



# **CIVIL AVIATION PUBLICATION**

## **ANS 05**

# **CONTINGENCY PLANNING FOR ANS**

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## ANS 05

### CONTINGENCY PLANNING FOR ANS

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## CHAPTER 1

### INTRODUCTION

#### 1.1 GENERAL

##### 1.1.1 Objective

This CAP provides general advice on the requirements for Contingency Planning for air navigation services in The Bahamas.

In order to be granted approval and certification to provide air navigation services, a provider shall have developed, and is to maintain a contingency plan for implementation in the event of disruption, or potential disruption, of air navigation services in The Bahamas.

The overall objective of a contingency plan is to ensure the safe continuation of operations, and the return to normal operations as soon as possible.

This should ensure an orderly and efficient transition from normal to emergency operations, including assignment of responsibilities and delegation of authority. It includes the period of time required to re-establish normal operations following an incident or emergency or other form of degraded operational service.

A contingency plan identifies actions to be taken by responsible personnel during an event or emergency, and should be easily accessible to the appropriate key personnel, as well as to the coordinating external organizations.

##### 1.1.2 Applicability

This guidance material applies to all organisations and personnel providing an Air Navigation Services at an airport or other Air Traffic Services Unit (ATSU).

#### 1.2 REFERENCES

- (a) EUROCONTROL Guidelines for Contingency Planning of Air Navigation Services
- (b) ICAO Doc 9859 Safety Management Manual
- (c) CAR ATS
- (d) CAR SMS
- (e) CAP GEN 01 - Safety Management Systems

#### 1.3 DISTRIBUTION

This CAP should be made available to all ATS staff in particular all unit managers. Any CAP downloaded by an operator/organisation becomes an uncontrolled document and it is their responsibility to ensure it is current.



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## CHAPTER 2

### CONTINGENCY PLANNING

#### 2.1 REQUIREMENT

The CAA-B has a duty to ensure that any organisation providing air navigation services in The Bahamas has in place a robust Contingency Plan.

Air Navigation Service providers shall develop and publish contingency plans for implementation in the event of disruption, or potential disruption, of air traffic services and related supporting services in the airspace, and aerodromes (if applicable), for which they are responsible for the provision of such services. Such contingency plans shall be developed with in close coordination with the air traffic services providers responsible for the provision of services in adjacent portions of airspace, and with airspace users concerned.

Contingency plans are intended to provide alternative facilities and services to those normally provided, when those facilities and services are temporarily not available. The aim of the guidance material is to provide a framework to assist Air Navigation Service Providers (ANSPs) in:

- (a) Fulfilling their international obligations to have contingency plans in place and, therefore, be in a position to continue to meet Safety, Capacity, Efficiency, Security & Environmental sustainability requirements; and
- (b) Establishing contingency plans to satisfy local/national/international requirements. It is recognised, however, that not all situations can be foreseen. In addition, no two situations will be the same and therefore impossible to cater for every eventuality and causal factor that might give rise to the need to enact a contingency plan. Similarly, the guidance does not enter into details to address all possible disruptions. With this in mind, certain common factors can, and must, be prepared for.

ANSPs must be able to deal with unexpected events and it is the ability to respond to these in a safe, orderly and efficient manner which provides the overriding rationale for the development of contingency plans, rather than the legal obligation to do so. Safety is, and must remain, the number one priority.



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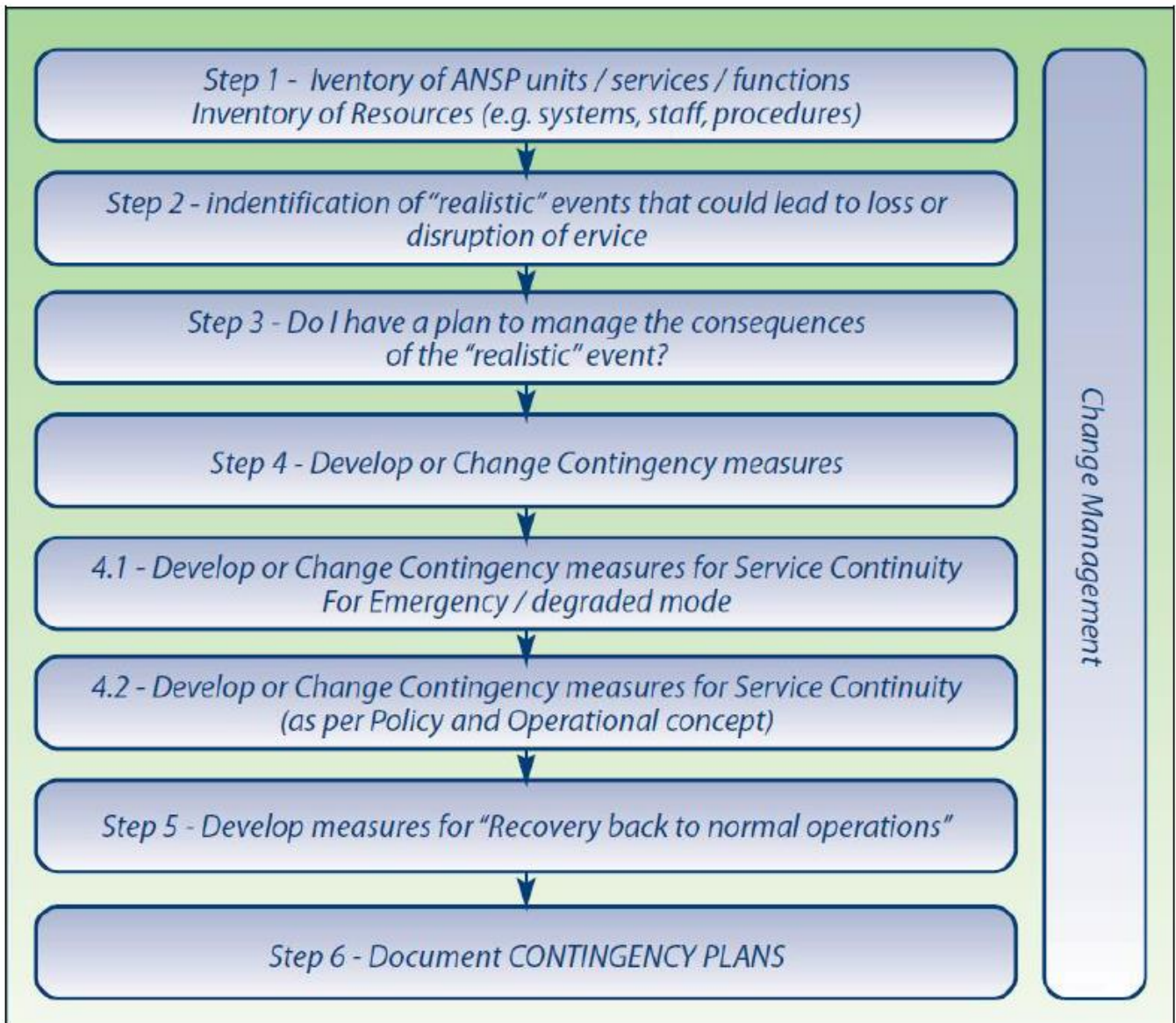
## CHAPTER 3

### PLANNING PROCESS

#### 3.1 PROCESS

##### 3.1.1 Steps -General

During the process, ANSPs are advised to follow the following steps:





### 3.1.2 Steps - Specific

No.	STEP	DESCRIPTION
1	Inventory of the Units/services/functions of an ANSP	<p>It is necessary to make an Inventory of Resources (e.g. systems, assets, procedures, and staff) since this will be the means to identify the additional resources required to satisfy the contingency requirements</p> <p>An ANSP must, as part of developing a Contingency Plan, agree with the CAA-B a minimum level of service to be provided by that plan.</p>
2	Identification of realistic events	<p>For each ANS unit, the events, including security scenarios, which may lead to loss or disruption of service or function, should be identified. The likelihood of the events is to be considered to identify which ones are most likely to occur. Priority should be given to developing a suitable and pragmatic response to the most likely causes of service disruption.</p>
3	Do I have a Plan to manage the consequences of the most likely events?	<p>This is the first step to initiate the development of contingency measures or the change of existing ones. It may also lead to re-visiting the requirements identified at the Policy stage if it is not possible to develop a viable plan to meet them</p>
4	Develop or change contingency measures	<p>As in Step 1 above, the minimum level of service must be agreed with the CAA-B in order to ensure that safety is not compromised.</p> <p>ANSPs should ensure first that safety and ATM security requirements are met. Plan(s) should be developed to deal with Emergency and Degraded modes of operation. In addition, if there is a need to ensure Service Continuity, and if this is viable (in terms of policy/operations/economics), Service Continuity plan(s) might be developed</p>
5	Develop measures for Recovery back to normal operations	<p>Appropriate measures should be developed to ensure a safe and secure resumption or upgrade of the services after a contingency situation. Similarly, a safety and security assessment of the measures should be conducted.</p>
6	Document Contingency Plans	<p>The Contingency Plan pulls together the response of the whole organisation to total loss or major disruption of the ANS capability. Those using the plan should be able to select and deploy appropriate actions from those available in the plan and direct the maintenance and/or resumption of service units according to agreed priorities and requirements. The Contingency Plan should contain checklists of actions by nominated actors and personnel to effect contingency requirements.</p>



## CHAPTER 4

### PLANNING CONSIDERATIONS

#### 4.1 EVENTS AND POSSIBLE CAUSES

##### 4.1.1 Examples

The following list should be considered by ANSPs providing services to aviation in The Bahamas. In addition, it is important not to forget those organisations supporting an ANSP, such as outside power suppliers, police, fire services and other contractors.

EVENT	POSSIBLE CAUSE
Total or Partial loss of ATC facility	<ul style="list-style-type: none"> <li>• Object collision</li> <li>• Severe damage of building, i.e. fire</li> <li>• Natural disaster, i.e. earthquake (tremors/vibration)</li> <li>• Weather conditions</li> <li>• Hostile action</li> <li>• Unlawful Interference, i.e. bomb threat</li> <li>• Chemical pollution</li> <li>• Pollution, i.e. exterior fire smoke</li> <li>• Power supply failure</li> <li>• Public Health Emergencies, i.e. communicable disease</li> <li>• Loss of critical/essential equipment</li> <li>• Loss of Record and Replay functions</li> </ul>
Total or Partial loss of ATC data communication	<ul style="list-style-type: none"> <li>• Voice</li> <li>• Surveillance</li> <li>• Network</li> <li>• Telephone</li> <li>• Meteorology</li> </ul>
Degraded conditions for ATC/Airfield facility	<ul style="list-style-type: none"> <li>• Fire and Emergency personnel unavailable</li> </ul>
Total or Partial loss of power supply	<ul style="list-style-type: none"> <li>• Water</li> <li>• Fire</li> <li>• Flood</li> <li>• Earthquake</li> <li>• Lightning</li> <li>• Equipment failures, i.e. wiring damages</li> </ul>



<p>Total or Partial loss of Ventilation and Air Conditioning (VAC)</p>	<ul style="list-style-type: none"> <li>• Fire</li> <li>• Partial loss of power supply</li> <li>• Equipment or network failure</li> <li>• Partial loss of fire detection</li> </ul>
<p>Closure or Restrictions of Airspace, Airways or Aerodromes</p>	<ul style="list-style-type: none"> <li>• Military or Armed Conflicts</li> <li>• Special Military Missions/Exercises</li> <li>• Restricted, Danger or Prohibited Areas</li> <li>• UAS operations</li> <li>• Re-routing</li> <li>• Emergencies or Accidents</li> <li>• Unlawful Interference</li> <li>• Strayed or unidentified aircraft</li> <li>• Interception of civil aircraft</li> <li>• Radio Communication Failure</li> <li>• Blocked runway(s)</li> <li>• Air Traffic Flow Management</li> <li>• Natural disaster, i.e. earthquake (tremors/vibration)</li> <li>• Volcanic ash cloud</li> <li>• Weather conditions</li> <li>• Public Health Emergencies i.e. communicable disease</li> </ul>
<p>Unsafe or Inadequate staffing levels</p>	<ul style="list-style-type: none"> <li>• Multiple absences, i.e. deaths, accidents/emergencies, hospitalisation, human factors</li> <li>• Multiple resignations</li> <li>• Industrial actions taken by employees</li> <li>• Lack of appropriate training</li> <li>• Lack of competency</li> </ul>

#### 4.2 ACTIONS FOR EVENTS AND CAUSES

The action to be taken in the above events shall be specified in the contingency plan. Examples of these may be:

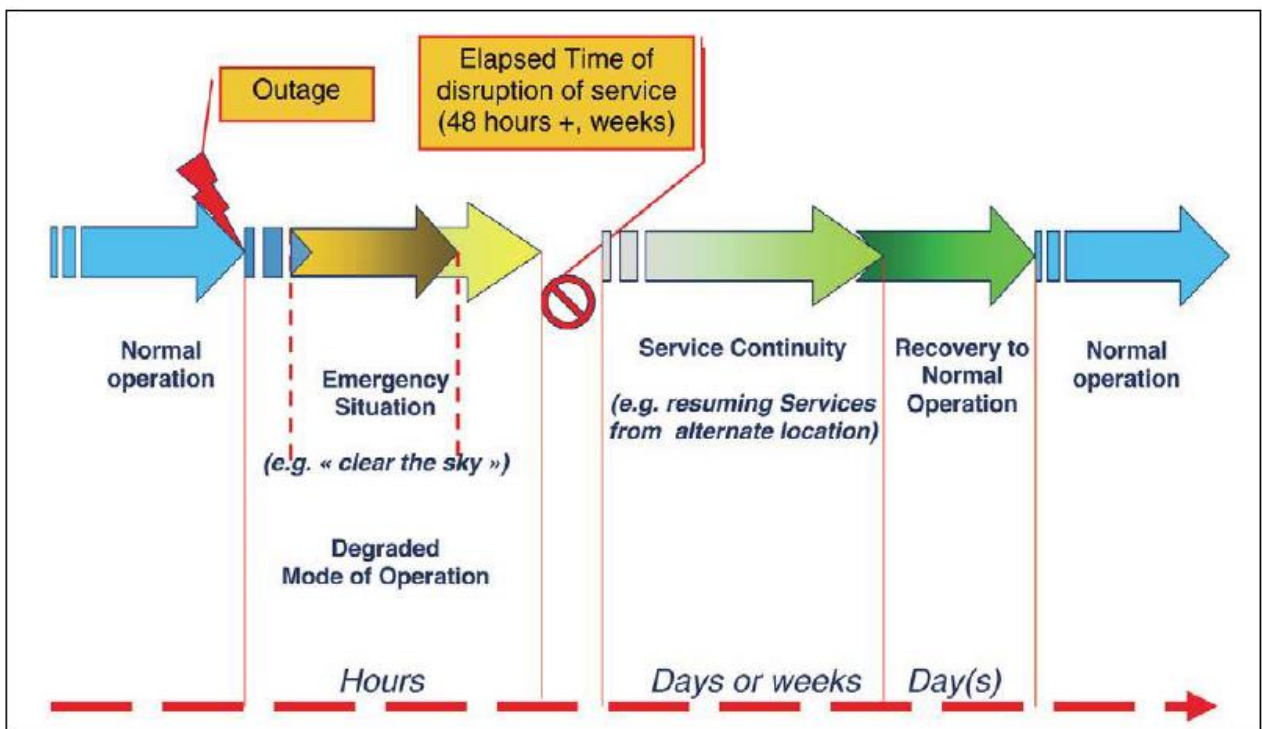
- Issue NOTAM advising of degraded service
- Liaise with adjacent ANSPs (E.g. Miami Centre).
- Evacuate facility
- Switch to standby voice comms
- Liaise with Miami Centre
- Liaise with aircraft operators
- Issue NOTAM

- Switch to standby power
- Contact adjacent ANSPs by mobile telephone network (If no fixed line or radio services available)

### 4.3 LIFE CYCLE

In the context of the ICAO obligations, the concept of contingency can be organised along a Contingency Life Cycle composed of the following phases:

- Normal Operations
- Emergency Situations
- Degraded Modes of Operation
- Service Continuity
- Recovery to Normal Operations, and
- Back to Normal Operations.





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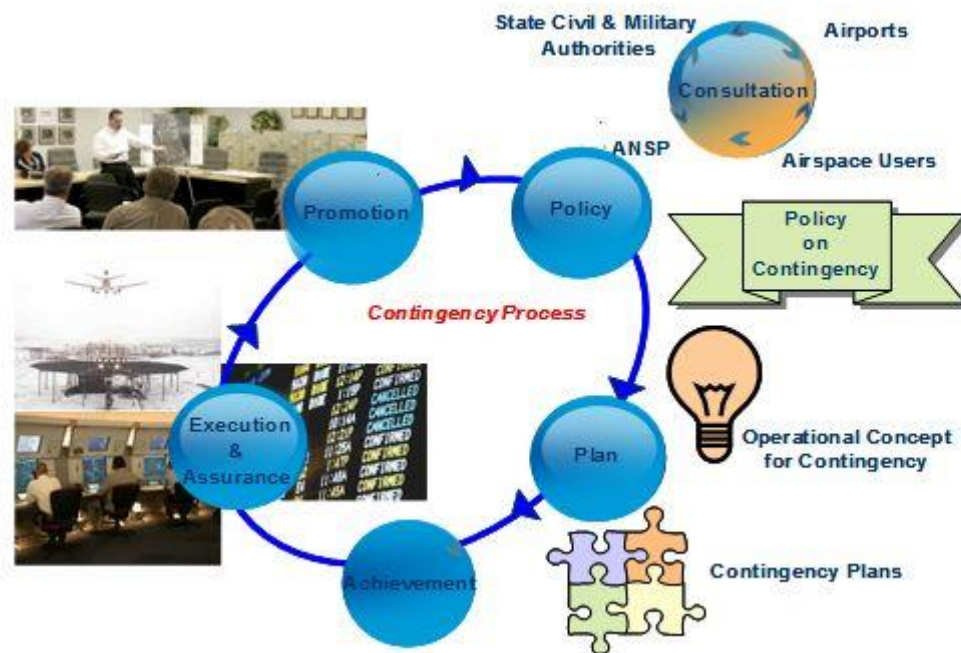
## CHAPTER 5

### ELEMENTS

#### 5.1 CRITICAL ELEMENTS

##### 5.1.1 Pictorial Representation

The key elements to a successful contingency process are as follows:



##### 5.1.2 Critical Elements

- **Policy:** Sets the ANSP organisation's contingency planning policy, operational concept for contingency and establishes the requirements around which the detailed contingency plans will be built.
- **Plan:** Plan demonstrates how the aims of the set of Requirements that have evolved from the Policy and Operational Concept will be achieved. It also outlines the strategies/actions and resources required. The products of this step are the contingency plan(s)
- **Achievement:** Achievement verifies that the detailed means for translating the plans into reality are effectively in place. It covers testing, exercising, maintaining and reviewing the various contingency plans and raising awareness of contingency within ANSPs.
- **Execution and Assurance:** This step corresponds to the Execution of the contingency plan. It includes also the monitoring and recording activities to be undertaken to enable the Promotion.
- **Promotion:** Contingency Planning Promotion ensures communication of the contingency culture; dissemination of lessons learnt and enables the continuous improvement of the process.



### 5.1.3 Tasks

The ANSP's first responsibility is the development of the plan along with the need to define measures and alternative services that may be required in the event of a loss of a service or facility.

The preparation phase includes the definition of the measures and the coordination with other stakeholders, i.e. CAA-B, RBDF, possibly other ANSPs and insurance companies. The ANSP is responsible for developing the list of addressees to be notified in case an outage occurs and the service is discontinued.

Ultimately, the ANSP is responsible for the implementation of the plan.

### 5.1.4 Plan

When the contingency measures envisaged have an impact or depend on other service providers, the ANSP needs to ensure the adequate cooperation with them.

Where the nature of the contingency measures is such that it requires the use of other ANSPs services and/or facilities, the aiding unit should be certified or acceptable to CAA-B before the failing unit may avail themselves of the services of other ANSPs. ANSPs should formalise their working relationship by means of written agreements or equivalent legal arrangements, setting out the specific duties and functions assumed by each provider.

Contingency can be the subject of an ad hoc agreement or part of a more generic arrangement between the ANSPs.

In principle, an ANSP may sub-contract the provision of services to a third service provider, provided that:

- this sub-contractor is certified or accepted by the CAA-B, and
- that the delegating ANSP formally approves the sub-contract, and
- that this arrangement is supported by written agreements properly reflecting the allocation of liabilities.

### 5.1.5 Coordination with the CAA-B

In accordance with CAR ATS the ANSP shall communicate the intended plan with the CAA-B and obtain its acceptance particularly when the plan includes the use of another ANSPs' services.

### 5.1.6 Achievement

The following actions/elements are part of the role of the ANSP:

- (a) Development and testing of contingency plans;
- (b) Training staff in the functioning of the contingency plan





- (c) Coordination with other ANSPs and conclusion of appropriate agreements;
- (d) Inclusion of appropriate provisions in contracts with other suppliers;
- (e) Inclusion of the contingency plan in the ANSP's insurance coverage;
- (f) Obtain CAA-B approval for agreements between ANSPs;
- (g) Implement the Plan where necessary.

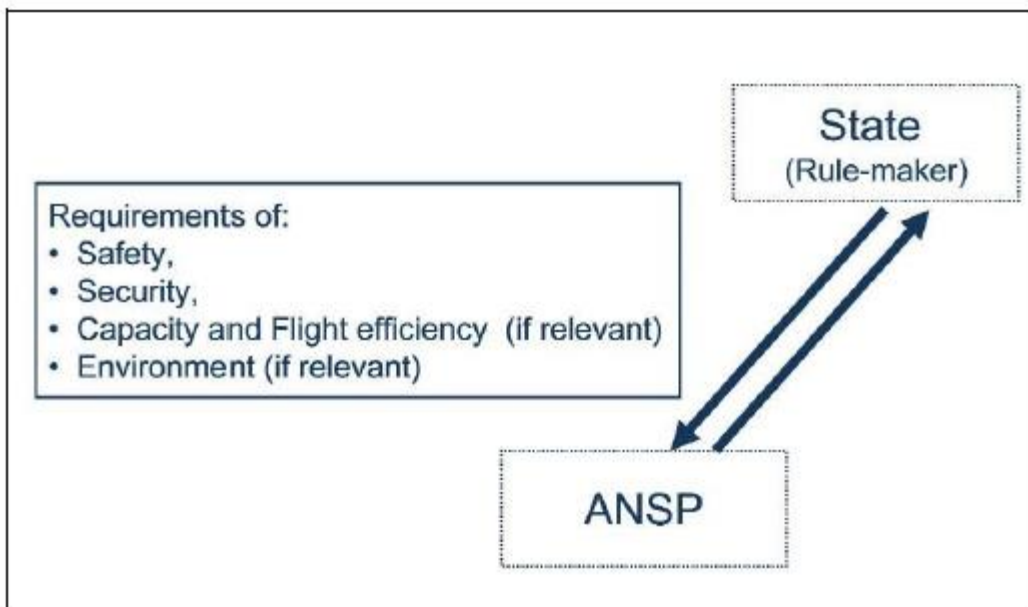
## 5.2 LEGAL OBLIGATIONS

It is important that a contingency plan includes any possible legal obligations of a state/ANSP that may be affected as a result of any loss of a service. This is of particular importance when there is responsibility for the provision of a service that may include the provision of a service across borders or over the high seas.

## 5.3 STATE/ANSP CONSULTATION

The CAA-B (in its rule-maker role) and the ANSPs should establish a dialogue to define the mandatory contingency requirements. The ANSPs will have to fulfil their obligations with regard to contingency planning and by so doing ensure the safety related elements of providing ANS and associated services, whilst also meeting, as appropriate, the requirements related to Security, Capacity/Flight Efficiency and Environmental sustainability.

The CAA-B may also consider other wider political, social and macro-economic issues



As part of any contingency plan, the level of safety must be considered in that the level of safety under normal conditions should not be eroded when operating during contingency conditions.

Security is also an area that needs to be considered as with safety, security requirements must remain valid when operating during contingency periods.



With regards to capacity, it is understood that this is likely to be affected when contingency measures are used. The state/ANSP must be prepared to set capacity targets during such periods. These could be on a case by case basis but in any event, this must be taken into account when developing a contingency plan.

It may be that the environment is unaffected by contingency. However, there may be cases whereby it could be damaged in some way by contamination. Contingency plans should include measures to limit any damage to the environment.

As a minimum, ANSPs must liaise with airspace users, adjacent ANSPs (e.g. Miami Centre) and the CAA-B when developing contingency plans

#### **5.4 CRISIS MANAGEMENT**

The high-level objective of crisis management plans is to identify potential, impending or actual crises and to respond to these in a co-ordinated and successful manner. Effective crisis management plans should ensure that a measured response is provided to staff, the media and to stakeholders, and where appropriate should ensure service continuity of Air Navigation Services. Planning for contingency measures should be considered within the larger framework of crisis management.

A Corporate crisis management policy should be developed to define guiding principles and set up the policy framework for local crisis management plans.

*Note: It is recommended that all local crisis management plans are tested at intervals not exceeding 12 months.*

The test may range from trialling notification of key personnel to a full-scale exercise. Moreover, it is further recommended that all existing and new local crisis management plans should be checked for consistency against the policy and guiding principles contained in the Corporate Crisis Management Policy document.

Exercises should be as realistic as practicable and initiated with as little warning as possible. However, care must also be taken that everyone understands that what is happening is an exercise which cannot be mistaken for a real-life event.

By exercising a contingency plan, providers will be able to ensure that in the event of a real incident, they will be able to ensure that the plan will be effective.

All personnel involved in implementing contingency measures must be aware of their responsibilities. These must be documented as part of the plan so that in the event of the need to handle a crisis, there is no confusion as to what responsibilities and actions are required of personnel.

#### **5.5 RECOVERY**

Contingency plans should not only include the handling of the initial response to a crisis but also look at how the organisation intends to recover back to normal operations.



The Recovery phase should consist of a range of measures to transition from Contingency modes of operation to Normal Operations. It is recognised, however, that it is difficult to make definitive recovery plans in advance of contingency situations developing because of the uncertainty involved. Only when the actual circumstances have been identified as raising potential significant risks will it be possible to start making detailed plans for Recovery. Consequently, one of the first actions to be taken on executing measures (especially Service Continuity modes) is to set up a group to begin the process of planning a transition phase for recovery based on the real situation.

The aim would normally be to revert back to the pre-contingency state. This could be the original unit and working positions or a new re-built facility, depending on the circumstances and the means required to restore Normal Operations.

Transition should involve a coordinated declaration (aiding and failing unit) resumption of normal operations.

After a crisis/contingency situation has finished, it is essential that NOTAMs are dispatched as early as practicable, to notify users of the reactivation of the disrupted services, to ensure an orderly transfer from contingency to normal conditions.

## **5.6 MAINTENANCE AND PROMOTION OF CONTINGENCY PLANS**

It is essential that Contingency Plans and the associated measures are kept up to date and maintained so that they are fit for purpose and resilient to change. This maintenance process will generally be achieved through three main channels:

- Review following an actual or practice event; identifying and acting upon the lessons as indicated above.
- Routine review as part of a formal change management process embedded in daily operational, managerial and business processes.
- Periodic internal and external review/audit as decided by local management

Contingency Planning promotion ensures communication of the contingency culture, dissemination of lessons learnt and enables continuous improvement. The aim of the promotion activities should be to embed contingency planning into ANSPs normal management and operational process.

It should become part of the organisation's culture and not be seen as a separate activity of a specialist few (e.g. just management).

Training, testing and exercising will increase the profile of contingency within ANSPs but a targeted awareness campaign can also help to spread the word.

Contingency planning should not be the responsibility of one individual. It should be embedded in The Bahamas aviation culture and, as with safety, all personnel working within the industry should be encouraged to add ideas and suggestions to the plan in order to continuously improve it.



The contingency plan should be a stand-alone document and must be easily ready to hand for those that may need to implement it.

## **5.7 MAINTENANCE AND PROMOTION OF EMERGENCY RESPONSE PLANS**

By definition, an emergency is a sudden, unplanned situation or event requiring immediate action. Coordination of emergency response planning refers to planning for activities that take place within a limited period of time during an unplanned aviation operational emergency situation.

An emergency response plan (ERP) is an integral component of a service provider's SRM process to address aviation-related emergencies, crises or events.

Where there is a possibility of a service provider's aviation operations or activities being compromised by emergencies such as a public health emergency/pandemic, these scenarios should also be addressed in its ERP as appropriate.

The ERP should address foreseeable emergencies as identified through the SMS and include mitigating actions, processes and controls to effectively manage aviation-related emergencies.

The overall objective of the ERP is the safe continuation of operations and the return to normal operations as soon as possible. This should ensure an orderly and efficient transition from normal to emergency operations, including assignment of emergency responsibilities and delegation of authority. It includes the period of time required to re-establish "normal" operations following the emergency.

The ERP identifies actions to be taken by responsible personnel during an emergency. Most emergencies will require coordinated action between different organizations, possibly with other service providers and with other external organizations such as non-aviation-related emergency services.

The ERP should be easily accessible to the appropriate key personnel as well as to the coordinating external organizations.

Coordination of emergency response planning applies only to those service providers required to establish and maintain an ERP. Emergency response planning is applicable only to specific service providers as established in the relevant ICAO Annexes. This coordination should be exercised as part of the periodic testing of the ERP.