



**European Aviation Safety Agency  
Rulemaking Directorate**

**EXPLANATORY NOTE**

**AMC-20 Amendment 1**

Executive Director Decision 2006/12/R amends Executive Director Decision No. 2003/12/RM of 05.11.2003.

This Amendment 1 of AMC-20: General Acceptable Means of Compliance for Airworthiness of Products, Parts and Appliances, incorporates the output from the following EASA rulemaking task:

<b>Rulemaking Task No.</b>	<b>TITLE</b>	<b>NPA No.</b>
20.004	Airworthiness and operational approval for on-board equipment	11/2005

The NPA has been subject to consultation in accordance with Article 43 of the Basic Regulation<sup>1</sup> and Article 15 of the rulemaking procedure established by the Management Board<sup>2</sup>. The Agency has addressed and responded to the comments received on the NPA. The responses are contained in a comment-response document (CRD) which has been produced for the NPA and which is available on the Agency's web-site.

In response to the CRD, the Agency received comments for which the responses and disposition, is reflected in appendix 1 to these explanatory notes.

In accordance with the disposition of one of the comments this decision does not contain AMC 20-11 *Acceptable Means of Compliance for the Approval of use of Initial Services for Air-Ground Data Link in Continental Airspace* that was proposed in the NPA 11/2005. This AMC20-11 will be published in the next amendment of AMC-20.

Detailed changes incorporated in the NPA are summarised in the following pages for ease of reference.

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<sup>1</sup> Regulation (EC) No 1592/2002 of 15 July 2002 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, OJ L240/1 of 7 September 2002;

<sup>2</sup> Decision concerning the Rulemaking procedure, adopted by the Management Board on 17 June 2003;

**Rulemaking Task No.:** 20.004  
**Title:** Airworthiness and operational approval for on-board equipment  
**NPA No.:** NPA 11/2005  
**CRD No.:** CRD 11/2005

**LIST OF PARAGRAPHS AFFECTED**

**C1 CONTENTS**

4 new introduced AMC.

**NEW INTRODUCED AMC:**

AMC 20-9	Acceptable Means of Compliance for the Approval of Departure Clearance via Data Communications over ACARS.
AMC 20-10	Acceptable Means of Compliance for the Approval of Digital ATIS via Data Link over ACARS.
AMC 20-12	Recognition of FAA Order 8400.12a for RNP 10 Operations.
AMC 20-13	Certification of Mode S Transponder Systems for Enhanced Surveillance.

**GENERAL COMMENTS**

Incorporates JAA NPA 20-7, JAA NPA 20-8, JAA NPA 20-12 and JAA NPA 20-13.

CRD Ref	Commenter	Reaction/Justification	Response
AMC 20-10 Comment 8	AIRBUS TRANSPORT INTERNATIONAL snc	<p>1. <b><u>REACTION:</u></b></p> <p>Draft decision to AMC 20-9 &amp; AMC 20-10 requires that the AFM <u>or</u> the POH should identify the D-ATIS or DCL application as having been demonstrated. But EASA's answer to the comment from DGAC-France on AMC 20-10_§7.4 results in a text to be added at end of paragraph 7.4 requiring a reminder to be added in the AFM <u>only</u>.</p> <p>Care should be taken to keep consistency with other existing EASA AMCs. Indeed, AMC to CS 25.1581 states: "(...) the systems descriptions and procedures provided in the AFM for most large aeroplanes should be limited to that which is uniquely related to aeroplane safety or airworthiness". But DCL or D-ATIS compliance are operational statements and neither safety nor airworthiness issues, considering there is to date no mandates concerning these applications.</p> <p>Therefore, in accordance with AMC 25.1581, <b><u>the compliance statements for DCL and D-ATIS applications should be required in the AFM only for aircraft where it serves as the sole operating manual.</u></b> For other transport category airplanes, it should be allowed to insert these limitations in the Flight Crew Operating Manual (FCOM) instead, to keep the bulk and complexity of the AFM manageable.</p> <p>2. <b><u>JUSTIFICATION:</u></b></p> <p>Introducing this option would ensure consistency with AMC 25.1581 and also reduce certification burdens and hardly justifiable industrial costs induced by an AFM approval on large transport aeroplanes.</p> <p>This would also ensure consistency with the FAA: see recommendations for the AFM in AC 25.1581-1.</p>	<p>Accepted.</p> <p>The additional text will be changed for consistency. AMC 20-10 §7.4 Revised to read:</p> <p>If certification was not achieved at the level "essential", the AFM or POH, whichever is applicable, shall remind the crew that they are responsible for checking the D-ATIS information received over ACARS is consistent with their request, or revert to a voice ATIS.</p>

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CRD Ref	Commenter	Reaction/Justification	Response
AMC 20-11 Comment 11 Comment 15	Airbus	<p><b><u>REACTION: Resolution of Comment 11 identified in NPA 11/2005 CRD:</u></b></p> <p>In Comment 11, AIRBUS outlined that <u>Interoperability, Safety and Performance technical standards</u> to be used as referenced document for the airworthiness approval of the use of initial data-link in continental airspace (EUROCONTROL LINK 2000+ mandate phase) <b>are not yet published.</b></p> <p>Proposed CRD resolution to comment 11 is to list, in AMC 20-11 Section 4.2 "Related Standards and Guidance Material", the Eurocontrol document "LINK Baseline, Version 1.3" (dated March 2006) as a reference document.</p> <p>This Eurocontrol document was published in March 2006 before the closure of EUROCAE WG 53 technical re-assessment and definition of applicable end-to-end Interoperability, Safety and Performance requirements for data-link mandate in EUROPEAN airspace. AIRBUS wishes to point out that, for this reason, the Eurocontrol document is now obsolete (see technical details in point 2 here below).</p> <p>Moreover, no resolution is proposed in CRD on EUROCAE applicable standards. <b>We do not know through the proposed answer to comment 11, which EUROCAE standards will be identified as applicable Sections 5.1, 5.2, 5.3, 6 &amp; 7 of AMC 20-11.</b></p> <p>AIRBUS already outlined in comment 11 that ED-110A and ED-120 cannot be the technical baseline for LINK 2000+ mandate phase, because these two standards are reopened, in particular to introduce Protected Mode functionality and associated airborne/ground requirements.</p> <p>Resolution to comment 11 needs to be reviewed. AMC 20-11 publication needs to be postponed to take into account the release of updated EUROCAE standards ED-110B and ED-120B.</p> <p><b>Resolution to comment 15 also needs to be reviewed accordingly.</b></p> <p><b>2. <u>JUSTIFICATION:</u></b></p> <p>AIRBUS recalls that:</p> <ul style="list-style-type: none"> <li>- Technical work is still on going within EUROCAE WG 53 (joint Group with RTCA SC 189) to finalize the capture and the definition of applicable end-to-end safety, interoperability and performance requirements for the use of data-link in continental airspace;</li> <li>- EUROCAE WG53 has re-opened current Interoperability standard (namely ED-110A) and current Safety and Performance standard (namely ED-120) to formalize these requirements and their</li> </ul>	<p>Accepted.</p> <p>The issuance of AMC 20-11 will be postponed to 2007 in order to be able to incorporate the final Interoperability, Safety and Performance technical standards ED-110B and ED-120B</p>

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		<p>allocation to the different stakeholders.</p> <p><b>This means that ED-110B and ED-120B standards will be the technical baseline, when published, for the development of data-link airborne/ground equipment/systems for use in continental airspace.</b> Technical agreement within EUROCAE WG 53 on ED-110B &amp; ED-120B is planned by the end of 2006.</p> <p>EUROCONTROL "LINK Baseline, Version 1.3" (dated March 2006) is now obsolete in regards with ED-110B and ED-120B content. <b>This document cannot be taken as the baseline for the development of air-ground systems capable of data-link in continental area.</b></p> <p><u>Regarding interoperability requirements:</u></p> <ul style="list-style-type: none"> <li>- EUROCONTROL "LINK Baseline, Version 1.3" (dated March 2006) requires ED-110A and only 1 LINK PR#75 (PM-CPDLC), <b>whereas</b></li> <li>- ED-110 B requires: <ul style="list-style-type: none"> <li>√ PR#75</li> <li>√ Definition of UL183 (ASSUME): impact on the interoperability of ACM service</li> <li>√ Replacement of UL 183 "CURRENT ATC UNIT" by UL 238: impact on the interoperability of ACM service</li> <li>√ Improvement in the definition of information CPDLC OFF: impact on the interoperability of ACM service</li> <li>√ Clarification of LACK after EndId: impact on the interoperability of ACM service</li> <li>√ Change in latency value and LACK process: impact on the interoperability of ACL service</li> <li>√ Improvement of NDA &amp; VCI message consistency: impact on the interoperability of ACM service.</li> </ul> </li> </ul> <p><u>Regarding safety and performance requirements:</u></p> <ul style="list-style-type: none"> <li>- EUROCONTROL "LINK Baseline, Version 1.3" (dated March 2006) only requires ED-120, <b>whereas</b></li> <li>- ED-120B requires the following modifications: <ul style="list-style-type: none"> <li>√ Definition of UL183 (ASSUME): impact on the interoperability of ACM service</li> <li>√ Clarification of Safety requirements SR-ACL-11, SR-DCL-11 &amp; SR-DSC-11</li> <li>√ Add UL 238</li> <li>√ Change the applicability of SR-xxx-12 &amp; SR-xxx-13 requirements between airborne and ground segments.</li> </ul> </li> </ul>	

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CRD Ref	Commenter	Reaction/Justification	Response
AMC 20-13 Comment 22	Airbus	<p><b>REACTION:</b> Resolution to comment 22 related to AMC 20-13</p> <p>Paragraph 10.3 is deleted.</p> <p>AIRBUS wishes to point out that Annex 2 also needs to be updated according to proposed resolution to comment 22: item 2 in AFM proposal for supplement has to be deleted.</p> <p><b>JUSTIFICATION:</b> Ensure consistency between AMC core text and annex.</p>	<p>Accepted</p> <p>AMC 20-13 Annex 2, item 2 is deleted for consistency with the removal of the NPA AMC 20-13 paragraph 10.3</p>
AMC 20-13	FedEx	<p><b>REACTION:</b> Ref AMC 20-13:</p> <p>The following words should be struck from Paragraph 10.1.</p> <p>"A statement of compliance that the transponder system(s) comply with the criteria of ICAO Doc 7030/4 Regional Supplementary Procedures for operations where Enhanced Surveillance is required."</p> <p>- All references to ICAO Doc 7030/4 should be struck from Annex 2 AFM Supplement Template.</p> <p>2. <b>JUSTIFICATION:</b></p> <p>ICAO Doc 7030/4 contains no reference to procedures for Enhanced Surveillance.</p> <p>Most crew members won't have access to ICAO Doc 7030/4 to determine what it says.</p>	<p>Not accepted.</p> <p>ICAO Doc 7030/4 Page EUR/RAC-13, paragraph 9.5 specifically mentions Mode S Enhanced Surveillance together with the minimum transponder 'Level' to satisfy the airspace requirement.</p>
AMC 20-13	FedEx	<p><b>REACTION:</b></p> <p>Ref AMC 20-13:</p> <p>Paragraph 10.2 should be removed.</p> <p>Annex 2, Flight Manual Supplement Template should be revised to strike references</p>	<p>Not accepted.</p> <p>This is a limitation of the Mode S transponder system installed on the aircraft and the crew should be aware of which parameters are transmitted to the</p>

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		<p>to Flight Limitations for Data Parameters.</p> <p>2. <u>JUSTIFICATION:</u></p> <p>Ref FAA Advisory Circular AC 25.1581-1, Airplane Flight Manual:</p> <p>Paragraph 3. d., Definitions - Limitation. For the purposes of this AC, an AFM limitation establishes the approved bounds of operation of the airplane or it's systems.</p> <p>Paragraph 2. b. (Table of Contents listing), Limitations Section . . . The operating limitations must be expressed in mandatory, not permissive, language.</p> <p>Listing the parameters that don't transmit does not constitute mandatory language a crew can follow.</p>	<p>ground and which parameters are not. This is especially true when challenged by Air traffic Control who may not be fully aware the status of the aircraft downlinked parameters.</p>
AMC 20-13	FedEx	<p><u>REACTION:</u></p> <p>Ref AMC 20-13:</p> <p>Annex 2 AFM Supplement Template should be changed to contain a description of the transponder replies activated, the data they contain and a description of control functions available to the crew for insertion to the Procedures Section of the AFM.</p> <p>2. <u>JUSTIFICATION:</u></p> <p>Crew members need to be aware what controller accessed data is being transmitted from their aircraft to work with ATC in addressing any equipment failures.</p>	<p>Not accepted.</p> <p>The intention is to keep the AFM Supplement as simple as possible and consistent from one aircraft type to another. Adding descriptive text would not assist the crew in easily determining the status of their Mode S transponder installation.</p>