International Civil Aviation Organization
North American, Central American and Caribbean Office
Special Eastern Caribbean Communication, Navigation and Surveillance Meeting (S-E/CAR CNS)
(Port of Spain, Trinidad and Tobago, 20 to 22 October 2004)

Agenda Item 2: Communication Developments
2.2 Development of air-ground communication by voice and data links in Piarco FIR

DEVELOPMENT OF AIR-GROUND COMMUNICATION SYSTEMS IN THE EASTERN CARIBBEAN

(Presented by the Secretariat)

SUMMARY

This working paper presents proposals aimed at developing the air-ground communication systems in the Eastern Caribbean with a view to achieving the level of development required by the CAR/SAM and FASID and GREPECAS conclusions and guidelines.

References:
- Air Navigation Plan, Volume I - Basic ANP.
- Air Navigation Plan, Volume II, Facilities and Implementation Document (FASID).
- GREPECAS/10 and GREPECAS/12 Reports.

1. Introduction

1.1 The GREPECAS/10 meeting, held in Las Palmas, Canary Islands, Spain, 23 – 27 October 2001, through Conclusion 10/29, urged States, Territories and International Organizations to provide graphical information showing air-to-ground VHF coverage certified through flight test procedures or, if such are not available, coverage calculated according to Annex 10, Volume III for their terminal areas and en-route navigation, considering minimum and maximum en-route flight levels of 7600m (25,000 ft) and 13,700 m (45,000 ft), respectively.

1.2 IACL, in November 2002 delivered to ICAO CNS Regional Officer the VHF coverage diagrams of its en-route VHF station in Piarco FIR, informing on their plan of improving VHF coverage. On the other hand, during the 28th E/CAR Working Group Meeting, held in Old Town Montserrat, 26 – 29 April 2004, France presented the IP/09 on the status of the VHF coverage in the French Antilles Territories. France has been executing a project in order to improve the French Antilles VHF coverage; it is expected that after the project is completed coverage should not contain any hole and the normal and redundant VHF coverage been optimized.

1.3 The GREPECAS/12 meeting, held in Havana, Cuba, on 3-7 June 2004, through Conclusion 12/42 recommended to States, Territories, International Organization and users to continue with the implementation of the applications feasible to be used with the Aircraft Communications Addressing and Reporting System (ACARS) data link and FANS-1A aircraft during the transition towards the implementation of the ATN bit oriented data links.

1.4 The 28th E/CAR Working Group Meeting by the Decision 28/11 urged to Eastern Caribbean States/Territories to develop an action plan to implement Data Link-Automatic Terminal Information Service (D-ATIS) and Pre-Departure Clearance (PDC) services in the international airports.

1.5 Based on the information available in the Secretariat, there are VHF ACARS implemented in the following Eastern Caribbean Islands: Antigua, Guadeloupe, Martinique and Saint Lucia Saint Vincent, that are provided by ARINC and SITA.

1.6 The GREPECAS/12 meeting was also informed that Trinidad and Tobago has been studying the possibility of implementing HFDL for ATC applications, and considered that States, Territories and International Organizations interested in this technology should be aware of the results of the mentioned HFDL activities in other regions.

1.7 The Conclusion 12/43 of GREPECAS recommended that States, Territories, International Organizations and users of the CAR/SAM Regions, based on the ICAO SARPs and Recommendation 7/3 of the AN-Conf/11, continue the implementation of air-ground data communications with VDL Mode 2 as support infrastructure of the air-ground sub-network to enable the ATN applications evolutionary implementation according to the operational requirements.

2. Analysis

Improvement of the VHF and HF air-to-ground coverage

2.1 Taking into account the background presented in paragraphs 1.1 and 1.2, this paper proposes to the Meeting to review the status of the VHF air – ground coverage identifying the deficiencies and recommended actions in order to improve the VHF air – ground coverage and/or recommending an alternative means to provide ATS air – ground communication service.

2.2 Regarding the HF air – ground communication in the oceanic area of the Piarco FIR it is expected that the Trinidad & Tobago Civil Aviation Authority (TTCAA) informs the Meeting on the status of implementation of the new HF system in the Piarco ACC.

Implementation of air-to-ground data link

2.3 Based on the background mentioned in paragraphs 1.3 to 1.7, this paper proposes the Meeting recommended actions in order to continue implementing air-to-ground data link in the Eastern Caribbean taking into consideration de following strategy:

a) Short time: Consider the implementation of ACARS data link and FANS1-1A aircraft for application such as D-ATIS, PDC at international airports and other applications.

b) Middle time: Review and update the plan of implementation VDL Mode 2 for ATN end systems air-to-ground applications, such as ADS, CPDLC, FIS and Context Management. Studying the feasibility of the implementation of the HFDL or Aeronautical Mobile-Satellite Service (AMSS) in the oceanic space of Piarco FIR.

3. Suggested Action

a) take note of the information contained in this paper;

b) follow-up and suggest relevant actions to improve the VHF coverage air-to-ground en-route and in the terminal area of the Piarco FIR;

c) follow-up the implementation of the HF coverage in the oceanic air space of the Piarco FIR;

d) review and recommend actions in order to continue the implementation of air-to-ground data link in the Eastern Caribbean taking into consideration the draft strategy contained in paragraph 2.3 of this paper and ICAO SARPs and technical guidelines; and

e) suggest other related actions.

- - - - - - - -