



International Civil Aviation Organization

**The Twenty-First Meeting of the APANPIRG ATM/AIS/SAR Sub-Group
(ATM/AIS/SAR/SG/21)**

Bangkok, Thailand, 27 June – 01 July 2011

Agenda Item 8: Future direction of APANPIRG ATM Bodies

ATM CONTINGENCY PLAN TASK FORCE

(Presented by the Secretariat)

SUMMARY

This paper presents proposals regarding the development of a regional ATM Contingency Planning Task Force.

This paper relates to –

Strategic Objectives:

- A: *Safety – Enhance global civil aviation safety*
- C: *Environmental Protection and Sustainable Development of Air Transport – Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:

- GPI-6 Air traffic flow management
- GPI-7 Dynamic and flexible ATS route management
- GPI-8 Collaborative airspace design and management

1. INTRODUCTION

1.1 In view of the volcanic activity in Europe during 2010, APANPIRG/21 (APANPIRG/21, Bangkok, 6 – 10 September 2010) considered that there was a need for States in Southeast Asia area to review existing contingency arrangements and consider establishing an effective coordination arrangement amongst States. The meeting agreed to the following Decision:

Decision 21/9 – Develop Sub-Regional Volcanic Ash Contingency Plan

That,

- a) *in view of the recent volcanic activity in Iceland, the CNS/MET Sub-Group be requested to develop sub-regional volcanic ash contingency plans; and*
- b) *urge States to designate appropriate contact points to establish/maintain contacts in the interim period until the sub-regional volcanic ash contingency plans become available.*

1.2 Given the global and trans-boundary nature of air traffic, the 47th Conference of Directors General of Civil Aviation, Asia and Pacific Regions (DGCA/47, Macao, China, 25-29 October 2010) also recognized the need for ATM Contingency Plans to be developed and implemented on a regional basis in consonance with ICAO Annex 11 and requested the Regional Office to consider the establishment of a task force for planning, coordination and implementation of a regional ATM Contingency Plan (Action Item 47/1).

2. DISCUSSION

2.1 ICAO Annex 11 (Section 2.30) requires that air traffic service (ATS) authorities develop and promulgate contingency plans in the event of disruption, or potential disruption, of air traffic services for which they are responsible for. Such contingency plans are expected to be developed with the assistance of ICAO as necessary, in close coordination with ATS authorities responsible for the provision of service in adjacent airspace and with affected airspace users.

Contingency Task Force

2.2 The key steps in the development of a regional contingency planning forum may be considered to be as follows.

- Development of methodologies and timelines to establish the competed Regional ATM Contingency Plan.
- Identifying possible contingency scenarios that may affect the provision of ATS, or which may affect a large number of aircraft in a particular area affecting ATM, such as:
 - war conflicts;
 - pandemics;
 - volcanic activity;
 - earthquakes;
 - nuclear emergencies;
 - ATS industrial relations; and
 - ATS systems failure, etc.
- Compilation of information regarding previous contingency situations/resources (European volcanic lessons, ATC industrial action contingency, etc).
- Development of policy and 'regional standards', as well as templates for contingency plans.
- Recognizing that the ATM contingency scenarios will vary from:
 - domestic issues¹ that are managed by the State itself (Level 1); or
 - domestic issues that are managed by another State or body by means of a bilateral agreement (Level 2); or
 - issues affecting a much wider regional area, or affecting several States (Level 3).
- Based on these levels, establish the vision of a regional plan, which should contain, *inter alia*, the following:
 - Regional ATM Contingency policies and standards;
 - Level 3 agreed procedures and operating standards;

¹ Within the FIR concerned

- details of the States Point Of Contact (POC) as an Appendix that can be easily updated on the APAC web site;
 - details of where to find the Level 1 and 2 plans for each State.
- Establishment of the details of APAC State contingency preparedness (status and capability) and POC for the Level 1 and 2 plans and where these plans are published (note: this may involve adjacent regions as well).

2.3 An ATM Contingency Task Force may assess State contingency Plans, both Level 1 and 2, in the same manner that State PBN Plans have been assessed, although this would involve a considerable amount of work just to compile all the plans. The Task Force should be able to recommend changes to the plans if there are serious deficiencies and may develop a ranking system to assess their status (PBN Plans are ranked as INCOMPLETE, MARGINAL and ROBUST).

2.4 This task, if it is required, would have to involve a number of experienced ATM experts from States that have advanced Contingency Plans. The other option would be to not scrutinize Level 2 and 3 plans, but ensure States at least addressed the issue of having such plans.

2.5 A draft ATM Contingency Task Force Terms of Reference is at *Appendix A*.

General Contingency Policies

2.6 A Level 3 Plan should include at least one pair, and probably multiple pairs, of separated (100 NM?) one-way routes based on current routes on the APAC major traffic flows. Crossover points should be vertically separated from other routes and the routes should connect with entry/exit gates for RNAV procedures to/from major APAC international aerodromes.

2.7 Tactical activation of the plans, even at Level 3, should be managed by the States concerned, but the APAC Office should be informed if Level 2 and 3 plans are activated. In other words, APAC Office should not be making tactical air navigation service decisions but monitoring the implementation and effectiveness of international contingency operations as required.

2.8 It should be noted that Contingency plans affecting airspace over the Earth of undetermined sovereignty may constitute a temporary deviation from the approved regional air navigation plans; such deviations are approved, as necessary, by the President of the ICAO Council on behalf of the Council. It should be further noted that Contingency operations should continue to comply with the provisions of ICAO Standards and Recommended Practices, including Annex 11.

Contingency Plan Resources

2.9 APANPIRG/18 (Bangkok, 3-7 September 2007) formally adopted the Indonesia Contingency Plan as the Model National Contingency Plan, which was developed at the Contingency Plan Finalization Meeting (April 2007, Jakarta) for Jakarta and the Ujung Pandang. The Model Contingency Plan is available from the ICAO Asia/Pacific website (<http://www.bangkok.icao.int/>) under the menu “APAC e-Documents”.

2.10 A National ATS Contingency Planning Framework example is contained at **Attachment A**.

2.11 Considerations regarding volcanic ash issues from the MET-WARN Task Force are contained in ATM/AIS/SAR/SG/21–WP05.

2.12 The current status of State ATM Contingency Plans known to the APAC Office is contained in *Appendix B*.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) endorse the concept of the ATM Contingency Plan; and
- c) discuss any relevant matters as appropriate.

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Appendix A: Draft Terms of Reference

Regional ATM Contingency Plan Task Force
(RACP/TF)

1) The objective of the Regional ATM Contingency Plan Task Force is:

In collaboration with affected stakeholders and ensuring inter-regional harmonization, develop and implement a Regional ATM Contingency Plan that:

- i) provides a contingency response framework for States;
- ii) ensures a timely, harmonised and appropriate response to events that affect the provision of Air Traffic Services (ATS), or which ATS is involved in; and
- iii) provides a greater degree of certainty for airspace and aerodrome users during contingency operations.

2) To meet this objective the Task Force shall:

- a) Review the current status of ATM Contingency Plans and the contingency preparedness of Asia and Pacific Region States;
- b) Identify areas where ATM contingency planning requires improvement in terms of compliance with Annex 11 and accepted best practice, and to make recommendations on those areas of improvement;
- c) Analyse contingency procedures in use in other ICAO Regions, and cooperate with other groups which are involved with similar work in adjacent airspaces, in order to achieve harmonized inter-regional solutions;
- e) Develop a Regional ATM Contingency Plan that:
 - i) takes into account the varying levels of contingency response necessary, commensurate with precipitating events;
 - ii) takes into account the varying levels of State contingency capability;
 - iii) provides principles for Regional ATM Contingency planning;
 - iv) details recommended Regional contingency practices to events such as severe meteorological and geological phenomena, health emergencies (pandemics, etc), military conflicts and industrial relations issues; and
 - v) where practical, provides contingency planning templates for States.

The Task Force reports to the ATM/AIS/SAR Sub Group of APANPIRG.

Appendix B: APAC State Contingency Plan Status

Territory	Plan	APAC Version	Notes
Afghanistan			
Australia	Yes	22 July 2010	
Bangladesh	Yes	11 May 2009	
Bhutan			
Brunei Darussalam			No FIR
Cambodia			
China	Yes		
Hong Kong, China	Yes		
Macau, China	No		No FIR
Cook Islands			Cook Sector (Auckland)
Fiji	Yes	23 October 2008	
French Polynesia	Yes		Tahiti FIR and Noumea Sector
India		12 April 2007	Chennai and Mumbai FIRs only
Indonesia		01 August 2007	Paper version
Japan	Yes		
Kiribati			No FIR
Korea, DPR			
Korea, Republic of	Yes		
Lao PDR			
Malaysia	Yes	April 2005	Paper version
Maldives	Yes	August 2005	Paper version
Marshall Islands			No FIR (Oakland)
Nauru			
Micronesia, Fed States of			No FIR (Oakland)
Mongolia			
Myanmar	Yes	2009	
Nepal	Yes	July 2008	Paper version
New Zealand	Yes		
Pakistan	Yes		
Palau			No FIR (Oakland)
Papua New Guinea			
Philippines			
Samoa			Samoa Sector (Auckland)
Singapore	No		
Solomon Islands			
Sri Lanka	Yes		
Thailand	Yes	January 1999	Paper version
Tonga	Yes		Samoa Sector (Auckland)
U.S.A.	Yes		
Vanuatu	No		
Viet Nam	No		

Attachment A: National ATS Contingency Planning Framework

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Amendments and Amendment Record Sheet

NATIONAL ATS CONTINGENCY PLANNING FRAMEWORK

Amendments

Amendments to this planning document must be by page replacement, addition and deletion or by complete re-issue.

Staff amending this document must complete the Amendment Record Sheet below and ensure that all pages are current according to the Checklist of Effective Pages.

Amendment Number	Amendment Date	Amended By	Date Amended
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Checklist of Effective Pages

Subject	Pages	Issue Date
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Development of Contingency Plans		

Development of contingency plans

Introduction

ATS Contingency Planning is necessary to ensure the continuing safety of air navigation within *[insert state]* FIRs and to minimise effects on the traveling public in the event of facility failures, natural disasters, civil unrest (demonstrations), personnel shortages or industrial action. This document provides guidelines for the development of ATS Contingency Plans.

This document outlines the framework of Contingency Planning. The National ATS Contingency Plan follows on from this document. Individual Centre then group plans follow on from the National ATS Contingency plan.

Contingency plan objectives

The objective of contingency plans is to provide a timely, ordered and structured response to and recovery from, any catastrophic degradation or failure to provide Air Traffic Services. Whilst circumstances may vary, contingency plans provide for the worst case scenario. Depending on the availability of resources, a greater level of air traffic services may be provided.

Airways Contingency Committees

When necessary, Airways Contingency Coordination Committees (ACCC) will be formed to implement contingency plans, allocate times for the operation of individual flights and manage traffic restrictions. These committees may be at a National and/or Local level. Each contingency plan shall outline the ACC responsibilities and communication requirements between the ATS service provider, government agencies, aircraft operators and any other relevant party.

National Airways Contingency Coordination Committee

The National Airways Contingency Coordination Committee (NACCC) will be convened to implement the national contingency plan or during any other significant event. If any contingency plan is activated, the *[insert responsible authority]* shall be notified.

Testing and review

Regular review (biannually) and testing (annually) of contingency plans shall be undertaken to ensure validity of the plans.

Following activation of any ATS contingency plan, *[insert responsible Manager]* shall ensure that formal revision is undertaken involving consultation with all affected organisations (ATS, Regulator, Military and Industry).

Air Traffic Services

In ICAO Annex 11, ATS comprises:

1. an air traffic control service;
2. a flight information service; and
3. an alerting service.

Airspace over the high seas

Only an airspace classification (Classes A – G) or a Danger Area should be declared beyond Australia's Territorial Limits, however it is recognised that airspace management is necessary in the vicinity of major airports.

Considerations

Staffing

- Staff availability and manning arrangements;
- Licensing status of available staff;
- Additional resources such as briefing officers to provide particular attention to airspace, frequency and clearance requirements.

Procedures

- Consider the need to increase traffic spacing to ensure the minimum is not infringed; and
- Need to temporarily suspend the application of certain procedures , eg traffic information in Class G airspace;
- Minimise the impact on existing airspace arrangements, pilot / ATS procedures;
- The preparation of diagrammatic presentation of affected airspace changes, including frequency change details and SID / STARs suitable for transmission via AVFAX and NAIPS;
- Develop a methodology to facilitate special operations.

Facilities

- Availability of NAVAIDS and communications facilities;
- The use of other units facilities, including towers;
- The use or assistance of military ATS facilities.

Demand/Capacity

- Determine anticipated traffic levels;
- Need to limit or “flow” traffic eg:
 - by means of gate spacing at sector boundaries;
 - route restrictions to initiate a simplified network;
 - controlled departures times; and
 - enroute holding.

Individual plans will outline use of a time allocation system where necessary.

Options

When developing a contingency plan, the preferred options, in order, are:

- a. Consolidate functions to alternate operating positions (subject to availability of appropriately licensed staff) and, if required, implement traffic metering; or
- b. Transfer responsibility for services to another Unit / Centre and if required, implement traffic metering; or
- c. Implement traffic metering, to reduce traffic congestion, and / or
- d. Reclassify the airspace to another classification (eg Class C to Class A or Class C to Class D); or
- e. Re-designate the airspace to Restricted area; and
 - (1) implement TIBA;
 - (2) implement MBZ at certain aerodromes; or
- f. Reclassify as Class G airspace; or

Where airspace is reclassified as Class G or the normal services of Class G airspace are affected, [eg SAR alerting], issue NOTAM to define what services are not available.

Transfer of Responsibility

Where a transfer of responsibility for airspace occurs, formal Letters of Agreement shall be exchanged between Unit/Centre Managers to clearly state requirements for the transfer of responsibility. Additionally, all ATS personnel shall be trained in appropriate aspects of the responsibilities they may be required to assume under any Contingency Plan Letter of Agreement (LOA). When necessary, the LOA shall indicate training and competency requirements. When responsibility for airspace cannot be absorbed or transferred, then **Options c-g** (above) will apply. LOAs shall contain, but are not limited to the following:

- a. notification procedures where an event can be foreseen, the transfer should take place prior to any risk of failure of communications facilities;
- b. areas of responsibility with training and competency requirements;
- c. procedures and coordination arrangements;
- d. relevant Local Instructions;
- e. lateral separation diagrams; and
- f. details of a formal amendment process of the foregoing.

Procedures documentation shall detail contingency arrangements with military ATS units.

Where appropriate, en-route Centres, in conjunction with the Office of the HATC, shall establish LOAs with neighbouring States for route restrictions or the provision of services (to the extent possible) for international air traffic over the high seas or for domestic operations.

Contingency Services

During contingency periods, where a level ATS staffing is available it may be deemed necessary to provide basic services in the form of basic flight monitoring operations.

Flight monitoring service

Where it is determined that an enroute flight monitoring service can be provided, contingency services, when available, will acknowledge the following:

- when initial contact is made on the frequency;
- emergency communications; and
- when advised of changing to another frequency.

This flight monitoring system along with radar and ADS/CPDLC information will be used to assist in establishing aircraft positions during recovery from the contingency and return to the provision of normal air traffic services.

The ATS provider may not be able assure the provision of aerodrome control services. Limited aerodrome information may be provided from selected control tower locations.

Local contingency plans will detail the specific availability.

Resumption of service

Individual plans will outline the process followed to resume normal service.

Authorisation

This document is authorised by:

<i>[Insert authority]</i>	<u>Date</u>