International Civil Aviation Organization

The Combined Meetings of the Fifth FANS Implementation Team – Bay of Bengal (FIT-BOB/5), the Second FANS Implementation Team – South East Asia (FIT-SEA/2), the First Air Traffic Flow Management Task Force (ATFM/TF/1) and ADS/CPDLC Seminar

Bangkok, Thailand, 18 - 22 April 2005

Agenda Item 2:   Review FANS-1/A Operations Manual (FOM)

ICAO OPLINK PANEL DRAFT CPDLC GUIDANCE MATERIAL

(Presented by the Secretariat)

SUMMARY

This paper presents draft CPDLC guidance material presently under development by the ICAO Operational Data Link Panel (OPLINKP) for review and feedback by the meeting.

1   INTRODUCTION

1.1   Due to reports of widespread misunderstanding of the use of CPDLC, the Secretary of the ICAO Operational Data Link Panel requested that the panel develop a document containing guidance material for the use of CPDLC.

2   DISCUSSION

2.1   Version 1.3 of the draft CPDLC Guidance Material, as presented to OPLINKP Working Group B in Montreal during February 2005, has been included as an electronic 'soft copy' version on the CD-ROM provided to delegates attending the ICAO ADS/CPDLC seminar during 18 and 19 April 2005. The introductory pages of the document are attached to this working paper.

3   ACTION BY THE MEETING

3.1   The meeting is invited to review the draft Guidance Material and provide feedback to the OPLINK Panel. Comments from airlines, pilots, ATS providers and all other interested parties should be directed to OPLINKP via the primary author adam.watkin@airservicesaustralia or via the Regional Office for relay.

…………………..

CPDLC Guidance Material

Draft
Version 1.3

Last saved: 31-Mar-05

Revision History		
Title	**Release**	**Presented at:**
Initial Draft	0	Montreal Mar 2004
New version, adding further concepts, expansion on placeholders and incorporating comments received prior to Toulouse meeting	1.1	Toulouse Sep 2004
Incorporation of comments and discussions emanating from Toulouse meeting	1.2	Not presented
Incorporation of comments and discussions post – Toulouse. Addition of extra text.	1.3	Montreal Feb 2005

About this document

CPDLC Guidance Material is intended as a document that will be useful for both air traffic controllers and flight crew. There is also information that may be pertinent and of benefit to airline operators as well as software and avionics manufacturers.

The information in this document has been collated based on observations and problems encountered during several years of CPDLC operations in the South Pacific and North Atlantic, as well as during the implementation of CPDLC in Europe and the United States. It is intended that this is a "living document" – as further operational experience is obtained it can be added as required. This is not a training document per se, but could be used to build the foundations for a training programme, or for development of procedures..

Material in this document should be read in conjunction with documents containing relevant regional procedures, local procedures, as well as ICAO documents such as PANS-ATM Doc 4444 and Doc 9694 *The Manual of Air Traffic Services Data Link Applications*.

Whilst acknowledging that FANS-1/A is not an ICAO SARPS compliant system, there are references throughout this document to this technology. FANS-1/A has provided an excellent introduction to CPDLC for a number of States, airlines, and aircraft manufacturers. Numerous lessons have been learnt ranging from problems with regard to controller and pilot training, automation issues, message display problems, and other associated human factors issues. The lessons learnt from FANS-1/A and other ATS data link systems (e.g. ACARS) should not be ignored, as they provide an invaluable basis for further development.

The information in this document is generally aimed at being technology independent. However where appropriate, there may be references to specific FANS or ICAO CPDLC technologies within this document.

Layout of document

This document is divided into two Parts.

Part I of this document describes general procedures and principles on various topics that should be considered when implementing or using a CPDLC system for communication. The topics covered include:

- Description of CPDLC
- Procedures
- Training
- Automation
- Human Factors

Part II contains specific guidance material for various CPDLC uplink and downlink message elements. This is intended to clarify the intent of the use of some of the message elements, as well as documenting some of the problems and lessons learnt from FANS-1/A. The need for this clarification is evidenced by the contents of various CPDLC related incident reports that have been submitted over the years.

This section does not provide guidance on every single CPDLC message element – it is limited to those message elements that have caused identified as causing problems. As the usage of CPDLC becomes more widespread and is applied in different environments, it is expected that more guidance material for additional message elements will be required.