International Civil Aviation Organization

MIDANPIRG Communication, Navigation and Surveillance Sub-Group

Fourteenth Meeting (CNS SG/14)
(Abu Dhabi, UAE, 19 – 23 October 2025)

Agenda Item 6: ASBU Threads/ Elements related to CNS

Controller-Pilot Data Link Communications (CPDLC) service with Jeddah (FIR)

(Presented by Saudi Arabia)

SUMMARY

This paper provides an overview on the introduction of Controller-Pilot Data Link Communications (CPDLC) service with Jeddah flight information region (FIR). The (CPDLC) system enables routine, non-urgent air traffic control communication to be established via text messages between pilot and ATC controller, rather than voice communication. The system improves the efficiency in managing traffic and enhances the operation capacity by reducing the congestion on voice frequencies. The (CPLDC) has been successfully implemented within JED FIR since July 2025.

Action by the meeting is in paragraph 5 of this WP.

References

- ICAO Annex 10 Vol VI.
- ICAO Doc 9924 Aeronautical Surveillance Manual.
- Annex 11 — Air Traffic Services
- Annex 10 — Aeronautical Telecommunications, Volume I — Radio Navigation Aids and Volume II — Communication Procedures including those with PANS Status
- ICAO Doc 10037, Global Operational Data Link (GOLD) Manual
- ICAO Doc 9694, Manual of Air Traffic Services Data Link Applications
- ICAO Doc 4444, Procedures for Air Navigation Services — Air Traffic Management
- GACA A42-WP/106 TE/32 dated on 28/7/25 (Information paper)

1. INTRODUCTION

1.1 The Controller-pilot data link communications (CPDLC) is defined as a means of communication between the controller and pilot, using data link for ATC communication. (CPDLC) provides air-ground data communication for ATC, and the service includes a set of clearance/information/request message elements which correspond to voice phraseology used for ATC procedures.

1.2 The CPLDC service offers the following capabilities.

A- The controller can assign flight levels, set crossing constraints, order lateral deviations, change routes, issue clearances, assign speeds, and radio frequencies.

B- The pilot has the ability to reply to messages, request clearances or information, and report necessary details. In addition, the pilot may request conditional clearances and information from the ATS unit.

C- A "free text" capability is also provided to exchange information not conforming to pre-defined formats.

1.3 The following aspects were considered during the implementation of the (CPDLC) :

A- The total time required by ATC for selecting a message, transmission of the message, and reading and interpretation of the message.

B- The total duration of the transmission of the messages for both pilot and controller.

C- The controller can monitor data-link communications with aircraft operating in the same area.

2. DISCUSSION

2.1 In line with the enhancement of the ATS service, Saudi Arabia deployed a state-of-the-art modular, advanced, and integrated surveillance, flight data processing and display system-based ATM system for the provision of air traffic control for Riyadh and Jeddah Area Control Centers (ACC), which include full capability to introduce CPDLC service within JED FIR offering automated assistance for requesting and delivering clearances, to reduce pilot and controller workload

2.2 The CPDLC service was the subject of formal consultation and coordination with the main airspace users to gather their views and feedback on the overall data link services within Jeddah FIR and their expectations on the introduction of CPDLC service.

2.3 CPDLC service is designed to provide as an alternative means of communication for non-urgent or time-critical voice communications. The ATC VHF voice communications are immediately available for intervention to address non-routine and time-critical situations.

2.4 Operational trials of Controller Pilot Data Link Communication (CPDLC) in Jeddah FIR were conducted for 180 days starting on 1 February and until 31 July 2025.

2.5 The readiness of CPDLC service is completed, and the procedures related to CPDLC operations, flight planning, transfer between data authorities, type of messages and their composition, phraseology, and switch to voice communications are described under KSA AIP GEN 1.5 https://aimss.sans.com.sa/assets/FileManagerFiles/AIRAC%20AIP%20AMDT%2010_25_2025_10_02/index.html

2.6 The LOGON addresses to be used for CPDLC service within Jeddah FIR are the following:

A- OEJN for the CPDLC service provided by Jeddah ACC.

B- OERK for the CPDLC service provided by Riyadh ACC.

2.7 The CPDLC service is available from **FL 290** and above within Jeddah FIR to all equipped aircraft with FANS1/A and FANS1/A+. The following CPDLC capabilities are available:

A- Data link initiation capability.

B- ATC clearances and instructions.

C- ATC communications management.

3. KEY BENEFITS OF IMPLEMENTATION CPDLC.

THE KEY BENEFITS OF IMPLEMENTING CPDLC CAN BE SUMMARIZED AS FOLLOWS:

A- Less communication on the ATC frequency.
B- Increased airspace and ATC sector capacities.
C- More pilot requests can be dealt with simultaneously.
D- Reduced probability of miscommunication/misunderstanding
E- Safer frequency changes, hence, reduction of loss of communication events.

4. CONCLUSION

4.1 CPDLC provides a means of communication between the controller and pilot, using data link for ATC communication. Standard voice radio telephony will remain the primary means of ATC communications. Any failure event concerning CPDLC will lead to a reversion to voice ATC communications.

4.2 The use of CPDLC is not mandatory in Saudi Arabia and is conducted at the discretion of ATC and the pilots. In order to use the CPDLC service, pilots must file the respective aircraft equipage in their flight plan (FPL 2012 format), field item 10 with the appropriate J codes, and field 18, as defined under PANS-ATM, Appendix 2.

4.3 Where urgent or time-critical communications are required, voice communications must be used.

5. ACTION BY THE MEETING

The meeting is invited to:

a) Note the information in this Paper.
b) Invite the Secretariat to update ICAO MID Region ASBU element plan considering the information provided in this WP.
c) Invite States to share information on the deployment of data-link applications and associated lessons learned.

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