



International Civil Aviation Organization

**The Third Meeting of the Regional ATM Contingency Plan Task Force  
(RACP/TF/3)**

Bangkok, Thailand, 12 – 15 November 2013

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**Agenda Item 2: Review Outcomes of Related Meetings**

**OUTCOMES OF RELATED MEETINGS**

(Presented by the Secretariat)

**SUMMARY**

This paper presents a summary of outcomes of Asia/Pacific Region meetings having a bearing on the work of RACP/TF.

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-10 Terminal area design and management
- GPI-12 Functional integration of ground systems with airborne systems
- GPI-13 Aerodrome design and management
- GPI-16 Decision support systems and alerting systems
- GPI-18 Aeronautical information
- GPI-19 Meteorological Systems
- GPI-22 Communication infrastructure

**1. INTRODUCTION**

1.1 The Combined 3<sup>rd</sup> Meeting of the South Asia/Indian Ocean ATM Coordination Group (SAIOCG/3) and the 20<sup>th</sup> Meeting of the South East Asia ATS Coordination Group (SEACG/20) was held in Bangkok, Thailand, from 18 – 22 February 2013.

1.2 The 24<sup>th</sup> Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/24) was held in Bangkok, Thailand, from 24 to 26 June 2013.

1.3 The 2<sup>nd</sup> meeting of the Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG/2) was held in Hong Kong, China, from 1 to 4 October 2013.

## 2. DISCUSSION

### SAIOCG/3-SEACG/20 Outcomes

2.1 In its discussion of the outcomes of related meetings, the combined SAIOCG/3-SEACG/20 meeting noted that, with respect to Large Scale Weather Deviations, the tripartite agreement between Hong Kong China, Singapore and Thailand should include appropriate ATFM measures distributed via A-CDM to ensure maximum utilization of airport and en-route capacity during LSWD contingency procedures on ATS routes L642 and M771, with the results reported to SEACG/21, which will be held in Bangkok, Thailand, from 17 to 20 February 2014.

### APANPIRG/24 Outcomes

#### *Asia/Pacific Seamless ATM Plan*

2.2 APANPIRG **Conclusion 24/54** endorsed the Asia/Pacific Seamless ATM Plan, which has now been made available on the ICAO Asia/Pacific Regional Office web-page: <http://www.icao.int/APAC/Pages/edocs.aspx> . The Seamless ATM Plan includes a number of references to contingency responses, systems, operations, and plans. **Attachment 1** provides relevant excerpts.

2.3 The Seamless ATM Plan provisions relating to contingency planning may be summarized as follows:

- Seamless ATM Principles 7 and 9:
  - the use of high-fidelity simulators to train controllers on procedures that support contingency responses;
  - Cross-border/FIR cooperation for ATM Contingency planning;
- established priority for filling ATM surveillance gaps to provide for, *inter alia*, contingency responses;
- Preferred ATM Service Level (PASL) Phase 1, with expected implementation by 12 November 2015, including:
  - supporting the efficacy, continuity and availability of ATM services by adherence with regional planning and guidance material regarding ATM automation and ATM contingency systems;
  - support for human performance, including human performance-based training and procedures for ATM contingency operations;
- research and future development possibilities for collaborative air navigation services, consistent with Seamless ATM principle 9.

### ATFM/SG Outcomes

2.4 In considering the outcomes of meetings related to its work, the ATFM/SG/2 meeting noted that ATFM/SG/1 (Tokyo, Japan, 8 – 10 December 2010) had broadly discussed the current Status of ATFM initiatives and considered that each of the Major Traffic Flows (MTF) should have ATFM planning regardless of traffic density, to cater for contingency operations in addition to traffic loading.

### Summary

2.5 While weather deviation events may not normally be a matter for contingency planning as such, RACP/TF may consider whether there is value in including management of LSWD events in Level 2 (inter-State) contingency arrangements.

2.6 The endorsement of the Seamless ATM Plan by APANPIRG/24, including its PASL Phase 1 expectations relating to ATM contingency systems and operations, may be considered for incorporation in Regional contingency planning. The Seamless ATM plan highlights the need for ATC training in contingency procedures and for the development of Level 2 contingency arrangements.

2.7 The ATFM/SG consideration that ATFM planning should cater for contingency operations may require the establishment of a linkage between the Regional ATM Contingency Plan and the Regional Framework for Collaborative ATFM.

## **3 ACTION BY THE MEETING**

3.1 The meeting is invited to:

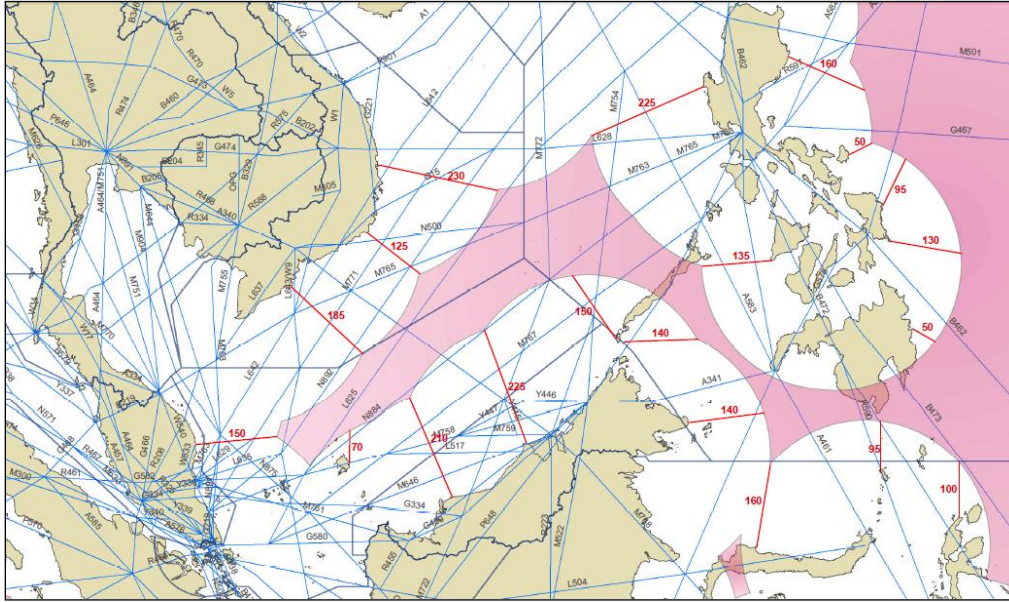
- a) note the information contained in this paper; and
- b) discuss any relevant matters as appropriate.

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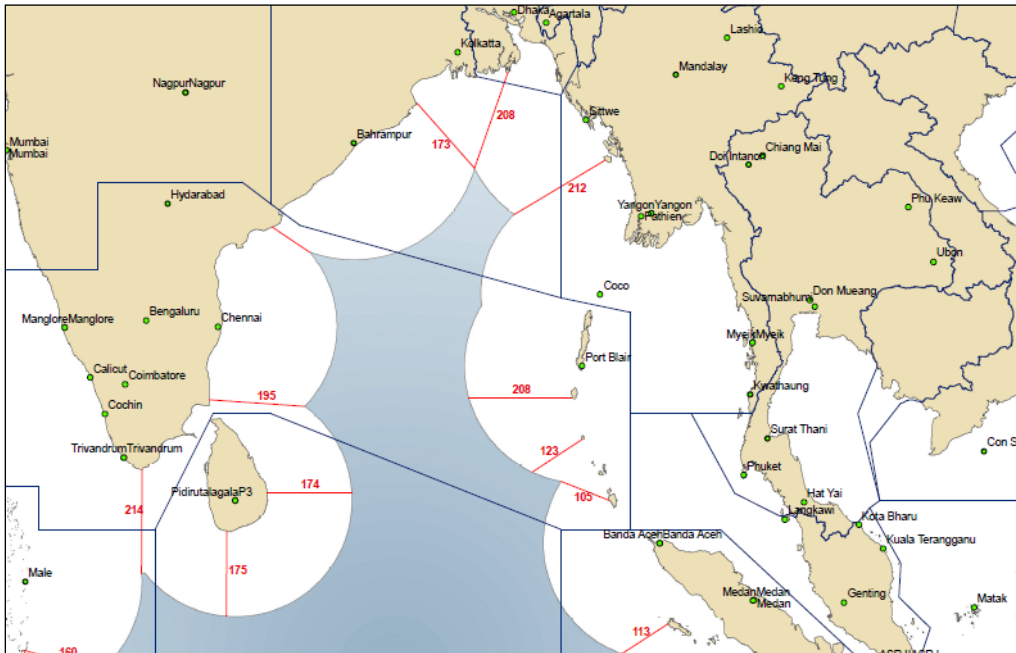
**ATM Contingency References – Seamless ATM Plan**

**CURRENT SITUATION**

Airspace and FIR Analysis



**Figure 3: South China Sea ATS surveillance gaps (as at June 2013)**



**Figure 4: Bay of Bengal ATS surveillance gaps**

6.8 The main areas of the Asia/Pacific region lacking ATS surveillance and communication coverage which need to be rectified due to traffic density, weather deviations and contingency responses are as follows:

- a) highest priority: South China Sea airspace between Viet Nam, Brunei Darussalam and the Philippines (**Figure 3**);
- b) high priority: Bay of Bengal airspace between the Indian subcontinent and the Andaman Islands (**Figure 4**);
- c) medium priority:
- d) lower priority: Coral Sea between Papua New Guinea and Australia

## **PERFORMANCE IMPROVEMENT PLAN**

### **Preferred ATM Service Levels (PASL)**

*Note: prior to the implementation, the applicability of PASL should be verified by analysis of safety, current and forecast traffic demand, efficiency, predictability, cost effectiveness and environment to meet expectations of stakeholders.*

### **PASL Phase I (expected implementation by 12 November 2015)**

#### ATM Systems

7.31 The efficacy, continuity and availability of ATM services should be supported by adherence with regional planning and guidance material regarding ATM automation and ATM contingency systems.

#### Human Performance

The following should be established to support human performance in the delivery of a Seamless ATM service. The systems should consider all the elements of the SHEL Model (Software, Hardware, Environment and Liveware – humans), in accordance with the ICAO Human Factors Digest No. 1 and related reference material:

- d) human performance-based training and procedures for staff providing ATS, including:
  - the application of tactical, surveillance-based ATC separation;
  - control techniques near minimum ATC separation;
  - responses to ATM contingency operations and safety net alerts; and
  - the importance of an effective safety reporting culture.

## RESEARCH AND FUTURE DEVELOPMENT POSSIBILITIES

### Research and Development

8.2 The need for concepts beyond current technology and systems had been reinforced at APANPIRG/23. With the end goal of a globally interoperable ATM system in mind, the region will have to consider planning for a long term supporting concept and infrastructure. States should not overlook the need to include the development of future ATM concepts that will ensure the safety and fluidity of air transportation over the next few decades. The following are possible areas that should be considered for future development, in order to continue pursuance of seamless ATM beyond ASBU Block 0 implementations and global interoperability:

- c. Collaborative Air Navigation Services - This concept is consistent with the following Seamless ATM Principles: 9 (*Cross-border/FIR cooperation for use of aeronautical facilities and airspace, collaborative data sharing, airspace safety assessment and ATM Contingency planning*) and 15 (*Collaboration by ANSPs for evaluation and planning of ATM facilities*). The AN-Conf/12 endorsed Recommendation 5/1, regarding collaboration in airspace organization and routing, which emphasised, *inter alia*, the need to take advantage of improved models for inter-regional coordination and collaboration to achieve seamless air traffic management and more optimum routes through airspace (**Appendix 2**);

### **Appendix C: Seamless ATM Principles**

#### Aviation Regulations, Standards and Procedures

7. The use of high-fidelity simulators to train controllers on the optimal application of ATC separations and procedures that support Seamless ATM applications, emergency and contingency responses, testing of software releases, and may serve as a backup ATM platform.

#### ATM Coordination

9. Cross-border/FIR cooperation for use of aeronautical facilities and airspace, collaborative data sharing, airspace safety assessment and ATM Contingency planning.