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**WORKING PAPER**

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## ASSEMBLY — 40TH SESSION

### TECHNICAL COMMISSION

#### Agenda Item 30: Other issues to be considered by the Technical Commission

#### PROGRESS OF COCESNA IN THE IMPLEMENTATION OF ITS SNA CONTINGENCY PLAN

(Presented by members of the Central American Corporation for Air Navigation  
Services (COCESNA)<sup>2</sup>)

#### EXECUTIVE SUMMARY

This paper submits for the consideration of the Assembly the actions taken by COCESNA in the implementation of the SNA contingency plan, and the measures to be applied in minor and major situations, which guarantee continuity in the provision of air traffic services and flight protection in the Central American flight information region (FIR).

<i>Strategic Objectives:</i>	This information paper relates to the Safety and Air Navigation Capacity and Efficiency Strategic Objectives.
<i>References:</i>	<i>Air Traffic Services Planning Manual</i> (Doc 9426) Contingency Plan for Air Navigation Services COCESNA'S Strategic Plan

<sup>1</sup> English and Spanish versions provided by COCESNA.

<sup>2</sup> Belize, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.

## 1. INTRODUCTION

1.1 Annex 11 — *Air Traffic Services*, paragraph 2.31 Arrangements for contingency cases, provides that: *“The authorities of the air traffic services shall develop and promulgate contingency plans for implementation in the event of disruption, or potential disruption, of air traffic services and related supporting services in the airspace for which they are responsible for the provision of such services. Such contingency plans shall be developed with the assistance of ICAO as necessary, in close coordination with the air traffic services authorities responsible for the provision of services in adjacent portions of airspace and with airspace users concerned.”*

1.2 On the other hand, Annex 19 — *Safety Management*, in 1.4 Coordination of emergency response planning provides that: *“The service provider shall ensure that the emergency response plan is coordinated in an appropriate manner with the emergency response plans of the organisations with which they must interact when providing their services or products.”*

1.3 In consideration of the foregoing paragraphs, the progress on this topic in COCESNA and its member States is presented below.

## 2. CONTINGENCY PLAN FOR AIR NAVIGATION SERVICES

COCESNA has prepared its contingency plan, procedures and response actions to be taken to deal in a timely, adequate and effective manner, the eventuality of incidents and/or states of emergencies that may occur in its services (air traffic management (ATM), aeronautical information management (AIM) and communications, navigation, and surveillance (CNS)), guaranteeing the continuity and safety of air operations in the air space of the Central American flight information region (FIR) (MHCC).

The contingency plan defines the phases, activation, execution, and deactivation, with a series of procedures to be implemented by those involved.

2.1 Contingency scenarios

2.1.1 The contingency scenarios contemplated in this plan are:

a) Air traffic services;

- 1) degradation of the ATS service due to failures in the CNS systems; and
- 2) interruption of the ATS service;

b) Aeronautical information services;

- 1) degradation of the AIS service due to failures in hardware/software;
- 2) delegation of AIS services due to failures in the communications system; and
- 3) interruption of the AIS service;

- c) Aeronautical communications services;
  - 1) failure in VSAT communication;
  - 2) communication failures of microwave links; and
  - 3) failure in VSAT communications and microwave.

2.1.2 A new section is to be included, of vital importance for the provision of COCENSA services:

2.1.3 Information technology services. The possible risks may refer to:

- a) Denial of resources: The following are classified within this group of damages:
  - 1) structural damage to buildings or warehouses due to natural disasters;
  - 2) impossibility to access resources due to physical problems in the facilities, natural or human. This aspect includes taking of premises and prohibition of entry to buildings;
  - 3) sabotage to any facility;
  - 4) failures in the systems and/or installed equipment (whether due to involuntary or intentional changes). Failures produced by programmers or systems, network supervisors or users with access privileges, such as password changes, changes of codes for important data entities, elimination or physical/logical draft of key information, unwanted information processing are within this group of damages; and
  - 5) computer attacks: Information theft, viruses. Anything that may lead to the disclosure of unauthorized information that affects the strategic assets, thus the image of the organisation.

2.2 ATS contingency

COCESNA has defined the contingency procedures for air traffic services taking into consideration the different scenarios.

2.2.1 Implementation of the COCESNA backup control centre.

2.2.1.1 Regarding the functions delegated to COCESNA, with the collaboration of two of its specialised agencies, a backup control centre located in the facilities of the Central American Institute of Aeronautical Training (ICCAE), in Ilopango, El Salvador has been installed under the supervision and management of the Agency for Air Navigation for Central America (ACNA).

2.2.2 Operation and operational tests in the control backup centre

2.2.2.1 As of 2016, COCESNA has been verifying its backup centre, carrying out operational and functional tests. This activity is carried out twice a year, with the participation of technical and operations personnel.

2.2.2.2 The main objective is guaranteeing the operation for the provision of the air traffic control service. Additionally, the verification process of required AMS communications and minimum ATS (VSAT/MW links), radar data and flight plan management capacity, necessary to operate as a backup centre, is performed.

2.2.2.3 The test consists of providing the ATS service from the backup control centre. This required analysis to establish a minimum amount of technical and operations personnel required to operate the control centre.

## 2.3 AIM contingency

2.3.1 For the provision of the Aeronautical Information Service in Central America, COCESNA has redundant ATS message handling system (AMHS) servers installed in Tegucigalpa, Honduras. Additionally, a project has been carried out for the installation of an AMHS Support Centre in ICCAE, Ilopango, El Salvador.

2.3.2 As of 2019, COCESNA has been verifying its backup centre, performing functional and operational tests twice a year.

## 2.4 CNS contingency

2.4.1 COCESNA has a private microwave network as the main means by which ground-ground voice, air-ground voice, and data necessary for the Central American States and COCESNA to provide air navigation services in the region.

2.4.2 With the purpose of guaranteeing the continuity of services in the region, COCESNA has implemented a private communication network via satellite as a backup of the microwave network for critical services.

2.4.3 In addition, COCESNA carries out a project to implement leased data links with local suppliers to have a backup of the microwave network with superior transmission capacity to the satellite communications network.

## 2.5 Information technology contingency

2.5.1 It is comprised of the support plan, which contemplates the development and fulfilment of critical procedures of the function between disaster and recovery.

2.5.2 The recovery plan shows the early restoration of services after a disaster.

2.5.3 The contingency operation plan indicates the early restoration of services and the implementation of critical applications during and after a disaster.

### 3. **RECOMMENDATIONS**

3.1 It should be considered within the contingency plans, the expertise required to generate an effective response to cyber incidents, as well as the importance of developing cybersecurity to face any threat that may endanger the provision of air navigation services. The above through the implementation of appropriate tactics, techniques, and procedures based on standards and good practices worldwide.

### 4. **BENEFITS TO BE SHARED**

4.1 The Central American States, with support from COCESNA, may develop their own ATM contingency plans and send them to ICAO for their information.

4.2 The COCESNA contingency plan has been proposed to be revised and updated at least once a year and must always include the elements that involve the services provided by ACC CENAMER, as well as those that correspond to the Member States within their airport infrastructure and, in those where COCESNA provides them with services.

4.3 To be effective, this plan must be made known to the dependencies adjacent to the FIR/UIR CENAMER and the users of the Central American airspace.

### 5. **CONCLUSION**

5.1 Consider the information regarding the implementation of the COCESNA air navigation services contingency plan.

5.2 Promote that States and service providers are responsible for socializing their contingency plans with neighbouring countries and with adjacent FIRs.

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