

ADVISORY PAMPHLET ON RUNWAY SURFACE CONDITION ASSESSMENT AND REPORTING

State Civil Aviation Agency of the Republic of Azerbaijan

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ADVISORY PAMPHLET ON RUNWAY SURFACE CONDITION ASSESSMENT AND REPORTING

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0.3 DISTRIBUTION AND CONTROL

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1	**(S)**	Quality Control & Rulemaking Department	SCAA Q-Pulse
2	**(S)**	Quality Control & Rulemaking Department	Official web-site of the SCAA

S) Soft Copy - (electronic version)

(H) Hard Copy – (printed version)

Note: *Electronic and hard copies are considered "uncontrolled" if they are printed or not included into this distribution list.*

0.4 RECORDS OF AMENDMENTS AND REVISIONS

Ed./Rev. №:	Effective date:	Entered into force by:	Reason
Edition № 01	27.12.2021	Dir.Order № 79 dd. 21.12.2021	

Edition: - *Release of a document having incorporated all previous revisions until the current version. New edition of a document will not show revised text in blue color. Current edition of a document shown on each page in footer.*

Revision: *- A change made to a part of document, where it is reflected with blue text or accompanied with a vertical line on right side of a document. Basic information on revisions (number and date) given in the List of effective Pages and indicated in header of affected page and in context itself.*

0.5 TERMS AND DEFINITIONS

Aircraft Movement Surface Condition Report: means a report that details the surface conditions of all movement areas at an airport, including runways and taxiways.

Contaminant: means material that collects on a surface, including standing water and sand.

Contaminated runway: A runway is contaminated when a significant portion of the runway surface area (whether in isolated areas or not) within the length and width being used is covered by standing water.

> ***Note:*** *Sand is also a contaminant but are not included in the definition of contaminated runway because its effect on runway surface friction characteristics and the runway condition code cannot be evaluated in a standardized manner.*

Dry: means a surface condition that is free of visible moisture and has no observed contaminants within the area intended to be used.

Paved surface: means a surface of asphaltic concrete (flexible) or Portland cement concrete (rigid).

Percent coverage of contaminant: means the estimated amount of contaminant present on the surface of the runway and reported as percentage of the assessed surface.

Runway Condition Assessment Matrix: means a matrix allowing for the assessment of runway condition code, using associated procedures, from a set of observed runway surface condition(s) and pilot report of braking action.

Runway Condition Code: means a number describing the runway surface condition.

Runway Surface Condition: means the portion of the AMSCR which reports the surface condition of the runway.

Sand: means small particles of crushed angular mineral aggregates or natural sand material used to improve runway surface friction levels.

Significant change: means, with respect to runway surface condition includes, but is not limited to: changes in type of contaminant, changes in depth of contaminant, following the application or removal of sand or chemicals, changes in conditions caused by rapid increases or decreases in temperature.

Slippery wet runway: means a wet runway where the surface friction characteristics of the runway have been determined to be degraded.

> ***Note:*** *A runway or its portion is deemed as having degraded friction characteristics when friction measurements are below the minimum friction levels specified in G-AGA-012.*

Snowtam: a special series NOTAM given in a standard format providing a surface condition report notifying the presence or cessation of hazardous conditions due to snow, ice, slush, frost, standing water or water associated with snow, slush, ice or frost on the movement area.

Standing water: means water of depth greater than 3 mm.

Take-off and Landing Performance Assessment: means a method of reporting runway conditions (which relates to aeroplane performance) which is intended to reduce the risk of runway excursions.

Wet: means a surface condition where there is any visible dampness or water up to and including 3 mm deep.

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0.6 ABBREVIATION

SCAA	State Civil Aviation Agency
AMSCR	Aircraft Movement Surface Condition Report
CL	Centreline
GYD	IATA code for Heydar Aliyev International Airport
GRF	Global Reporting Format
ICAO	International Civil Aviation Organization
RCAM	Runway Condition Assessment Matrix
RCR	Runway Condition Reporting
RFI	Runway Friction Index
RSC	Runway Surface Condition
RWY	Runway
RWYCC	Runway Condition Code
TALPA	Takeoff and Landing Performance Assessment
TWY	Taxiway

0.7 TERMS SHALL, SHOULD, MAY

The following terms shall have the meaning outlined below:

“Shall” - An action verb in the imperative sense means that the application of a rule or procedure or provision is mandatory.

“Should” - Means that the application of a procedure or provision is recommended.

“May” - Means that the application of a procedure or provision is optional.

0.8 ADMINISTRATION AND CONTROL

This document is published as a book on A4-sized sheets. The PDF files will be locked and signed to prevent changes.

This document is regularly revised and amended. All personnel must be familiarized with all revisions done.

This document will be Amended and Revised in accordance with requirements of “Documentation and Control” procedure.

0.9 PURPOSE

The purpose of this document is to introduce and provide guideline for the implementation of the International Civil Aviation Organization (ICAO) Global Reporting Format (GRF) for runway condition reporting.

This document is available to the aviation industry for the purpose of conveying flight safety information regarding the new runway condition reporting. All aerodrome personnel involved with runway condition assessment should be aware of the forthcoming implementation of the new GRF.

0.10 FOREWARD

This document provides information and guidance to Aerodrome Operators on the implementation of global reporting format (GRF). An Aerodrome Operator is responsible to implement the GFR for runway condition reporting.

The International Civil Aviation Organization (ICAO) has developed a new globally harmonized methodology for runway condition assessment and reporting. This is intended to be the only such reporting format for international aviation with the objective of reducing runway excursions, thus improving the safety of airport operations. The methodology is called the Global Reporting Format (GRF) and the implemented from November 4th, 2021.

The airport operator shall assesses the runway surface conditions whenever water or sand is present on an operational runway. From this assessment, a Runway Condition Code (RWYCC) and a description of the runway surface are reported, to aid aircraft operational performance calculations. This format, based on the type, depth and coverage of contaminants is the best assessment of the runway surface condition by the airport operator. All other pertinent information should also be taken into consideration. When changes in conditions occur, they shall be reported without delay.

The RWYCC reflects the expected 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 landing distance of an aeroplane under the existing conditions. When a RWYCC is not provided, pilots refer to the reported runway surface conditions to determine expected landing performance.

Flight crew utilize runway surface condition descriptors (type and depth of contamination) when determining their aeroplane’s expected take-off performance.

1 IMPLEMENTATION OF THE GLOBAL REPORTING FORMAT (GRF)

1.1 GENERAL

The Global Reporting Format (GRF) is an internationally accepted concept which utilizes a consistent method to produce an Aircraft Movement Surface Condition Report (AMSCR). The GRF consists of five fundamental elements:

(1) Runway surface conditions

(2) Runway surface descriptors

(3) Runway Condition Assessment Matrix (RCAM)

(4) Runway Condition Code (RWYCC)

(5) Runway Condition Report (RCR)

1.2 RUNWAY SURFACE CONDITIONS

There are four defined runway surface conditions:

(1) Dry runway;

(2) Wet runway;

(3) Slippery (when) wet runway; and

(4) Contaminated runway

1.3 RUNWAY SURFACE CONDITION DESCRIPTORS

There is one contaminated runway surface condition descriptor:

(1) **Standing water**

This runway surface condition descriptor, together with contaminant depth and temperature, are used to determine the RWYCC.

This runway surface condition descriptor is used singly or in combination when describing the runway surface condition. Further details are provided in Chapter 4(d) of this document.

1.4 RUNWAY CONDITION ASSESSMENT MATRIX (RCAM)

The RCAM is a matrix used to determine a runway condition code, from a set of observed runway surface condition(s) and associated procedures from a set of observed runway surface condition(s) and pilot report of braking action.

Details respecting the RCAM are provided in Chapter 5 of this document.

1.5 RUNWAY CONDITION CODE (RWYCC)

The Assessment Criteria consist of Runway Surface Descriptions which are used to determine the Runway Condition Code (RWYCC).

Flight crew uses the RWYCC for determining the landing performance of their aeroplane. (The RWYCC is not utilized for determining aeroplane takeoff performance).

The process for determining the RWYCC is provided in Chapter 5.4 of this document.

1.6 RUNWAY CONDITION REPORT (RCR)

This is an agreed set of criteria used in a consistent manner for runway surface condition assessment, aeroplane performance certification and operational performance calculation. It links

the agreed set of criteria with the aircraft landing and take-off performance table and is related to the braking action experienced and eventually reported by flight crew.

The RCR reports the contaminant type and depth which is relevant to take-off performance. It is a standardized common terminology and phraseology for the description of runway surface conditions that can be used by aerodrome operator inspection personnel, air traffic controllers, aircraft operators and flight crew.

The RCR consists of two sections;

1. Aeroplane performance calculation section (for each third)
2. Situational awareness section

The process for determining the RWYCC is provided in Chapter 5 of this document.

2 RUNWAY SURFACE CONDITIONS

The following terms will be used to describe the runway surface condition for each runway third:

(1) DRY

(a) A runway is considered dry if its surface is free from visible moisture and not contaminated within the area intended to be used.

(b) The RWYCC for a dry runway is 6.

(c) A dry surface must be reported only when there is a need to report conditions on one or more of the other thirds.

(d) A dry surface will be reported where the report is the last, final report that closes a period in which the runway was contaminated.

(2) WET

(a) A runway is considered wet when it is covered by any visible dampness or water that is 3mm or less in depth.

(b) The RWYCC for a Wet Runway is 5.

(c) Wet runway assessments do not necessarily require direct observation of all affected pavement surfaces.

(d) Credible evidence of wet conditions such as receiving reports of rain at the airport can be used as a rationale for assigning wet RWYCCs.

(3) SLIPPERY WET

(a) A wet runway may be slippery where the surface friction characteristics of a significant portion of the runway have been determined to be degraded.

(b) Some contributing factors that can create such conditions include rubber buildup, groove failures/wear or pavement micro/macro textures.

(c) The RWYCC for a Slippery Wet Runway is 3

(d) Methods to determine that a runway is slippery wet may include a functional friction measurement, observation by aerodrome maintenance personnel, repeated reports by pilots and analysis of aeroplane stopping performance that indicates a substandard surface.

(4) CONTAMINATED (STANDING WATER)

(a) For contaminants like mud, ash, sand or oil, the RCC are not reported. Rather they are reported in the plain language remark section of the RCR.

(b) Ash, oil, sand and rubber contaminants should be reported without a measured depth but the measured depth for mud should be reported.

(c) Water of a depth of more than 3mm is defined as standing water

(d) The RWYCC for Standing Water is 2

2.1 PERCENT COVERAGE OF SURFACE CONDITION DESCRIPTORS

The data input process will limit the reporting of percent coverage of surface condition descriptors to the increments given in Table 1. If the assessed percent coverage is between increments, it should be rounded up as indicated in Table 1.

Table 1 – Percent Coverage Increments

Assessed Percent Coverage	Reported Percent Coverage
10 – 25	25
26 – 50	50
51 – 75	75
76- 100	100

Where some sections of the runway, or sections of a runway third, are not contaminated, the reported runway contaminants are not required to add up to 100%.

For example:

a) If 50% of the runway third is covered with 12mm STANDING WATER and the other 50% is DRY, it will be reported as “50% 12mm STANDING WATER”.

2.2 CONTAMINANT DEPTH ASSESSMENTS

Contaminant depths significantly affect aircraft takeoff and landing performance including stopping capability. Specific contaminants with more than 3mm depth have been found to significantly degrade aircraft takeoff and landing performance.

Contaminant depths will be reported for:

a) STANDING WATER;

The depth is reported as a two or three-digit number representing the assessed depth in millimeters (mm) of the contaminant for each runway third.

The assessment is based upon an even distribution within the runway thirds as assessed by trained personnel.

If measurements are included as part of the assessment process, the reported values are still reported as assessed depths, as the trained personnel have placed their judgment upon the measured depths to be representative for the runway third.

Where contaminant depth is not being reported, operator should indicate that no information exists by entering “NR”.

3 RUNWAY CONDITION ASSESSMENT MATRIX COMPONENTS (RCAM)

3.1 GENERAL

The Runway Condition Assessment Matrix (RCAM) (Table 2) is the method by which the airport or aerodrome operator determines a Runway Condition Code (RWYCC) for each runway third, whenever water is present on the runway surface. This matrix allows for the assessment of the runway condition code using associated procedures from a set of observed runway surface condition(s) and pilot braking action.

The RCAM applies only to paved (asphalt and concrete) runway surfaces, and does not apply to unpaved or partially paved surfaces.

Table 2 – Runway Condition Assessment Matrix (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	• DRY	---	---
5	• FROST • WET (The runway surface is covered by any visible dampness or water up to and including 3 mm depth) ***Up to and including 3 mm depth:*** • SLUSH • DRY SNOW • WET SNOW	Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	GOOD
4	***–15ºC and Lower outside air temperature*:** • 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 ***More than 3 mm depth:*** • DRY SNOW • WET SNOW ***Higher than –15ºC outside air temperature*[1]:** • COMPACTED SNOW	Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	MEDIUM
2	***More than 3 mm depth of water or slush:*** • 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

[1] Runway surface temperature should preferably be used where available.

[2] The aerodrome operator may assign a higher runway condition code (but no higher than code 3) for each third of the runway, provided the procedure in G-AGA-026 2.1.3.15 is followed.

3.2 ASSESSMENT CRITERIA

(1) The first column of RCAM is for Assessment Criteria that consists of a Runway Surface Description and a Runway Condition Code. The Runway Surface Descriptions in each category are linked to the corresponding Runway Condition Code based on their effect on aeroplane braking performance.

(2) The second column of RCAM is the Downgrade Assessment criteria which provides the assessment criteria allowing the airport operator to further assess the runway and validate the RWYCC. This includes;

(a) The column to be used by the pilot to rate the estimated aeroplane braking performance on a given contaminant and estimate a runway braking action category based on six descriptors.

(b) A report of braking action on the runway by a pilot, providing other pilots with an indication of the degree/quality of expected braking.

3.3 RUNWAY CONDITION DESCRIPTION

The Runway Surface Description column lists contaminants that are directly correlated to aeroplane landing performance. The description sections, ranging in terms of slipperiness, are categorized based on type and depth of contaminant and outside air temperature.

3.4 RUNWAY CONDITION CODE (RWYCC)

Runway Condition Codes (Format: X/X/X) represent the runway condition description based on defined terms and increments. Use of these codes harmonizes with “Azerbaijan Aviation Rules-Aerodrome Standards”, providing a standardized “shorthand” format for reporting runway condition, which can be used by pilots to determine landing performance parameters.

A RWYCC is determined using the RCAM based on type and depth of contaminant and outside air temperature. When available, the runway surface temperature should be used.

(1) The following process may be used to determine the RWYCC:

(i) When the runway third contains a single contaminant, the RWYCC for that third is based directly on that contaminant in the RCAM (Table 3) as follows:

- If the percent coverage of contaminant for the runway third is less than or equal to 25%, a RWYCC of 6 is reported for that third;



Figure 1 – Single contaminant, less than or equal to 25% coverage per runway third

- If the percent coverage of contaminant for the runway third is greater than 25%, the

RWYCC for that third is based on the code for that contaminant that is specified in the RCAM.

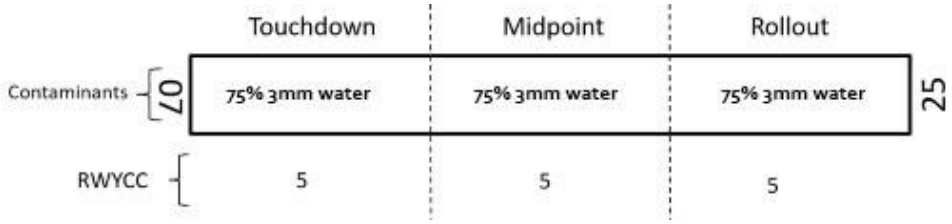


Figure 2 – Single contaminant, greater than 25% coverage per runway third

- When two contaminants are present in a runway third and the percent coverage for each individual contaminant is less than or equal to 25%, the RWYCC is based upon the judgement by trained personnel considering what contaminant will most likely be encountered by the aeroplane and its likely effect on the aeroplane's performance.

Note: *The process described in Chapter 5.4 (4) is summarized in a flowchart in Appendix A for a single contaminant and in Appendix B for two contaminants.*

3.5 DOWNGRADE ASSESSMENT CRITERIA

As described in Chapter 5.4, the RWYCC is initially determined through use of the RCAM Assessment Criteria (type and depth of contamination and temperature).

(1) The airport or aerodrome operator should consider downgrading a RWYCC when RFI measurements (if available), pilot reports or other observations reveal that the runway surface is more slippery than the RWYCC that was initially determined.

(2) The airport or aerodrome operator should exercise vigilance and downgrade the RWYCC when appropriate so that flight crew(s) are provided with a RWYCC that best reflects the actual slipperiness of the runway.

(3) A pilot report of braking action should be taken into consideration for downgrading purposes. This is a report of braking action on the runway by a pilot which provides other pilots with a degree/quality of expected braking. The braking action experienced is dependent on the type of aircraft, aircraft weight, touchdown point, and other factors.

(4) When previous pilot braking action reports have indicated GOOD or MEDIUM braking action, two consecutive pilot braking action reports of POOR indicates that surface conditions may be deteriorating. In this situation, the airport or aerodrome operator should conduct a runway assessment prior to the next operation.

(5) When one pilot report of runway braking action of LESS THAN POOR (or NIL) is received, the information should be disseminated, a new assessment should be made and the suspension of operations on that runway should be considered.

Note: *If considered appropriate, maintenance activities may be performed simultaneously or before a new assessment is made.*

3.6 UPGRADE ASSESSMENT CRITERIA

An assigned RWYCC of 5 or 3 shall not be upgraded.

3.7 RUNWAY CONDITION ASSESSMENT WORKSHEET

Runway Condition Assessment Worksheet assess the % coverage of runway contamination for each runway third. Utilization of the below given sample facilitates the runway surface condition assessment operations.

Note: *Runway Condition Assessment Worksheet form is available on official web-site of SCCA (click here)*

Runway Condition Assessment Worksheet

Aerodrome

Date/Time (UTC) of assessment (MMDDhhmm)

Lower Runway Designator

°C Outside Air Temperature

Initials

Assess the % coverage of runway contamination for each runway third

< 10% coverage	≥ 10% - ≤ 25% coverage	> 25% coverage
NR (No contaminant is reported) RWYCC - 6 to be generated for that third.	Report contaminant coverage at 25% RWYCC - 6 to be generated for that third.	>25 to ≤50 report coverage as 50% >50 to ≤75 report coverage as 75% >75 to 100 report coverage as 100% RWYCC for that third shall be based on the contaminant present & temperature considerations

NOTE: RCR not required if all RWY thirds have <10% coverage (unless making a final report to advise the RWY is no longer contaminated)

1st RWY Third

For coverage 25% or less (≤25%) enter Code 6.
For coverage greater than 25% (>25%), follow the steps below

- Identify any contaminant that covers more than 25% of the RWY third
- Identify % coverage
- Identify depth (if applicable)
- Identify Runway Condition Code
- Record the most restrictive code in the box to the right

RWYCC

Dry 6 | Wet (Damp) 5 (% Cov. 25/50/75/100) | Frost 5 (% Cov. 25/50/75/100) | Slippery Wet (Below Min Friction Level Classification) 3 (% Cov. 25/50/75/100)

Standing Water/ Slush >3mm 2 (% Cov. 25/50/75/100) | Slush 3mm or less 5 (% Cov. 25/50/75/100) | Dry or Wet snow >3mm 3 / 3mm or less 5 (% Cov. 25/50/75/100) | Dry or wet snow on compacted snow 3 (% Cov. 25/50/75/100)

Depth: 3mm or less | Assessed depth (mm):

Mark depth only for: Standing Water, Slush, Wet or Dry Snow, Any snow on top of compacted snow

-15°C or below 4 (% Cov. 25/50/75/100) | Compacted snow | Above -15°C 3 (% Cov. 25/50/75/100)

Ice 1 (% Cov. 25/50/75/100) | Wet Ice, Water on compacted snow, snow on Ice 0 (% Cov. 25/50/75/100)

2nd RWY Third

For coverage 25% or less (≤25%) enter Code 6.
For coverage greater than 25% (>25%), follow the steps below

- Identify any contaminant that covers more than 25% of the RWY third
- Identify % coverage
- Identify depth (if applicable)
- Identify Runway Condition Code
- Record the most restrictive code in the box to the right

RWYCC

Dry 6 | Wet (Damp) 5 (% Cov. 25/50/75/100) | Frost 5 (% Cov. 25/50/75/100) | Slippery Wet (Below Min Friction Level Classification) 3 (% Cov. 25/50/75/100)

Standing Water/ Slush >3mm 2 (% Cov. 25/50/75/100) | Slush 3mm or less 5 (% Cov. 25/50/75/100) | Dry or Wet snow >3mm 3 / 3mm or less 5 (% Cov. 25/50/75/100) | Dry or wet snow on compacted snow 3 (% Cov. 25/50/75/100)

Depth: 3mm or less | Assessed depth (mm):

Mark depth only for: Standing Water, Slush, Wet or Dry Snow, Any snow on top of compacted snow

-15°C or below 4 (% Cov. 25/50/75/100) | Compacted snow | Above -15°C 3 (% Cov. 25/50/75/100)

Ice 1 (% Cov. 25/50/75/100) | Wet Ice, Water on compacted snow, snow on Ice 0 (% Cov. 25/50/75/100)

3rd RWY Third

For coverage 25% or less (≤25%) enter Code 6.
For coverage greater than 25% (>25%), follow the steps below

- Identify any contaminant that covers more than 25% of the RWY third
- Identify % coverage
- Identify depth (if applicable)
- Identify Runway Condition Code
- Record the most restrictive code in the box to the right

RWYCC

Dry 6 | Wet (Damp) 5 (% Cov. 25/50/75/100) | Frost 5 (% Cov. 25/50/75/100) | Slippery Wet (Below Min Friction Level Classification) 3 (% Cov. 25/50/75/100)

Standing Water/ Slush >3mm 2 (% Cov. 25/50/75/100) | Slush 3mm or less 5 (% Cov. 25/50/75/100) | Dry or Wet snow >3mm 3 / 3mm or less 5 (% Cov. 25/50/75/100) | Dry or wet snow on compacted snow 3 (% Cov. 25/50/75/100)

Depth: 3mm or less | Assessed depth (mm):

Mark depth only for: Standing Water, Slush, Wet or Dry Snow, Any snow on top of compacted snow

-15°C or below 4 (% Cov. 25/50/75/100) | Compacted snow | Above -15°C 3 (% Cov. 25/50/75/100)

Ice 1 (% Cov. 25/50/75/100) | Wet Ice, Water on compacted snow, snow on Ice 0 (% Cov. 25/50/75/100)

Situational Awareness Section

- RWY Reduced length — LDA ..... m
- RWY Drifting snow — RWY Loose sand
- RWY Snowbanks L of CL ..... m / R of CL ..... m
- TWY Snowbanks L of CL ..... m / R of CL ..... m
- Asymm. reduced RWY width R/L ..... m FM CL
- TWY ..... Poor
- Apron ..... Poor
- Other _____

RWY Treatment Used?

Time Applied: _____

Chem. Treatment | Plowed | Swept | Sanded | Scarified

Liquid | Solid

Notes

State approved CFME Braking coefficient

Mu 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 | % Coverage | 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)

4 RUNWAY CONDITION REPORTING (RCR)

The Runway Condition Reporting comprises of two sections:

(1) Aeroplane performance calculation

(2) Situational Awareness Section

4.1 AEROPLANE PERFORMANCE CALCULATION

This section basically consists of eight elements that are described by the block diagram as shown below;

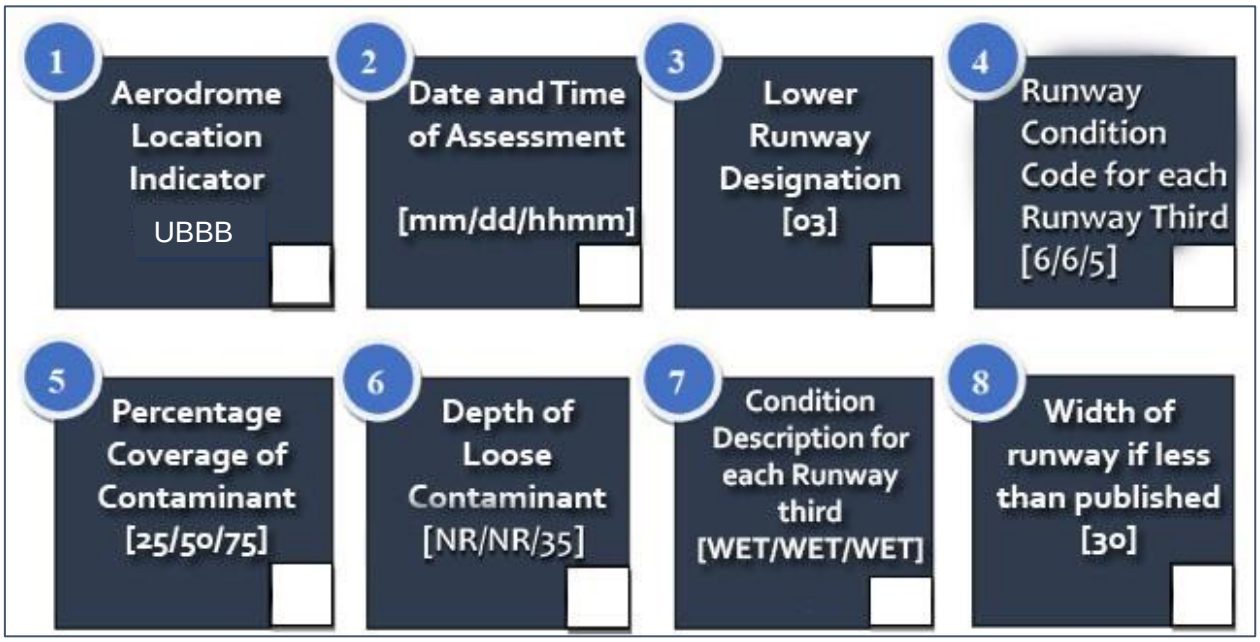


Figure 3: Flow chart for aeroplane performance calculation

(1) Aerodrome Location Indicator

This is the first element of RCR that clearly specifies the Aerodrome for which the RCR is prepared. A four-letter ICAO location indicator assigned to the aerodrome is provided to this element of RCR.

(2) Date and time of Assessment

This is the second element of RCR to which Coordinated Universal Time (UTC) is provided complying the time frame 'mm/dd/hhmm'. For example, if the Runway Condition is assessed at 8:30 am on july 12 at UBBB the corresponding RCR up to 2nd element shall be as follows:

RCR UBBB07120830

(3) Lower Runway Designation Number

The Runway shall be considered to be of three equal segments and the runway condition shall be assessed for each third of the runway considering the assessment from lower runway designation side.



Figure 4: Runway divided into three equal segments

For example, the assessment of runway condition at GYD should be carried out from lower designation side 'RWY 03' as shown above in the Figure above. This is third element of RCR.

(4) Runway Condition Code for each Runway Third

After assessment of condition for each runway third, a corresponding RWYCC shall be assigned to them from Runway Condition Assessment Matrix (RCAM) and shall be separated by slash '/'. For example, if 1st, 2nd and 3rd Runway third from lower designation is dry, Wet and slippery wet, this element of RCR shall be described as: 6/5/3.

(5) Percent Coverage Contaminant for each Runway Third

For assessed percent of coverage of contamination for each runway third, a corresponding value in column B of the Table 3 shall be reported to this fifth element of RCR. The value for each Runway Third shall be separated by slash '/'.

Table 3: Assessed coverage of contamination

Assessed percent	Percent to be Reported	RWYCC
≤9	NR	6
10-25	25	6
26-50	50	Based on contaminant/Descriptor
51-75	75	
76-100	100	

(6) Depth of Loose Contaminants

The depth in millimeter (mm) of any loose contaminant is required to be provided for each Runway third. Such values shall be expressed in two-digit form and be separated from each other by slash '/'.

The Table 4 describes the contaminant applicable for RCR with respect to the RCAM.

Table 4: RCAM contaminant applicable for RCR

Contaminant	Valid values to be reported	Significant change
STANDING WATER	Any assessed value rounded to nearest integer and higher than 03.	3 mm upto and including 15mm

(7) Condition Description for each Runway third

The surface condition of each Runway Third is required to be provided to this element of RCR in terms of various surface descriptors given in RCAM like DRY, WET, STANDING WATER. They shall be in capital letter and be separated by slash '/'.

(8) Width of Runway to which the RWYCC apply

If the width of the runway to which the RWYCC applies is less than the published width, it should be provided through this element of RCR.

(9) RCR Information String

RCR information string that consists of all eight elements as described above is expressed as below:

RCR ____ Aerodrome ________ Date &Time __ RWY _/_/_ RWYCC __/___/___ %Coverage of Contaminant _/_/_ Depth …./…/… Contaminant type …. Reduced RWY Width

EXAMPLE:

Runway assessment done at 8am UTC on 12 July 2020 at GYD shows that First Third is 20% Wet, Second Third is 5% Wet and Third Third has 40% water of maximum 5mm depth.

Lower Runway Designation: RWY 03

Referring table, 20% damp is to be reported as 25% WET and RWYCC is assigned as 6 for First Third, 5% damp is not required to be reported thereby reported as NR and RWYCC is assigned as 6 for Second Third. And 40% water is to be reported as 50% STANDING WATER and RWYCC is assigned as 2 for Third Runway Third.

Since the depth of contaminant like STANDING WATER only above 3mm is to be reported, the reporting of the same shall be NR for the First and Second Runway Third.

Hence, the RCR for this case will be as follows:

RCR UBBB07120800 03 6/6/2 25/NR/50 NR/NR/5 WET/DRY/STANDING WATER

4.2 SITUATIONAL AWARENESS SECTION

Note 1: *Elements in the situational awareness section end with a full stop.*

Note 2: *Elements in the situational awareness section for which no information exists, or where the conditional circumstances for publication are not fulfilled, are left out completely.*

Note 3: *The situational awareness section shall be separated from the aeroplane performance calculation section by an empty line.*

Item I — Reduced runway length. Insert the applicable runway designator and available length in meters (example: RWY nn [L] or nn [C] or nn [R] REDUCED TO [n]nnn).

Note 1:*This information is conditional when a NOTAM has been published with a new set of declared distances, i.e. when the runway length is reduced, this item should be included in the SNOWTAM and a NOTAM should also be issued with the new available declared distances (TORA, TODA, ASDA and LDA).*

Example: **RWY 08L REDUCED TO 2800**.

Item J — Drifting snow on the runway. When reported, insert “DRIFTING SNOW”.

Example: **DRIFTING SNOW.**

Note 1: *Drifting snow is an ensemble of snow particles raised by the wind to small heights above the ground (WMO definition).*

Note 2: *Drifting snow in the SNOWTAM format refers to the airport (the whole movement area), not a specific runway. However, for large airports with several runways where drifting snow could exist in one or some runways (not all), item J) might be reported with relevant runway designator, e.g.* ***RWY 08 DRIFTING SNOW***

Item K — Loose sand on the runway. When reported on the runway, insert the lower runway designator and with a space “LOOSE SAND” (RWY nn or RWY nn[L] or nn[C] or nn[R] LOOSE SAND).

Example: **RWY 08L LOOSE SAND.**

Item L — Chemical treatment on the runway. When chemical treatment has been reported applied, insert the lower runway designator and with a space “CHEMICALLY TREATED” (RWY nn or RWY nn[L] or nn[C] or nn[R] CHEMICALLY TREATED).

Example: **RWY 08L CHEMICALLY TREATED.**

Item M — Snow banks on the runway. When snow banks are present on the runway, insert the lower runway designator and with a space “SNOW BANK” and with a space left “L” or right “R or both sides “LR”, followed by the distance in metres from centre line separated by a space FM CL (RWY nn or RWY nn[L] or nn[C] or nn[R] SNOW BANK Lnn or Rnn or LRnn FM CL).

Example: **RWY 08L SNOW BANK L12 FM CL.**

Item N — Snow banks on a taxiway. When snow banks are present on a taxiway, insert the taxiway designator and with a space “SNOW BANK” (TWY [nn]n SNOW BANK).

Example: **TWY B SNOW BANK.**

Note 1: *when there are snow banks on every taxiway, “ALL TWYS SNOWBANKS” might be used.*

Item O — Snow banks adjacent to the runway. When snow banks are present penetrating the height profile in the aerodrome snow plan, insert the lower runway designator and “ADJ SNOW BANKS”(RWY nn or RWY nn[L] or nn[C] or nn[R] ADJ SNOW BANKS).

Example: **RWY 08R ADJ SNOW BANKS.**

Item P — Taxiway conditions. When taxiway conditions are reported as poor, insert the taxiway designator followed by a space “POOR” (TWY [n or nn] POOR or ALL TWYS POOR).

Example: **TWY C POOR.**

Item R — Apron conditions. When apron conditions are reported as poor, insert the apron designator followed by a space “POOR” (APRON [nnnn] POOR or ALL APRONS POOR).

> ***Note 1:*** *Aprons are named differently in different aerodromes (e.g. Apron 1, Cargo Apron, Apron Main, Apron XXX, Military Ramp, etc.). The Apron designator/name in the SNOWTAM should be the one indicated in the Aerodrome Chart and/or AIP.*

Example: **APRON 1 POOR.**

Item S — Measured friction coefficient. Where reported, insert the measured friction coefficient and friction measuring device.

> ***Note 1:*** *This item is optional and will only be reported for States that have an established programme of runway friction measurement using a State-approved friction measuring device.*
>
> ***Note 2:*** *States that follow EASA Regulations do not report measured friction coefficient. ‘NR’ is inserted for Item S.*

Item T — plain language remarks.

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5 STAKEHOLDER RESPONSIBILITIES

5.1 AERODROME OPERATOR

The Aerodrome Operator assesseses aerodrome surface conditions and disseminating such information through the relevant SCAA/ATS/AIS Units.

To fulfill this role, it is expected that the aerodrome operator adopts a process which includes the following:

(1) identify the methodology to be adopted to measure the percentage of coverage and depth of contaminant for each third of runways. The process shall also include data gathering for other parts of the movement area.

(a) Develop procedures for the:

(b) collection of data,

(c) production of RCR,

(d) dissemination of information to GCAA/ATS/AIS Units, and

(e) updating of RCR.

(2) Identify personnel who would be responsible for tasks highlighted in point 2.

(3) Develop and amend existing training programmes to include subjects related to runway surface condition reporting as per ICAO Circular 355 and G-AGA-026 (PANS Aerodromes).

(4) Coordinate with the respective ATS/AIS Units to ensure seamless transmission of RCR taking into account the applicable aeronautical data transfer protocols.

(5) Perform necessary updates to ATIS/AFTN and adopt the new format, where applicable.

(6) Inform all aerodrome users on GRF implementation, ideally through established safety committees.

(7) Apply the approved change management process and conduct a safety risk assessment to address any potential concerns.

(8) In conjunction with ATS/AIS Units, conduct system testing to ensure a smooth transition on target date.

(9) Update occurrence reporting process to include GRF.

5.2 AIR TRAFFIC SERVICES (ATS)/AERONAUTICAL INFORMATION SERVICES (AIS) UNITS

Depending on the situation, the RCR may be disseminated by means of:

(1) AFTN

(2) ATIS, or

(3) radiotelephony.

It is the responsibility of the ATS/AIS Units to ensure the timely availability of the RCR to aircrew and, to perform these tasks, it is expected that the ATS/AIS adopts a process which includes the following:

(1) Coordinate with the aerodrome operator to establish the appropriate methodology for the receipt of the RCR considering the applicable aeronautical data transfer protocols.

(2) Amend and introduce new procedures for the implementation of GRF. This shall consider the receipt and forwarding of Air Reports (AIREPs) to the aerodrome operator.

(3) Develop and amend existing training programmes to include subjects related to GRF application, with interest groups mainly consisting of:

a) management;

b) ATCOs;

c) AIS personnel.

(4) Training subjects should primarily focus on: RCR decoding; and R/T transmission of RCR.

(5) Perform necessary updates to include the new GRF format, where necessary.

(6) Apply the established change management process and conduct a safety risk assessment to address any concerns stemming pre implementation.

(7) In conjunction with aerodrome operator, conduct system testing to ensure effective implementation on target date.

(8) Update occurrence reporting process to include GRF.

(9) Update AIP as required.

5.3 STATE CIVIL AVIATION AGENCY

As expected, the effective application of GRF requires the collective effort of several stakeholders from all domains of the aviation system. Invariably, the key players of the process are aerodrome operators and air navigation services providers. For this reason, the Aerodrome Operators Oversight (AGA) Inspectorate is the leading Inspectorate in collaboration with Air Navigation Service (ANS) Inspectorate for the promotion and oversight of the process at national level.

All units will be including GRF in their oversight schedule and operators are to expect audits and/or inspections accordingly.

5.4 AIRCRAFT OPERATORS

It is the **responsibility** of aircraft operators to 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)

5.5 AIRCRAFT MANUFACTURERS

Aircraft manufacturers provide the necessary performance data in the aeroplane flight manual.

6 TRAINING

6.1 REQUIREMENT

Aerodrome operators shall ensure that their personnel are adequately trained to perform their duties.

It is recommended that aerodrome operators develop a training program for all personnel who will assess and report runway conditions. This training programme shall include:

(1) Initial Training

(2) Annual Recurrent training

6.2 INITIAL TRAINING

(1) For the purpose of Initial Training, aerodrome operators should utilize the information in this AC to develop and conduct training which includes both:

(a) a review of the theoretical concepts; and

(b) practical exercises

(2) Initial training should include, but not limited to the following topics:

(a) Aerodrome familiarization, including aerodrome markings, signs and lightings;

(b) Aerodrome procedures as described in the aerodrome manual;

(c) Aerodrome emergency plan;

(d) NOTAM initiation procedures;

(e) Aerodrome driving rules;

(f) Air traffic control procedures on the movement area;

(g) Radiotelephony operating procedures;

(h) Phraseology used in aerodrome control, including the ICAO spelling alphabet;

(i) Aerodrome inspection procedures and techniques;

(j) Assessment and reporting of runway surface friction characteristics;

(k) Calibration, maintenance and use of runway friction measurement device;

(l) Low visibility procedures;

(m) Basics of the Global Reporting Format (GRF);

(n) Runway Condition Assessment Matrix Components (RCAM);

(o) Determination along with Downgrade and Upgrade of RWYCC;

(p) Runway Condition Report (RCR) (q)Measurement technique and assessment.

Note: *The aforementioned topics which are in bold letters are mandatorily required to be provided to the concerned personnel involved.*

6.3 ANNUAL RECURRENT TRAINING

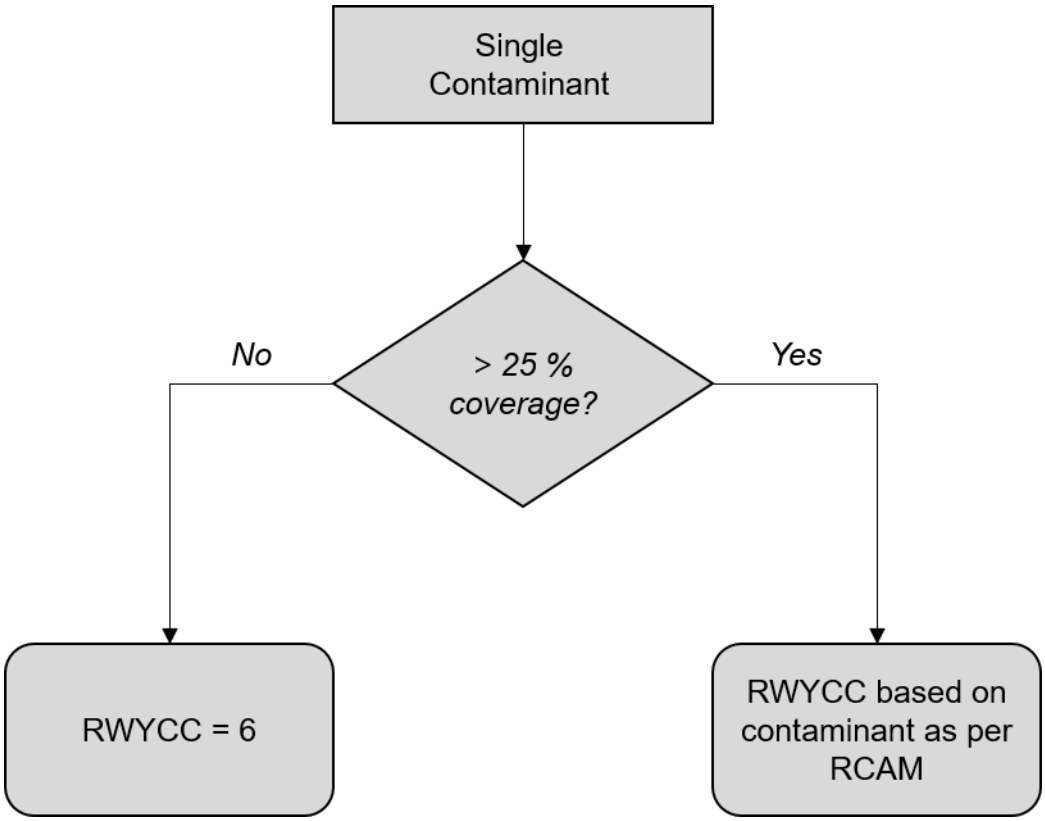
For the purpose of Annual Recurrent Training, aerodrome operators should utilize the information in this AC to develop and conduct appropriate training for their personnel which:

(1) focuses primarily on the practical aspects of runway condition assessment and reporting; and

(2) incorporates “lessons learned” from the previous year(s) operations.

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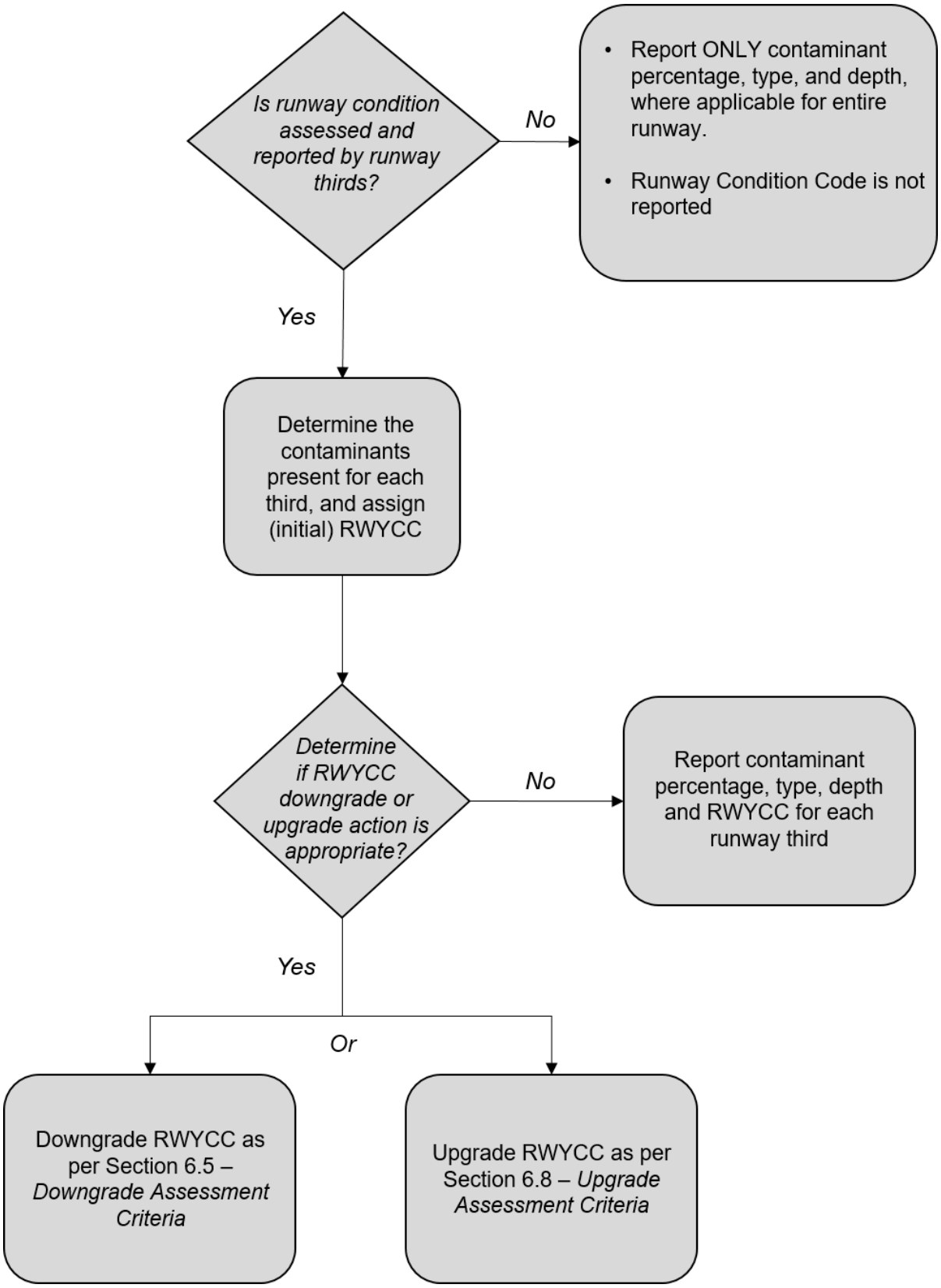
APPENDIX A – SINGLE CONTAMINANT DECISION PROCESS



Note: *Refer to Appendix B for complete process to determine RWYCC (including downgrade/upgrade, as appropriate).*

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APPENDIX B – PROCESS TO DETERMINE THE RWYCC



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