

AERONAUTICAL TELECOMMUNICATIONS NETWORK PANEL

WORKING GROUP 3 MEETING

Munich, 24-28 June 1996

Agenda Item 6: Air-Ground Applications SARPs

DRAFT CONTROLLER PILOT DATA LINK COMMUNICATIONS APPLICATION SARPS

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SUMMARY

This paper briefly outlines the significant changes in the CPDLC SARPs since WG 3/6. It recommends that the attached SARPs be baselined as Version 3.0

1. INTRODUCTION

1.1 Version 2.3 (Proposed Version 3.0) of the Controller pilot Data Link Communications (CPDLC) Application SARPs incorporates changes made at WG 3/6 and the subsequent Subgroup 2 meetings at Toulouse and Vancouver.

2. SIGNIFICANT CHANGES

2.1 Some 60 defect reports have been submitted concerning CPDLC since the document was baselined version 1.0 at WG 3/4 in Banff in October 1995. Many of these changes have been generated as a result of WG 3 and SG 2 meeting, but many have also been generated by organisations scrutinising the document with a view to carrying out validation programmes, or incorporating the information in prototype equipment. The Subgroup in general, and the editor in particular are grateful for such feedback. Where defect reports have lead to changes in the Material, these are referenced in the configuration control pages.

2.2 In some cases, defect reports have indicated a lack of understanding of the material - this has resulted not only in change purely for clarification, but has given indication where guidance material may be required.

2.3 Considerable material has been removed from Chapter 1 into the new Part 1, and the remainder of the chapter has become a series of Notes.

2.4 Changes and clarification have taken place in Chapter 3, particularly concerning ground forwarding version negotiation and agreement between end users on Class of communication.

2.5 The ASN.1 in Chapter 4 has been improved, as part of the general need to improve the SARPs based on perceived defects, revisions in terminology in conformance with both ADSP wording and other air/ground Applications SARPs, and input from WG 3/6.

2.6 In addition, the Avionics industry has highlighted limitations in on-board memory in Flight Management Systems. Pending operational advice from the ADSP, the SG accepted the industry suggestion that there should be a limit of five unanswered messages able to be stored in the FMS. In the event of five messages being stored, and a further message being sent, the message would be rejected, and the ground notified that there was Insufficient Storage. The Controller would know that no part of that message would have been presented to the pilot.

2.7 Chapter 7 has been changed to reflect the changes in Chapters 3 and 5. In addition, changes in message numbering have been made to reflect ADSP input relating to Dual Stack (ATN and non-ATN) implementation. One defect report highlighted the fact that in the event of system end user and controller/pilot end user message items being sent in the same message, the system message would be processed, even if the pilot replied with an 'Unable' to his/her message element(s). As a result, the system messages ERROR, NDA and LOGICAL ACKNOWLEDGMENT will be made stand alone, i.e. the only message element in a message. Other aspects of messages responses have also been clarified.

2.6 The specific instructions passed to SG 2 at WG 3/6 have meant that subsets have had to be developed for this application. A new Chapter 8 has been prepared, outlining all the conformant configurations for both air and ground. There are 8 possible configurations for the Ground user, including operations in the Air/ground, DSC and Ground forwarding environment, but only two for the Air User - this reflects the need for aircraft to retain global interoperability, with the only option being DSC.

3. RECOMMENDATION

3.1 It is recommended that WG 3 adopts the attached CPDLC SARPs as baselined Version 3.0, for dissemination via the CENA server.