



Terms of Reference

for rulemaking task RMT.0704

Runway Surface Condition Assessment and Reporting

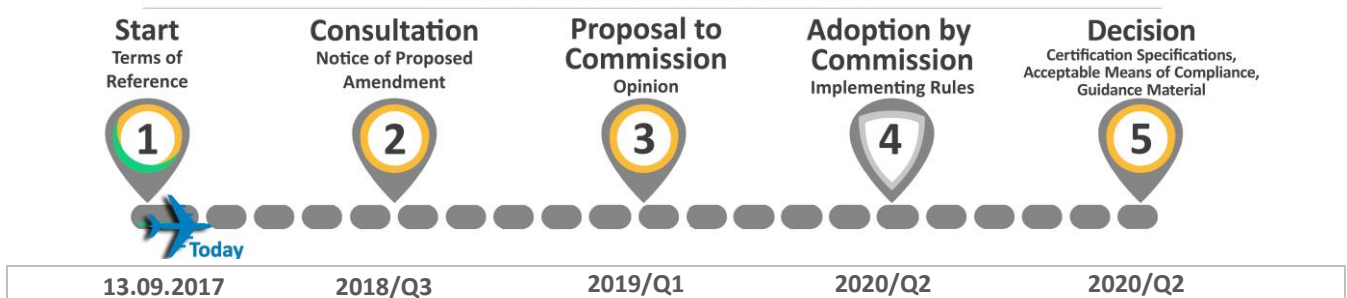
ISSUE 1

Issue/rationale

The International Civil Aviation Organization (ICAO), through State Letters AN 4/1.2.26-16/19 of 5 April 2016 and AN/27-16/28 of 5 May 2016, adopted Amendment 13 to ICAO Annex 14 and Amendment 1 to the Procedures for Air Navigation Services (PANS)-Aerodromes respectively. These amendments introduce provisions regarding the use of a global reporting format for assessing and reporting runway surface conditions, that will be applicable by November 2020. The amendments are expected to increase safety of operations on contaminated runways; therefore, the European Agency for Safety Aviation (EASA) is going to introduce them by amending Regulation (EU) No 139/2014 and the related acceptable means of compliance (AMC) and guidance material (GM).

Action area:	Runway Safety		
Affected rules:	Annex I (Definitions), Annex III (Part-ADR.OR), Annex IV (Part-ADR.OPS), AMC/GM to Regulation (EU) No 139/2014		
Affected stakeholders:	Aerodrome operators, aircraft operators, general aviation (GA), air navigation service providers (ANSPs), national aviation authorities (NAAs)		
Driver:	Safety	Rulemaking group:	Yes
Impact assessment:	Light	Rulemaking Procedure:	Standard

• EASA rulemaking process milestones



1. Why we need to change the rules — issue/rationale

Runway safety is identified as a priority safety issue both in the ICAO Safety Report 2016¹ and the EASA Annual Safety Review 2016² and has been included in the European Plan for Aviation Safety (EPAS) 2017-2021³. Runway excursions remain one of the top concerns related to runway safety. Ineffective braking due to runway contamination has been identified as one of the most common risk factor for runway excursion. Runway surface conditions have contributed to many safety events and investigations have, in some cases, revealed shortfalls in the accuracy and timeliness of the current assessment and reporting methods.

The Takeoff and Landing Performance Assessment Advisory and Rulemaking Committee (TALPA ARC) was tasked by the Federal Aviation Administration (FAA) to review safety issues related to the operation on contaminated runways, and produced proposals along the three main directions of:

- standards for runway surface conditions reporting;
- definition of operational landing performance computations; and
- operational rules.

The European Action Plan for the Prevention of Runway Excursions (EAPPRE)⁴ endorsed most of the TALPA ARC recommendations and contains the following recommendations to EASA:

- 3.7.1 – Establish and implement one consistent method of contaminated runway surface condition assessment and reporting by the aerodrome operator for use by aircraft operators. Ensure the relation of this report to aircraft performance as published by aircraft manufacturers.
- 3.7.2 – Establish and implement one consistent method of calculation of crosswind limits for use by aircraft manufacturers and aircraft operators.
- 3.7.3 – It is recommended that aircraft operators always conduct an in-flight assessment of the landing performance prior to landing.

Note: Apply an appropriate margin to these results.

EASA has already initiated RMT.0296 – Review of aeroplane performance requirements for CAT operations – to address recommendations 3.7.2, 3.7.3 and partly 3.7.1 mentioned above and the objective of EASA is to have the outcome of these two rulemaking tasks harmonised.

ICAO, through State Letters AN 4/1.2.26-16/19 of 5 April 2016 and AN/27-16/28 of 5 May 2016, adopted Amendment 13 to ICAO Annex 14 and Amendment 1 to the PANS-Aerodromes respectively, which introduce a new and harmonised global reporting format for reporting runway surface conditions in a standardised manner such that flight crew is able to accurately determine aeroplane take-off and landing performance. . In addition, ICAO State Letter AN 2/2.1.1-17/22 of 21 April 2017, which is currently under consultation and contains proposed amendments to Annex 15, new PANS-AIM and consequential amendments to Annexes 3, 4, 6, 9, 10, 11 and 14, PANS-ATM, PANS-OPS, PANS-ABC and PANS-Aerodromes, will be taken into consideration.

¹ http://www.icao.int/safety/Documents/ICAO_SR%202016_final_13July.pdf

² http://www.easa.europa.eu/system/files/dfu/209735_EASA_ASR_MAIN_REPORT.pdf

³ http://www.easa.europa.eu/system/files/dfu/EPAS_2017-2021.pdf

⁴ <http://www.skybrary.aero/bookshelf/books/2053.pdf>



EASA plans to address both the new ICAO provisions (Annex 14 and PANS-Aerodromes) and recommendation 3.7.1 of EAPPRE, through this RMT.

ICAO Annex 14 Standard 3.1.23 requires that *‘A paved runway shall be so constructed or resurfaced as to provide surface friction characteristics at or above the minimum friction level set by the State’* and Recommendation 3.1.24 states that *‘The surface of a paved runway should be evaluated when constructed or resurfaced to determine that the surface friction characteristics achieve the design objectives’*. ICAO Annex 14, Vol I Standard 10.2.4 requires that *‘Runway surface friction characteristics for maintenance purposes shall be periodically measured with a continuous friction measuring device using self-wetting features and documented. The frequency of these measurements shall be sufficient to determine the trend of the surface friction characteristics of the runway’*. Furthermore, Recommendation 2.9.10 states that *‘When friction measurements are taken as part of the assessment, the performance of the friction measuring device on compacted snow- or ice-covered surfaces should meet the standards and correlation criteria set or agreed by the State’*.

ICAO recommends the establishment of correlation criteria for the different devices. Despite numerous and successive empirical tests, a correlation between the outcome of friction measurements stemming from the various friction measurement devices could not be established. Furthermore, AMC/GM to Regulation (EU) No 139/2014 contain minimum friction level values for runways; however, they are based on the previous edition of Annex 14. Nevertheless, the current edition of Annex 14 does not include these values because the determination of the minimum friction values is not based solely on measurements taken by continuous friction measurement equipment, but rather on a combination of measurements and assessments. It is therefore necessary to review the overall method in order to determine the trend of the surface friction characteristics of the runway.

2. What we want to achieve — objective

The overall objectives of the EASA system are defined in Article 2 of Regulation (EC) No 216/2008⁵. This project will contribute to the achievement of the overall objectives by addressing the issues outlined in Chapter 1.

The specific objectives of this proposal are:

- to reduce the number of accidents and serious incidents where inappropriate runway surface conditions assessment and reporting is a contributing factor;
- to ensure a standardised method of reporting runway surface conditions;
- to ensure that persons reporting runway surface conditions meet minimum training and competency requirements;
- to ensure a harmonised methodology for specifying and setting the minimum friction level of runways; and

⁵ Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ, L79/1, 19.3.2008) (<http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1474978980580&uri=CELEX:32008R0216>)



- to ensure harmonised criteria for the different devices which are used for measuring the runway surface friction characteristics, including correlation criteria where suitable for the particular purpose.

3. How we want to achieve it

During the development of the draft rules and regulatory impact assessment (RIA), EASA will:

- review the current provisions for runway surface conditions assessment and reporting;
- review the current training requirements for personnel conducting runway inspections;
- review current provisions for the determination of the minimum friction level of runways; and
- specify and set standard and correlation criteria for runway surface friction characteristics measurement devices.

4. What are the deliverables

The deliverables of this RMT are the following:

- a regulatory impact assessment (RIA);
- a notice of proposed amendment (NPA) containing amendments to Regulation (EU) No 139/2014 and related AMC/GM;
- a comment-response document (CRD) to NPA;
- an opinion containing the draft new/amended implementing rules; and
- a decision containing the new/amended AMC/GM

5. How we consult

A focused consultation with the stakeholders concerned may be considered, if needed, during the review of the comments received on the NPA.

Depending on the nature and the extent of the comments received on the NPA, the establishment of a review group may also be considered.

6. Interface issues

The rulemaking task should take into account the progress and results of RMT.0296 – Review of aeroplane performance requirements for CAT operations.

Additionally, the work of the ICAO Friction Task Force (FTF) as well as relevant activities of the FAA should also be taken into consideration to the extent possible.

7. Profile and contribution of the rulemaking group

The expertise and experience of the rulemaking group and its members should cover at least the following:

- sound knowledge of and experience in the field of runway surface conditions assessment and reporting;



- sound knowledge of and experience in flight operations;
- knowledge of European requirements for aerodromes and air operations, ICAO Annex 14 and Annex 6, and other relevant regulatory frameworks (e.g. FAA) with regards to runway surface conditions assessment and reporting; and
- experience in or knowledge of the oversight of aerodromes;

The group should ensure a balanced representation of:

- competent authorities;
- aerodrome operators;
- air operators;
- aircraft manufacturers; and
- pilots.

8. Reference documents

8.1. Affected regulations

- Commission Regulation (EU) No 139/2014 of 12/02/2014 laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 44, 14.2.1014, p.1)

8.2. Affected decisions

- Decision 2014/012/R of the Executive Director of the Agency of 27 February 2014 adopting Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014 – ‘AMC/GM for Aerodromes – Initial Issue’

8.3. Reference documents

- ICAO Annex 14 to the Convention on International Civil Aviation, Aerodromes, Volume I – Aerodrome Design and Operations, 7th Edition, July 2016
- ICAO Doc 9981 “Procedures for Air Navigation Services, PANS-Aerodromes”, Second Edition, 2016
- ICAO Annex 6 to the Convention on International Civil Aviation, Operation of Aircraft, Part I – International Commercial Air Transport – Aeroplanes, 10th Edition, July 2016
- ICAO State Letter AN 2/2.1.1-17/22 of 21 April 2017, “Proposed amendment to Annex 15, new PANS-AIM and consequential amendments to Annexes 3, 4, 6, 9, 10, 11 and 14, PANS-ATM, PANS-OPS, PANS-ABC and PANS-Aerodromes”
- European Action Plan for the Prevention of Runway Excursions (EAPPRE), Released edition 1.0, January 2013
- ICAO Circular 329 – ‘Runway Surface Condition Assessment, Measurement and Reporting’
- FAA AC 150/5200-30D, 29/7/2016 — ‘Airport Field Condition Assessments and Winter Operations Safety’



- SR NORW-2011-011 — Report SL 2011/10, Winter Operations, Friction Measurements and Conditions for Friction Predictions, Volume II – Main Report, May 2011
- European Plan for Aviation Safety (EPAS) 2017 - 2021

