



*International Civil Aviation Organization*

**Second Meeting of the Southeast Asia Route Review Task Force  
(SEA-RR/TF/2)**

Bangkok, Thailand, 22 – 26 March 2010

---

**Agenda Item 6:   ATS Route Development**

**RNAV ROUTE ADJUSTMENTS IN SEA AREA**

(Presented by the Secretariat)

**SUMMARY**

The purpose of this working paper is to study the benefits of developing pairs of unidirectional routes to replace A202 and similarly for A1. In addition, to analyse the feasibility of moving both RNAV RNP 10 routes L642 and M771 further to the west to come under full radar surveillance, thus enabling decreased radar spacing both longitudinally and laterally between these heavily loaded routes.

**1.       INTRODUCTION**

1.1           The meeting would recall that, at the SEA-RR/TF/1 meeting, held at the ICAO Regional Office in Bangkok, Thailand on 8 – 11 December 2009, the subject of RNAV route adjustments was discussed.

1.2           It was mentioned at this meeting that, in order to increase efficiency in route design which would also reduce track miles and carbon emissions, consideration should be given to some variations of the present route structure as well as looking at the feasibility of using specific unidirectional routes where traffic density demanded.

**2.       DISCUSSION**

Unidirectional routes replacing A202 and A1

2.1           Two examples where this strategy could be used was in respect to ATS route A202 and A1, which were briefly discussed in SEA-RR/TF/1. Both of these routes were between Bangkok and Hong Kong. The diagram shown (see Attachments 1) was generic in nature however gave examples of pairs of routes under full radar coverage, where significant benefit could be obtained to both the users and the providers of the ATS service in the area concerned.

2.2           As an example, the meeting is invited to note that in the Gulf area of the Middle East region, States concerned have developed a route structure under full radar/VHF coverage which optimises the airspace by the development and implementation of RNAV 5 procedures. Lateral spacing of RNAV routes varies between 10 to 20 NM, depending on the circumstance. This innovative route orientation has been in effect for several years in several FIRs and ACCs and reports indicate that the procedures provide safe, efficient and operational benefits to aircraft and ACCs alike.

2.3 As air traffic continues to grow within the SEA area, it is suggested to the meeting that this type of model which is used in the Gulf area of the Middle East deserves serious consideration in the SCS area, especially where, by slightly amending the present route structure, some routes presently outside full radar/VHF coverage could be included and gain the benefits mentioned above.

2.4 With regard to A1, it may be more appropriate to leave this route where it is at the moment and concentrate on a new pair of unidirectional RNAV routes to the East of the A202 unidirectional proposal within radar coverage.

2.5 The meeting is advised that there are other considerations to consider such as military issues which could affect the structure of these plans. Nevertheless, they should be discussed and managed with cooperative civil/military coordination as has been done in the past concerning other major changes in route design within the SEA area.

#### Realignment of L642 and M771

2.6 The other subject of this working paper is to investigate whether it would be possible to move the present two RNAV RNP 10 – 50 NM separation routes L642 and M771, to the west of their present position so that both routes could be considered as RNAV 5 routes under full radar and VHF coverage. If this was achievable, it may also be possible to reduce the lateral spacing between these RNAV routes to an agreed distance using RNAV 5 procedures to somewhere near 10 to 20 NM, as well as similarly reducing the longitudinal spacing to a similar distance.

2.7 This proposal would need to harmonize with the outcomes of the proposals mentioned above as well as other routes which may be affected nearby.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) study and discuss and agree to the proposals mentioned above;
- b) discuss military issues which may affect these proposals and suggest alternative proposals if required;
- c) devise a Task List of work to be achieved; and,
- d) agree on a Target date for implementation of each phase of this project.

.....

