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North American, Central American and Caribbean Office

WORKING PAPER

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**Second NAM/CAR Regional Contingency and Emergency Planning and Response Meeting  
(NAM/CAR/CONT/02)**

Mexico City, Mexico, 20 to 22 April 2022

**Agenda Item 2: Evaluation of Impact and Response of Contingencies Faced in 2019, 2020 and 2021**

**REVIEW OF CONTINGENCIES OCCURRED IN THE CAR REGION FROM 2019 TO 2021**

(Presented by the Secretariat)

<b>EXECUTIVE SUMMARY</b>	
This Working Paper presents a summary and review of the contingencies related to Air Traffic Services (ATS) occurred in the CAR Region in 2019, 2020 and 2021, with a brief analysis for lessons learned.	
<b>Action:</b>	Suggested actions are included in Section 6.
<b>Strategic Objectives:</b>	<ul style="list-style-type: none"><li>• Safety</li><li>• Air Navigation Capacity and Efficiency</li></ul>
<b>References:</b>	<ul style="list-style-type: none"><li>• Annex 11 – <i>Air Traffic Services</i>.</li><li>• Final Report of the First Regional Contingency and Emergency Planning and Response Meeting (NAM/CAR/CONT/1) Mexico City, Mexico, 12 – 14 March 2019</li><li>• CAR Region ATM Contingency Plan</li></ul>

**1. Introduction**

1.1 The planning and responding to contingencies and emergencies is a fundamental part in the support of civil aviation in our Region, of which is increasingly dependent, not only as a means of transportation but also as an ingredient for sustainability and economic growth.

1.2 Threats to the air navigation system are not foreign to our region, but are part of the context in which the operations are carried out. Special attention is normally given to hurricanes and meteorological events due to their periodicity, recurrence and devastating power; however, the system is not exempt from other threats, which should be more studied and better addressed.

1.3 For this reason, the ICAO NACC Regional Office, as part of its regional civil aviation system resiliency strategy, pays special attention to the work required for contingency planning, as a tool to ensure the continuity of air operations, and of all activities that depend on aviation.

## **2. Background**

2.1 A series of events that limited the provision of Air Navigation Services (ANS) in the CAR Region, called attention to the vulnerabilities to implement a proper response to contingencies and emergencies.

2.2 Consequently, the ICAO NACC Regional Office organized the first Regional Meeting for Planning and Response to Contingencies and Emergency Situations (NAM/CAR/CONT/1), which was held at the ICAO NACC Regional Office, in Mexico City, Mexico, from March 12 to 14, 2019. The meeting was attended by 10 States/Territories of the CAR Region and 3 International Organizations, with a total of 33 participants.

2.3 In order to continue the ICAO NACC resiliency strategy, the second Regional Meeting for Planning and Response to Contingencies and Emergency Situations (NAM/CAR/CONT/2) was initially scheduled for 24 – 27 March 2020. Due to the outbreak of the COVID-19 Pandemic, this Meeting was postponed, and the regional priority shifted to ensure the continuity of operations and recovery.

2.4 Despite the challenge faced to respond to the COVID-19 Pandemic, the CAR Contingency and Emergency Response Coordination Team (CAR CERT) maintained its normal coordination and information sharing activities. In addition, the annual review of the ATM contingency plans for the CAR region was conducted, with on-line meetings for the key Flight Information Regions (FIRs) of the CAR Region and special activities for the Eastern Caribbean and Central America.

## **3. Analysis**

3.1 The nature of the contingencies faced in the CAR Region during 2019-2021 was the same as previous years. Despite the reduction of the operations, and the challenges of maintaining staff health and availability, a similar type of events affected CAR ANS provision in the Region.

### *3.2 Hurricanes and tropical storms*

3.2.1 During this period, the Caribbean Region was impacted by several hurricanes and tropical storms, which caused significant damages to the States and Territories of our Region, as well as the interruption of ANS and airports. The Atlantic hurricane season occurs from 1 June to 30 November, with some events occurring before and after the normal dates.

3.2.2 The greatest challenge faced from this type of events, in addition to their destructive force and added disturbances (such as floods and landslides that affect operations), is the scope of their threat. Some events commence disrupting at the Eastern Caribbean islands, move westbound causing damages throughout the central Caribbean and Central America, ending up affecting the southern and eastern parts of the United States.

### 3.3 *Social demonstration and civil unrest*

3.3.1 Another situation that recurrently affects some States in our region is the occurrence of social demonstrations and protests. These situations limit the continuity of operations by blocking access to critical facilities for the provision of services, such as airports and ANS. Sometimes these events come as part of organized social claim movements, which in part obtain the support of aviation personnel, affecting the provision of direct or support services.

### 3.4 *Air Traffic Control (ATC) industrial actions*

3.4.1 Industrial actions by ATC personnel continue to occur in our region, either openly or through actions to reduce service capacity and continuity. Difficulties to sign or renew labour contracts, the disagreement with particular measures of the Authority or discrepancies of broader labour sectors with the government, are some of the elements that affect the occurrence of this type of union action.

### 3.5 *Communications Navigation and Surveillance (CNS) systems failures*

3.5.1 Failures in support systems for the provision of ANS, such as communications and surveillance systems, affect the continuity of operations at different levels.

3.5.2 These events range from the interruption of critical coordination channels and information sharing systems (supporting oral coordination, automated transfer of estimates, flight plan reception or Radio detection and ranging (RADAR) data sharing), partial or total failure of surveillance systems (RADAR antennas or RADAR processing systems), failures of air-ground voice communications systems, to failures in the power supply systems for air traffic control centres (causing a total loss of services).

3.5.3 These events are triggered by lack of proper planning for maintenance, lack of clear communication between CNS and ATC staff scheduled maintenance activities or systems updates, inadequate or lack of contingency planning and new unforeseen scenarios for different systems integration.

### 3.6 *Earthquakes and Volcanic eruptions*

3.6.1 Our region is also under the unpredictable threat of earthquakes. Earthquakes, depending on their magnitude and context, affect facilities for ANS and airports, causing the interruption of services, damage to infrastructure, as well as the evacuation of personnel. In any case, it takes certain time to review the condition of aviation facilities, including runways, in order to resume operations.

3.6.2 We also have several active volcanoes that we keep under surveillance in accordance with established procedures. Volcanic eruptions not only directly affect ground operations, but also volcanic ash can spread, significantly limiting some routes even in upper airspace.

### 3.7 *COVID-19 Pandemics*

3.7.1 The COVID-19 pandemic has been an event that summarizes all possible contingencies that could affect ANS. Since mid-March 2020, aeronautical authorities and Air Navigation Service Providers (ANSP) made efforts to adapt their operations in order to preserve the health of personnel while guaranteeing the necessary continuity of services. Procedures for access control, disinfection of facilities, as well as special hours were established to reduce the risk of contagion among staff.

## 4. **Lessons learned**

### 4.1 *Lack of preparation/contingency plans update*

4.1.1 The lack of adequate planning and implementation of contingency procedures is the main limitation for several States/Territories and Service Providers, mainly in the CAR Region. Trying to respond to the different contingency situations that may arise without a properly prepared and disseminated plan, both internally and externally, is not only an inefficient exercise but also an ineffective one, despite the demonstrated need to develop contingency response procedures, some States continue to ignore this critical requirement.

4.1.2 Another aspect to be taken into consideration is the lack of rehearsal or trials of the already developed plans. In some cases, the steps or actions described in the contingency plans cannot be carried out, and these deficiencies only come up when a real contingency occurs.

### 4.2 *Increased need for regional collaboration*

4.2.1 For some Caribbean States the threat of earthquakes jumped to their attention due to the occurrence of some events of this type, giving them regional relevance. The lack of experience in some States on handling this type of phenomenon opens the need for interstate collaboration.

4.2.2 Seismic activity at La Soufrière volcano in Saint Vincent (VCT) and the effusive eruption with a series of seismic swarm started on morning 9 April 2021. The activity of the volcano lasted for several days, causing the temporary closure of several aerodromes as well as limiting operations in the Region. This was a good case of regional collaboration among the eastern Caribbean States, with the leadership role played by Trinidad and Tobago as responsible of the Piarco FIR, organizing and sharing critical information between all relevant stakeholders.

### 4.3 *Increased dependency of regional communications systems*

4.3.1 The automation of Air traffic management (ATM) systems is a reality for which we have worked, and continuously work, seeking to improve operational safety and efficiency in the provision of these services. Consequently, many of the main features of the new systems depend significantly on the ability to receive and exchange data.

4.3.2 ANSPs need to identify all the interfaces of their ATS system and work to implement contingency procedures, in order to reduce the possibilities of disruption, ensure back-up means of data transfer and establish alternate coordination procedures.

#### 4.4 *Required integration for contingency plans*

4.4.1 ANS provision is based on the interaction of different subsystems, which function independently, but with the same objective of supporting the safe and efficient development of air operations. ANS systems such as Aeronautical Information Management (AIM) or the provision of meteorological information to air navigation are critical for the adequate provision of air traffic services. Each of these subsystems have contingency planning requirements that must be comprehensively evaluated and adjusted through joint planning.

### 5. **Conclusions**

5.1 Constant attention on planning and response to contingencies and emergency situations is of vital importance for our Region. Differences of criteria on the definitions of what constitutes a contingency should be set aside and look from a more grounded point of view the need to foster a change in the culture of operations planning.

5.2 The States/Territories and International Organizations, responsible for the provision of ANS in the NAM/CAR Regions, should continue to work collaboratively, evaluating current and possible threats to the provision of these services, improving the regional resilience of civil aviation.

### 6. **Suggested actions**

6.1 The Meeting is invited to:

- a. take note of the information provided in this Working Paper, evaluate and give recommendations to enhance contingency preparedness in the CAR Region;
- b. request the ICAO NACC Regional Office to analyse the different contingencies occurred and provide recommendations to improve the resiliency of the ANS system of the Region;
- c. urge the States, Territories and International Organizations that provide ATS in the NAM/CAR Regions, to share good practices and lessons learned, and support actions carried out to enhance the resiliency of the regional air navigation system; and,
- d. make any additional recommendation deemed necessary.