

E/CAR DCA/21 - WP/06 International Civil Aviation Organization 28/01/08 NORTH AMERICAN, CENTRAL AMERICAN AND CARIBBEAN OFFICE **Twenty First Meeting of Directors of Civil Aviation of the Eastern Caribbean** (21st E/CAR DCA) Tortola, British Virgin Islands, 11 to 14 February 2008

Agenda Item 3:Air navigation Issues3.6Other Air Navigation Issues

STATUS OF THE VSAT MEVA II NETWORK AND ITS INTERCONNECTION PROCESS WITH REDDIG

(Presented by the Secretariat)

SUMMARY

As a possible solution for improving and updating the current E/CAR digital network, this paper presents a brief description of the MEVA II network and a follow-up on its interconnection activities with the REDDIG Network.

References:

- Report of the Fifth MEVA II / REDDIG Coordination Meeting, (Mexico City, Mexico, 3-5 October 2007)
- GREPECAS/14 Report
- Report of the CAR/WG/1 Meeting, Port of Spain, Trinidad and Tobago, 21-23 June 2007

1. Introduction

1.1 Based on follow-up that E/CAR members have done to the performance and operation of the E/CAR digital network, a VSAT system has been defined as a possible solution. During the First Meeting of the Caribbean Working Group (CAR/WG/1) held in Port of Spain, Trinidad and Tobago, from 21 to 23 June 2007, ICAO informed the Meeting of some guidelines on the performance of VSAT networks to establish a basis for planning and basic system design of such network in support of aeronautical ground-ground communications based on Conclusion 5/17 of the ALLPIRG/5.

1.2 Also during the CAR/WG/01, concern was expressed regarding the establishment of an independent VSAT network in an area where the coverage of other VSAT networks exists. For instance, the VSAT MEVA II network provides aeronautical communication service to the rest of the CAR Region and can be considered as a possible solution for the E/CAR subregion. In addition, it was noted that it would be more convenient to apply a VSAT solution integrated with the rest of the CAR Region to meet aeronautical communication requirements in the Eastern Caribbean with the CAR and NAM Regions.

1.3 This paper also provides a general follow-up on the interconnection activities for MEVA II / REDDIG networks, which was conducted by the ICAO NACC and SAM Regional Offices according to the Fifth MEVA II / REDDIG Coordination Meeting (MR/5).

2. MEVA II Network

2.1 An updated summary of the MEVA II network status is provided in the **Appendix** to this paper.

3. Follow-up Activities for the MEVA II / REDDIG Interconnection

3.1 Considering GREPECAS Conclusion 14/52 – *Review for the Adoption of the Memorandum of Understanding and Implementation of the Action Plan for the MEVA II / REDDIG Interconnection*, the MR/5 Meeting reviewed the MEVA II / REDDIG Memorandum of Understanding (MoU) taking into account the proposals for amendment to the MoU received by the Regional Offices, in which the essential technical-administrative content of the initial MoU version had remained without major changes specifying the solution for implementation of the MEVA II/ REDDIG interconnection. This MoU was circulated by the ICAO NACC Regional Office to the MEVA II network Member Administrations.

3.2 The Action Plan for the *MEVA II / REDDIG Interconnection* was reviewed and updated by the MR/5 Meeting, and the implementation actions are ongoing.

4. Suggested Action

3.1 The Meeting is proposed to:

- a) take note of the information contained in this working paper;
- b) consider the MEVA II network as a possible solution for a VSAT network in the E/CAR subregion; and
- d) agree to any other actions as deemed appropriate.

APPENDIX

SUMMARY ON THE IMPLEMENTATION STATUS OF THE MEVA II VSAT NETWORK IN THE CENTRAL CARIBBEAN AND THE PROCESS FOR ITS INTERCONNECTION WITH THE SOUTH AMERICAN VSAT NETWORK (REDDIG)

1. The MEVA VSAT network was developed and has been implemented since 1996, mainly in the Central Caribbean, providing voice and data communications for Aeronautical Fixed Services (AFS) between 15 VSAT-equipped nodes in the Central Caribbean and neighbouring zones. MEVA operates in the 4-6 GHz C-band on the PAS-1R satellite and uses SCPC/DAMA technology for bandwidth-on-demand communications and circuit management. This network has made implementation and improvement of the AFTN and ATS speech circuits required for this area in the Air Navigation Plan possible.

2. The States, Territories and International Organizations Members MEVA I, considering the SARPs contained in Annex 10, Vol. III, Chapter 3, as well as the ICAO guidance related to the need not only to satisfy AFS communications requirements, but also aimed at supporting communications, navigation, surveillance and air traffic management services to facilitate the introduction of aeronautical telecommunications network (ATN), recognized the need to update the MEVA Network to facilitate the adoption of protocols and services with common interface equipment based on the reference model for the open system interconnection (OSI) of the International Standardization Organization (ISO), and the MEVA Network interconnection/interoperability achievement with other regional and sub-regional digital networks, such as the South American Digital Network (REDDIG). This initiative was called the "MEVA II Network".

3. The MEVA Technical Management Group, integrated by experts from States, Territories and an International Organization, studied in detail the MEVA update aspects toward the MEVA II Network implementation. Such work represented the basis for the Request for Information (RFI) and subsequently the Request for Proposals (RFP) for the MEVA II and the evaluation and selection of the best proposal. This stage of the process culminated with the MEVA/10 Meeting held in Mexico City, 13 – 15 December 2004, in which the Civil Aviation Directors approved the Service Provider for the MEVA II Network, as well as the updated Document of Agreement (DOA) for the MEVA II Network, which has been approved through the signatures of Directors of Civil Aviation.

4. The MEVA II Network has been conceived with a satellite technology access VSAT/TDMA/Frame Relay type, through a "Full Mesh" network topology, the use of IS 1R satellite with beam directed over United States / Latin America, operation frequencies in the C Band, and vertical linear polarization. All of this contributes to objectives to satisfy the AFS communications required at present, to ease the ATN sub-networks implementation and to achieve interoperability between the MEVA II and REDDIG networks and other CAR Region subregional networks, contributing to the implementation of the new CNS/ATM systems, including the new ATM integrated global system.

5. During the first months of 2005, the MEVA II TMG finalized Annex I of the MEVA II Document of Agreement, which is a technical document describing the network. Likewise, the transition plan of MEVA to MEVA II was developed. Based on these documents and in accordance with the corresponding national laws, the MEVA II members arranged their contracts with the MEVA II Service Provider. Cuba and Panama established their MEVA contracts through the ICAO Technical Co-operation Bureau.

6. The implementation of the following MEVA II nodes were completed in November 2006:

- Aruba, Aruba
- Bahamas, Freeport
- Bahamas, Nassau
- Cayman Islands, Grand Cayman
- Cuba, Havana
- Netherlands Antilles, Curacao
- COCESNA, Honduras, Tegucigalpa

- Dominican Republic, Santo Domingo
- Haiti, Port-au-Prince
- Jamaica, Kingston
- USA, Miami, FL
- Panama, Panama
- USA, Puerto Rico, San Juan