



International Civil Aviation Organization

The First Meeting of the APANPIRG ATM Sub-Group

(ATM /SG/1)

Bangkok, Thailand, 20 – 24 May 2013

Agenda Item 5: ATM Coordination (Meetings, Route Development, Contingency Planning)

REGIONAL ATM CONTINGENCY PLAN TASK FORCE (RACP/TF) OUTCOMES

(Presented by the Secretariat)

SUMMARY

This paper presents information on the outcomes from the Second Meeting of the Regional ATM Contingency Plan Task Force (RACP/TF/2)

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

GPI-12 Functional integration of ground systems with airborne systems

GPI-16 Decision support systems and alerting systems

GPI-18 Aeronautical information

GPI-19 Meteorological Systems

GPI-21 Navigation systems

GPI-22 Communication infrastructure

1. INTRODUCTION

1.1 The Second Meeting of the Regional ATM Contingency Plan Task Force (RACP/TF/2) was held in Bangkok, Thailand from 12 to 15 March 2013.

1.2 The meeting was attended by 36 participants from Bangladesh, Hong Kong China, India, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Philippines, Singapore, Thailand, United States and IATA.

2. DISCUSSION

Related Meeting Outcomes

2.1 RACP/TF/2 was informed of the outcomes of the following related meetings.

2.2 Second Meeting of the Meteorological Advisories and Warnings Task Force¹
(METWARN/I/TF/2, Bangkok, Thailand, 19-20 April 2012):

- a new appendix to the Asia/Pacific SIGMET Guide has been developed, detailing Volcanic Ash Advisory Centre (VAAC) backup procedures for the Darwin, Tokyo and Wellington VAACs;
- International Airways Volcano Watch Operations Group (IAVWOPSG) determined that additional Annex 3 standards were not necessary for radioactive cloud. Guidance will be included in Part II of the Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds (Doc 9691). Ad-hoc groups would continue to address issues concerning importance, complexity and lack of expertise on radioactive clouds; and
- METWARN/I TF/1 meeting report was forwarded to the Meteorological Warnings Study Group (METWSG), emphasizing the METWARN/I Task Force's request that the Study Group take into consideration Asia/Pacific region's tsunami warning requirements, and the need for standardization of tsunami warning formats and methods of dissemination to aviation users.

2.3 The Fourth and Final meeting of the International Volcanic Ash Task Force
(IVATF/4, Montreal, Canada, 15-18 May 2012):

- the evaluation of volcano monitoring gaps worldwide was yet to be completed, and further work will be undertaken by IAVWOPSG.
- the Air Traffic Management Volcanic Ash Contingency Plan (ATM VACP), was finalized, and has been circulated to all ICAO Regional Offices to foster its regional implementation.
- the ATM Sub-Group of IVATF concluded that, in general, there should be no need to declare a danger area or restricted area in respect of volcanic ash, *except* over or in proximity to an erupting volcano (without prejudice to States' rights under Article 9 of the Convention on International Civil Aviation to restrict or prohibit flying over the whole or any part of its territory in exceptional circumstances).

2.4 The Fourth Meeting of the Meteorological Warnings Study Group (METWSG/4
Montreal, Canada, 12-15 June 2012):

- conclusion that, where a national public safety plan is in place concerning tsunami, a separate aviation related warning would be redundant and could cause confusion. As a result, it was considered that tsunami warnings were not required in cases where a national public safety plan for tsunami was fully integrated with the 'at risk' aerodrome concerned. The subsequent draft amendment proposal will be presented to METSWG/5, and further development of the regional guidance material for aerodrome warnings for tsunami will depend on the outcomes of that meeting.

¹ Now renamed the Meteorological Hazards Task Force (MET/H/TF)

Asia/Pacific Region Contingency Readiness

2.5 The Secretariat presented the results of an analysis of Asia/Pacific Region's ATM contingency readiness.

2.6 The RACP/TF/1 meeting (Bangkok, 17 – 19 April 2012) had formed a Contingency Plan Review Team that considered relevant portions of Level 1 (internal State) and Level 2 (Inter-State) ATM Contingency Plans, and identified areas where ATM contingency planning required improvement, in order to support the development of a Level 3 (Regional) ATM Contingency Plan, based on Basic Planning Elements agreed by the Task Force.

2.7 A questionnaire was developed by the Contingency Plan Review Team asking Administrations to provide information on a number of key areas.

2.8 Responses were provided by 15 Administrations, and the information provided was analysed and recorded in an ATM Contingency Readiness Analysis (**Attachment A**). Among the Administrations that did not respond to the questionnaire, eight had previously reported having contingency plans in place.

2.9 Each responding Administration's overall contingency readiness was categorized as Robust, Marginal or Incomplete for both Level 1 and Level 2 plans, according to the following scale:

- Robust (80 - 100% implementation);
- Marginal (40 – 79%); and
- Incomplete (0 – 39%).

Level 1 (Domestic or Internal State) Plans

2.10 Of the 15 responding Administrations there were six with Robust Level 1 plans, eight Marginal and one Incomplete. The reported Regional status of each of the four key areas relating to Level 1 contingency plans was also analysed, and the results expressed as a percentage of 'full' implementation¹, as were the individual elements within each key area.

2.11 Overall Regional implementation of all four of the key areas examined was found to be Marginal. Of the 20 elements within the four key areas, one was Incomplete, 14 were Marginal and five were Robust. **Table 1** provided a summary of the overall reported Regional Level 1 contingency plan readiness of States. While the analysis revealed that specific areas and elements of required improvement differ between Administrations, the table provided a potential order of priority for further action by the Task Force.

¹The final definition of 'full' implementation will be further clarified by the Task Force's review and adoption of any proposed plan framework, templates, and BPEs.

2.12

Level 1 Plans - Summary of Regional Contingency Readiness (%)			
Key Area	Element	%	AVG
Addressing Category A and B Events	Nuclear Emergency	20	55
	Pandemic	47	
	Staff Availability	53	
	Volcanic Ash Cloud	53	
	Inundation	53	
	National Security	53	
	Earthquake	67	
	ATM/CNS System Failure or Degradation	93	
Level 1 Plans	Percentage of ATSU with Level 1 Plan	63	63
Coordination, Testing and Review	Internal Coordination of Plans	67	74
	Regular Testing	67	
	Routine and Event Driven Review	87	
DRAFT Basic Plan Elements (No. of sub-elements)	Airspace (1)	47	75
	Communications Facilities and Procedures (4)	65	
	Pilot/Aircraft Operator Procedures (5)	72	
	Aeronautical Support Services (2)	77	
	ATM Procedures (7)	78	
	Contact Details (2)	80	
	Plan Management (2)	87	
	Administration (2)	90	

Table 1 – Level 1 Plans - Summary of Reported Regional Readiness

Level 2 (Inter-State) Plans

2.13 Analysis of the 15 questionnaire responses indicated that 4 Administrations had Robust Level 2 plans, 5 Marginal and 6 Incomplete. The analysis indicated where States have reported that bi-lateral Level 2 contingency plans are in place.

2.14 **Table 2** summarizes the Regional Level 2 contingency readiness determined by State responses to the questionnaire, also expressed as a percentage of ‘full’ implementation and presented in a potential order of priority for consideration by the Task Force.

2.15

Level 2 Plans – Summary of Overall Regional Readiness (%)	
Delegation of ATC Separation	33
Formal Inter-State Agreements (LoA or MoU)	47
Contingency Route Structure	47
Flight Level Allocation Scheme	47
Minimum Longitudinal Spacing	47
Frequency Transfer Arrangements	60
Delegation of FIS and SAR Alerting Services	60

Table 2 – Level 2 Plans – Summary of Regional Readiness

2.16 The meeting noted that delegation of ATC Separation, FIS and SAR responsibility in Level 2 plans may not be achievable in many cases, depending on both the legal and functional capacity of States to either delegate or accept delegation of responsibility.

2.17 The United States commented that States should not be assessed as having low contingency readiness in cases where they had well-developed contingency plans in place that did not require a particular scheme such as contingency routes or FLAS.

2.18 A map representation of Asia/Pacific States’ Level 1 and Level 2 contingency readiness is at **Figures 1 and 2**.

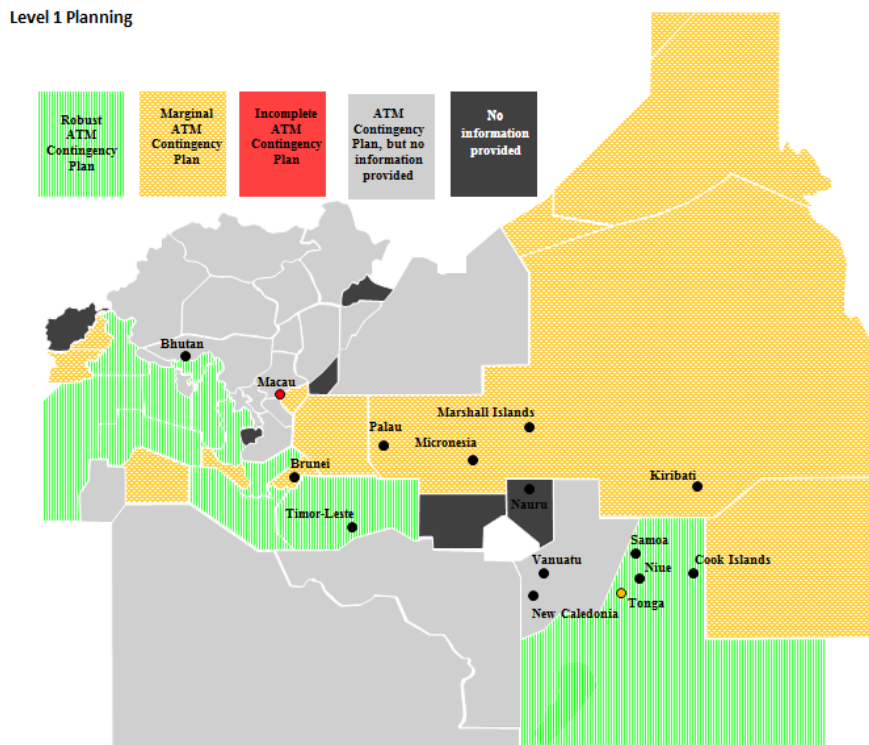


Figure 1: Level 1 Planning

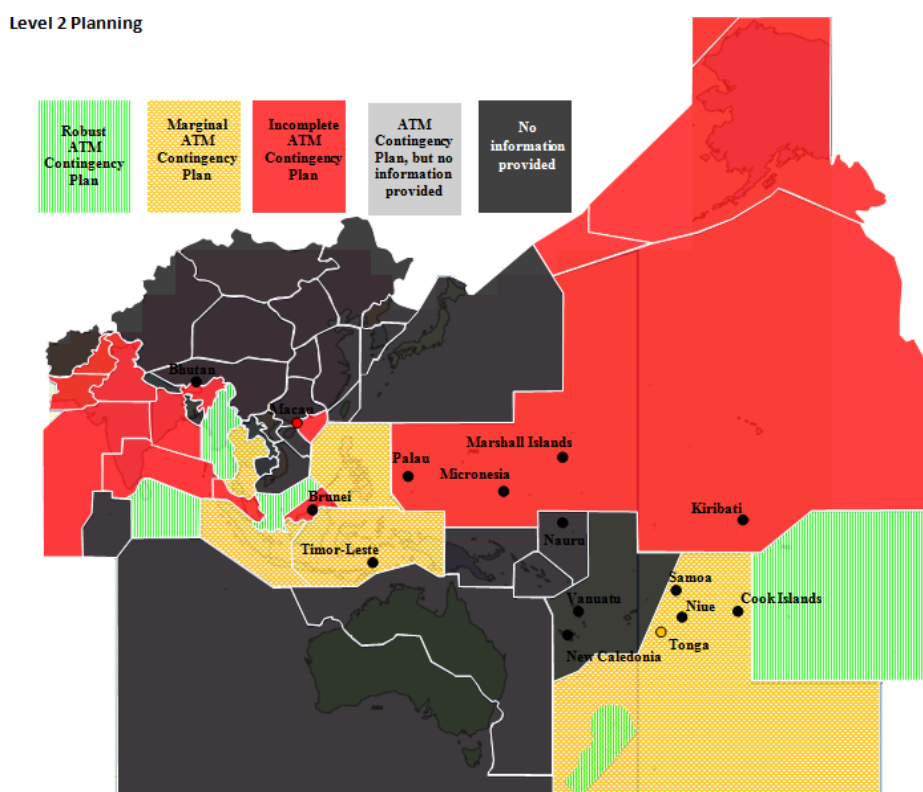


Figure 2: Level 2 Planning

2.19 It was noted that States would be at different levels of preparedness, but the role of the Task Force is to assist States to enhance their capability. The Task Force needs to work on Level 2 plans, as Level 3 planning mainly involved the harmonisation of Level 2 plans. It was emphasised that any delegation of services in a contingency sense would normally be temporary in nature.

2.20 The meeting agreed that, due to the limited number of responses received, further work would be required in gathering information from States for further analysis, and determining improvement priorities for the region.

Proposed Strategy for Regional Contingency Plan Development (WP04)

2.21 The Secretariat presented a proposed strategy for development of sub-Regional and Regional ATM Contingency Plans. It was proposed that, in order to develop a Regional ATM Contingency Plan, bi-lateral Level 2 (inter-State) plans and multi-lateral Level 2 or Level 3 (sub-Regional) plans should be formulated first, then progressively linked together to form the Regional Plan. As a first step in the development of Level 3 plans, Level 2 plans should be constructed among “clusters” of States, providing the opportunity for small groups of States to identify contingency routes and develop FLAS for inclusion in the Level 2 Plan for later harmonization with other Level 2 Plans.

2.22 It was proposed that an initially limited number of Small Working Groups (SWG) should be formed within the Task Force to develop harmonized contingency route structures and FLAS for Level 2 Plans. Additional SWG would later be formed to expand the route and FLAS structures into other parts of the Asia/Pacific Region. Following the creation of a harmonized route structure and FLAS the SWGs would then be utilized to develop and harmonize general scheme inclusions.

2.23 The meeting agreed to the formation of Small Working Groups (SWG) for Level 2 planning in small geographical areas, in accordance with the following Decision:

RACP/TF Decision 2/1: Small Working Groups

That, RACP/TF forms Small Working Groups to formulate contingency route structures and Flight Level Allocation Schemes (FLAS) for Level 2 Contingency Plans.

2.24 The initial SWGs are comprised of:

- Bangladesh, India, Pakistan, Sri Lanka;
- Cambodia, Lao PDR, Myanmar, Thailand;
- Indonesia, Malaysia, Singapore; and
- China (Sanya FIR) Hong Kong China, Philippines, Viet Nam.

2.25 The initial work of the SWGs will only consider construction of contingency routes and FLAS to permit continuation of overflying international traffic, and that climb, descent and domestic operations will be considered at a later stage. Consideration of agreements between States for provision of delegated contingency services within neighbouring contingency airspace would only serve to prematurely add complexity to the current SWG task, and therefore should be deferred until a more mature and expanded contingency route structure and FLAS has been constructed.

2.26 The outcomes of the preliminary work by the SWG were discussed by the meeting. It was noted that contingency routes and FLAS should be created by the SWGs to include each FIR's total contingency route requirement, rather than limiting them to only those which could be coordinated by Task Force attendees. The SWGs undertook to provide the Secretariat with each attending State's contingency route and FLAS structure, to be collated into the first iteration of a sub-Regional plan for circulation to other affected States.

Proposed Contingency Arrangement Template (WP06)

2.27 Contingency arrangements between States may take the form of Operational Letters of Agreement (LOA), Memoranda of Understanding (MOU), or other instruments as appropriate to agree and formalize contingency arrangements and procedures. In response to RACP/TF/1 Action Item 1 the Secretariat provided a proposed template for inter-State contingency plan arrangements.

2.28 The meeting discussed the difficulty States may face in establishing a LOA additional to and separate from existing agreements. It was noted that it might be better to incorporate the ATM contingency procedures as an Annex to an existing ATS LOA, or other existing arrangement as appropriate, to facilitate political agreement. Alternately it could be a stand-alone agreement, depending on the State's needs.

2.29 The meeting agreed that a re-drafted template would be prepared by the Secretariat and initially reviewed and amended by the Task Force Review Team, before further circulation to the other Task Force participants, then to the rest of the Region.

ATM Volcanic Ash Contingency Plan Template (WP07)

2.30 The Secretariat provided information on the ATM Volcanic Ash Contingency Plan Template (ATM VACP), which had been finalized by International Volcanic Ash Task Force (IVATF) and made available to all ICAO Regional Offices in order to foster its regional

implementation.

2.31 The meeting considered whether the ATM VACP should be adopted as the Volcanic Ash Contingency Plan template for all levels of contingency plan for the Asia/Pacific Region. Discussion included whether there was any need for a stand-alone Volcanic Ash Contingency Plan, or whether it was more appropriate that the ATM VACP be referenced within the Regional ATM Contingency Plan. Moreover, the meeting discussed whether the State-level planning for volcanic ash would form part of the State ATM Contingency Plan or would be a separate document. Additionally, States needed to be cautious in considering whether they needed specific volcanic ash procedures, bearing in mind that any State could be affected by volcanic activity, irrespective of whether they had volcanoes in their territory.

2.32 The meeting agreed that the ATM VACP should be made available on the Asia/Pacific Regional Office internet website, and referenced in the Regional ATM Contingency Plan.

Proposed Framework for Regional ATM Contingency Plan (WP08)

2.33 The meeting was reminded that the RACP/TF TOR require that the Task Force develops a Regional ATM Contingency Plan that:

- a) takes into account the varying levels of contingency response necessary, commensurate with precipitating events;
- b) takes into account the varying levels of State contingency capability;
- c) provides principles for Regional ATM Contingency planning;
- d) 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
- e) where practical, provides contingency planning templates for States.

2.34 A proposed framework for the Regional ATM Contingency Plan and its Basic Plan Elements (BPE) was presented by the Secretariat. The framework was intended to provide for:

- Scope and objectives of the plan;
- Analysis of current contingency planning status;
- Principles and Practices of ATM Contingency Planning;
- A Performance Improvement Plan;
- Milestones, timelines, priorities and actions; and
- Appendices detailing:
 - BPE;
 - Contingency Contacts;
 - Contingency Routes and Flight Level Allocation Schemes;
 - Pilot and ATC Procedures; and
 - Templates for Volcanic Ash Cloud and Radioactive Cloud Contingency Plans.

2.35 The meeting discussed aspects of delegation of services, noting that there were three likely outcomes:

- a) Delegation of services to another State/ANSP when that provider has a level of communications, surveillance and flight data processing that can support the delegated service – in this case the controlled airspace class is likely to remain unchanged, albeit with the possibility of Special Use Airspace (SUA) being imposed if restrictions are required; or
- b) Contingency services (not ATC) assistance by another State/ANSP in terms of monitoring progress of aircraft on procedural contingency operations using Traffic Information Broadcasts by Aircraft (TIBA) and possibly providing alerting services - in this case the controlled airspace is likely to change to class F (advisory), with the possibility of SUA being imposed if restrictions are required; or
- c) No contingency services, with aircraft on procedural contingency operations using TIBA – in this case the controlled airspace should be changed to class G (uncontrolled), with the possibility of SUA being imposed if restrictions are required.

2.36 The meeting noted the Regional ATM Contingency Plan template, and delegates were asked to provide feedback on its general layout and format. In particular, the BPEs were reviewed by the meeting.

2.37 Similarly to the Contingency Arrangement Template, the meeting agreed that a re-drafted Framework for the Regional ATM Contingency Plan template would be prepared by the Secretariat and initially reviewed and amended by the Task Force Review Team, before further circulation to the other Task Force participants, then to the rest of the Region.

State Contingency Plans

2.38 Two States provided papers on their contingency planning arrangements.

2.39 Thailand presented information on ATM contingency planning in Thailand, including details on the routes and flight levels available for international over-flights during periods when ATS is limited or not available in the Bangkok FIR. Based on the Indonesian model which had been accepted as the Regional model, the plan incorporated guidelines from RACP/TF/1 regarding the hierarchy of contingency plans and categories of contingency event. Viability of the planned routes, levels and communication arrangements was confirmed in coordination between Aeronautical Radio of Thailand (AEROTHAI, the Air Navigation Service Provider) and the Royal Thai Air Force. The Thailand ATM contingency plan included provision and operation of adequate air-ground communications by the Royal Thai Air Force, details of the routes, flight levels and communication arrangements that have been agreed upon and provision of meteorological information and information on the status of navigational aids.

2.40 Lao People's Democratic Republic presented information on the ATM Contingency Plan for overflying international aircraft in the Vientiane FIR, including a map representation of contingency routes, and a table conforming to the regional model plan detailing contingency routes and Flight Level Allocation Scheme (FLAS).

Silk Road Contingency Route

2.41 The meeting considered a concept of a contingency routing system north of the Himalayas, known as the 'Silk Road' routes joining Europe and East/Southeast Asia, in order to

provide alternative regional routes in case in South Asia Major Traffic Flow (MTF-4) airspace was not available. In this case, such a routing system could form part of Level 3 Regional Contingency Planning. This trans-regional concept will be discussed between the Asia/Pacific and EUR/NAT Regional Offices to seek endorsement and support from the States involved. IATA and the airlines should also be encouraged to work with the procedure design organization as the Silk Road concept evolves to consider issues such as high terrain areas.

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to:
- a) note the information contained in this paper; and
 - b) discuss any relevant matters as appropriate.

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