



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

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**Agenda Item 5: Review of other relevant meetings**

**SOUTHEAST ASIA ROUTE REVIEW TASK FORCE (SEA-RR/TF)**

(Presented by the Secretariat)

**SUMMARY**

This paper presents a summary report of the third and fourth meetings of the Southeast Asia Route Review Task Force (SEA-RR/TF), which were held in August and November 2010. There have been no further meetings of the Task Force due to insufficient qualitative progress from the last two meetings.

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-1 Flexible use of airspace
- GPI-3 Harmonization of level systems
- GPI-5 RNAV and RNP (Performance-based navigation)
- GPI-8 Collaborative airspace design and management

## 1. INTRODUCTION

1.1 The 19<sup>th</sup> Meeting of the APANPIRG ATM/AIS/SAR Sub-Group (ATM/AIS/SAR/SG/19) agreed to create a specific ICAO focus group to review and modernize the ATM arrangements in the Southeast Asia area, reflecting the modern technological capabilities becoming available.

1.2 Accordingly, the Sub-Group agreed to suitable Terms of Reference for the Southeast Asia Route Review Task Force (**Appendix A**), and adopted the following Decision:

***ATM/AIS/SAR Sub-Group Decision 19/1 – Establish Southeast Asia Route Review Task Force (SEA-RR/TF)***

*That the RNP-SEA/TF be renamed as the Southeast Asia Route Review Task Force (SEA-RR/TF) and re-tasked in accordance with the Terms of Reference shown at Appendix E to the ATM/AIS/SAR/SG/19 Report of Agenda Item 5. The SEA-RR/TF will report to the ATM/AIS/SAR Sub-Group of APANPIRG.*

## 2. DISCUSSION

2.1 During discussions at Task Force 3 and 4, many of the items discussed at the first two meetings of the task force were reviewed. Unfortunately, apart from some relatively small progress in specific areas, taking into account the Terms of Reference of the SEA-RR/TF, the overall achievements was somewhat discouraging. A summary of items discussed and progress made is supplied in the following paragraphs.

### **Unidirectional Crossing Routes in the South China Sea**

2.2 The use of unidirectional routing in the South East Asia was extensively discussed during previous SEA-RR/TF meetings. However, agreement to introduce this concept had not eventuated for crossing routes, despite unanimous support that the concept of unidirectional routes had significant benefits, including such items as safety considerations, more efficient use of flight levels, controller workload and advantages to airlines to optimize the use of flight levels.

2.3 At previous task force meetings, substantial discussion had taken place on proposals to establish pairs of unidirectional crossing routes to replace each of the present single bidirectional routes. Each pair of routes would diverge within surveillance coverage to a lateral spacing of 50 - 60NM prior to crossing the primary traffic flow. Then once separated from the primary flow and also under surveillance coverage, converge back to a single route at a point to be defined. Progress on the four crossing routes was a follows:

- a) A461 (Manila to Hong Kong): preliminary discussions had been established between Hong Kong China and Manila with further work required;
- b) B462/B348 (Manila to Taipei), discussions are still required between Manila and Taipei;
- c) L628 (Manila to PCA): the Philippines supported the concept of a parallel crossing route, however Viet Nam had some issues within the Ho Chi Minh FIR. A meeting was proposed between these two States to solve relevant outstanding matters, so a progress report would be useful; and
- d) M768 (Brunei to TSN): Malaysia supported the concept of a parallel route structure for crossing route M768. Nevertheless, there were concerns regarding possible conflicts with other routes which crossed this area to/from Eastern Malaysia and Brunei. IATA would discuss with Malaysia, the proposal of a new unidirectional route northeast of the present M768. Further discussions are required with Viet Nam.

2.4 Taking the whole SEA-RR/TF project into consideration, the meeting considered the following items should also included to achieve a satisfactory result:

- a) introduction of RNP10 horizontal separation where applicable;
- b) unidirectional RNAV routes on the described crossing tracks;
- c) data collection and analysis on most project items to ensure that qualified data indicates a reason to proceed;
- d) necessary safety related issues which are required to be addressed before implementation; and
- e) realistic target dates to complete all projects within the overall framework of the SEA-RR/TF.

### **Further Reduction of Minimum Longitudinal Spacing A1/P901**

2.5 China and Hong Kong, China jointly presented a proposal to reduce the longitudinal spacing from 40NM to 30NM on A1/P901 to take advantage of the communication and surveillance capabilities of the ANSPs along these routes to increase capacity. Further, it was noted that these two routes had now been multi-layered with A1, a conventional ATS route up to FL280 and RNAV route P901 above FL280 in the Sanya and Hong Kong FIRs. It was noted that the longitudinal spacing to 30NM was a first step in the overall reduction of longitudinal spacing in this high profile area. The implementation date had yet to be decided.

2.6 Advice was given that Taipei ACC had already indicated their readiness to implement 30NM longitudinal spacing for flights operating between Southeast Asia via A1/P901 and Taipei.

#### **Small Working Group 1 (SWG/1) Traffic Data Analysis**

2.7 This important working group reviewed the template provided to States of the one-week-per-month Traffic Sample Data (TSD). In addition, the Group discussed potential use of the combined TSD to assist States in airspace planning as well as enhancements of traffic flows in the sub-region.

2.8 It was noted that while approximately 40 percent of the traffic on L628 were serving connections between the Bangkok FIR and the Manila FIR, L628 also serves traffic from Manila to various destinations in the Middle East.

2.9 Due to the traffic on A1 being the second highest in the region covered by the combined TSD among bi-directional routes, a study of A1 (BUNTA at Sanya FIR boundary) crossing with W1 (HAMIN at Ha Noi FIR boundary) in the Ha Noi and Ho Chi Minh FIRs was undertaken, with daily peak traffic on each hour shown in **Figure 1** below:

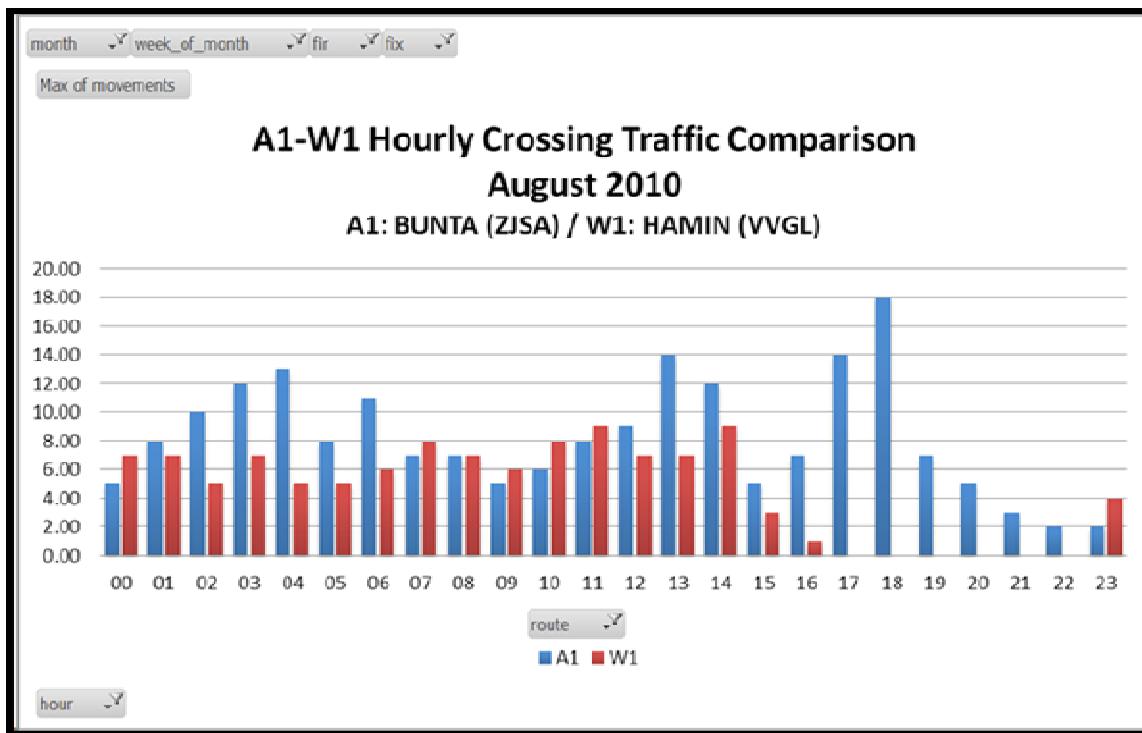


Figure 1: A1/W1 Hourly Crossing Traffic Comparison

#### Statistics on Present Bi-Directional Routes

2.10 The SWG discussed the further use of combined traffic sample data in analyzing traffic on top bi-directional routes in the region, with average daily traffic from August 2010 combined TSD is shown in **Figure 2**.

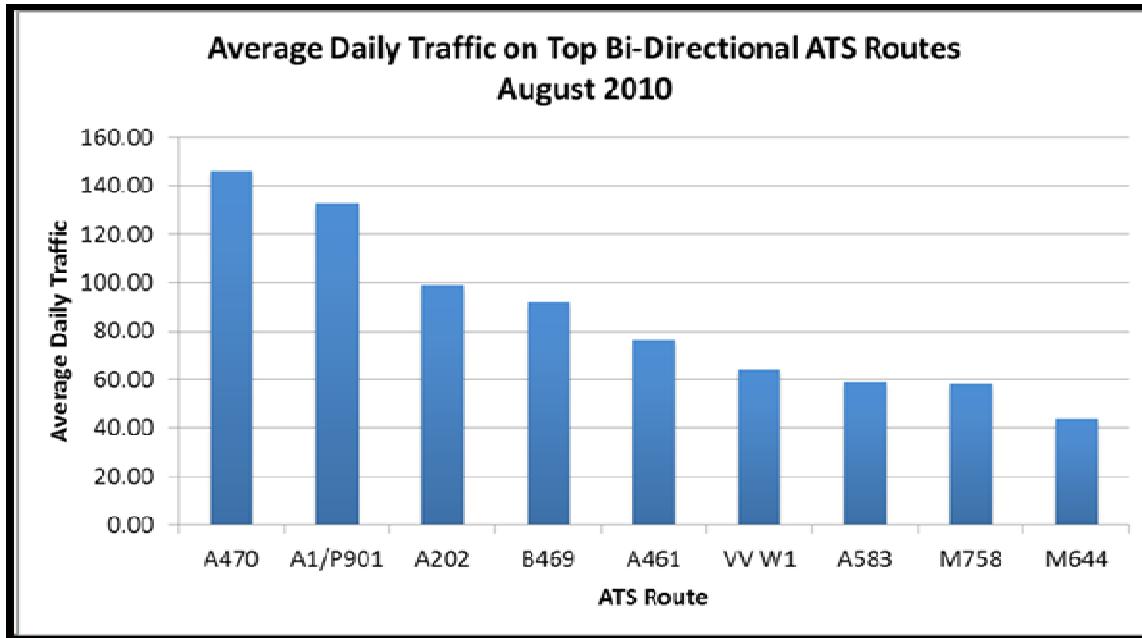


Figure 2: Top Bi-Directional Routes in the Region based on August 2010 Combined TSD

2.11 Analysis of the traffic loading and current spacing used on these routes was considered to be useful to progress the route review. A survey of key FIR pairs contributing traffic to the routes as well as spacing/separation standard used is shown in the Table following.

<b><u>Route</u></b>	<b><u>Key FIR Pairs</u></b>	<b><u>Separation / Spacing</u></b>
A470	VH/VM – ZS	40 NM radar spacing
A1/P901	VT/VD/VV – RC/RJ/RK	40 NM radar spacing (10 minutes MNT)
A202	VH/ZG/VM – VT/OM/VI	40 NM radar spacing (10 minutes MNT)
B469	VT – WS/WI/WA	10 minutes
A461	RP – VH/ZG/ZS	10 minutes MNT / 15 minutes
VV W1	VV-VV	Normally 20 NM radar spacing (to be confirmed)
A583	VH – YS/YM/WA/WB	10 minutes MNT / 15 minutes
M758	WB/WM	10 minutes
M644	VT – WS/VT/VI	10 minutes

Survey of Key FIR Pairs and Spacing/Separation Standard Used for Top Bi-Directional Routes

### **New and Revised Routes presented by Viet Nam**

2.12 Vietnam's proposals looked at three routes: Ha Noi - Yangon; Ha Noi - Siem Reap and Ho Chi Minh - Siem Reap.

2.13 There were two options for a revised Hanoi-Yangon route which required coordination with Laos and Thailand. Laos advised that the military authorities had no objection to the revised routes; however Thailand advised that due to military restrictions the northerly option was not practical at this time. The southern option would be reviewed and discussed at a Thailand civil/military planning meeting early in 2011. Therefore the results should be advised as soon as possible.

2.14 Regarding the Ha Noi – Siem Reap and Ho Chi Minh – Siem Reap routes, Cambodia and Laos were in general agreement to Viet Nam's proposals. Thailand reiterated that the Hanoi routes to both Siem Reap and Yangon would be subject to negotiations and approval from the Thailand military authorities, and the results should be advised as soon as possible.

### **Result of the Discussion between Singapore and Thailand on M752**

2.15 Both Singapore and Thailand agreed to establish RNAV Route M752. Meanwhile Thailand would coordinate with ICAO to seek the renaming of the new route M752 to M904 as well as other arrangements related to five-letter name code of new relevant waypoints. This coordination process had been completed.

2.16 Malaysia and Thailand had also agreed to establish other new routes which had been discussed at another coordination meeting. It was finally decided that Malaysia, Singapore and Thailand would continue further coordination to finalize the operational letter of agreement on all of these matters, with a targeted implementation date of AIRAC date 7 April 2011. Therefore the results should be advised as soon as possible.

2.17 Thailand and Singapore also agreed on further collaboration to enhance surveillance for aviation in this region commencing with discussions of ADS-B data sharing and VHF radio communications at future ADS-B Task Force meetings as well as other future collaborations.

### Clarification of RNAV and RNP categories within PBN procedures

2.18 Several States raised the issue of the timescale for a change of designator with regard to the ICAO Regional PBN Plan and the benefits for the ANSPs and operators of any change at this stage. It was emphasized that the Regional PBN Plan includes requirements for en-route RNAV capabilities by aircraft and the implementation of appropriate procedures by ANSPs in the short, medium and long term. A unidirectional route structure to maximize the efficient use of airspace using the most efficient lateral spacing should be based on the PBN concept. Therefore States should be actively considering their options for implementing RNAV routes as part of their overall preparation for handling increasing traffic in the future and the further demands from operators for a more efficient and environmentally effective service.

### Reduced Horizontal Separation on RNAV Routes between Indonesia and Singapore

2.19 Taking advantage of the availability of Direct Controller – Pilot Communication (DCPC) facilities Indonesia and Singapore focused on a series of proposed changes to the route structure of M774 and A576. The first step to be considered was to re-designate ATS route A576 as an RNAV10 route M635.

2.20 The timeline following includes changes to the ATM systems, conduct of safety assessment by the South East Asia Safety Monitoring Agency (SEASMA) and also the training of the controllers.

**2<sup>nd</sup> Quarter 2011**

- Implementation of RNAV10 route M635 and realignment of RNAV10 route M774 in Jakarta and Singapore FIR.
- Implementation of 50NM lateral separation between M635 and M774.

**3<sup>rd</sup> Quarter 2011**

- Implementation of 50NM longitudinal separation on both M635 and M774.

**Meeting Progress**

2.21 The SEA-RR/TF/4 Chairman advised that, despite the strong representation from States and international organizations, it had been somewhat disappointing that there had been relatively little progress in respect to the Terms of Reference of the Task Force. It was considered that further analysis would be required in relation to the work and timelines of this task force and as such, the date and the venue of the next meeting would need further consideration.

2.22 It was re-emphasized that further progressive discussions by this important route review task force required a harmonious and cooperative approach by all concerned.

2.23 Finally, the meeting was reminded that air traffic continues to grow and consequently, effective planning to cope with this growth needs to be achieved in a timely manner. It was the Chairman's view that this could only be fulfilled by working together and compromising where necessary to provide benefit to users and providers within the South East Asia area.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the Summary Report of the 3<sup>rd</sup> and 4<sup>th</sup> meetings of the SEA-RR/TF;
  - b) clarify the present position with regard to Thailand's discussions with their military;
  - c) discuss ways of moving forward with suggested enhancements of the present route structure in a timely fashion, taking into consideration the Task Force Objectives and Terms of Reference; or,
  - d) decide whether to temporarily or permanently disband the task force.
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## Appendix A: Terms of Reference

### **Southeast Asia Route Review Task Force (RR/TF)**

- 1) The objective of the ICAO RR/TF is:

In collaboration with affected stakeholders and ensuring inter-regional harmonization, develop and implement strategic, benefits-driven plans to improve en-route airspace efficiency.

- 2) To meet this objective the Task Force shall:

- a) Review the existing route structures in the WPAC/SCS area south of the Fukuoka FIR, taking into consideration the AR9 traffic flow.
  - b) Determine the reduced horizontal separation required, taking into account the aircraft approval status of the traffic operating on the relevant route.
  - c) Examine the possibility of a step-by-step or phased implementation of new route structure and detail the phases required and the areas/routes concerned.
  - d) Develop and action the necessary strategic plans with appropriate timelines to implement the new route structure based on the APANPIRG Regional PBN Implementation Plan and ICAO Standards and Recommended Practices, whilst taking into account the need for inter-regional harmonization, State and user requirements.
  - e) Ensure the conduct of Annex 11 compliant pre-implementation safety assessments and make arrangements for States to conduct ongoing post-implementation safety monitoring in accordance with ICAO provisions.
  - f) Consider setting up appropriate teams/groups which might but not necessarily, include the entire Task Force, to address and implement specific agreed measures within specific airspaces.
  - g) Cooperate with other Task Forces and groups which are involved with similar work in adjacent airspaces in order to achieve harmonized inter-regional solutions.
  - h) Explore possibilities for further enhancements to operational efficiency of route structures through reconfiguration and/or enhanced surveillance.
- 3) Membership of the RR/TF should include, but not be limited to: Cambodia, China (for Sanya FIR), Hong Kong China, Indonesia, Lao PDR, Malaysia, Philippines, Singapore, Thailand, Vietnam and IATA.

The RR/TF reports to the ATM/AIS/SAR Sub Group of APANPIRG