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North American, Central American and Caribbean Office

WORKING PAPER

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Second Meeting of Rapporteurs of the North American, Central American and Caribbean Working Group (NACC/WG/RAP/02)

ICAO NACC Regional Office, Mexico City, Mexico, 28 to 31 March 2023

Agenda Item 5: **Update of the Action Plans of the Task Groups of the NACC/WG, of the NACC/WG Action Plan and of the regional activities in the Development of the Projects of the CAR/SAM Regional Planning and Implementation Group (GREPECAS)**

CARIBBEAN AIR NAVIGATION SERVICES NETWORK (CANSNET)

(Presented by the MEVA/TMG Rapporteur)

EXECUTIVE SUMMARY	
This paper traces the activities of the Caribbean Air Navigation Services Network (CANSNET) procurement process.	
Action:	Suggested actions are listed in Section 4.
Strategic Objectives:	• Strategic Objective 1 – Safety • Strategic Objective 2 – Air Navigation Capacity and Efficiency • Strategic Objective 4 – Economic Development of Air Transport • Strategic Objective 5 – Environmental Protection
References:	• Thirty-third MEVA Technical Management Group Meeting (MEVA/TMG/33), Willemstad, Curaçao, 29 to 31 May 2018 • Request for Information (RFI) process for the Caribbean Air Navigation Services Network (CANSNET) • Thirty-fifth MEVA Technical Management Group Meeting (MEVA/TMG/35), on-line, from 27 to 28 April 2020 • Thirty-seventh MEVA Technical Management Group Meeting (MEVA/TMG/37), Mexico City, Mexico, 8 to 10 August 2022 • Request for Proposal (RFP) process for the CANSNET

1. Introduction

1.1 In 2018, during the Thirty-third MEVA Technical Management Group Meeting (MEVA/TMG/33) meeting, the Central Caribbean Member States/Organizations of the MEVA III Network identified the need to review the MEVA architecture and services to ensure that the network would support emerging requirements in a cost-effective manner.

1.2 The MEVA Technical Management Group (TMG) conceived an Ad hoc Group, during the MEVA/TMG/33 meeting, with the objective of leading the implementation activities of the new phase of the MEVA network.

1.3 The content of the Request for Information (RFI) document of the Caribbean Air Navigation Services Network Project (CANSNET), name that was approved by the Member States for the new network, was prepared by its Ad hoc group in order to explore the technologies and solutions currently offered by the telecommunications industry, which includes the requirements of the project. During the MEVA/TMG/35 meeting, in April 2020, the RFI document was reviewed, updated and approved by the MEVA/TMG members. This document was published by the ICAO Technical Cooperation Unit (TCB) on 1 June 2020 as RFI 22502099, free of charge.

1.4 At the MEVA/TMG/37 meeting, the Request for Proposal (RFP) document was presented to States and they were asked, in a coordinated effort, to define and review the technical and operational requirements of their organizations with a view to CANSNET.

1.5 The Management Services Agreement (MSA) between the International Civil Aviation Organization (ICAO) and the States and Organizations members of the RLA22801 Project was signed collectively, which materialized the first steps for ICAO/TCB to provide assistance in the CANSNET bidding and procurement process.

2. Discussion

2.1 Following up on the RFI process of the CANSNET Project, and taking into account the solution proposals obtained, the Ad hoc group prepared the RFP document. Important enhancements for migration to CANSNET were proposed in this document, in anticipation of the increasing bandwidth demands created by new data exchange and provision technologies, such as System-Wide Information Management (SWIM) and the Aeronautical message handling system (AMHS) extended service level to support the dissemination of Operational meteorological (OPMET) data in accordance with the ICAO Weather Information Exchange Model (IWXXM).

2.2 The process of defining the technical requirements and capabilities that the next generation of the regional network needs to guarantee in the future, in support of the new technologies for the implementation of air navigation services, has required collaborative and far-sighted work from the beginning from the CANSNET Member States, as well as from the Task Forces of the different areas of air navigation. In this sense, it is necessary for the Ad hoc group to know the operational needs, related to such requirements, which have been identified during the analysis in the Task Forces of the region.

23 CANSNET has been conceived to be implemented as a flexible and scalable network, with full mesh connectivity between all network nodes for voice and data, with access topology determined by the operational needs of each member.

2.4 CANSNET's core infrastructure will be a fully private network Internet Protocol (IP), for both voice and data; it is expected to be terrestrial and fully redundant. Those services that require legacy connectivity (analog or Time Division Multiplexing [TDM] Foreign Exchange Subscriber [FXS] / FXO [Foreign Exchange Office] / Ear and Mouth [E&M] voice and serial data) can be integrated through protocol converters.

2.5. The preferred access option for providing telecommunications services to CANSNET members is a terrestrial solution. In the event that a CANSNET member site is not reachable via a terrestrial telecommunications link, alternative options, including satellite-based solutions, may be considered for those specific sites.

2.6 CANSNET provides for interconnection with other regional networks through ICAO-defined Global IP Addressing. All CANSNET and South American Digital Network (REDDIG) nodes must be mutually accessible, including those nodes that use a Very Small Aperture Terminal (VSAT) connection. The connection to the Eastern Caribbean (E/CAR) network must be implemented through Automatic Ring Down (ARD) Connections from Sint Maarten to FXS interfaces in San Juan, Puerto Rico, which would then be interconnected to the FXO interfaces provided by the E/CAR network.

2.7 During the MEVA/TMG/37 meeting, in August 2022, the MEVA/TMG members reviewed and updated the RFP document. The final draft version was distributed among the members for their review and subsequent approval in a virtual meeting that took place in early December 2022.

2.8 The collective signing of the MSA between ICAO and the member States and Organizations of Project RLA22801, gave way to the following activities of ICAO/TCB in the preparation of the CANSNET bidding and procurement process.

2.9 In the preparation stage of the project bidding process, ICAO/TCB presented the CANSNET cost estimate, based on the result of the market study carried out according to the offers received during the RFI process.

Article	Description	Estimated Cost (USD)
1	CANSNET equipment, installation and acceptance	5,300,000
2	Additional 8% to estimated costs (post pandemic effects)	424,000
3	Additional 10% to estimated costs (contingency)	530,000
	Project estimated cost	**6,254,000**
4	7% for ICAO/TCB administrative expenses	437,780
	Total estimated cost	**6,691,780**

2.10 The Project Document (PRODOC) will contain all the details related to the assistance that ICAO/TCB will provide for the CANSNET procurement project, as well as the cost of the services provided, based on the estimated value of the project. Once the project is granted, the value of said services must be adjusted according to the real cost. This document, like the MSA, must be signed by all CANSNET members.

2.11 According to the current status of the project, it is estimated that the next activities will take place according to the following schedule:

Date	Activity
March 2023	Signing of the CANSNET PRODOC (ICAO – CANSNET members)
March 2023	Tender documentation preparation and submission to ICAO/TCBer
May - July 2023	Project tender
August - September 2023	Project evaluation and granting
November - December	Contract between members and Provider
First semester 2024	Project implementation

3. Conclusions

3.1 CANSNET has been designed to support all the Aeronautical telecommunication network (ATN) requirements of the CAR Region, with its interconnection with adjacent ICAO regions in a cost-effective manner, achieving the quality, redundancy and reliability required by the evolution of air navigation services.

3.2 Having the operational requirements emerged from the projection of all the Task Forces constitutes a decisive factor for the success of CANSNET in supporting regional air navigation services.

4. Recommended Actions

4.1 The Meeting is kindly invited to:

a) review the information presented in this Working Paper;

b) integrate the operational needs that must be supported by the new regional network into the CANSNET requirements, which have been addressed during this Meeting of Rapporteurs of the NACC/Working Group; and

c) any other action deemed appropriate.

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