European Aviation Safety Agency

Explanatory Note to Decision 2017/021/R

CERTIFICATION SPECIFICATIONS AND GUIDANCE MATERIAL FOR AERODROME DESIGN (CS-ADR-DSN)

'CS-ADR-DSN — ISSUE 4'

RELATED NPA/CRD 2017-04— RMT.0591

The objective of this Decision is to update the certification specifications for aerodromes design (CS-ADR-DSN) in line with the ICAO developments and other technical improvements, and to maintain a high level of safety of aerodromes design. EASA is proposing this re-issue of CS-ADR-DSN in order to support and facilitate the aerodrome operators and airport industry together with the respective competent authorities that are currently performing a certification process following Commission Regulation (EU) No 139/2014.

This Decision amends CS-ADR-DSN in accordance with the respective ICAO standards and recommended practices (SARPs) of ICAO Annex 14, 'Aerodromes', Volume I, 'Aerodrome Design and Operations' (ICAO Annex 14, 'Aerodromes', Volume I), Amendment 13-A (ICAO State Letter AN 4/1.2.26-16/19).

Additionally, this Decision incorporates the amendments to the current aerodrome design requirements related to the aerodrome reference code (ARC), the runway, shoulders and strip widths and separation distances between runways and taxiways as an outcome of the work conducted both by the ICAO Aerodrome Reference Code Task Force (ARC TF) and EASA under the initiative on accommodating large aircraft at existing aerodromes. These changes are, therefore, adopted by EASA in advance of ICAO which is expected to adopt the same changes in the respective SARPs in 2018.

This Decision also addresses some recommendations and comments received from stakeholders and it encompasses corrections and some administrative changes for better clarity of the text, unification of references, etc.

The amendments to the design characteristics, and in particular those related to the ARC, are expected to generate cost savings for the operators of code D, E and F aerodromes due to lower construction and maintenance costs, and to produce environmental benefits. In addition, they will provide greater opportunities for the airlines since large aircraft will be able to operate at aerodromes where the existing infrastructure is not fulfilling the current code F aerodrome requirements, while fully sustaining the existing high level of safety.

Action area:	Regular updates		
Affected rules:	CS-ADR-DSN		
Affected stakeholders:	Aerodromes, aerodrome operators		
Driver:	Efficiency/Proportionality	**Rulemaking group:**	No
Impact assessment:	None	**Rulemaking Procedure:**	Standard

Table of contents

1. About this Decision

The European Aviation Safety Agency (EASA) developed ED Decision 2017/021/R in line with Regulation (EC) No 216/2008[1] and the Rulemaking Procedure[2].

This rulemaking activity is included in the EASA 5-year Rulemaking Programme under RMT.0591 maintaining aerodrome rules. The scope and timescales of the task were defined in the related Terms of Reference.

The draft text of this Decision has been developed by EASA based on the input received from the consultations during the thematic meetings with the stakeholders. All interested parties were consulted through NPA 2017-04[3]. In total, 344 comments were received from industry, national aviation authorities (NAAs) and individuals. EASA reviewed the comments received during the public consultation process and developed the final text of this Decision with the certification specifications (CSs) and guidance material (GM). The comments received and the EASA's responses thereto are presented in Comment-Response Document (CRD) 2017-04[4].

The major milestones of this rulemaking activity are presented on the title page.

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1 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 L 79, 19.3.2008, p. 1). (http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1467719701894&uri=CELEX:32008R0216)

2 EASA is bound to follow a structured rulemaking process as required by Article 52(1) of Regulation (EC) No 216/2008. Such a process has been adopted by the EASA Management Board (MB) and is referred to as the 'Rulemaking Procedure'. See MB Decision No 18-2015 of 15 December 2015 replacing Decision 01/2012 concerning the procedure to be applied by EASA for the issuing of opinions, certification specifications and guidance material. (http://www.easa.europa.eu/the-agency/management-board/decisions/easa-mb-decision-18-2015-rulemaking-procedure)

3 In accordance with Article 52 of Regulation (EC) No 216/2008 and 6(3) and 7 of the Rulemaking Procedure.

4 See: http://www.easa.europa.eu/document-library/comment-response-documents

2. In summary: Why and what

2.1. Why we need to change the CS/GM

This Decision amends CS ADR-DSN in accordance with the provisions of Amendment 13-A (ICAO State Letter AN 4/1.2.26-16/19) to ICAO Annex 14, 'Aerodromes', Volume I, 'Aerodrome Design and Operations' (ICAO Annex 14, 'Aerodromes', Volume I). Amendment 13-A was already adopted in July 2016, and thus the need to align CS-ADR-DSN with the latest ICAO SARPs. Some of the changes included in Amendment 13-A, i.e. reduced taxiway and taxilane separation distances, marking and lighting of wind turbines, have already been incorporated into CS-ADR-DSN, Issue 2 and CS-ADR-DSN, Issue 3, respectively.

Additionally, this Decision incorporates the amendments to the current aerodrome design requirements related to the aerodrome reference code (ARC), the runway, shoulders and strip widths, and separation distances between runways and taxiways as an outcome of the work conducted both by the ICAO ARC TF and EASA under the initiative on accommodating large aircraft at existing aerodromes. The changes proposed by the ICAO ARC TF were commonly accepted and fully supported by EASA, NAAs and aerodrome operators that attended the second large-aircraft meeting organised by EASA in November 2016 and, as a consequence, they were included in NPA 2017-04. Therefore, EASA is able to amend its aerodrome CSs in advance of ICAO, as already done successfully in 2015 with a similar taxiway separation distances requirement (CS-ADR-DNS — Issue 2). The amendments regarding the aerodrome reference code are not yet fully reflected in the related documents of ICAO Annex 14, 'Aerodromes', Volume I, 'Aerodrome Design and Operations'.

This Decision also addresses some recommendations and comments received from stakeholders, and it encompasses corrections and some administrative changes for better clarity of the text and unification of references.

2.2. What we want to achieve — objectives

The overall objectives of the EASA system are defined in Article 2 of Regulation (EC) No 216/2008.

The objective of this Decision is to update the certification specifications for aerodromes design (CS-ADR-DSN) in line with the ICAO developments (Amendment 13-A and the amendments to the current aerodrome reference code (ARC) as an outcome of the work conducted both by the ICAO ARC TF and EASA under the initiative on accommodating large aircraft at existing aerodromes) and other technical improvements, and to maintain a high level of safety of aerodrome design.

2.3. How we want to achieve it — overview of the amendments

This Decision includes amendments based on ICAO Amendment 13-A to the definitions of arresting system, autonomous runway incursion warning system (ARIWS) and foreign object debris (FOD), description of arresting system, storm water conveyances on runway and taxiway strips, blast pads, clearance distances on aircraft stands, taxiway design guidance for prevention of runway incursions, flashing characteristics and colour specifications for LEDs, clarification on light intensity distribution, location criteria for precision approach path indicator (PAPI) obstacle protection surface, mandatory instruction and information markings, prevention and installation of devices for FOD.

This Decision also incorporates amendments to the ARC methodology, runway and taxiway widths, shoulders and strip widths for runways, shoulders and grading portion of strip for taxiways, separation distances between runways and taxiways and dimensions of obstacle limitation surfaces (OLSs).

2.4. What are the stakeholders' views

Following the public consultation of the NPA 2017-04, EASA received a total of 344 comments, some of them including more than one comment or question.

Out of the 344 comments, 299 indicate agreement with the proposed changes, while 53 indicate either a reservation/concerns or disagreements with the proposed amendments as a whole or partially. For those comments where reservations/concerns or disagreements with the proposed amendments were provided, EASA gave adequate explanation and clarification or requested the commentators to provide further justifications. The overall conclusion is that the proposed amendments of NPA 2017-04 are supported and accepted by the stakeholders and thus resulted in CS-ADR-DSN Issue 4.

In parallel with the public consultation of NPA 2017-04, Airport Council International (ACI) Europe conducted a survey on the perceived benefits of the proposed changes to the aerodrome reference code with direct impact on the operations of large aircraft.

The survey was addressed to operators of code letter D, E or F aerodromes of all 32 EASA Member States. In total ACI Europe received 30 replies from aerodrome operators representing 16 EASA Member States.

12 aerodrome operators (40 %) consider that the proposed amendments would enable their current infrastructure to comply with the requirements for operation of higher code letter aircraft than it is currently allowed, while 11 aerodrome operators (37 %) consider that it would enable them to be partly compliant. The direct positive consequence will be significant cost savings for these operators as it will allow operations of larger aircraft with the same infrastructure (40 % of the respondents) or partial cost savings as the infrastructure will need to be modified for 37 % of the respondents.

Only 7 aerodrome operators (23 %) responded no, mainly due to the fact that their aerodrome is already fully compliant with the current requirements or due to the fact that the aerodromes are facing infrastructure constraints. Out of the 30 replies received, 25 aerodrome operators consider the amendments as beneficial or largely beneficial, only 3 aerodrome operators regard them as neutral while 2 aerodrome operators did not submit a reply.

Overall, the proposed amendments related to the aerodrome reference code are regarded as positive by the aerodrome operators. The largest benefits identified by the aerodrome operators include higher compliances levels, cost savings, enhanced operational flexibility, capacity increases and greater attractiveness to airline customers.

This Decision does not create new requirements for applicants. Some new or amended requirements are mainly based on the already adopted Amendment 13-A to ICAO Annex 14, Volume I, Aerodromes.

Although the proposed changes, provided in Amendment 13-A are not complex and considered as non-controversial, EASA performed thematic meetings on some of the proposed amendments with experts from NAAs, aerodrome operators and industry representatives. Some comments contained proposals for further improving the requirements but, in general, the proposed amendments were agreed.

Amendment 11-B to ICAO Annex 14, Volume I, Aerodromes, concerns revised instrument and non-instrument approach runway definitions as a result of new approach classification definitions. EASA decided not to include the proposed amendment of the definitions for instrument runway and non-instrument runway into NPA 2017-04. The amended definitions will be included in the CS after the adoption of Annex I 'Definitions' of Regulation (EU) No 139/2014 by the European Commission.

Some of the comments received were not accepted for this Issue of CSs, however, the proposals will be assessed in one of the future NPAs on aerodrome rules.

Some of the proposed amendments, particularly considering ARC, consequently affect and require some other CSs to be amended. These amendments will be taken into account in future CS amendments. The same applies for ICAO Annex 14, State Letter 44 proposed amendments. For example, some of them are the minimum distance from the runway centre line to a holding bay; runway-holding position; or road-holding position; objects on runway strip, grading of runway strips or siting of equipment and installations on operational areas. These will be further assessed and considered by EASA as well as by ICAO and included in one of the forthcoming amendments.

2.5. What are the benefits and drawbacks

The amendments provide better clarity of the text and consistency with international standards, and are of major significance to the aerodrome industry in an economic sense.

The adoption of the proposed amendments, particularly those related to the ARC, are expected to generate significant cost savings for the operators of code D, E and F aerodromes due to lower construction and maintenance costs. Lower infrastructure requirements will trigger also positive environmental benefits.

In addition, they will provide greater opportunities for the airlines since large aircraft will be able to operate at aerodromes within the existing infrastructure that is currently not fulfilling code F aerodrome requirements, while fully sustaining the existing high level of safety.

2.6. How do we monitor and evaluate the rules

CS-ADR-DSN Issue 4 will be monitored trough regular meetings with NAAs and industry. EASA is collecting and evaluating the comments and proposals provided to the 'aerodromes' functional email box. The comments and proposals are added to an inventory and will be consulted through thematic meetings for further amendment of the aerodrome rules.

In addition, EASA will initiate an evaluation through a survey(s) (indicatively in 5 years' time) with the following indicators:

- Number of aerodromes operating aeroplanes with higher code letters after the introduction of this Decision.
- Cost savings for aerodrome infrastructure (avoided investment in infrastructure extensions for example runway, taxiway and apron) after the introduction of this Decision.
- Number of safety occurrences before and after implementation of operational changes following this Decision (e.g. change of code letter).

3. References

3.1. Related regulations

Regulation (EU) No 139/2014 of 12 February 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.

3.2. Affected decisions

Executive Director Decision 2014/012/R of 27 February 2014 Certification Specifications and Guidance Material for Aerodrome Design, CS-ADR-DSN —Initial Issue'

3.3. Other reference documents

ICAO Annex 14, 'Aerodromes', Volume I, 'Aerodrome Design and Operations', Seventh edition, July 2017

4. Appendix 1: Comment-Response Document 2017-04 — 'Regular update of aerodrome rules'.