INTERNATIONAL CIVIL AVIATION ORGANIZATION

Fourth Meeting of the APIRG Communications, Navigation and Surveillance Sub-group (Dakar, Senegal, 25-29 July 2011)

Agenda Item 4: Aeronautical Fixed Service (AFS)

Aeronautical Mobile Service: Planning and implementation guidelines

(Presented by the Secretariat)

SUMMARY

This information paper provides the CNS/SG/4 Meeting with the strategy for the implementation of the ICAO Global Plan Initiative for data link applications, for consideration when establishing regional planning and implementation guidelines.

Action by the meeting is at **paragraph 3.**

REFERENCE:

-ICAO Global Air Navigation Plan, Doc 9750

Related Strategic Objectives: **A** and **C.**

1. INTRODUCTION

1.1. The *Global Air Navigation Plan* was developed on the basis of an industry roadmap in an effort to facilitate implementation of the Recommendations of the 11TH Air Navigation Conference and ensure that focused efforts would lead to near- and medium-term benefits. The Global Plan, therefore, contains near- and medium-term guidance on air navigation system improvements necessary to support a uniform transition to the ATM system envisioned in the operational concept.

2. DISCUSSION

2.1. In accordance with the Global Plan, planning will be focused on specific performance objectives, supported by a set of "Global Plan Initiatives" ("initiatives"). These initiatives are options for air navigation system improvements that when implemented result in direct performance enhancements. States and regions will choose initiatives that meet performance objectives, identified through an analytical process, specific to the particular needs of a State, region, homogeneous ATM area or major traffic flow. A set of interactive planning tools will assist with the analytical process.

Description of strategy for the implementation of the Global Plan initiative on Communication Data Link Applications (GPI-17)

2.2. The implementation of less complex data link services (e.g. pre-departure clearance, oceanic clearance, D-ATIS, automatic position reporting) can bring immediate efficiency benefits to the provision of ATS. Transition to the use of data link communications for more complex safety-related

uses that take advantage of a wide variety of CPDLC messages, including ATC clearances, is already being successfully implemented.

2.3. Use of CPDLC and implementation of other data link applications can bring significant advantages over voice communication for both pilots and controllers in terms of workload and safety. In particular, they can provide efficient linkages between ground and airborne systems, improved handling and transfer of data, reduced channel congestion, reduced communication errors, interoperable communication media and reduced workload. The reduction of workload per flight translates into capacity increases and enhanced safety.

2.4. Communication data link and data link surveillance technologies and applications should be selected and harmonized for seamless and interoperable global operations. ADS-C, ADS-B and CPDLC are in service in various regions of the world but lack global harmonization. Current regional initiatives, including utilizing unique message subsets and CPDLC procedures, hinder efficient development and acceptance for global aircraft operations. Existing and emerging technologies should be implemented in a harmonized global manner in the near term to support long-term goals. Harmonization will define global equipage requirements and therefore minimize user investment.

2.5. FANS-1/A and aeronautical telecommunication network (ATN) applications support similar functionality, but with different avionics requirements. Many internationally-operated aircraft are equipped with FANS-1/A avionics initially to take advantage of data link services offered in certain oceanic and remote regions. FANS-1/A equipage on international business aviation aircraft is underway and is expected to increase.

3. CONCLUSION

3.1. The meeting is invited to endorse the strategy for the implementation of the Global Plan Initiative for data link applications as described in this working paper, as part of regional planning and implementation guidelines for aeronautical mobile communications.

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