AIP SUPPLEMENT
MALAYSIA

ADS-C / CPDLC OPERATIONAL SERVICES WITHIN BAY OF BENGAL IN KUALA LUMPUR FIR

1. INTRODUCTION

1.1 Data link services are available to FANS 1/A compatible aircraft (which are compliant to RTCA DO- 258A or ED EUROCAE 100A) on following airways within Kuala Lumpur FIR on a 24-hour basis;

      a. N571

      b. P574

      c. P627

      d. L645

      e. P628

      f. B466

      g. L510

1.2 The introduction of data link services does not affect current procedures for non data link equipped aircraft operating in the same airspace.

2. BACKGROUND

2.1 Controller Pilot Data Link Communications (CPDLC) and Automatic Dependent Surveillance (ADS) data link applications will be used to provide services to FANS 1/A equipped aircraft, in particular over the Bay of Bengal beyond the range of existing radar and VHF voice communications.

2.2 The use of CPDLC in Kuala Lumpur FIR is not mandatory and conducted at the discretion of the controllers and aircrews involved. Aircrews are encouraged to use CPDLC to the maximum extent possible, as alternative communication means, also to ease the R/T frequency load.

2.3 Messages will be transferred by VHF and satellite data link.

2.4   CPDLC supports the following services:

      a)   Emergency alerting;

      b)   Pilot to Controller downlink of position reports and clearance requests;

      c)   Controller to Pilot uplink of ATC clearances and instructions;

      d)   Free text as a supplement to pre-formatted message elements.

2.5   Automatic Dependent Surveillance (ADS) supports automatic reporting by the aircraft Flight Management System (FMS) of aircraft position and intent information. The FMS reports the required information in accordance with parameters selected by the ground system.

3.   LOGON PROCEDURES

3.1   The AFN LOGON address for the Kuala Lumpur FIR is WMFC.

3.2   To avoid automatic rejection of the LOGON, the flight identification number used by the pilot in the LOGON process must be identical to the flight identification number filed in the flight plan.

3.3   A LOGON must be received from the aircraft before any data link connections can be initiated by the ground system. This is achieved via the ATS facility notification (AFN) LOGON process to be initiated by the pilot. Aircraft requesting data link services inbound to Kuala Lumpur FIR are required to LOGON onto WMFC at least 10 minutes prior to the estimated time for entering Kuala Lumpur FIR.

3.4   Data link equipped aircraft departing from aerodromes within the Kuala Lumpur FIR and requesting data link may LOGON to WMFC prior to departure. Pilots who are unable to establish a data link connection are to inform ATC on VHF or HF RTF.

Note: Pre-Departure Clearance (PDC) via CPDLC is not available.

4.   CPDLC PROCEDURES

4.1   Aircraft that have established data link communications may transmit their position reports by CPDLC instead of HF RTF.

4.2   Lumpur Control frequency (133.4 MHz / 133.7 MHz) will be used as primary back up frequency for CPDLC. Primary and secondary HF frequencies (5670 KHz / 6655 KHz / 11285 KHz) shall continue to be backup communication for the entire airspace.

4.3   To ensure the correct synchronization of messages, controller/pilot dialogues opened by CPDLC must be closed by CPDLC. Controller/pilot dialogues opened by voice must be closed by voice.

4.4   Due to inherent integrity checks and a coded reference to any preceding related message contained within CPDLC messages, a clearance issued by CPDLC requires only the appropriate CPDLC response, not a read-back as would be required if the clearance had been issued by voice.

4.5   The down link response "WILCO" indicates that the pilot accepts the full terms of the whole uplink message.

4.6   A down link response "AFFIRM" is not an acceptable acknowledgement or reply to a CLEARANCE issued by CPDLC.

4.7   To avoid ambiguity in message handling and response, a CPDLC downlink message should not contain more than one clearance request.

4.8   If multiple clearance requests are contained in a single downlink message and the controller cannot approve all requests, the uplink message element "UNABLE" will be sent as a response to the entire message. A separate message containing a response to those requests that can be complied with will be sent by the controller.

4.9   If any ambiguity exists as to the intent of a particular message, clarification must be sought by voice.

4.10   Standard pre-formatted message elements must be used whenever possible. Free text messages should be used only when an appropriate pre-formatted message element does not exist or to supplement the pre-formatted message element. The use of free text should be kept to a minimum.

4.11   When CPDLC connection is established, aircraft will be instructed to transfer from voice to CPDLC.
        The phraseology used is:
        TRANSFER TO LUMPUR CONTROL ON DATA LINK [position];
        MONITOR [VHF (Frequencies) ALTERNATE HF Primary/secondary (Frequencies)]

4.12   Pilots should then down link a CPDLC position report.

5.   CPDLC TERMINATION

5.1   CPDLC connections will be terminated at the FIR boundary position or when entering radar coverage. The CONTACT [unit name][frequency] message and the END SERVICE message will be sent as separate messages. The END SERVICE message will be sent as soon as possible after receipt of the WILCO response to the CONTACT message.

5.2   In cases where the next FIR provide data link services; a Next Data Authority message will be sent out 30 minutes prior crossing the FIR boundary.Transfer of communication shall be completed at the FIR boundary.

5.3   In cases where the next FIR does not have data link services, CPDLC connections will be terminated at the FIR boundary position.

6.   ADS PROCEDURES

6.1   ADS Periodic contracts will be established automatically on receipt of a LOGON. The Periodic reporting rate is as follows:

        a)   In Low Traffic Density Area (LTDA) is 300 seconds (5 minutes); and

        b)   In Medium Traffic Density Area (MTDA) is 600 seconds (10 minutes).

6.2   The introduction of ADS application does not affect the current position report procedures.

6.3   ADS contracts will be automatically terminated at a system parameter time after aircraft has left Kuala Lumpur FIR.

7. DATA LINK FAILURE

7.1 Pilots recognizing a failure of a CPDLC connection must immediately establish communications on the appropriate voice frequency. When voice communications have been established, voice must continue to be used as the primary medium until a CPDLC connection has been re-established and the controller has authorized the return to data link.

7.2 In the event of an expected CPDLC shutdown, the controller will immediately advise all data link connected aircraft of the failure by voice. Instructions will continue to be issued by voice until the return of the data link system. The return of the system to an operational state will require a new AFN LOGON from the affected aircraft.

8. FLIGHT PLAN NOTIFICATION

8.1 Aircraft planning to utilize data link communications must annotate their ICAO flight plan as follows:

    a)   Data link capability must be notified by inserting the designator "J" in Item 10 (Communication and Navigation Equipment)

    b)   The data link equipment carried must be notified in Item 18 by the use of the prefix "DAT/"; followed by one or more letters as follows:

        (i)   DAT/S for satellite data link

        (ii)   DAT/V for VHF data link

        (iii)   DAT/SV for satellite and VHF data link

        (iv)   DAT/H for HF data link

        (v)   DAT/M for SSR Mode S data link

    c)   Aircraft registration must be inserted in Item 18 as the ground system uses the information during the AFN LOGON.

    d)   Serviceable ADS equipment carried must be annotated on the flight plan by adding the letter "D" to the SSR equipment carried.

9. PROBLEM REPORT

9.1 Pilots or operators who encounter problems with data link services shall report to Air Traffic Services Division at the following address;

Director
Air Traffic Service Division
Department of Civil Aviation
Level 4, Block Podium B; Lot 4G4, Precint 4
PUSAT PENTADBIRAN KERAJAAN PERSEKUTUAN
62570 PUTRAJAYA
MALAYSIA
Tel: +603-8871 4000
Fax: +603-8881 0530
Email: adscpdlc@dca.gov.my

10. IMPLEMENTATION

10.1   This AIP Supplement will become effective at 0001 UTC on the 15 December 2011.

10.2   Upon implementation, this AIP Supplement shall supercede AIC Malaysia 03/2008. Any changes on the information content on this AIP Supplement will be notified through NOTAM or superseded by another AIP Supplement.

DATO' AZHARUDDIN ABDUL RAHMAN
   Director General
Department of Civil Aviation
      Malaysia