

ENR 3.3.2.4 L888, Y1, Y2

L888, Y1, Y2

1. Introduction

1.1 These rules describe the airspace within which data-link- based ATS will be available, and prescribe procedures for data- link service.

2. Background

2.1 Data-link services provide surveillance and Direct Controller-Pilot Communications (DCPC) capabilities beyond the range of existing line of sight radar and VHF/HF voice facilities.

2.2 Initial ATS Data-link applications will utilize VHF or satellite to transfer information between airborne and ground based systems, and between controller and pilot.

2.3 DCPC via data-link is supported by the data-link application of Controller-Pilot Data-link Communications (CPDLC).

2.4 CPDLC supports the following services: a. controller initiated clearances and instructions; b. pilot reports and clearance requests; c. free text to supplement standard reports and clearance requests; d. Transfer of data-link responsibility (transfer of control).

2.5 ATS surveillance via data-link is supported by the data-link application of Automatic Dependent Surveillance (ADS).

2.6 ADS supports the following services: a. automatic reporting of aircraft position and relevant information; b. route/altitude conformance monitoring; c. emergency alerting; d. application of reduced separation criteria

2.7 Flight Management System (FMS) reports the required information in accordance with parameters (contracts) preset by ATC controller.

3. Area/route of operation

3.1 CPDLC and ADS services will initially be provided to satellite data-link capable aircraft within designated airspace in Kunming, Chengdu, Lanzhou and Urumqi Flight Information Regions (FIRS). See En-route Chart.

3.2 The width of the data-link route Y1, Y2, L888 is 56km, Air Traffic services with data-link will be available on route Y1, Y2 and the segment of BIDRU to XKC VOR of L888, the way-points are: (See En-route Chart)

L888: BIDRU MAKUL DONEN UPGED NIVUX LEVBA BIGOR PEXUN SANLI LUVAR MUMAN TEMOL LEBAK TONAX NOLEP SADAN XKC (VOR)

Y1: OMBON MEPEP LUSMA DUMIN SADAN

Y2: LUVAR MEPEP

3.3 The data-link aircraft of which planning to operate the data-link route shall be satisfied the navigation requirements of RNP 4 or higher.

3.4 For data-link aircraft operating within this airspace, CPDLC will be used as the primary means of voice communication with ATC in normal conditions instead of VHF and HF voice communication.

3.5 When CPDLC is being used, a backup HF or VHF voice frequency will be notified to the pilot by relevant ATC facility. See ENR 2 for back-up voice communications.

4. Separations and flight level

4.1 The minimum longitudinal separation between two data-link aircraft flying on same flight level in data-link service space is 10 minutes.

4.2 The minimum vertical separation in data-link service space is 300 meters.

4.3 Available flight levels are:

L888, Y1, Y2: 9200m or above.

5. LOG ON procedures

5.1 Before CPDLC connection is established, the aircraft must LOG ON to the ground system.

5.2 The AFS LOG ON addresses are as follows:

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ATS Units	ICAO Facility Designators
Kunming	ZPPP
Chengdu	ZUUU
Lanzhou	ZLLL
Urumqi	ZWWW

5.3 The flight identification used by the pilot in the LOG ON process must be identical to that contained in the ATC flight plan.

5.4 Data-link aircraft entering designated data-link airspace from airspace within which data-link services are not being provided are required to manually LOG ON to the appropriate ATS unit before entering the data-link designated airspace. Pilots shall initiate the AFS LOG ON 15 minutes prior to the pilot estimated time of entering the airspace.

5.5 Data-link aircraft that will depart from an aerodrome within the area designated for data-link services shall LOG ON with the appropriate ATS unit preflight.

5.6 Unless specifically advised, a data-link equipped aircraft entering designated data-link airspace from adjacent airspace where data-link services are being provided are not required to manually LOG ON to the succeeding ground system. This process is initiated by the controlling ATS unit, without the need for flight crew involvement, before the aircraft enters the next airspace.

6. CPDLC connection

6.1 The LOG ON process provides the aircraft identification and address information to the ground system. Once LOG ON is complete the ground system will establish its CPDLC connection.

7. Transfer of voice communications to CPDLC

7.1 CPDLC service will be provided on route Y1, Y2 and the segment of BIDRU to XKC VOR of L888. ATC will instruct the pilot to transfer the communication from voice to CPDLC using the following phraseology:

Transfer to (ATS UNIT) control on data-link. Monitor (HF frequency).

7.2 Once CPDLC communication starts Pilot shall downlink a CPDLC position report.

8. CPDLC specific procedures

8.1 Controller-Pilot dialogues opened by voice must be closed by voice.

8.2 Controller-Pilot dialogues opened by CPDLC must be closed by CPDLC.

8.3 A clearance issued by CPDLC does not require a read-back as would be the case if the clearance had been issued by voice. For example, a CPDLC clearance CLIMB TO 10 700m does not require a read-back of the 10700m. This is because each CPDLC message contains information to support an integrity check of transmitted information (as well as a coded reference to any preceding related message).

8.4 A downlink response of WILCO indicates that the pilot accepts the full terms of the whole up-link message, including any CLEARANCE or INSTRUCTION.

8.5 A downlink response of AFFIRM is not acceptable as a pilot's acknowledgement, or reply, to a CLEARANCE issued by CPDLC.

8.6 To avoid potential ambiguity in message handling and response, each CPDLC downlink shall only contain a single message request.

8.7 After transferring from voice communication to CPDLC, pilots must continue to report at waypoints associated with the FIR boundary. If further reports within the FIR are not required, ATC will advise “position reports not required” .

8.8 Pre-defined message format shall be used whenever possible. Free text messages shall only be used when appropriate pre- defined messages do not exist, or as a supplement to pre-defined messages.

8.9 When a controller sends a message containing only free text, or a free text element with other elements of which do not require a response, the pilot can only respond with a ROGER response. The pilot shall send the ROGER response before responding to the actual content of the message. If this procedure is not followed, the free text up-link message will not be closed.

8.10 No response from ATC is required for a pre-formatted position report. If a scheduled report is not received when expected, pilot may receive the up-link message “request position report”.

8.11 Any open up-link messages at the time of connection transfer will cause the Next Data Authority(NDA) connection to fail requiring a new AFS LOG ON to the new ATS unit.

9. Transfer of CPDLC between ATS centers

9.1 The controlling ATS unit providing data-link services will initiate the transfer of CPDLC to the next adjacent data-link facility, unless otherwise advised, an AFS LOG ON to the adjacent center is not required.

10. ADS connection

10.1 Following AFS LOG ON, an ADS connection is established by the ground system.

10.2 ADS contracts are established between airborne FMS and the ground system. Contracts include periodic or demand (current) position reporting, waypoint reports, lateral and vertical deviation, and vertical rate change.

11. ADS specific procedures

11.1 Prior to entering the designated airspace, pilots shall verify ADS is available for operation.

11.2 If an aircraft is flying an offset route or diverting while operating in heading selects mode, the intent of the aircraft will still be projected along the FMC flight plan route regardless of the actual route flown. To avoid misinformation being displayed to the controller, the FMC flight plan route should be amended to the actual route being flown.

11.3 In the event that an ADS emergency indication is received, the controller will acknowledge by sending a CPDLC preformatted up-link message ROGER. This message does not require pilot to respond to close the CPDLC dialogue.

12. Flight application

12.1 A formal application shall be submitted to Air Traffic Management Bureau of the Civil Aviation Administration of China before air carriers operate data-link route, the application shall include:

- a. City pairs;
- b. Schedules;
- c. Starting time;
- d. Type of aircraft used;
- e. Satellite telephone numbers for the fleet;
- f. Procedure of emergent escape. (Y1, Y2 exceptive)

12.2 Flight plan notification of data-link capability is required before data-link services can be provided.

12.3 Aircraft equipped with serviceable ATS data-link equipment shall fill in ICAO flight plan forms as follows: a. Advice of data-link capability shall be included in Field 10 (Communication and Navigation) by using an abbreviation "J". b. Advice of available data-link media shall be included in field 18 by use of the prefix DAT/ followed by one or more letters, as follows:

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- (1) DAT/S for satellited data-link,
- (2) DAT/H for HF data-link,
- (3) DAT/V for VHF data-link,
- (4) DAT/M for SSR mode data-link,
- (5) DAT/SAT for satellite phone.

12.4 Serviceable ADS equipment carried will be annotated by adding the letter D to the SSR equipment carried.

12.5 Air Carriers are required to provide a list of satellite telephone numbers with each aircraft which flying along route L888, Y1, Y2.

13. Data-link failure

13.1 Pilots detecting a CPDLC connection failure shall, without delay, establish communications on the backup voice frequency. Once voice contact is established on the backup frequency, communications must continue via voice until a CPDLC service is re-established by the appropriate ATS data-link facility.

13.2 In the event of ADS system failure, pilots will be required to resume full ATC waypoint position reporting until ADS services are re-established.

14. Emergency procedures

14.1 In the case of emergency, pilot shall operate the ARCAS with an ADS EMERGENCY MODE to notify the ground facility for the emergency, resume voice communication with ATC authority by the most efficient method (VHF/satellite phone) at early time.

14.2 The available alternate airports for route L888 is: Kunming airport, Chengdu airport, Urumqi airport and Kashi airport.

14.3 Pilot shall fly via regulated way points to break away from route L888 when alternating or diverting is decided in an emergent condition. The breaking points are:

BIDRU--direct to Kunming airport;

MAKUL—direct to Kunming airport;

NIVUX--direct to XIC(VOR), SB(NDB), XFA(VOR), Kunming airport;

LEVBA--direct to XIC(VOR), SB(NDB), XFA(VOR), Kunming airport;

PEXUN--direct to JTG(VOR), Chengdu airport;

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SANLI--direct to JTG(VOR), Chengdu airport;

LUVAR--direct to MEPEP, LUSMA, DUMIN, TUSLI, HAM (VOR), MIMAR, VIKOL, Urumqi;

MUMAN--direct to LUSMA, DUMIN, TUSLI, HAM (VOR), MIMAR, VIKOL, FKG (VOR), Urumqi;

LEBAK--direct to LUSMA/DUMIN, TUSLI, HAM (VOR), MIMAR, VIKOL, FKG (VOR), Urumqi airport;

TONAX--direct to DUMIN, TUSLI, HAM (VOR), MIMAR, VIKOL, FKG (VOR), Urumqi airport;

SADAN--direct to SCH (VOR) Kashi airport.

14.4 Pilot will be responsible for the descending levels and maneuvering track when emergency descent is executed in the condition of air cabin depressurizing.

14.5 In the case of escaping from L888, Y1, Y2 pilot shall resume voice communication by HF, Satellite Phone or VHF, switch the radio receivers to proper frequencies on which shall be guarded, Air traffic control center may normally initiate a voice contact.

Inmarsat phone:

Kunming ACC-441204

Chengdu ACC-441202

Lanzhou ACC-441205

Urumqi ACC-441208

Note: HF and VHF see ENR 2