BRASIL **AIC**
MINISTRY OF DEFENSE – AIR FORCE COMMAND **A**
DEPARTMENT OF AIRSPACE CONTROL **16/21**
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ASSESSMENT AND REPORT OF RUNWAY SURFACE CONDITIONS

Period of validity: from 12 AGO 2020 to PERM

1 PRELIMINARY ARRANGEMENTS

1.1 PURPOSE

This Aeronautical Information Circular (AIC) has the purpose of guiding the ATS Units and SISCEAB users regarding the new Global Reporting Format (GRF) methodology which is the global reporting format for runway surface conditions provided by the International Civil Aviation Organization in accordance with Doc 9981 Procedures for Air Navigation Services - PANS Aerodromes. In addition, there has been the need to inform the coordination procedures between/among ATS, AIS, MET units, airport operators, and air operators, since the normative content of Doc 9981 does not establish guidelines to implement such changes. Finally, as it is a multidisciplinary theme, it was necessary to publicize information on this theme in accordance with DECEA and ANAC publications.

1.2 JURISDICTION

It is the responsibility of the Department of Airspace Control (DECEA), central unit of the Brazilian Airspace Control System (SISCEAB), to manage activities related to airspace control and flight protection.

1.3 SCOPE

The content of this Circular is mandatory and applies to ATS units and other SISCEAB users.

2 GENERAL ARRANGEMENTS

2.1 This initiative arose following the accident of Southwest Airlines Flight 1248 at Chicago Midway Airport on 8 December 2005, when the Federal Aviation Administration - FAA (Civil Aviation Authority of the United States of America), together with the industry, developed a methodology to disseminate runway surface conditions to pilots, in real time. As a result of this work, the Take-off and Landing Performance Assessment (TALPA) was implemented at airports in the United States. This methodology, which is described in FAA AC 150/5200-30D, uses the Runway Condition Assessment Matrix (RCAM), comprising values of Runway Condition Code (RwyCC) and Pilot Reported Braking Action (RBA). In 2016, after studies within the scope of a task force to study airport pavement surface friction of ICAO (Friction Task Force), the new methodology was inserted in PANS Aerodromes Amendment 1 (DOC 9981).

2.2 At the international level, there are several ICAO standards that relate to the standardized runway condition report:

a) *Amendment 13-B to Annex 14 – Aerodromes Volume I – Aerodrome Design and Operations;*

b) *Annex 3 – Meteorological Service for International Air Navigation;*
c) *Annex 6 — Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes and Part II — International General Aviation — Aeroplanes;*
d) *Annex 8 — Airworthiness of Aircraft;*
e) *Annex 15 — Aeronautical Information Services and Procedures for Air Navigation Services;*
f) *PANS - Aerodromes (PANS-Aerodromes, Doc 9981);*
g) *PANS - Aeronautical Information Management (PANS-AIM, Doc 10066);*
h) *PANS - Air Traffic Management (PANS-ATM, Doc 4444).*

2.3 This new methodology has the principle of assessing the runway surface conditions (as made by the aerodrome operator) based on contaminants, their depth and the coverage of runway surface. In this way, flight crews are provided with the information necessary to define the distance of necessary layover based on reported runway surface conditions.

2.4 In Brazil, with the purpose of following ICAO legislation, as well as achieving the operational benefits resulting from the application of this methodology, a pioneering pilot project was started in South America, in September 2018. The Curitiba/Afonso Pena International Airport (SBCT) was chosen to welcome this change. Given the prevailing weather characteristics in Brazil, the standardized reporting procedure focused mainly on rain conditions. The pilot project was completed in January 2020 and, since then, the methodology is being applied in operations at SBCT.

2.5 In order to offer a quick guide to support the implementation of this new methodology, at Brazilian airports, ANAC has published the Manual of assessment and reporting of runway surface conditions, which may be accessed at the following link: https://www.anac.gov.br/assuntos/setor-regulado/aerodromos/certificacao/runway-safety/Manual_de_Avaliacao_e_Reporte_das_Condicoes_de_Superficie_de_Pista.pdf

2.6 DECEA has published another source of consultation, where the user can obtain more information on this matter. Link to access the AISWEB website:
https://ajuda.decea.mil.br/base-de-conhecimento/o-que-e-e-para-que-serve-o-reporte-de-condicao-de-pista-rcc-rcr-ou-rwycc/

2.7 In order to guide users on how to access and decode the Runway Condition Report, DECEA made available the following website:
https://ajuda.decea.mil.br/base-de-conhecimento/%ef%bb%bfcomo-acessar-e-decodificar-o-reporte-de-condicao-de-pista/

2.8 According to the legislation in force, airport regulations are ANAC's responsibility. During this implementation, DECEA is in charge of regulating implications of this change related to the activity of air traffic control and traffic services, as well as concerned units.

3 DEFINITIONS AND ABBREVIATIONS

3.1 DEFINITIONS

In this AIC, the key terms are defined as follows:

3.1.1 Manoeuvring area - part of aerodrome intended for landing, take-off and taxiing aircraft, except aprons.

3.1.2 Movement area - part of aerodrome intended for landing and take-off, and aircraft taxi, and integrated by the manoeuvring area and aprons.

3.1.3 Runway Condition Code (RWYCC) - an expression established by Doc 9981 that reflects the condition of each runway third, from the threshold with the lowest designation. The RWYCC is assessed by the Aerodrome Operator and reported in aeronautical information and may be transmitted by the ATS Unit to pilots by radiotelephony, ATIS or Datalink.

3.1.4 Surface Meteorological Station (EMS) - Meteorological Station designated for surface meteorological observations (ICA 105-2/2017).

3.1.5 Minimum friction level - Surface friction coefficient value of a runway defined in Table 153.205-3 of RBAC 153 as a level below which the aerodrome operator shall request the dispatch of NOTAM with the message "SLIPPERY RUNWAY WHEN WET".

3.1.6 Brake condition reporting - Report of Braking Action (RBA) - phraseology used by pilots to report the general braking condition. This code considers the braking deceleration perceived by the pilot in relation to the braking effort applied to the landing gear, in addition to the directional control of the aircraft on the runway.

3.1.7 Runway third - one-third segment of a runway (1/3) from the total length of the take-off run available. The thirds are designated as the 1st third, the 2nd third and the 3rd third, from the threshold of lower designation (number).

3.1.8 ABBREVIATIONS

ACC	-	Area Control Center
ACFT	-	Aircraft
AIS	-	Aeronautical Information Service
ATS	-	Air Traffic Service
CGA	-	Airport Management Center
CTGA	-	Coordination of the Airport Management Center
CTGP-2	-	Traffic Coordination
CTGP	-	Operational Management Office
EMS	-	Surface Meteorological Station
NOTAM	-	Notice to Airmen
ICAO	-	International Civil Aviation Organization
RBA	-	Runway Braking Action
RCR	-	Runway Condition Report
RCAM	-	Runway Condition Assessment Matrix
RWY	-	Runway
RWYCC	-	Runway Condition Code
SBCT	-	Curitiba / Afonso Pena International Airport
SCO	-	System of Occurrence Control
TORA	-	Take-Off Run Available
TWR-CT	-	Curitiba Air Traffic Control Tower
UTC	-	Universal Time Coordinated.

4 GENERAL INFORMATION

4.1 Standardizing the runway condition report is a tool to prevent runway excursion due to its surface contamination.

4.2 The aerodrome operator shall monitor the runway surface conditions and, where deemed necessary, shall perform a new assessment on these conditions.

4.3 A new runway condition code (RWYCC) shall be established during the process of RCR generation. This code will be transmitted to air operators (mainly pilots) so as to have more accurate information on the runway, such as: type and depth of contaminant, contaminated area and expected effects for such conditions (braking and directional control).

4.4 The ATS unit will inform the RWYCC by means of ATIS and radiotelephony for the flights, whenever requested by the pilot.

4.5 Given the weather panorama in Brazil, water will be considered the main contaminant, for example.

4.6 Although ICAO legislation is intended for implementation only at international aerodromes, in Brazil it will be implemented at busier aerodromes, according to the prescribed by ANAC.

4.7 At a first moment, GRF implementation will not be mandatory. However, ANAC will be responsible for reassessing, later, the need to make it mandatory. However, this initiative increases the safety levels of aerodrome operations.

4.8 There is a set standard for RCR and RWYCC. The ANAC Manual and AISWEB guidelines explain how to decode and interpret information.

4.9 When RWYCC is directly transmitted via radiotelephony by an ATS unit, the ATS unit shall be informed in the direction of the threshold in operation at the time of reporting, ie the direction of landing or take-off.

4.10 RWYCC is defined by the Aerodrome Operator based on the type of contaminant on the runway, its depth and percentage in relation to the runway third segment.

4.11 Report of Braking Action (RBA) serves to inform other aircraft, via ATS unit, AAL and aeronautical information dissemination systems, about the aircraft reaction regarding braking deceleration and directional control.

4.12 RBA will be used as a subsidy for decision making by the Aerodrome Operator in regard to the assessment of runway surface conditions; it is not recommended to use this assessment alone for RWYCC downgrading or upgrading.

4.13 ATS units shall inform the RBA of the preceding aircraft to the next approaching aircraft if the reaction is lower than expected compared to the RWYCC in force.

4.14 When a pilot reports RBA “LESS THAN POOR”, the information will be disseminated by all available means and a new runway assessment may be performed.

5 ACTIVITY OF ATS UNITS

5.1 The ATS unit will inform the Aerodrome Operator of receipt of RBA stating RWYCC lower than expected and/or the presence of contaminant on the runway.

5.2 The RWYCC will be transmitted via ATIS or D-ATIS.

5.3 The RWYCC will be obtained from the RCR provided by the airport operator and will be informed by the ATS unit with reference to the direction of operation of the RWY in use.

For example:
RWYCC in RCR (AD RWY 10/28): 10 5/5/2
RWYCC transmitted (RWY in use 28): 28 2/5/5

5.4 Where ATIS or D-ATIS are unavailable or, in the case of rapid degradation of RWYCC, which makes it impossible to update this information by these means, the information related to RWYCC shall be transmitted by radiotelephony.

5.5 The ATS unit may ask pilots to report the RBA when there is RWYCC below 6 and there is no voluntary reporting.

5.6 In case of consecutive RBA reports stating "POOR" or "LESS THAN POOR", restrictive measures aiming at security purposes may be considered, such as the temporary suspension of operations. In addition, consider:

a) making assessment of the need to suspend operations;

b) informing the aerodrome operator; and

c) retransmitting the updated RWYCC after receiving the new RWYCC information from the aerodrome operator.

5.7 Forwarding the RBA/RWYCC registry table to the aerodrome administrator at appropriate intervals.

6 COORDINATION BETWEEN ATS AND AAL UNITS

6.1 The coordination between ATS and AAL units, for the processing of information related to the RCC, will occur by the available means provided that they are able to keep the record of such procedures, such as recorded telephones, recorded VHF/UHF radio, computer terminals etc.

6.2 Taking into consideration the several possible means of communication, as well as the most diverse configurations of aprons and runways, and the organizational structure of the entities involved, the procedures of coordination and processing of information on RCC must be part of the Operational Agreement Letter between the AAL and the concerned ATS Unit(s).

7 FINAL ARRANGEMENTS

7.1 This AIC shall enter into force on 12 August 2021.

7.2 Criticism and/or suggestions are welcome and may be sent via the “Contact Us” form at SAC-DECEA, in the website at www.decea.gov.br, or the intranet site at www.decea.intraer.

7.3 Cases not provided for in this Circular shall be settled by the Head Director of the Department of Airspace Control (DECEA)