



## Explanatory Note to Decision 2013/030/R

# Approval requirements for Air-Ground Data Link and ADS-B in support of Interoperability requirements and Miscellaneous improvement to AMC-20

RELATED NPA/CRD 2012-19 — RMT.0599(20.016) — 21/11/2012  
NPA/CRD 2013-06 — RMT.0599(20.016) RMT.0099(20.006(b)) — 17/12/2013

### EXECUTIVE SUMMARY

This ED Decision addresses the safety and interoperability compliance issue for aircraft related to requirements stemming from the application of the Single European Sky Interoperability regulations with the objective to ensure in a single means of compliance for the aircraft manufacturing and modification industries

This ED Decision proposes an amendment to Acceptable Means of Compliance for airworthiness of products, parts and appliances ('AMC-20') to ensure consistency resulting from the introduction of a new Certification Specifications and Acceptable Means of Compliance for Airborne Communications, Navigation and Surveillance (CS-ACNS).

Applicability		Process map	
Affected regulations and decisions:	AMC-20	Concept Paper:	No
Affected stakeholders:	Manufacturers Design Organisations TC (and STC) holders	Rulemaking group:	No
Driver/origin:	Level Playing Field and Safety	RIA type:	Light
Reference:	Commission Regulation (EU) No 1206/2011 Commission Regulation (EU) No 1207/2011 Commission Regulation (EC) No 29/2009	Technical consultation during NPA drafting:	No
		Publication date of the NPA:	16/11/2012 15/04/2013
		Duration of NPA consultation:	3 months
		Review group:	No
		Focussed consultation:	No
		Publication date of the Opinion:	N/A
		Publication date of the Decision:	In parallel with this CRD

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## 1. Procedural information

### 1.1. The rule development procedure

The European Aviation Safety Agency (hereinafter referred to as the 'Agency') developed ED Decision 2013/030/R in line with Regulation (EC) No 216/2008<sup>1</sup> (hereinafter referred to as the 'Basic Regulation') and the Rulemaking Procedure<sup>2</sup>.

This rulemaking activity is included in the Agency's Rulemaking Programme for 2013 under RMT.0099 (20.006(b))<sup>3</sup> and RMT.0599 (20.016)<sup>4</sup>. The scope and timescale of these tasks were defined in the related Terms of Reference (see process map on the title page).

The draft text of this ED Decision was developed by the Agency and all interested parties were consulted<sup>5</sup> through NPA 2012-19 and 2013-06. A total 350 and 140 comments were received respectively from interested parties, including industry and national aviation authorities.

The Agency has reviewed all the comments received on the NPA. The comments received and the Agency's responses are presented in the Comment-Response Document (CRD) 2012-19 and 2013-06 which are issued simultaneously with ED Decisions 2013/030/R and 2013/031/R.

The final text of this ED Decision amending Acceptable Means of Compliance for airworthiness of products, parts and appliances ('AMC-20') has been developed by the Agency.

The process map on the title page summarises the major milestones of this rulemaking activity.

### 1.2. Structure of the related documents

Chapter 1 contains the procedural information related to this task. Chapter 2 explains the core technical content. The text of AMC-20 is annexed to this ED Decision.

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<sup>1</sup> Regulation (EC) No 216/2008 of the European Parliament and 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), as last amended by Commission Regulation (EU) No 6/2013 of 8 January 2013 (OJ L 4, 9.1.2013, p. 34).

<sup>2</sup> The Agency is bound to follow a structured rulemaking process as required by Article 52(1) of the Basic Regulation. Such process has been adopted by the Agency's Management Board and is referred to as the 'Rulemaking Procedure'. See Management Board Decision concerning the procedure to be applied by the Agency for the issuing of opinions, certification specifications and guidance material (Rulemaking Procedure), EASA MB Decision No 01-2012 of 13 March 2012.

<sup>3</sup> <http://easa.europa.eu/rulemaking/terms-of-reference-and-group-composition.php#20>

<sup>4</sup> <http://easa.europa.eu/rulemaking/terms-of-reference-and-group-composition.php#20>

<sup>5</sup> In accordance with Article 52 of the Basic Regulation and Articles 5(3) and 6 of the Rulemaking Procedure.

## 2. Explanatory Note

### 2.1. Overview of the issues to be addressed

The purpose of NPA 2012-19 and NPA 2013-06 was to propose the introduction of new CS for Airborne Communications, Navigation and Surveillance (CS-ACNS) containing the certification and interoperability standards for on-board Communications, Navigation and Surveillance systems and the alignment of the existing AMC 20 material. The initial standards to be introduced by these NPA's is primarily related to the following in support of the Single European Sky;

- i. Mode S Elementary Surveillance (ELS),
- ii. Mode S Enhanced Surveillance (EHS) and
- iii. ADS-B Out 1090 MHz Extended Squitter (ADS-B Out).
- iv. Data Link Service
- v. 8.33 KHz voice communication.

The NPA's also proposed the transposition and update of the following JAA TGLs

- i. JAA TGL 6 – RVSM
- ii. JAA TGL 7 - 8.33 kHz
- iii. JAA TGL 12 - Terrain Awareness Warning System (TAWS)

### 2.2. Objectives

The overall objectives of the EASA system are defined in Article 2 of the Basic Regulation. This proposal will contribute to the achievement of these overall objectives by proposing the introduction of a new CS that provides the airworthiness standards that address both safety and interoperability. The application of this CS ensures safety and interoperability, while enabling a reduction in the regulatory burden for compliance with the Interoperability Implementing Rules through the application of Article 6(a) of the Single European Sky Interoperability Regulation<sup>6</sup>.

### 2.3. Outcome of the consultation

All comments received were supportive of the proposed Certification Specification and either propose improvement to the text or requested clarification.

6 Comments were received requesting the Agency to maintain AMC 20-24 as a valid standard as this AMC 20-24 has become the de-facto global ADS-B-NRA certification standard, applicable to a range of large scale implementations across the world. In particular ICAO's APANPIRG has also adopted AMC20-24 as an accepted compliance method supporting all the countries of Asia Pac region and that withdrawal would hinder the continued expansion in the use of ABS-B Out globally. The Agency noted the importance of AMC 20-24 to the global ADS-B implementation and accepted the request to maintain AMC 20-24 as a valid standard.

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<sup>6</sup> Regulation (EC) No 552/2004 of the European Parliament and of the Council of 10 March 2004 on the interoperability of the European Air Traffic Management network (the interoperability Regulation) (OJ L 96, 31.3.2004, p. 26) as last amended by Regulation (EC) No 1070/2009 of the European Parliament and of the Council of 21 October 2009 (OJ L300, 14.11.2009, p34)

## 2.4. Summary of the Regulatory Impact Assessment (RIA)

The following 3 options were considered in the RIA's

No.	Option
0	<b>Do nothing.</b> The existing airworthiness certification standards will not ensure compliance of aircraft with the relevant European airspace regulation stemming from the application of the Single European Sky Interoperability Regulation
1	<b>Continued application of a Special Conditions (SC).</b> These are notified to the applicant only on receipt of an approval request and thus does provide a clear guidance and may result in confusion with respect to the appropriate standard and increase compliance demonstration timelines.
2	<b>Provision of an appropriate Certification Specification.</b> This will provide clear guidance with respect to the appropriate standards that improves safety and interoperability while ensuring compliance with the relevant European airspace regulation stemming from the application of the Single European Sky Interoperability Regulation

The RIA concluded that Options 2 **provision of an appropriate Certification Specification** was the preferred option. This option ensures a simplified and coherent approach to the aircraft communications navigation and surveillance systems required by regulation stemming from Regulation (EC) No 552/2004 and globally through the application of a single process that has to be applied in accordance with EASA regulation (EC) No 748/2012.

### **3. References**

#### **3.1. Related regulations**

Commission Regulation (EU) No 748/2012 of 3 August 2012 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production Organisations (OJ L224, 21.8.2012, p.1).

Commission Regulation (EC) No 29/2009 of 16 January 2009 laying down requirements on data link services for the single European sky (OJ L13, 17.1.2009, p.3).

Commission Implementing Regulation (EU) No 1206/2011 of 22 November 2011 laying down requirements on aircraft identification for surveillance for the single European sky (OJ L305, 23.11.2011, p. 23)

Commission Implementing Regulation (EU) No 1207/2011 of 22 November 2011 laying down requirements for the performance and the interoperability of surveillance for the single European sky (OJ) L305, 23.11.2011, p35.

#### **3.2. Affected decisions**

ED Decision No 2003/12/RM of the Executive Director of the European Aviation Safety Agency of 5 November 2003 on Acceptable Means of Compliance for airworthiness of products, parts and appliances ('AMC-20').