



TERMS OF REFERENCE

Task Nr:	20.016
Issue:	1
Date:	10 December 2010
Regulatory reference:	<ul style="list-style-type: none">• Regulation (EC) No 216/2008¹• Regulation (EC) No 1702/2003²• Executive Director Decision No. 2003/12/RM of 5 November 2003³
Reference documents:	<ul style="list-style-type: none">• Regulation (EC) No 29/2009⁴• Regulation (EC) No 552/2004⁵• AMC 20-11 Acceptable Means of Compliance for the Approval of use of Initial Services for Air-Ground Data Link in Continental Airspace• AMC 20-24 Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHZ Extended Squitter• AMC 20-13 Certification of Mode S Transponder Systems for Enhanced Surveillance• JAA TGL Rev 1 Certification of Mode S Transponder Systems for Elementary Surveillance• FAA AC 20-140A Guidance for Design Approval of Aircraft Data Link Communication Systems Supporting Air Traffic Services (ATS)• FAA AC 20-165 Airworthiness Approval of Automatic Dependent Surveillance – Broadcast (ADS-B) Out Systems

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, 19.03.2008, p. 1). Regulation as last amended by Regulation (EC) 1108/2009 of 21 October 2009 (OJ L 309, 24.11.2009, p. 51).

² Regulation (EC) No 1702/2003 of 24 September 2003 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 L 243, 27.09.2003, p. 6). Regulation as last amended by Regulation (EC) No 1194/2009 of 30 November 2009 (OJ L 321, 8.12.2009, p. 5).

³ Decision of the Executive Director of the Agency on acceptable means of compliance for airworthiness of products, parts and appliances («AMC-20»). Decision as last amended by Decision 2010/003/R of the Executive Director of the Agency of 19 July 2010 (AMC-20 Amendment 6).

⁴ Commission Regulation (EC) No 29/2009 of 16 January 2009 laying down requirements on data link services for the single European sky (OJ L 13, 17.1.2009, p. 3).

⁵ 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 L96, 13.3.2004, p. 26).

1. Subject:

Approval requirements for Air-Ground Data Link and Surveillance systems in support of Interoperability requirements

2. Problem/Statement of issue and justification; reason for regulatory evolution (regulatory tasks):**Regulatory Issues**

When addressing aircraft certification standard to comply with both the EASA and SES regulations, two sets of regulations co-exist, these being:

- EASA regulations (EC) No 1702/2003, through which the Agency approves the design and installation of all airborne equipment.
- SES Interoperability Regulation (EC) No 552/2004 (including essential requirements for safety) that requires a conformity assessment for identified components and systems. Also before putting into service a system, an EC declaration for the systems and a Technical File must be supplied to the National Supervisory Authorities (NSA).

As a result, confusion from the airborne community on how to comply with these two separate regulatory processes has been expressed relative to the possible requirement for multiple approvals, certificates and EC declarations for an installation and/or constituents.

Article 6(a) of the revised Regulation (EC) 552/2004 states that:

Alternative verification of compliance

A certificate issued in accordance with 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, where it applies to constituents or systems, shall be considered, for the purposes of Articles 5 and 6 of this Regulation, as an EC declaration of conformity or suitability for use, or as an EC declaration of verification, if it includes a demonstration of compliance with the essential requirements of this Regulation and the relevant implementing rules for interoperability.

Thus, Article 6(a) recognises that the EC Declaration of conformity or suitability for use or EC declaration of verification is no longer required for airborne equipment provided that evidence of compliance with SES interoperability requirements are captured under the airworthiness process. As such, an Agency certificate issued in accordance with the above-mentioned process will effectively replace the EC declarations.

In order to ensure the correct application of this provision, the Agency proposes to issue a new Certification Specification (CS) to address specific interoperability requirements in lieu of updating the existing CS, or the introduction of new AMC-20 material.

Air-Ground Data Link

In January 2009 the European Commission adopted Regulation (EC) No 29/2009 (Data Link Services Implementing Rule: DLS IR) as a part of the Single European Sky package. As identified in the final report in support of the IR, EUROCONTROL updated the LINK2000+ Baseline document to reflect the latest developments in the Data Link requirements. This update was published as a EUROCONTROL Specification, EUROCONTROL-SPEC-0116 Edition 2.1. In accordance with the DLS IR, newly-built aircraft are required to be compliant with the data link requirements as of 1 January 2011; all other aircraft by the 5 February 2015.

Prior to this, the Agency developed AMC 20-11 in support of the EUROCONTROL LINK2000+ Programme that implemented Data Link as one of the key operational improvements to alleviate voice channel congestion. The AMC addresses the airworthiness

and operational approval associated with the initial data link services in continental airspace and was based on the EUROCONTROL LINK2000+ Baseline document version 1.4.

A review of AMC 20-11 has shown that the requirements as specified in the AMC differ from the revised EUROCONTROL Specification, and that compliance with this AMC will not ensure compliance with the interoperability requirements of Regulation (EC) No 29/2009 or 552/2004. Therefore, there is an urgent need to update the material.

Surveillance Systems (ADS-B/Mode S)

The Commission has proposed an Implementing Rule on Surveillance Performance and Interoperability (SPI) requirements that should be adopted during 2010. The objective of the SPI IR is to ensure interoperability and efficiency of the surveillance systems in the European Air Traffic Management Network and to implement the related Essential Requirements of the Regulation (EC) No 552/2004.

The proposed SPI IR aims to support the provision of Air Traffic Surveillance Services for the application of an appropriate separation minima, both in radar and non-radar airspace and is based on the use of ADS-B and Mode S.

The current AMC 20-24 applies only ADS-B surveillance in Non-Radar Areas (NRA) and is not applicable for operations less than 5NM separation. Therefore, there is also a need to update this material. Thus, an update to the airworthiness and operational criteria of the 1090 MHz Extended Squitter (ES) ADS-B OUT installation in support of the initial set of ADS-B Ground and Airborne Surveillance Applications, in line with the scope of the European Commission SPI IR, is proposed. With respect to Mode S, AMC 20-13 and JAA TGL 13, (which is planned to be updated to an EASA AMC-20 as part of rulemaking task 20.006) will be reviewed for compliance with the proposed SPI and will be included in the EASA CS.

3. Objective:

To develop a Certification Specification that provides the airworthiness specifications and AMC-20 material addressing the operational issues to ensure compatibility with the DLS IR and the proposed SPI IR.

4. Specific tasks and interface issues (Deliverables):

Development of a Decision of the Executive Director of the Agency

5. Working Methods (in addition to the applicable Agency procedures):

Agency

6. Time scale, milestones:

Related NPA: 2011/Q2

Related Executive Director Decisions: 2011/Q4