New CPDLC procedure on the NAT

There'll soon be a new CPDLC procedure on the NAT, designed to prevent pilots from acting on any old CPDLC messages that might have been delayed in the network.

ICAO have published a new Bulletin for all the NAT Air Navigation Service Providers (ANSP's) to use as a basis for implementing this new procedure. They recommend that all aircraft should receive a message immediately after they enter each control area telling them to "SET MAX UPLINK DELAY VALUE" to a certain number of seconds. The idea is that this will prompt the pilot to enter the specified latency value into the aircraft avionics, so that it will ignore/reject any old CPDLC messages.

So far, only Iceland's BIRD/Reykjavik FIR have implemented this procedure, effective May 24. All other sectors of NAT airspace (Gander, Shanwick, Bodo, Santa Maria, New York Oceanic) are busy writing their own AIC's and will implement later in the year.

So when entering the BIRD/Reykjavik FIR, expect to receive a CPDLC message from ATC instructing you to "SET MAX UPLINK DELAY VALUE TO 300 SECONDS". A copy of their AIC with more guidance can be found here.

The latency monitor function varies from one aircraft type to another: some just automatically reject old CPDLC messages, some will display a warning to the pilot that the message has been delayed, some have deficient equipment, and some do not have the message latency monitor function implemented at all.

Because of this, ICAO note that *"it is impossible for ATC to tailor the uplink of the message… to different aircraft types. It has therefore been decided among the 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."*

So here's the lowdown on what you need to do:

1. Work out in advance what kind of message latency monitor function your aircraft has, and what it is designed to do when it receives the CPDLC message "SET MAX UPLINK TIMER VALUE TO XXX SECONDS".

2. When you receive this message, respond with the voice message "ACCEPT" or "ROGER". If your aircraft has a functioning message latency monitor, punch in the specified number of seconds. If you don't have functioning equipment, respond with the free text message "TIMER NOT AVAILABLE".

3. If anything goes wrong, revert to voice comms.

Back in November 2017, we reported on an equipment issue with Iridium satcom that prompted a ban by a number of Oceanic ATC agencies. Some aircraft were receiving massively delayed clearances sent by ATC via CPDLC – and one took the instruction and climbed 1000 feet, even though the message was meant for the flight the aircraft operated previously.

Although the bans were dropped after Iridium fixed the problem at ground level (by ensuring the system no longer queued CPDLC uplinks for more than five minutes), this new CPDLC procedure on the NAT should ensure this kind of situation doesn't happen again. It's officially being brought in as one of the safety requirements for the roll-out of reduced lateral and longitudinal separation minima across the NAT, which is predicated on Performance Based Communication and Surveillance (PBCS) specifications – that means having CPDLC capable of RCP240 (4 minute comms loop), and ADS-C capable of RSP180 (3 minute position reporting).

Further reading:
– ICAO NAT Bulletin 2018_002: CPDLC Uplink Message Latency Monitor
– Iceland's AIC on the new CPDLC procedure for the BIRD/Reykjavik FIR
– The latest PBCS rumours and facts
– The latest NAT changes, including EGGX/Shanwick, CZQX/Gander, BIRD/Iceland, ENOB/Bodo, LPPO/Santa Maria, and KZWY/New York Oceanic East.
– IRIDIUM satcom fault fixed