

STRATEGY FOR IMPLEMENTATION OF THE AIR-GROUND DATA LINK IN THE ASIA/PAC REGION

Considering that:

- a) The benefit of data communications to improve safety, efficiency and capacity through the reduction of voice communications and process automation to meet the operational requirement and consistent with the Air Traffic Management Operational Concept;
- b) Current operation application of data link to support CPDLC, ADS-C, Data link Flight Information Service (DFIS) including D-VOLMET, D-ATIS and DCL, the need to maintain the functional service of these applications;
- c) Current technology such as Satellite data link, HF data link, AeroMACS being acceptable for operations and standardized in SARPs and/or industry standards;
- d) Ongoing implementation of VHF ACARS, VDL-Mode 2 AoA (ACARS over Aviation VHF Link Control), VDL-Mode 2 ATN and the need to improve data link communication coverage and capacity;
- e) The need for PBCS implementation is prescribed in the Performance-Based Communication and Surveillance (PBCS) Manual (Doc 9869) to ensure that data communications operations are carried out in a safe and efficient manner;
- f) The Global Operational Data Link (GOLD) Manual (Doc 10037) provides the globally harmonized guidance on data link service, CPDLC and ADS-C implementation, PBCS specifications and post-implementation monitoring and analysis;
- g) Trajectory-Based Operations is fundamental for realizing the ICAO Global ATM Operational Concept and the evolution towards TBO is expected to align with the deployment of Aviation System Block Upgrades (ASBU) as described in the *Global Air Navigation Plan*, (ICAO Doc. 9750);
- h) Development of standardized LDACS (L-Band Digital Aerospace Communication System);
- i) The future growth of data communications to improve operations and the exchange of information including graphical meteorological information;
- j) The need to assure global interoperability and harmonization; and
- k) The need to assure communication safety and security.

THE GENERAL STRATEGY FOR THE IMPLEMENTATION OF THE AIR-GROUND DATA LINK INFRASTRUCTURE IN THE ASIA/PAC REGION SHOULD BE AS FOLLOWS:

- a) Maintain or ensure compatibility of existing data links to support all current ATM and meteorological applications without change to the application or application specific system.

- b) New deployment of VHF data link ground systems should be capable of supporting VDL-Mode 2 **in addition to supporting ACARS** based on ASBU Block Implementation.
- c) In the near term there is no intent to implement VDL-Mode 3, VDL-Mode 4.
- d) States are encouraged to work co-operatively to assist each other on a multinational basis to implement the air-ground ATN/IPS based on their operational requirements while maintaining service to support ATN/OSI during the transition period. **States should consider implementing ATN OSI/IPS Gateway to support aircrafts equipped with either ATN/OSI or ATN/IPS in addition to existing ACARS.**
- e) HF voice services used in remote continental and oceanic areas should be transitioned to datalink communications.
- f) Deploy new applications on aerodrome surface, terminal and **en-route** of flight which related flight safety and security based on current and new datalink technology in accordance with ICAO Annex10 and Doc 10037 to reduce congestion of the VHF spectrum, reduce workload, and enhance safety.
- g) Apply an RCP specification related to the data link systems for relevant airspace complying with Doc 9869, and establish PBCS monitoring programs to assess against the RCP specification.
- h) Encourage states to provide the service of VHF ACARS, VDL-Mode 2 AoA, VDL-Mode 2 ATN and the deployment of **appropriate** Satellite communications (SATCOM) on safety data or voice applications in accordance with ICAO Annex 10 and Doc 10037.
- i) Undertake and monitor research and development of communications technology for the future evolution of data link services in line with ICAO Global Air Navigation Plan (GANP).
- j) **Implement the Security Services and associated policies and requirements specified in the standards, guidelines, and practices of ICAO SARPS, manuals and guidance materials to ensure continued security, safety and continuity of aeronautical communications services.**

Note:

Near-Term: now to 10 years

Long-Term: 15+

Doc 10037: Global Operational Data Link (GOLD) Manual

Doc 9869: Performance-Based Communication and Surveillance (PBCS) Manual

Doc 9750: Global Air Navigation Plan

Doc 7030: Regional Supplementary Procedures
