway Surface Condition Assessment and Reporting

2.1. Collection of Information

2.1.1. Aerodrome operator is responsible to assess the condition of the runway for each third of the runway and issue a Runway Condition Report (RCR).

2.1.2. This RCR 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.

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 Chapter 4 (Assessment, Measurement and Reporting of Runway Surface Conditions).

2.1.3. The assessment process shall include:

- a) assessing and reporting the condition of the movement area;
- b) providing the assessed information in the correct format; and
- c) reporting significant changes without delay.

2.1.4. The Mandatory information in RCR / SNOWTAM shall be included in an information string in the following order using only AIS compatible characters:

a) aeroplane performance calculation section:

- 1) aerodrome location indicator;
- 2) date and time of assessment;
- 3) lower runway designation number;
- 4) RWYCC for each runway third;
- 5) per cent coverage contaminant for each runway third;
- 6) depth of loose contaminant for each runway third;
- 7) condition description for each runway third; and
- 8) width of runway to which the RWYCCs apply if less than published width.

b) situational awareness section:

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- 1) reduced runway length;
- 2) loose sand on the runway;
- 3) taxiway conditions;
- 4) apron conditions;
- 5) measured friction coefficient; and
- 6) plain language remarks.

2.1.5. On a global level, operational runways are exposed to a multitude of climatic conditions and consequently a significant difference in the condition to be reported. The RCR describes a basic structure applicable for all these climatic variations. Assessing runway surface conditions rely on a great variety of techniques and no single solution can apply to every situation.

2.1.6. The philosophy of the RCR is that the aerodrome operator assesses the runway surface conditions whenever contaminants are present on an operational runway. From this assessment, a runway condition code (RWYCC) and a description of the runway surface are reported which can be used by the flight crew for aeroplane performance calculations. This format, based on the type, depth and coverage of contaminants, is the best assessment of the runway surface condition by the aerodrome operator; however, all other pertinent information will be taken into consideration and be kept up to date and changes in conditions reported without delay.

2.1.7. The RWYCC reflects the runway braking capability as a function of the surface conditions. With this information, the flight crew can derive, from the performance information provided by the aeroplane manufacturer, the necessary stopping distance of an aircraft on the approach under the prevailing conditions.

2.1.8. The BAR 14 Vol. I Chapter 2.9 - Condition of the Movement Area and Related Facilities, contain standards related to the assessment and reporting of runway surface condition.

2.1.9. The operational practices are intended to provide the information needed to fulfil the syntax requirements for dissemination and promulgation by Aeronautical information services (AIS) and Air Traffic Services (ATS) as specified in *Aeronautical Information Management (Doc 10066)* and the *Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM, Doc 4444)*.

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2.2. Dissemination of Information

2.2.1. When the runway is wholly or partly contaminated by standing water, the runway condition report shall be disseminated through the AIS and ATS services.

2.2.2. When the runway is wet, not associated with the presence of standing water, the assessed information shall be disseminated using the runway condition report through the ATS only.

Note.— Operationally relevant information concerning taxiways and aprons are covered in the situational awareness section of the RCR

2.2.3. 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 and provisions related to SNOWTAM are 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 Issuance of SNOWTAM.

2.2.4. Air Traffic Services (ATS) provide the information received via the RCR to end users through radio, ATIS, etc. and received special air-reports.

Note: Further details of the syntax for dissemination of the RCR can be found in the Procedures for Air Navigation Services — Aeronautical Information Management (PANS-AIM, Doc 10066), Appendix 4 is determined by the operational need of the flight crew and the capability of trained personnel to provide the information arising from an assessment.

2.3. Using the information

2.3.1. 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).

2.4. Reporting

2.4.1. Reporting, in compliance with the runway condition report, shall commence when a significant change in runway surface condition occurs due to contaminant.

2.4.2. Reporting of the runway surface condition shall continue to reflect significant changes until the runway is no longer contaminated. When

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this situation occurs, the aerodrome will issue a runway condition report that states the runway is wet or dry as appropriate.

2.4.3. A change in the runway surface condition used in the runway condition report is considered significant whenever there is:

- a) any change in the RWYCC;
- b) any change in reportable contaminant coverage;
- c) any change in contaminant depth; and
- d) any other information, for example a pilot report of runway braking action, which according to assessment techniques used, are known to be significant.

Note.— Further information is available in ICAO Circular 355—Assessment, Measurement and Reporting of Runway Surface Conditions.

3. Training

3.1. General

3.1.1. Aerodrome operators shall develop a training program for all its personnel who will assess and report runway conditions. This training program shall :

- a) focuses primarily on the practical aspects of runway condition assessment and reporting; and
- b) incorporates “lessons learned” from the previous year(s) operations.

3.1.2. 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.

3.1.3. ANSP (ATS, AIS & MET) Shall be sufficiently trained as appropriate with Global Reporting Format (GRF) for Runway Surface Conditions.

3.1.4. Airlines (flight operations departments, dispatchers, pilots) shall be sufficiently trained with Global Reporting Format (GRF) for Aircraft Operators and Flight Crew.

Note.— Further information is available in ICAO Circular 355—Assessment, Measurement and Reporting of Runway Surface Conditions.

4. Appendices

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4.1. Appendix 1 – RCAM

Runway condition assessment matrix (RCAM)			
Assessment criteria		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) <p><i>Up to and including 3 mm depth:</i></p> <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	<p><i>-15°C and Lower outside air temperature:</i></p> <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 <p><i>More than 3 mm depth:</i></p> <ul style="list-style-type: none"> • DRY SNOW • WET SNOW <p><i>Higher than -15°C outside air temperature¹:</i></p> <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	<p><i>More than 3 mm depth of water or slush:</i></p> <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 ² 	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 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

Source: PANS-Aerodrome (Doc 9981)

4.2. Appendix 2 – Runway Condition Assessment Worksheet

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Aerodrome

Date/Time (UTC) of assessment
(MMDDhhmm)

Lower Runway Designator

Initials

Yes - assign Runway Condition Codes for each third and complete RWY Condition Report (Blue Box)

No - No report created

Note: RWYCC 6/6/6 for all runway thirds may be used to indicate that the runway is no longer wet

1st RWY Third

For coverage 25% or less enter Code 6

RWYCC

Dry

6

Wet (Damp)

5

% Cov. 100

Slippery Wet
(Below Min Friction Level Classification)

3

% Cov. 100

Standing water

2

>3mm

% Cov.

Depth: 4mm Assessed depth (mm):

For Standing water 4mm depth have to be reported as Minimum

2nd RWY Third

For coverage 25% or less enter Code 6

RWYCC

Dry

6

Wet (Damp)

5

% Cov. 100

Slippery Wet
(Below Min Friction Level Classification)

3

% Cov. 100

Standing water

2

>3mm

% Cov.

Depth: 4mm Assessed depth (mm):

For Standing water 4mm depth have to be reported as Minimum

3rd RWY Third

For coverage 25% or less enter Code 6

RWYCC

Dry

6

Wet (Damp)

5

% Cov. 100

Slippery Wet
(Below Min Friction Level Classification)

3

% Cov. 100

Standing water

2

>3mm

% Cov.

Depth: 4mm Assessed depth (mm):

For Standing water 4mm depth have to be reported as Minimum

Situational Awareness Section / Notes

TWY

Poor

Apron

Poor

Other

State approved

CFME Braking coefficient

My not to be transmitted in RWY Condition Report

Adjusted RWYCC

ONLY if Downgrade/ Upgrade Assessments used

Downgrade/ Upgrade Criteria

AIREP

CFME

Other

RCR

Aerodrome

Date & Time

RWY

/

RWYCC

/

100

/

100

/

100

/

Depth in mm

Contaminant Type 1st third

Contaminant Type 2nd third

Contaminant Type 3rd third

Plain language remarks

Reduced RWY width in m (if applicable)

- End -

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