

AERONAUTICAL INFORMATION CIRCULAR 12/20

CONTROLLER-PILOT DATA LINK COMMUNICATIONS UPLINK MESSAGE LATENCY MONITOR FUNCTION IN GANDER OCEANIC CONTROL AREA

(Replaces AIC 6/20)

Introduction

Various International Civil Aviation Organization (ICAO) regions have either implemented or are in the process of implementing reduced lateral and longitudinal separation minima predicated on the following performance-based communication and surveillance (PBCS) specifications: required communication performance (RCP) 240 and required surveillance performance (RSP) 180. One of the safety requirements in RCP 240 that are allocated to the aircraft system is Safety Requirement #15 (SR-15), which states that the aircraft system shall provide appropriate indication should the aircraft system receive a message whose timestamp exceeds a time variable.

To support SR-15, air traffic control (ATC) will uplink the controller-pilot data link communications (CPDLC) free text message "SYSU-6 (UM169) SET MAX UPLINK DELAY VALUE TO 300 SECONDS" to prompt the pilot to enter the specified latency value into the aircraft avionics (refer to the ICAO Doc 10037, *Global Operational Data Link Manual* (GOLD), Appendix A, Table A.4.13).

Background

The intention of the message latency monitor function is to prevent pilots from acting on a CPDLC uplink message that has been delayed in the network. The most serious of such cases would be the pilot executing a clearance that was no longer valid.

There are variations between aircraft types in the implementation of the message latency monitor function:

- a) The Airbus implementation and some General Aviation aircraft implementations function in such a way that the aircraft automatically rejects a delayed uplink message by sending an error message to ATC and does not show the message to the pilot. The message sent to ATC is normally this: "ERROR INVALID DATA. UPLINK DELAYED IN NETWORK AND REJECTED RESEND OR CONTACT BY VOICE."
- b) The Boeing implementation and some General Aviation aircraft implementations function in such a way that the delayed message is displayed to the pilot with an indication that the message has been delayed. It is then up to the pilot to act as is appropriate (refer to section 3 below).
- c) Some aircraft have a deficient implementation that has not been designed in accordance to industry standards.
- d) Some CPDLC-equipped aircraft do not have the message latency monitor function implemented at all.

Because aircraft implementations are varied, it is impossible for ATC to tailor the uplink of the message "SET MAX UPLINK DELAY VALUE TO 300 SECONDS" to different aircraft types. It has therefore been decided among the North Atlantic (NAT) air navigation service providers (ANSPs) to uplink this message to all CPDLC-connected aircraft immediately after they enter each control area. An aircraft may therefore receive this message multiple times during a flight.

Aircraft have been receiving the CPDLC message “THIS IS AN AUTOMATED MESSAGE TO CONFIRM CPDLC CONTACT WITH GANDER CENTRE” upon entry into Gander oceanic control area (OCA). This message will be discontinued and replaced with the message “SET MAX UPLINK DELAY VALUE TO 300 SECONDS.” This new message will serve two purposes:

- a) To prompt the pilot to set the specified uplink delay value in the aircraft avionics; and
- b) To establish the current data authority (CDA) for ATC.

Pilot Procedures

Pilots shall be familiar with aircraft functionality that concerns the CPDLC uplink message latency monitor.

When the pilot receives the uplink CPDLC message “SET MAX UPLINK DELAY VALUE TO 300 SECONDS” he/she shall:

- a) Send a positive response to ATC as prompted by the avionics “(ACCEPT [ROGER])” regardless of whether the aircraft supports the latency monitor.

Note 1: It is important that pilots respond to the “SET MAX UPLINK DELAY VALUE TO 300 SECONDS” uplink message to avoid having open unanswered CPDLC messages in the system. This also applies to aircraft that have deficient message latency monitor functionality or no such functionality at all.

Note 2: The GOLD Manual specifies that the pilot should append the response downlink with the free text message “TIMER NOT AVAILABLE” when the message latency monitor function is not available in the aircraft (refer to the GOLD Manual, Table 4-1).

- b) If the aircraft is equipped with a correctly functioning message latency monitor, enter the specified uplink delay into the avionics in accordance with the aircraft procedures. Some avionics will automatically set the delay value in accordance with the uplink message and do not allow for a manual input.

Note 3: If an aircraft is instructed to log off and then log on again mid-flight, ATC can send the message “SET MAX UPLINK DELAY VALUE TO 300 SECONDS” again once the logon is completed.

When a pilot receives a CPDLC uplink message with an indication that the message has been delayed the pilot shall:

- a) Revert to voice communications to notify the ATS unit of the delayed message received and to request clarification of the intent of the CPDLC message; and
- b) Respond appropriately to close the message as per the instructions of the controller.
- c) The pilot must not act on the delayed uplink message until clarification has been received from the controller.

Implementation

Implementation of the “SET MAX UPLINK DELAY VALUE TO 300 SECONDS” message in the Gander OCA will be effective as of **0000Z on 26 March 2020**.

Further Information

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