



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Air Traffic Organization Policy

ORDER
JO 7110.125

Effective Date
March 27, 2018

SUBJ: Controller Pilot Data Link Communications (CPDLC) in the ERAM Environment

1. Purpose of This Order. This order prescribes interim guidance to supplement the guidance contained in FAA Order JO 7110.65, Air Traffic Control, in support of the initial use of CPDLC in Air Route Traffic Control Centers (ARTCC) using ERAM for domestic operational air traffic control services. The guidance contained in this order applies to those facilities that have been approved to use CPDLC with ERAM for domestic operational air traffic control services.

2. Audience. This order is intended for all air traffic personnel at ARTCCs that use CPDLC for domestic operational air traffic control services.

3. Where Can I Find This Order? This order is available on the MYFAA employee website at https://employees.faa.gov/tools_resources/orders_notices/ and on the air traffic publications website at https://www.faa.gov/air_traffic/publications/.

4. Responsibilities. ARTCC air traffic managers must ensure that the provisions of this order are implemented and briefed to appropriate personnel prior to the initial operational use of CPDLC for domestic operational air traffic control services.

5. Explanation of Policy Changes. Whenever CPDLC in ERAM is used operationally for domestic air traffic control services, the requirements specified in this order supplement the applicable provisions of FAA Order JO 7110.65. Following CPDLC implementation at all ERAM facilities, the requirements of this order will be integrated into a future change to FAA Order JO 7110.65.

6. Background. CPDLC will be implemented in accordance with a phased schedule at ARTCCs using ERAM. The use of CPDLC is anticipated to enhance national airspace system safety and efficiency by improving the accuracy of air to ground communications. CPDLC augments, but does not replace, voice communications. This order provides controller guidance for initial CPDLC capabilities and will be revised based upon lessons learned and future development of CPDLC.

7. Definitions.

- a. Downlink: CPDLC message sent from the flight deck to ATC.
- b. Eligibility: Designates which sector is eligible to exchange CPDLC messages with a specific aircraft.

NOTE-

Only one sector at a time is eligible to exchange CPDLC messages with a specific aircraft.

- c. Session: A virtual connection between the ground system and the aircraft for the exchange of CPDLC messages.
- d. Trajectory Altering Clearance (TAC): A clearance that alters altitude, speed, heading or route.
- e. Transfer of Communication (TOC): A CPDLC uplink that instructs the pilot to either contact or monitor the next air traffic radio frequency.
- f. Uplink: CPDLC message sent from ATC to the flight deck.

8. Procedures.

a. Use of CPDLC is approved to augment all applicable voice communication requirements of FAA Order JO 7110.65 in the issuance of altitude, route, altimeter, or frequency clearances and instructions.

NOTE-

Controllers should minimize the use of CPDLC during critical phases of flight.

- b. The sector team is responsible for sending and responding to CPDLC messages.
- c. CPDLC should not be used to issue immediate or expeditious clearances unless voice communication is not operationally feasible.
- d. Ensure there are no TACs open prior to transfer of communication unless otherwise coordinated.
- e. Abnormal CPDLC indications should be acknowledged by the controller only after required coordination has been performed.
- f. When an Initial Contact (IC) mismatch or Confirm Assigned Altitude (CAA) downlink time-out indicator is displayed in the Full Data Block (FDB) and Aircraft List (ACL), the controller who has the aircraft on their voice frequency must use voice communication to verify the assigned altitude of the aircraft, and acknowledge the IC mismatch/time-out indicator.

NOTE-

All sectors in the controlling ERAM displaying an FDB will show the IC mismatch/time-out indicator.

g. Use voice communications when overriding a CPDLC clearance and issuing alternate control instructions.

PHRASEOLOGY-

DISREGARD CPDLC (type) CLEARANCE (description of clearance) AND SEND AN UNABLE (clearance).

EXAMPLE-

“American Fifty-Two, disregard CPDLC altitude clearance to flight level three five zero and send an unable. Climb and maintain flight level three one zero.”

“Delta Four Twenty Three, disregard CPDLC route clearance direct Memphis and send an unable. Cleared direct Nashville, direct Memphis, rest of route unchanged.”

NOTE-

Controllers should be aware that the CPDLC clearance being overridden may not have been received on the flight deck at the time of the voice communication. This phraseology tells the pilot exactly which clearance requires an UNABLE response.

h. Controllers may cancel an open uplink only after ensuring the pilot has been issued, via voice communication, the correct ATC clearance.

NOTE-

1. The provisions of this paragraph are not intended to replace the requirements to override a CPDLC clearance as stipulated in paragraph g.

2. Cancelling an uplink only removes the uplink from the CPDLC ground system. The uplink remains open on the flight deck. Controllers should instruct the pilot to close the uplink on the flight deck.

3. The ability to cancel an uplink is only provided to allow controllers to clear open uplink indications in the FDB and ACL. Clearing these indications allows controllers to continue CPDLC operations with the affected aircraft.

i. Use of the automated Voice Communication Indicator (VCI) during CPDLC operations complies with the requirements of FAA Order JO 7110.65 Paragraph 2-1-17, Radio Communications.

NOTE-

Controllers are not required to manually mark an aircraft on frequency if that aircraft was automatically marked on frequency by the system.

j. When a CPDLC session is unexpectedly lost with an aircraft, and voice communication had not previously been established, the controller must ensure voice communication is established and maintained with that aircraft.

k. Unless otherwise coordinated, the last controller working the aircraft before it exits the continental United States (U.S.) must ensure the CPDLC session is terminated upon transfer of communication to any non-U.S. or Advanced Technologies and Oceanic Procedures (ATOP) facility.

l. Coordination must be accomplished with the sector with eligibility prior to terminating a CPDLC session from any other position or adapted air traffic workstation.

m. If the CPDLC system fails to provide a necessary automated altimeter setting to an aircraft, the controller must issue an altimeter setting in accordance with FAA Order JO 7110.65 Chapter 2, Section 7, Altimeter Settings.

NOTE-

If the CPDLC system fails to provide an automated altimeter setting, the controller with eligibility will be notified with an abnormal indication in the FDB. Automated altimeters are only sent in response to a monitor TOC, or an altitude uplink when the assigned altitude is below FL180.

- n. For No Radio (NORDO) aircraft with an active CPDLC session:
 - 1. It is permissible for the controller with eligibility to mark the aircraft on frequency to allow CPDLC communications with that aircraft.
 - 2. Use existing procedures in FAA Order JO 7110.65, paragraphs 5-2-8, Radio Failure, and 10-4-4, Communications Failure, for all CPDLC aircraft that experience a two-way voice radio communications failure.
- o. In the event of receipt of an Emergency Pilot Initiated Downlink, the provisions of FAA Order JO 7110.65, Chapter 10, Emergencies, must be followed.
- p. Whenever there is a shutdown or failure of CPDLC service:
 - 1. The Operations Manager in Charge (OMIC) must coordinate with each area to ensure controllers refrain from initiating new CPDLC uplinks and start cleaning up existing CPDLC messages.
 - 2. Controllers must use voice to broadcast a message alerting pilots to the shutdown and request no pilot downlinks until further advised.

EXAMPLE-

“Attention all aircraft; CPDLC no longer in use. Do not downlink any messages until further advised.”

- 3. Controllers must take action to ensure that any open or abnormally closed uplinks at the time of the shutdown are resolved, by voice, with each aircraft.

9. Distribution. This order is distributed to the following ATO units: Air Traffic Services, Technical Operations, System Operations Services, Mission Support Services, Safety and Technical Training; the William J. Hughes Technical Center; the Mike Monroney Aeronautical Center; the Air Traffic Control System Command Center; and all air traffic control facilities.

10. Safety Management System. Appropriate safety management documentation, in accordance with FAA Order Order 1100.161, Air Traffic Safety Oversight, ATO Order JO 1000.37, Air Traffic Organization Safety Management System, and the ATO Safety Management System Manual, has been completed in support of this order.

Original signed by *Natking Estevez* for Sharon Kurywchak

Sharon Kurywchak
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2/21/2018

Date Signed