

**INTERNATIONAL CIVIL AVIATION ORGANIZATION
ASIA AND PACIFIC OFFICE**



**REPORT OF THE FIRST MEETING OF
ATS ROUTE NETWORK REVIEW TASK FORCE (ARNR/TF/1)**

BANGKOK, THAILAND

6 – 10 SEPTEMBER 2004

The views expressed in this Report should be taken as those of the
Task Force and not the Organization

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1.1 Introduction

1.1.1 The First Meeting of the ATS Route Network Review Task Force (ARNR/TF) was held at the Kotaite Wing of the ICAO Asia and Pacific Regional Office in Bangkok, Thailand from 6 to 10 September 2004.

1.1.2 The establishment of the ARNR/TF was the result of Conclusion 14/5 of the Fourteenth Meeting of the Asia/Pacific Planning and Implementation Regional Group (APANPIRG/14) held from 4 to 8 August 2003 at Bangkok.

1.2 Attendance

1.2.1 The meeting was attended by 50 participants from Bangladesh, Cambodia, China, Hong Kong China, DPR Korea, India, Indonesia, Japan, Lao PDR, Myanmar, Pakistan, Republic of Korea, Singapore, Thailand, United States, Viet Nam, IATA, IFALPA and IFATCA. A complete list of participants is at **Appendix A** (to facilitate coordination, points of contact of each State and international organization are indicated by underlining).

1.3 Officers and Secretariat

1.3.1 Mr. David J. Moores, Regional Officer ATM, ICAO Asia and Pacific Office, Bangkok served as the Secretary for the meeting. He was assisted by Mr. Andrew Tiede and Mr. Kyotaro Harano, Regional Officers ATM.

1.4 Appointment of Chairperson

1.4.1 The Secretariat informed the meeting that a Chairperson had not been appointed for the ARNR/TF and no nominations had been received by the Regional Office prior to this meeting. On considering a person willing to chair this meeting, Mr. Peter Leung, Chief Air Traffic Control Officer, Civil Aviation Department, Hong Kong, China was requested to consider being the Chairperson for this meeting and he agreed. The meeting expressed its appreciation for his willingness to take up the Chairperson role.

1.5 Opening of the Meeting

1.5.1 Mr. David J. Moores, on behalf of Mr. Lalit B. Shah, ICAO Regional Director of the Asia and Pacific Office warmly welcomed the delegates. Mr. Moores advised that the establishment of the ARNR/TF by APANPIRG was a significant step that would greatly contribute to enhancing and improving the airspace structure in the region to meet user requirements, at the same time allowing ATS providers to make airspace changes to enhance the efficient management of the airspace.

1.5.2 The last major exercise of this kind was carried out by the Third Regional Air Navigation Meeting (RAN/3) in 1993. Since that time many changes have occurred to the Asia/Pacific Air Navigation Plan (ANP) (Doc 9673). The document itself has been reformatted into two parts, the Basic ANP and Facilities and Services Implementation Document (FASID). The first version of the revised ANP prepared in 2000 has not yet been published by ICAO, and there are a considerable number of amendments that have arisen since that need to be included. Also, because of ATM Section staffing shortage in the Regional Office since 2002, it has not been possible to process

all the amendments and changes to routes that have taken place. This has led to a substantial backlog of work to update the BANP. It is expected that this Task Force would bring the BANP up to date as well as identify and progress present and future route requirements.

1.5.3 Mr. Peter Leung expressed his appreciation to the meeting for supporting him as Chairperson. He was honoured to assume this position but wished to make it clear that he would only be able to serve as Chairperson for this meeting. He recognized the onerous task ahead as this Task Force was breaking new ground and there were a substantial number of issues to be addressed and work to be carried out. He hoped that this work could be completed expediently and that the outcomes of this Task Force would fulfill the expectations of APANPIRG, and achieve a worthwhile contribution to improving the management of the Asia/Pacific ANP, and facilitate airspace improvements to benefit the users and ATS providers. He wished participants a successful meeting.

1.6 **Documentation and Working Language**

1.6.1 The working language of the meeting as well as all documentation was in English.

1.6.2 Eighteen (18) Working Papers and two (2) Information Papers were presented to the meeting. A list of papers is included at **Appendix B**.

Agenda Item 1: Adoption of Provisional Agenda

1.1 The meeting reviewed the provisional agenda presented by the Chairperson and adopted it as the agenda for the meeting. The agenda is at **Appendix C**.

Agenda Item 2: Review the Terms of Reference (TOR) of ARNR/TF and develop a Task List

APANPIRG Conclusions/Decisions and Guidance

2.1 The meeting reviewed the outcomes of APANPIRG relating to the ARNR/TF, noting that APANPIRG/14 (August 2003) had established the Task Force under the terms of the following Conclusion:

Conclusion 14/5 – ATS Route Network Review Task Force

That, a Task Force comprising representatives from States and appropriate International Organizations be formed to review the ATS route network for the Asia/Pacific Region with draft Terms of Reference as shown in Appendix B to the Report on Agenda Item 2.1.

2.2 APANPIRG/14 had been of the opinion, that given the large geographical area to be considered, the Secretariat should consider addressing the task through a number of sub-regional meetings. Additionally, APANPIRG/14 considered that the efficiency of the Task Force could be further enhanced by adopting a "Core Team" approach in a manner similar to that adopted by other recent large-scale projects undertaken in the region such as the Revised ATS Route Structure – Asia to Middle East/Europe, South-of-the-Himalayas (EMARSSH) Project.

2.3 The meeting also considered the deliberations of APANPIRG/15 (August 2004) with regard to the proposed activities of the ARNR/TF, noting that although the Task Force had been established by APANPIRG/14, resource limitations had meant that the Regional Office had been unable to convene the first meeting of the ARNR/TF before September 2004.

2.4 APANPIRG/15 recognized the magnitude and consequent likely duration of the task to be undertaken by the ARNR/TF, noting that in many aspects it would be equivalent to the work carried out at a Regional Air Navigation (RAN) meeting. There was an urgent need to update the BANP to include a large number of changes to the ATS routes and assignment of five-letter name-codes with corresponding coordinates for the significant points on these routes, and the route network database maintained by the Regional Office. There would be a considerable volume of work to be undertaken that would place a considerable burden on Regional Office resources.

2.5 Further, APANPIRG/15 acknowledged that updating the BANP ATS routes and determining present and future route requirements was a high priority, as States required this information to plan for and provide the appropriate level of air navigation services to meet user requirements. This was a fundamental building block necessary for the civil aviation industry and a primary activity of the Regional Office. In recognizing that the ARNR/TF work programme would be substantial and take up considerable Regional Office resources, States were encouraged to make suitable experts available for the Task Force.

2.6 At APANPIRG/15 the list of Deficiencies in the Air Navigation Field was updated and recorded twenty-nine (29) ATS route related entries, mainly as priority 'B' status. A number of BANP amendment proposals were being prepared for these routes. APANPIRG/15 had assigned the remainder of these entries to the ARNR/TF for review, noting that the deficiency status of the ATS

routes be retained as currently reflected on the Deficiencies List until the ARNR/TF had undertaken a suitable review.

2.7 In preparation for the ARNR/TF/1 meeting on 6-10 September 2004, it was agreed that States and users should undertake a thorough review of their ATS route requirements, provide details of any changes made to existing routes and notify future route requirements. In support of this initiative, APANPIRG/15 formulated the following Conclusion:

Conclusion 15/3 – Review of ATS Route Requirements

That, States and users undertake a thorough review of their ATS route requirements (including future requirements) and any changes that have been made to existing routes, and submit this information to the ATS Route Network Review Task Force meeting on 6-10 September 2004.

2.8 The Task Force noted with appreciation the submissions on route issues made to the meeting by China, Hong Kong, China, Cambodia, Indonesia, Korea, Pakistan, Tahiti, Viet Nam and IATA. The work of a number other States with regard to route issues were presented through relevant ATS Coordination Group reports. States that had not prepared submissions or were unable to attend the meeting were encouraged to submit their route requirements in accordance with the above Conclusion as soon as possible. This would ensure that the Task Force was in a position to consider all proposals and scope out the work to be undertaken, thus minimizing the possibility of late proposals conflicting with earlier ones.

Environmental Considerations

2.9 APANPIRG/15 noted that the Sixth Meeting of the ICAO Committee on Aviation Environmental Protection (CAEP/6) held in February 2004 adopted a series of recommendations on aircraft engine emissions which have since been considered by the Council of ICAO. They reflect the three principal approaches that ICAO was pursuing to limit or reduce emissions, namely taking action at source, reducing fuel burn through market-based measures, and by operational measures. The latter encompassing measures related with the implementation of CNS/ATM system elements.

2.10 In terms of implementation of CNS/ATM systems, although the different elements could be implemented using global, regional, sub-regional or national approaches, the CAEP/6 meeting acknowledged that, ultimately, it was the State which actually invests in the infrastructure and as such, needs to know what the costs and benefits were. Consequently, the meeting agreed on the need for the development of models and associated guidance material in order to provide practical tools for estimating environmental benefits at the national level.

2.11 In order to assist in the development of such tools at the national level, APANPIRG/15 agreed to extend its support and assistance to CAEP through regional CNS/ATM experts. Accordingly, APANPIRG/15 agreed to allocate this task to the ARNR/TF and developed the following Decision:

Decision 15/53 – Developments of simplified tools and associated guidance for estimating environmental benefits of CNS/ATM systems at the national level

That the ATS Route Network Review Task Force support CAEP in developing a simplified tool and associated guidance for estimating environmental benefits of CNS/ATM systems and that the tool be applied in its task of route review to reflect environmental benefits accordingly.

2.12 APANPIRG/15 acknowledged that a comprehensive ATS route review would assist with achieving positive environmental outcomes, primarily as a result of shortening routes whenever it was appropriate to do so. This would result in savings in emissions and reduced fuel requirements by virtue of shorter flight times. It was important that these savings be quantified and the Regional Office undertook to ensure that the work of the ARNR/TF would include showing distances saved by realignment and shortening of routes to facilitate subsequent calculation of environmental benefits.

Review of Terms of Reference

2.13 The meeting reviewed the Terms of Reference (TOR) of the ARNR/TF as originally assigned by APANPIRG/14. In consideration of the guidance provided by APANPIRG/15, the meeting updated the TOR to include a requirement to assist with the development of environmental assessment mechanisms, and apply the mechanisms to quantify the environmental benefits achieved as a result of the work of the Task Force. Accordingly, the meeting adopted the updated TOR as shown in **Appendix D**.

Agenda Item 3: Review the ATS route network of the Asia and Pacific Region as described in Doc 9673 (Basic Air Navigation Plan, 1st Edition dated 2001)

Review of ASIA/PAC BANP ATS routes

3.1 The meeting reviewed the listing of ATS routes in Table ATS-1 of the First Edition of the BANP dated 2001, and identified routes no longer required, changes necessary to the routes and new routes that need to be included in the BANP.

3.2 The meeting appreciated the information provided by China, Indonesia, the Republic of Korea, and Tahiti on the ATS routes established in their respective FIRs. In particular, the copies provided of their Aeronautical Information Publications (AIPs), ENR 3 ATS Routes section would be most helpful in updating the Regional Office database of ATS routes and associated waypoints and coordinates. In this regard, the meeting recognized that the most accurate information available would be the published routes in States' AIPs. Therefore, as a starting point to update the regional database, the States' AIP material should be provided to the Regional Office. Accordingly, the meeting requested States to submit their AIP ENR 3 section in electronic format as soon as practicable. The Regional Office would follow up with a letter requesting States to provide this information.

Review of the Asia/Pacific Regional Plan for the New CNS/ATM Systems

3.3 The meeting reviewed the major traffic flows and associated ATM and CNS requirements provided in Chapter 10 of the *Asia/Pacific Regional Plan for the New CNS/ATM Systems* (Regional Plan) with a view to updating the document. It was noted that the Regional Plan had not been updated since Issue 6 in 2002, and considerable updating of the tables in Chapter 10 was required. Also, the traffic forecasting data was based on forecasts prepared by the Asia/Pacific Traffic Forecasting Group (AOA TFG) in June 1997, and was now substantially out of date.

3.4 A question was raised as to the value of the Regional Plan in its present format in facilitating the implementation process, which should be the primary focus of the Regional Plan. Whilst the material provided considerable information on describing traffic flows and CNS/ATM requirements, and providing planning guidance, it was not specifically related to any implementation plan.

3.5 The meeting agreed that it would be of more value if the Regional Plan identified and included actual implementation planning. The Secretariat was of the view that material from the

Regional Plan could be absorbed into the Asia/Pacific ANP, and another document developed that focused on actual implementation plans. In this regard, the Secretariat agreed to consider how best to use the material in the Regional Plan to focus on implementation and supplement the Regional ANP.

Review of APANPIRG List of Deficiencies in the air navigation fields

3.6 The meeting recalled that the ATM/AIS/SAR/SG/13 (June 2003) noted that deficiencies related to ATS routes in the Asia/Pacific Region were routinely identified and included in the consolidated List of Air Navigation Deficiencies maintained by APANPIRG. Generally, the list contained routes that:

- a) had not been implemented by States as required by the BANP;
- b) had been implemented by States, but not in accordance with the established BANP requirement; and
- c) had been implemented by States, although the requirement has not been established by regional air navigation agreement.

3.7 Of the 29 items on the APANPIRG/15 List of Deficiencies, eighteen (18) items had been identified by APANPIRG/15 for review by ARNR/TF, and eleven (11) items were subject to BANP amendment. In its review, the meeting noted IATA's position on these items as presented to APANPIRG/15. The detailed comments provided by IATA to APANPIRG/15 were included in the updated APANPIRG/15 Deficiency List.

3.8 The meeting reviewed the APANPIRG/15 List of Deficiencies in regard to routes and States updated the information on action taken and proposed action as summarized below. Based on this information, the meeting updated the APANPIRG/15 List of Deficiencies as shown in **Appendix E**.

Routes implemented

- a) A211 - Indonesia reported implementation on 22 January 2004;
- b) A581 - Thailand reported implementation had been carried out; and
- c) R459 - Indonesia reported implementation on 25 November 2004. Singapore would implement the segment in the Singapore FIR on 20 January 2005.

Routes to be deleted

- a) A203 - Hong Kong, China advised that this segment was covered by other routes and proposed to delete it from the BANP. Hong Kong, China would submit an BANP amendment proposal. IATA commented that this route remained a user requirement and should be retained in the BANP and implemented. This route would be placed on the list of BANP routes not implemented;
- b) A218 - China advised the meeting that currently G212 and A588 met the requirements and the proposed A218 was no longer required. The Regional Office was requested to circulate a BANP amendment proposal to delete the route. IATA commented that this route remained a user requirement and

should be retained in the BANP and implemented. This route would be placed on the list of BANP routes not implemented;

- c) A223 - Japan had advised APANPIRG that other ATS routes covered the requirement and they might consider implementation as a conditional route. Japan advised the meeting that they could not implement the route due to restricted airspace, and requested the deletion from the BANP. IATA commented that this route remained a user requirement and should be retained in the BANP and implemented. The meeting noted this position, and Japan confirmed that they would prepare an amendment proposal to delete the route. The meeting agreed that the route would be placed on the list of BANP routes not implemented (see also paragraph 4.32);
- d) A335 - China reported that the HOHHOH – TUMURTAI segment had been implemented and other segments were covered by other routes. China requested deletion. The meeting agreed that an amendment to the BANP deleting this segment should be circulated;
- e) A469 - Viet Nam would prepare an amendment proposal to delete the route;
- f) A473 - India reported that subject to coordination with CAA Nepal, this segment would be implemented as L626 within three months, and they would submit an amendment proposal in the ICAO format to delete the route;
- g) A584 - United States reported that the NAURU – KOSRAE portion was not required, and they would propose to delete, and follow up action would be taken;
- h) B201 – Fiji and New Zealand proposed to delete the route and this action was confirmed with IATA having no objection. The Regional Office would take follow-up action.
- i) R216 - China advised that B215/A460 had been implemented and met the requirements and would prepare an amendment proposal to delete R216. IATA advised that they would like this route to be reviewed in conjunction with the overall airline route requirements as this remained a user requirement to be implemented. The route would be placed on the list of BANP routes not implemented;
- j) R333 - Hong Kong, China advised the meeting that the route was covered in the Hong Kong AIP, which provided for routing NOMAN - DOTMI. Therefore, this route could be deleted and they would take follow-up action;
- k) R335 - China advised that this portion was no longer required and they would submit an amendment proposal to delete. IATA advised the meeting that airlines had indicated this route was an international flight requirement. This route would be placed on the list of BANP routes not implemented ;
- l) R345 - Cambodia reported that this route requirement was no longer valid and would propose the deletion of the requirement in consultation with Lao PDR;

- m) R579 - Further coordination with Malaysia by the Regional Office would be undertaken to delete the route, which was agreed to by IATA; and
- n) R593 - India would resubmit an amendment proposal in the ICAO format to delete the route.

Routes requiring further coordination

- a) A202 - Hong Kong, China advised that the HONG KONG – KAGOSHIMA segment was covered by A1 and M750. Japan advised the meeting that KAGOSHIMA – CHITOSE segment was covered by other ATS routes. Hong Kong, China and Japan would prepare an amendment proposal to delete this segment;
- b) A450 - The Regional Office informed the meeting that Indonesia had implemented A450 in their FIR and the only gap was in the Oakland FIR. ICAO was waiting for a reply from the United States;
- c) B204 - Regional Office would follow up the current implementation with the Maldives;
- d) B212 - Republic of Korea reported coordination would be made with Japan;
- e) B456 – This route was partially implemented and Papua New Guinea had proposed to delete the missing segment. IATA had advised that the route had been implemented. The Regional Office would follow-up to determine the status;
- f) B591 - China informed the meeting that this route had been partially implemented. The remaining portion of this route should be shown on the list of BANP routes not implemented to be considered for future implementation;
- g) G461 - Regional Office would coordinate with Indonesia;
- h) G473 - Regional Office would follow-up with the Philippines and States concerned;
- i) G589 – As G589 had been replaced by B467 and implemented in April 1998, the Regional Office to confirm and coordinate an amendment to the BANP; and
- j) R466 - Regional Office would coordinate with the ICAO Paris Office to change the route designator.

3.9 The Secretariat informed the meeting that BANP had not yet been published by ICAO, but it was expected the document would be available later this year or early next year. However, an electronic version was available. Since the finalization of the BANP, additional amendment proposals had been developed but not incorporated in the BANP. These outstanding proposals were noted by the meeting as shown in **Appendix F**.

Agenda Item 4: Consider route requirements (changes to existing routes and establishment of new routes)

Route requirements

Cambodia

4.1 Cambodia presented the meeting with a proposal to realign and link ATS/RNAV routes in the South China Sea area to facilitate air traffic movement on routes from HONG KONG – PHNOM PENH – PHUKET and beyond. This information was presented to the ATM/AIS/SAR/SG/15 meeting (28 June -4 July 2004).

4.2 As a basis for the proposals, Cambodia advised that operators were experiencing difficulty on ATS routes A202, A1 and P901 due to traffic congestion, and the constraints at times prevented aircraft operating at optimum levels. The proposed route improvements would shorten the distance between Hong and Phuket by approximately 75 NM and improve efficiency. This would also result in economic and environmental benefits. Further, the routes would be under VHF radio and radar coverage and supported by VOR and DME. The detailed proposal is contained in **Appendix G**. Viet Nam supported this proposal and the segment of the route in the Ho Chi Minh FIR was included in its route proposals.

4.3 The meeting recognized the benefit this proposal would provide. The meeting reviewed the proposal and suggested that consideration should be given to taking full advantage of RNAV to shorten the routes further by not navigating via NDBs and VORs. However, the meeting recognized that it could be disadvantageous for air traffic control to make the routes more direct due to the complexity of the airspace and crossing traffic in this airspace portion. The meeting requested the States concerned to give further consideration to introducing an RNAV requirement for the route.

4.4 The meeting was advised by Hong Kong, China that the proposed new segment IGNIS-QUANGNGAI would need to be reviewed by China in respect to A1 and P901. In this regard, China was planning to improve operations for A1/P901 to be available 24 hours. Also, there would be operational difficulties with the adjacent RNP 10 route L642 in regard to lateral separation and weather deviation procedures. In view of these problems, the implementation of this segment would need to be taken into account by China in its overall airspace planning. Also, safety studies would need to be carried out in respect of other operational factors. Consideration would also need to be given to the harmonization of RVSM flight level orientation schemes being looked at by the RVSM/TF/22 meeting (20-24 September 2004).

4.5 In regard to the above, Cambodia and Thailand agreed to proceed with realignment of ATS route R588 on the portion concerning both States.

4.6 China proposed to make further studies on this issue and conduct bi-lateral coordination as required.

Indonesia

4.7 Indonesia advised the meeting that in accordance with the Action Agreed Item 3- (ATS) Implementing of RNP arising from the Tenth Meeting of the South-East Asia ATS Coordination Group (SEACG/10) held on 18-22 March 2002, and reviewed by SEACG/11 (May 2004), an implementation programme had been developed to restructure airspace and routes within the Jakarta and Ujang Padang FIRs. In this regard, the following RNP routes have been implemented: M300, N646, N563, N752, P570, P574, L895, L764 and L511.

4.8 In addition, under the continuing restructuring programme, seven new RNP 10 routes and modification to existing routes were programmed to be implemented on 25 November 2004 as follows: N645, M635, M774, P763, P648, M522 and M768. The upper level would be changed to the existing non-RNP 10 routes, i.e. A576, A464, G464, B592, B584, and B583. Indonesia proposed to extend A211 from TRK VOR/DME to MNO VOR/DME. Details of the routes are provided in **Appendix H**. Singapore advised that implementation of the new RNP 10 routes and realignment of existing A576 and A464 together with the new route requirements within the Singapore FIR would be on 20 January 2005.

4.9 The meeting noted the Indonesian route developments, which were being coordinated with the Regional Office for preparation of the BANP amendment and assignment of waypoint five-letter name-codes.

Nepal

4.10 The Secretariat informed the meeting that Nepal had presented its requirements to implement routes established by the EMARSSH/TF in the Kathmandu FIR that could not be implemented as part of the EMARSSH project. These routes were presented to the EMARSSH One-Year Review meeting in January 2004. The meeting agreed to include these routes in its list of routes required for implementation. It was also noted that implementation planning would be carried out by the Bay of Bengal ATS Coordination Meeting (BBACG). Details of these routes are provided in **Appendix I**.

Republic of Korea

4.11 The Republic of Korea presented information on the ATS routes established in the Incheon FIR to update the regional route database. A plan was presented to the meeting to restructure G597 (bi-directional) within the Incheon FIR to improve the efficient use of airspace, enhance safety and to reduce controller workload due to opposite direction climbing and descending aircraft. In progressing this work, the Republic of Korea would take into account the discussions at this meeting. The Republic of Korea's route proposal is in **Appendix J**.

Tahiti

4.12 Tahiti who was unable to attend the meeting, submitted information on the routes contained in the Tahiti AIP to update the regional database. Also, proposed changes to G594 were presented for consideration by the meeting. The meeting appreciated receiving details of the routes in Tahiti's AIP, however, it was not in a position to comment on the proposal without Tahiti and the neighboring States being present. The Regional Office would contact Tahiti and advise them on how to progress the proposed changes.

Viet Nam

4.13 Viet Nam presented new route proposals and realignment of routes as follows:

- a) CONSON – DUDIS – LUSMO (L644), which had been progressed by the special coordination meeting on the Hong Kong/Jakarta route (Manila, 11-13 August 2004);
- b) Danang/Hanoi to Kunming;
- c) overflying traffic on ATS W1 within the Hanoi and Guanzhou FIRs;

- d) HONG KONG – PHNOM PENH (similar to the Cambodia proposal); and
- e) realignment of L642, M765 and L643 from the “ISO” NDB to the “CSN” DVOR/DME (approximately 500 m apart).

4.14 In regard to a) above, implementation of L644 had been agreed by the States concerned at the Manila SCM, and would be implemented as a southbound route for traffic between Hong Kong, China and Jakarta as well as for traffic to other destinations. The route would be implemented on 20 January 2005.

4.15 As the routes in b), c) and d) above were new routes concerning China, it would be necessary for China to study these proposals and to inform the ARNR/TF/2 meeting (planned in February or March 2005) whether it would be possible to implement these routes.

4.16 In regard to e) above, the realignment of these routes would be possible and to be implemented together with the new proposed routes.

4.17 Viet Nam also presented its future route requirements, and to progress its implementation planning, expressed its wish to implement a consolidated package of route changes. It was also suggested that States concerned and the Regional Office closely coordinate on this matter.

IATA

4.18 IATA presented details of their member airlines’ route requirements. The task of reviewing airline route requirements for Asia and Pacific was undertaken by the IATA Asia Pacific Route Review Working Group. A detailed catalogue of route proposals developed by the IATA Working Group was presented to the meeting.

4.19 IATA reminded the meeting of information provided in Chapter 4 of the ICAO ATS Planning Manual (Doc 9426) on the establishment of an actual ATS route network, which in most cases follows an approximate pattern outlined below:

- a) operators identify their actual and anticipated requirements for routes between those aerodromes which they use;
- b) the sometimes widely diverging demands of individual operators were then consolidated into a reasonably coherent pattern of route requirements;
- c) these requirements were then measured against other demands made on the airspace traversed by these routes (military areas, avoidance of overflying sensitive installations on the ground etc) and alternative proposals for the exact alignment of individual routes were developed;
- d) these alternatives were then presented to and negotiated with the operators concerned until a reasonable compromise was achieved; and
- e) in the comparatively few cases where the offers which could be made to operators were found to be unacceptable, it should be agreed that the original requirement should be retained until such time as more favourable circumstances permit an alignment which came reasonably close to that requested by operators.

4.20 IATA advised the meeting that, whilst airlines would like to see all the route proposals given due consideration and be expeditiously implemented, it was recognized that some routes might be a lot easier to implement than others. As such, IATA would like the meeting to not only assign a priority to implementation of the routes but also to agree that States should continue to process the implementation of the route proposals on an ongoing basis in accordance with the guidelines in the ATS Planning Manual. The meeting agreed that States should continue progressing this matter through bi-lateral coordination.

Route proposals from ATS coordination groups

4.21 The Secretariat provided information on route proposals developed by the BBACG/14 and SEACG/11 meetings.

Considerations and guidelines for developing and establishment ATS routes

4.22 The Secretariat drew attention to the ICAO ATM Operational Concept which states that in changing the ATM system “the driver for change must be ATM user expectations, within a framework of safety case, cost/benefit analysis and business case”. Whilst this was a broad all embracing concept, the provision of ATS routes was primarily to accommodate user requirements, therefore, the airlines’ operational route requirements should form a basis for developing the ATS route network in the region.

4.23 China informed the meeting of work undertaken in recent years to meet the needs of the air transport industry. In respect of ATS route networks, China has established and optimized many ATS routes, including implementation of polar routes and re-organization of the South China Sea ATS route structure.

4.24 China reminded the meeting that airspace was a limited resource, and it should be managed in the interests of the needs of civil aviation and other users, and with due consideration of national security and interests of the public. Accordingly, use of airspace should be planned in a unified manner to allow for its rational, sufficient and effective utilization.

4.25 When planning ATS route network optimization, China considered that the following factors should be taken into consideration:

- a) based on actual flight requirements, ATS routes should aim at enabling a majority of flights to operate along or as near as possible to the direct route from the port of origin to destination;
- b) the possibility of providing effective air traffic service and availability of communication, navigation and surveillance facilities;
- c) taking into account the needs of civil and other airspace users and environmental aspect;
- d) planning of ATS routes should be in accordance with relevant ICAO Standards and Recommended Practices (SARPs); and
- e) taking into account the cost and benefit of ATM facilities.

4.25 China proposed the following methodologies when establishing an ATS route network:

- a) aircraft operators may propose ATS routes requirements to the States concerned;
- b) States to identify their actual and anticipated requirements for ATS routes and devise a preliminary proposal;
- c) individual aircraft operators are then invited to comment on the preliminary proposal. Input of operators would be consolidated into preliminary proposal, where appropriate; and
- d) the finalized proposals would be presented to the ARNR/TF for further deliberations.

4.26 Working guidelines for construction of ATS routes were developed by APANPIRG/5 in 1994. These guidelines were useful tools when considering changes to the ATS route structure and were adopted by the EMARSSH/TF, and used for implementation of the EMARSSH project in 2001.

4.27 Hong Kong, China advised the meeting that the Hong Kong Civil Aviation Department (CAD) follows ICAO's guidelines in developing its non-regional as well as regional ATS routes transiting Hong Kong airspace. As these guidelines were equally applicable to the future work of the ARNR/TF, it was considered appropriate to bring them to the attention of the meeting. Also, based on operational experience gained through the South China Sea Airspace Reorganization Project in 2001, Hong Kong CAD also developed supplementary criteria for developing ATS route structure to suit internal requirements.

4.29 The meeting noted and appreciated the information provided, which would serve as a timely reminder to the Task Force and States to assist with route planning and implementation. Working guidelines on construction of ATS routes are provided in **Appendix K**.

Considerations on RNAV routes implementation

4.30 China recalled that RNAV routes have been implemented in some areas of the Asia/Pacific Region especially in oceanic airspace. However, RNAV routes have not been put into operation in most land areas in the Asia/Pacific Region. To improve the situation, China considered that the Asia/Pacific Regional Office should organize a comprehensive implementation framework for the region so that States concerned might share a common set of guidelines when planning for RNAV route application.

4.31 Establishment of RNAV routes involves many considerations, such as airspace requirements and criteria, aircraft airworthiness and operational approval and training, etc. Currently, China considered that there were insufficient guidance materials or documents to support more precise types of RNP operations (i.e. below RNP 10). China suggested that ICAO may wish to consider strengthening its document support in this regard.

4.32 The meeting noted the work being carried out by China to improve its airspace infrastructure and their interest in making greater use of RNAV. In this regard, the Secretariat advised the meeting that there was no single ICAO document that brought together all the route planning information, CNS/ATM requirements, application of RNAV, RNP and related reduced separation criteria, safety assessments, etc. However, ICAO has published substantial amount of information in a number of documents that would require some research to collect together all the desired information. In view of the serious budget constraints ICAO was facing, the Regional Office did not have the resources to develop any further guidance material at this time. However, a list of reference documents could be considered, and if possible, this would be compiled for the next meeting.

4.33 The meeting noted the principles outlined above for establishment of ATS routes and agreed that due priority would be given to meet user operational requirements. However, there were constraints in designing airspace that would result in not always being able to provide users with preferred routing. These constraints were well known, and the fact that a direct route could not be implemented, for justifiable reasons, would not in itself constitute a deficiency. In this regard, the meeting noted that the BANP contained a number of routes that were on the APANPIRG List of Deficiencies that could not be implemented since they were included in the BANP arising from the RAN/3 meeting in 1993.

4.34 The review of the List of Deficiencies under Agenda Item 3 showed that there were some routes that would not be implemented in the foreseeable future. In such cases, the meeting agreed that BANP routes not implemented should be placed on a list of not implemented BANP routes contained in the route catalogue (under Chapter 2 - User Required Routes, see 4.38 below) to be developed. Also, the question of whether these routes should be deleted from the BANP was raised.

4.35 The meeting agreed that amendment of the BANP was a matter for the State(s) responsible for the airspace to determine, and they should submit an amendment proposal to ICAO through the Regional Office to delete routes from the BANP, if this was the appropriate action following coordination with the other parties concerned.

4.36 IATA commented that, even though a route could not be implemented, if it was a user requirement, it should be formally documented as such and retained on a list of BANP routes not implemented. The Secretariat advised that an amendment to the BANP to delete a route would require an amendment proposal to be circulated to States and international organizations. This would provide IATA with the opportunity to comment on the proposal, and any objection raised would be acted upon and action taken to address the objection. The establishment of a list of BANP routes not implemented in the proposed route catalogue (Chapter 2) would provide an official record that could be periodically reviewed and be used as a reference document for users to refer to at appropriate forums.

Development of an Asia /Pacific Route Catalogue document

4.37 The meeting, noting the format used by IATA to present its route requirements, which was similar to the one used by the Russian/American Coordinating Group for Air Traffic Control (RACGAT), agreed that this would be an ideal way to compile and collate the list of routes proposed by States and users. It would also be useful to include a section containing the routes listed in the BANP. Further, in view of the comments made by IATA in respect to the BANP routes not implemented above, another section should be included to show these routes.

4.38 The meeting agreed to establish the Asia/Pacific Route Catalogue, which in the initial stage of development would contain five chapters:

Chapter 1: Routes in BANP - Implemented

Chapter 2: Routes in BANP - Not Implemented

Chapter 3: Routes Implemented - Not in the BANP/or not in accordance with the BANP

Chapter 4: Future Requirements - States

Chapter 5: Future Requirements - Users

4.39 In the compilation of the document, IATA agreed to set the document up with data provided by States provided through the Regional Office. States were requested to provide their data on route requirements in the format of the catalogue.

4.40 The meeting agreed that the ARNR/TF would establish the document and the Regional Office would be responsible for its on-going maintenance. In addition, the Regional Office should periodically present it to ATC coordination group meetings for updating, and for review by APANPIRG.

Harmonization of airspace vertical limit

4.41 The Secretariat reminded the meeting that in considering future route requirements, consideration should be given and the opportunity taken, to establish a vertical limit between airspaces such as the upper and lower airspace where different criteria applied. It had become generally accepted that for en-route airspace FL275 was the ideal vertical limit between RNP 10 and non-RNP airspace. Therefore, as a general guide, this level should be applied. India reminded the meeting that over the Bay of Bengal it was necessary to use a lower level of FL260 to accommodate RNP 10 aircraft crossing the parallel route structure.

4.42 The Secretariat further advised the meeting that, as most of the airspace in the Asia/Pacific Region was specified as RVSM between FL290 to FL410 inclusive and RNP 10 was extensively used over oceanic and remote airspaces, it would be possible to designate the airspace at FL280 and above as RNAV airspace. This would provide greater flexibility and airspace utilization to operators and air traffic management, and bring highly desirable benefits. IATA agreed with this position and would like to see much greater use made of aircraft RNAV capability.

Agenda Item 5: Amendment proposals to the Asia/Pacific Basic Air Navigation Plan, Part VIII, Table ATS 1

5.1 The meeting noted that the ARNR/TF was expected to thoroughly review and update the ATS routes in the BANP, prepare a master database of the routes that had been implemented, update the five-letter name-codes and co-ordinates that had been assigned to the significant points on the ATS routes, and undertake a study of future route requirements.

5.2 The meeting was informed that the Secretariat had prepared a template of the master database with Microsoft Excel spreadsheets. The meeting also noted the database consisted of three parts: ATS Routes Master; ATS Routes ANP; and Significant Points.

5.3 The meeting was advised that the ATS Route Master was basically the consolidation of the ATS Routes in the BANP and ATS routes actually implemented. This may be of use as a comparison table showing the ANP requirements and the actual ATS routes implemented. ATS Routes in the BANP show the requirements with data included on NAVAIDS/significant points that have been implemented. Significant Points lists the actually implemented significant points in alphabetical order.

5.4 A diskette containing the master database was distributed to each State participating in the meeting. Each State was requested to update, add and delete information as necessary, and return it to the Secretariat by 31 December 2004. The Secretariat would then collate the table and present the completed database to the ARNR/TF/2, which was being planned to be held in February or March 2004. This information would also be provided to IATA for compilation of the Route Catalogue.

5.5 India provided an update on ATS Routes A1 and A599 to clarify the route characteristics in Indian airspace:

- a) A1: The route does not exist between 041 degrees East to 098 degrees East. Instead about 10 years ago, A1 was replaced by A791 between Kolkata VOR in India, and HAIL 'HIL' VOR in the Middle East. As of today, the route with designator A1, applies only east of reporting point LIMLA on Yangon /Bangkok FIR boundary; and
- b) A599: On this route, reporting point 'CHILA', which is in the continental airspace of India, has not been included in the BANP. As this is the only significant point in Indian continental airspace, India indicated that 'CHILA' must be included in the BANP. In this regard, India would submit an amendment proposal.

Agenda Item 6: Implementation Strategy

6.1 The meeting took into account the volume of work that would be required by the ARNR/TF, and noted that a strategy would be needed to be developed to achieve a review of the ATS route network in the Asia/Pacific Region.

6.2 The meeting was of opinion that the time line required to amend the BANP varied from amendment to amendment. It was further noted that the actual work of implementing new routes, revising existing routes and route networks was the responsibility of States.

6.3 In considering the future role of the Task Force, the meeting recognized that the primary work would be to update the ATS routes in the BANP, the route designators and five-letter-name code database, and identify and process State and user requirements for future routes. The meeting considered the Task Force's role in regard to implementation of routes and agreed that, as this was the primary responsibility of States and the appropriate ATS coordinating groups, this Task Force would not be required to undertake the implementation work. Once the Route Catalogue had been completed and follow up action taken on new route requirements including preparation of BANP amendments, the meeting was of the view that its main function would have been achieved.

6.4 It was further recognized that substantial work would be necessary by the Regional Office to process BANP amendments, develop and manage the database, and take over the management of the route catalogue from the Task Force. As much of this work would involve setting up and compiling data management activities, and in view of the resource constraints and possible reduction in ATM staff in 2005, the successful outcome of the Task Force's work, which should be completed in a timely and efficient manner, would largely depend on how well the Regional Office could manage and support this work. The meeting urged ICAO to give priority to this task, which was fundamental to the operation and development of airspace for use by international civil aviation and other users.

6.5 India reminded the meeting that as an outcome of the work undertaken by ARNR/TF, many changes to the ATS route structures in the region would take place. As per PANS-ATM Doc 4444, Chapter 2, on 'ATS Safety Management', a safety assessment was required to be carried out in respect of proposals for significant airspace reorganization of the ATS route structure. Accordingly, the meeting recognized that safety assessments for proposed amendments to route structures in the region should be conducted in accordance with the above requirement. In this regard, the Secretariat advised that the APANPIRG Regional Airspace Safety Monitoring Advisory Group (RASMAG)

reviewed changes to the international airspace where safety considerations need to be taken into account, and the related results of safety assessments.

6.6 In light of the above, the meeting further urged ICAO to give appropriate priority to providing adequate ATM human resources at the Regional Office to ensure that the ATM Section work activities, which included providing support for the regional safety management programmes established by APANPIRG, would be sustained at a level necessary to fulfill the tasks assigned to the Regional Office to meet its obligation to States in the region.

Agenda Item 7: Aeronautical Information Service and charting considerations

7.1 The meeting noted that AIS and charting issues were in the main related to route implementation. As such, these would be addressed by the implementation groups concerned. In regard to charting and development of route proposals, the meeting emphasized the importance of proposals to be submitted to the Task Force be accompanied with a detailed chart of the route(s). This would also facilitate the review and development of proposals for amendment of the BANP.

7.2 The meeting noting the benefits of including a chart presentation of routes in the Route Catalogue, also felt it would be highly beneficial to recipients to attach charts of routes from the catalogue to the BANP amendment proposals circulated to States and international organizations.

Agenda Item 8: Other Business

8.1 The Secretariat brought to the attention of the meeting the ATM Safety Management Seminar hosted by the General Administration of Civil Aviation of China (CAAC) scheduled to be held in Beijing on 15-19 November 2004. This seminar was the first major regional event of this kind that would address matters related to Annex 11 provisions on ATS Safety management, and the safety of the operational ATM environment covering a wide range of safety related activities, in particular runway safety and human factors.

8.2 The meeting was reminded that the revised ICAO guidelines on the 2 NM lateral offset to the right procedures had been issued by State letter dated 27 August 2004. APANPIRG/15 had addressed this matter under Conclusion 15/8, wherein, States in the Asia/Pacific Region should implement these procedures on a common AIRAC date to be coordinated by the Regional Office. In this regard, States were expected to identify airspace where the procedures could be implemented and to prepare an AIP Supplement. To assist with the preparation of the SUP, a draft AIP SUP was contained in the Report of APANPIRG/15 (Appendix D to the Report on Agenda Item 2.1 refers) and is reproduced in this report as **Appendix L**. This matter would be considered by the BBACG/15 meeting on 13-17 September 2004.

8.3 The meeting was informed that the Regional Office was planning to hold a seminar on civil/military coordination on 14-17 December 2004. A seminar on this subject had not been held in this region since 1998, and it was important that civil/military coordination matters were given priority in light of events in recent times involving military action that closed strategic airspaces used by international civil aviation at short notice. Also, it was recognized that the application of “due regard” practices by the military caused concern for civil air traffic operations. The military had expressed their keen interest to cooperate and work with civil authorities for the benefit of safe and efficient civil flight operations.

8.4 The Secretariat also brought to the attention of the meeting the ICAO language seminar to be held in Tokyo, Japan on 8-10 December 2004.

Development of Task List

8.5 The meeting in consideration of the issues discussed at the meeting, developed a Task List as shown in **Appendix M**. In noting the need for States to prepare amendment proposals to the BANP, a template for an BANP amendment proposal is provided in **Appendix N**.

Future meetings and venue

8.6 The meeting agreed that to progress the work of the Task Force the next meeting, ARNR/TF/2 should be held in February/March 2005 at the Regional Office, Bangkok. The proposed date would be coordinated by the Secretariat in due course. In regard to the ARNR/TF/3 meeting, it was agreed that this should be scheduled before APANPPIRG/16, which was scheduled on 22-26 August 2005.

9. Closing of the meeting

9.1 The Chairman thanked participants for the good progress made to establish the work programme of the Task Force. The meeting had clarified the nature of the work that was required and also agreed on the deliverables to be accomplished. It was important to complete the work in a timely manner, and Administrations were requested to continued to support the Task Force's work, and in particular to make available the same participants. He thanked the Regional Office for the support provided, and on behalf of the meeting expressed appreciation for this excellent meeting facility.

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LIST OF PARTICIPANTS

(Underlined Names are Point of Contact of each State/Organization

Note: Point of Contact does not officially represent the State)

STATE/NAME	DESIGNATION/ADDRESS	CONTACT DETAILS
BANGLADESH		
<u>Mr. Md. Kaisar Alam</u>	Director & Principal of Civil Aviation Training Center Civil Aviation Authority of Bangladesh Kurmitola, Dhaka 1229 Bangladesh	Tel: 880-2-8914546 Res: 880-2-9110981 Fax: 880-2-8913322
CAMBODIA		
Mr. Hul Men	Chief AIS Flight Operation & Air Safety Department State Secretariat of Civil Aviation No. 62, Preah Norodom Blvd Phnom Penh Cambodia	Tel: 855-23-725 937 Fax: 855-23-725 938
<u>Mr. Saichon Pingsakul</u>	Director, ATS Planning & Training Dept. Cambodia Air Traffic Services Co., Ltd. CATS Building, Opposite Phnom Penh International Airport Russian Federation Blvd, Sangkat Kakab, Khan Dang Kor Phnom Penh, Cambodia	Tel: 855-16-777700 Fax: 855-16-777715 Mobile: 855-16-771135 E-mail: saichonp@cats.com.kh
CHINA		
Ms. Yang Jing	Senior Engineer of Aeronautical Information Service Air Traffic Management Bureau of CAAC No.12 East Sanhuan Road Middle Chaoyang District, Beijing 100022 People's Republic of China	Tel: +86-10-8778 6161 Fax: +86-10-8778 6850 E-mail: yangjing@atmb.net.cn
<u>Mr. Yang Jiansen</u>	Airspace Management Engineer Air Traffic Management Bureau of CAAC No.12 East Sanhuan Road Middle Chaoyang District, Beijing 100022 People's Republic of China	Tel: +86-10-8778 6855 Fax: +86-10-8778 6850 E-mail: yangjiansen@atmb.net.cn
HONG KONG, CHINA		
Mr. Peter Leung	Chief Air Traffic Control Officer Civil Aviation Department 4/F, ATC Complex 1 Control Tower Road Hong Kong International Airport Lantau Hong Kong, China	Tel: 852-2910 6438 Fax: 852-2910 0186 E-mail: ppkleung@cad.gov.hk
<u>Mr. Raymond Li</u>	Senior Evaluation Officer Civil Aviation Department 4/F, Air Traffic Control Complex 1 Control Tower Road Hong Kong International Airport Lantau Hong Kong, China	Tel: +852-2910 6441 Fax: +852-2910 0186 E-mail: rkcli@cad.gov.hk

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STATE/NAME	DESIGNATION/ADDRESS	CONTACT DETAILS
DPR KOREA		
<u>Mr. Kim Chon Su</u>	General Manager AIR KORYO 4/F, Charn Issara Tower 942/134 Rama IV Rd Bangkok 10500, Thailand	Tel: 09-7760621 Fax: 02-2675009
Mr. Ri Hong Chol	Station Manager AIR KORYO 4/F, Charn Issara Tower 942/134 Rama IV Rd Bangkok 10500, Thailand	Tel: 01-6582725 Fax: 02-2675009
INDIA		
Mr. J.S. Rawat	Director of Operations (Aerodrome Standards) Office of Director General of Civil Aviation Opposite Safdarjung Airport Technical Centre New Delhi 110003 India	Tel: +91 11 2464 1435 Fax: +91 11 2464 1435
Mr. William Minz	GM (ATM) West Bengal, Kolkata Airports Authority of India Kolkata 700052 India	Tel: +91 33 2511 9966 Fax: +91 11 2511 9966
<u>Mr. M.C. Dangi</u>	DGM (ATM) CHQ Airports Authority of India Rajiv Gandhi Bhavan Safdarjung Airport New Delhi-110003 India	Tel: 91-11-2462 2649 Fax: 91-11-2461 1078 E-mail: mcdangi@aai.aero
INDONESIA		
<u>Mr. Nanang Swastya Taruf</u>	Deputy Director System and Procedure for Air Navigation Directorate General of Air Communication Directorate of Aviation Safety Gedung Karya, Lt.23 Jl. Merdeka Barat No.8 Jakarta 10110, Indonesia	Tel: 62-21-350 6451 Fax: 62-21-350 6451 E-mail: swastya@telkom.net
Mr. Harjoso Tjatur Prijanto	Chief of ATC Section Angkasapura I Kota Baru Bandar Kemayoran Jakarta 10610, Indonesia	Tel: 62-21-654 1961 Fax: 62-21-654 1513 E-mail: harjoso.t@angkasapura1.co.id ghartiga@yahoo.com
Mr. Ratri Purnomo	ATS Standardization Manager Angkasapura II Gedung 600 Bandara Soekarno-Hatta Tangerang, Indonesia	Tel: 62-21-550 6185 E-mail: ratri.purnomo@angkasapura2.co.id
Mr. Ernanto Wibisono	Airport and Airspace Tech Analyst Garuda Indonesia	Tel: 62-21-550 1521 Fax: 62-21-550 1528 E-mail: ernanto_w@garuda-indonesia.com

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STATE/NAME	DESIGNATION/ADDRESS	CONTACT DETAILS
JAPAN		
<u>Mr. Makoto Ishikawa</u>	Chief, En-route Section Flight Procedures and Airspace Program Office Air Traffic Control Division Air Traffic Services Department Civil Aviation Bureau Ministry of Land, Infrastructure and Transport 2-1-3 Kasumigaseki, Chiyoda-ku Tokyo 100 8918 Japan	Tel: 81-3-5253 8111 ext 51235 Fax: 81-3-5253 1663 E-mail: ishikawa-m2af@mlit.go.jp
LAO PDR		
<u>Mr. Sisanonh Inthanusone</u>	Deputy Director Lao Airport Authority - DCA P.O. Box 3175 Vientiane, Lao PDR	Tel: 856-21-512006 Fax: 856-21-512216 E-mail: inthanousone@yahoo.com
MYANMAR		
<u>U Yoa Shu</u>	Deputy Director (ATS) Department of Civil Aviation Yangon International Airport Yangon, Myanmar	Tel: 95-1-663838 Fax: 95-1-665124 E-mail: dca.myanmar@mptmail.net.mm dd-ats@mot.gov.mm
U Soe Paing	Air Traffic Control Officer Department of Civil Aviation Yangon International Airport Yangon, Myanmar	Tel: 95-1-663838 Fax: 95-1-665124 E-mail: dca.myanmar@mptmail.net.mm
PAKISTAN		
<u>Mr. Liaquat Ali Shahzad</u>	Corporate Manager ATS Civil Aviation Authority, HQ Ops. Directorate HQ CAA JIAP Terminal-1 Karachi-75200 Pakistan	Tel: 92-21-9248756 Fax: 92-21-9248758 E-mail: gmats@cyber.net.pk
REPUBLIC OF KOREA		
<u>Mr. Choi, Seung-Yeon</u>	Deputy Director of ATS Planning Division ATS Planning Division Civil Aviation Safety Authority Ministry of Construction and Transportation 274, Gwahae-Dong, Gangseo-Gu Seoul 157-711 Republic of Korea	Tel: 82-2-2669 6427 Fax: 82-2-6342 7289 E-mail: sylchoi@moct.go.kr
Mr. Kim, Jin-Sung	Deputy Director of Airspace Division Airspace Division, Incheon ACC Civil Aviation Safety Authority Ministry of Construction and Transportation P.O. Box 26, Incheon Airport Post Office WoonSeo-dong, Joong-gu, Incheon City Republic of Korea	Tel: 82-32-880 0225 Fax: 82-32-889 2376 E-mail: airspace@moct.go.kr

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STATE/NAME	DESIGNATION/ADDRESS	CONTACT DETAILS
Mr. Song, Gil-Ho	General Manager Aviation Research Department Korea Civil Aviation Development Association Suite 304, Old Domestic Cargo Terminal Gimpo Airport 272 Kwahae-dong, Gangseo-gu Seoul City 157-822 Republic of Korea	Tel: 82-2-2662 6274 Fax: 82-2-2662 5590 E-mail: songgh@airtransort.or.kr
SINGAPORE		
<u>Mr. Wee Aik San Andrew</u>	Project Officer (Airspace) Operations Division Civil Aviation Authority of Singapore Singapore Changi Airport P.O. Box 1 Singapore 918141	Tel: 65-6541 2774 Fax: 65-6545 6516 E-mail: andrew_wee@caas.gov.sg
THAILAND		
<u>Flg.Off. Nakorn Yoonpand</u>	Air Traffic Control Expert Airport Standards and Air Navigation Facilitating Division Department of Civil Aviation 71 Soi Ngarmduplee, Tungmahamek Bangkok 10120, Thailand	Tel: 66-2-287 0320-1320 Fax: 66-2-286 2909 Mobile: 09-8246955
Wing Commander Surath Sridech	Air Traffic Control Expert Airport Standard and Air Navigation Facilitating Division Department of Civil Aviation 71 Soi Ngarmduplee, Tungmahamek Bangkok 10120, Thailand	Tel: 66-2-287 0320 ext 1320 Fax: 66-2-286 2909
Mr. Watee Arthakamol	Air Traffic Control Manager Aeronautical Radio of Thailand Ltd. 102 Soi Ngarmduplee Tungmahamek, Sathorn Bangkok 10120, Thailand	Fax: +66-2-285 9406 E-mail: watee.ar@aerothai.co.th
Mr. Yoottana Kittitadakul	Air Traffic Controller Aeronautical Radio of Thailand Ltd. 102 Ngarmduplee, Tungmahamek Bangkok 10120, Thailand	Tel: 66-2-285 9111
Mr. Tinnagorn Choowong (Observer)	Air Traffic Control Manager Bangkok Area Control Centre AEROTHAI 102 Ngamduplee Thungmahamek Bangkok 10120, Thailand	Tel: +66-2-285 9975 Mobile: +66-9-8166486 Fax: +66-2-285 9406 E-mail: tinnagorn.ch@aerothai.co.th
Capt. Titiwat Bodhidatta	Deputy Manager, Operations Saety quality Department Operations Support Department Thai Airways International Public Company Ltd 89 Vibhavadi Rangsit Rd, Chatuchak Bangkok 10900, Thailand	Tel: 66-2-545 2665 Fax: 66-2-545 3849 E-mail: titiwaat.b@thaiairways.com

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STATE/NAME	DESIGNATION/ADDRESS	CONTACT DETAILS
Mr. Somkiat Prakitsuvan	Manager, Route Planning Analysis Division Operations Control Department Thai Airways International Public Company Ltd Room 4214 4 th Floor Central Block Bangkok International Airport Bangkok 10210, Thailand	Tel: 66-2-535 2449 Fax: 66-2-504 3814 E-mail: somkiat.p@thaairways.com
Ms. Wipawinee Preelers	Senior Flight Dispatcher Bangkok Airways Company Limited 99 Moo 14, Wiphawadee Rangsit Rd Jomphon, Chatuchak Bangkok 10900, Thailand	Tel: 66-2-535 3486 Fax: 66-2-504 2762 E-mail: wipaw.preeel@bangkokair.co.th
Capt. Sutherland Alexander	Director of Flight Operation Orient Thai Airlines Company Limited 138/70 17/F, Jewellery Centre Nares Road, Bangkok	Tel: 66-2-504 3641 Fax: 66-2-504 3640
Capt. Graham Smith	Acting Director of Flight Operation Orient Thai Airlines Company Limited 138/70 17/F, Jewellery Centre Nares Road, Bangkok	Tel: 66-2-504 3641 Fax: 66-2-504 3640
Flg.Off. Staporn Pattaragomol	Operations Control Manager Thai Air Asia Co., Ltd. 89/170, 9 th Floor, Juthamard Building Moo 3, Vibhavadi Rangsit Road Talad Bangkhen, Laksi Bangkok 10210, Thailand	Tel: 66-2-791 4500 Fax: 66-2-791 4501 E-mail: stapornp@airasia.com
UNITED STATES		
<u>Mr. David M. Maynard</u>	Support Manager, International Airspace and Procedures Federal Aviation Administration Oakland ARTCC 5125 Central Ave Fremont CA 94536 U.S.A.	Tel: 1-510 745 3543 Fax: 1-510 754 3628 E-mail: david.maynard@faa.gov
Mr. Darryl M. Secord	International Aeronautical Liaison NGA Aeronautical Safety Division Aeronautical Office Asia/Pacific 900 Hangar Avenue, Hangar 4 Hickam AFB, HI96853-5246 U.S.A.	Tel: 1-808-449 7305/7306 Fax: 1-808-449 7308 E-mail: MARK.SECORD@HICKAM.AF.MIL
Mr. Mic Olvera	Deputy Command Airspace Manager HQ PACAF/USAF PACAF/DOY 25 E. Street Hickam AFB HI 96853 U.S.A.	Tel: 1-808-449 4889 Fax: 1-808-449-4889 E-mail: Michael.olvera@hickam.afmil

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STATE/NAME	DESIGNATION/ADDRESS	CONTACT DETAILS
VIET NAM		
<u>Mr. Nguyen The Hung</u>	Manager, ATM – AIS Section Air Navigation Department Civil Aviation Administration of Viet Nam Gialam Airport Hanoi 10000 The Socialist Republic of Viet Nam	Tel: 84-4-8723 600 Fax: 84-4-8274 154 E-mail: hungand@caa.gov.vn
Mr. Nguyen Van Hung	ATM Senior Officer Air Navigation Department Civil Aviation Administration of Viet Nam Gialam Airport Hanoi The Socialist Republic of Viet Nam	Tel: 84-4-8723 600 Fax: 84-4-8274 154
Mr. Phan Nhat Vung	ATM Senior Officer Air Navigation Department Civil Aviation Administration of Viet Nam Gialam Airport Hanoi The Socialist Republic of Viet Nam	Tel: 84-4-8723 600 Fax: 84-4-8274 194
Mr. Nguyen Manh Quang	Deputy Chief, ATS-AIS Division Vietnam Air Traffic Management Bureau Civil Aviation Administration of Viet Nam Gialam Airport Hanoi 10000 The Socialist Republic of Viet Nam	Tel: 84-4-8730 320 Fax: 84-4-8272 597 E-mail: nguyenmq2003@yahoo.co.uk
IATA		
<u>Mr. Soon Boon Hai</u>	Assistant Director, Safety, Operations & Infrastructure – Asia/Pacific International Air Transport Association 77 Robinson Road #05-00, SIA Building Singapore 068896	Tel: 65-6239 7267 Fax: 65-6536 6267 E-mail: soonbh@iata.org
Mr. Owen Dell	Manager International Operations Cathay Pacific Airways Limited International Affairs Department 9/F Central Tower, Cathay Pacific City 8 Scenic Road Hong Kong International Airport Lantau, Hong Kong, China	Tel: 852 2747 8829 Fax: 852 2141 8829 E-mail: owen_dell@cathaypacific.com
Mr. Julian Fung	Assistant Manager Route Development Cathay Pacific Airways Limited International Affairs Department 3/F Central Tower, Cathay Pacific City 8 Scenic Road Hong Kong International Airport Lantau, Hong Kong, China	Tel: 852 2747 3818 Fax: 852 2141 3818 E-mail: julian_fung@cathaypacific.com

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STATE/NAME	DESIGNATION/ADDRESS	CONTACT DETAILS
Capt. Aric Oh	Deputy Chief Pilot (Technical) Flight OPS Technical Singapore Airlines Limited SIA Training Centre 04-C 720 Upper Changi Road Singapore 486852	Tel: +65-6540 3694 Fax: +65-6542 9564 E-mail: aric_oh@singaporeair.com.sg
Mr. A. Purushotomadas	Assistant Manager, Flight Operations Technical Flight Operations Division Singapore Airlines SIA Training Centre 04-C 720 Upper Changi Road East Singapore 486852	Tel: +65-6540 3415 Fax : +65-6542 9654 E-mail: a_purushotomadas@singaporeair.com.sg
IFALPA		
<u>Capt. Koichi Sano</u>	Regional Vice President for North Pacific IFALPA 3-2-11 Higiriyama Konan-Ku, Yokohama-shi Kanagawa Pref. 2330015 Japan	Tel (H): 81-45-845 2154 Tel (O): 81-3-5705 2770 Fax (H): 81-45-845 2154 Fax (O): 81-3-5705 3274 E-mail: sano-koichi@alpajapan.org office@alpajapan.org
IFATCA		
<u>Mr. David Cheung</u>	Executive Vice President, Asia/Pacific IFATCA FLAT C, 3/F, Tower 3, HillsBorough Court 18 Old Peak Road, Mid Levels Hong Kong, China	Tel: 852-2910 6442 Fax: 852-2910 0160 E-mail: evpasp@ifatca.org
ICAO		
Mr. David J. Moores	Regional Officer, ATM ICAO Asia & Pacific Office P.O.Box 11 Samyaek Ladprao Bangkok – 10901 Thailand	Tel: 66-2-5378189 Fax: 66-2-5378199 AFTN: VTBBICOX E-mail: dmoores@bangkok.icao.int
Mr. Andrew Tiede	Regional Officer, ATM ICAO Asia & Pacific Office P.O.Box 11 Samyaek Ladprao Bangkok – 10901 Thailand	Tel: 66-2-5378189 Fax: 66-2-5378199 AFTN: VTBBICOX E-mail: atiede@bangkok.icao.int
<u>Mr. Kyotaro Harano</u>	Regional Officer, ATM ICAO Asia & Pacific Office P.O.Box 11 Samyaek Ladprao Bangkok – 10901 Thailand	Tel: 66-2-5378189 Fax: 66-2-5378199 E-mail: kharano@bangkok.icao.int

INFORMATION AND WORKING PAPERS

WORKING PAPERS

WP No.	Date	Agenda Item	Presented by	Subject
1	6/9/04	1	Secretariat	Provisional Agenda
2	6/9/04	2	Secretariat	Review of the Terms of Reference and Task List
3	6/9/04	3	Secretariat	Review of the Basic Air Navigation Plan
4	6/9/04	3	Secretariat	Review of the APANPIRG List of Deficiencies in the Air navigation Field
5	6/9/04	3	Secretariat	Maintenance of Master Database
6	6/9/04	4	Secretariat	RNP 10 Designated Airspace: Issues for Consideration
7	6/9/04	4	Secretariat	Experience of EMARSSH Project
8	6/9/04	6	Secretariat	Implementation Strategy
9	6/9/04	4	Cambodia	The Proposed ATS/RNAV Route Realignment and ATS/RNAV Routes Establishment in South China Sea Area
10	6/9/04	3	Secretariat	Review of Route Requirements for Tahiti
11	6/9/04	3, 4	Viet Nam	Brief on the Present ATS Route System and Future Route Requirements for Ha Noi and Ho Chi Minh FIRs
12	6/9/04	4	China	Considerations to be Taken in Reviewing the Present and Future ATS Route Requirements
13	6/9/04	4	Hong Kong, China	Guidelines Adopted by Hong Kong Civil Aviation Department (CAD) in Developing ATS Route Network
14	6/9/04	3	IATA	Airline Review of ATS Routes in the Air Navigation Plan

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Appendix B to the Report

WP No.	Date	Agenda Item	Presented by	Subject
15	7/9/04	2	Secretariat	APANPIRG/15 Conclusions and Guidance Relating to the ATS Route Network Review Task Force
16	7/9/04	4	IATA	IATA New Route Proposals
17	<i>Intentionally left blank</i>			
18	7/9/04	3	Indonesia	ATS Routes Deficiencies in the Air Navigation Fields within Indonesia Airspace
19	7/9/04	4	Indonesia	Implementation New ATS / RNP Routes and Extended Routes within Indonesia Airspace

INFORMATION PAPERS

IP No.	Date	Agenda Item	Presented by	Subject
1	6/9/04	-	Secretariat	Tentative List of Information and Working Papers
2	7/9/04	3	Republic of Korea	ATS Routes in the Incheon FIR

AGENDA

- Agenda Item 1: Adoption of Provisional Agenda
- Agenda Item 2: Review the Terms of Reference of ARNR/TF and develop a Task List
- Agenda Item 3: Review the ATS route network of the Asia and Pacific Regions as described in Doc 9673 (Basic Air Navigation Plan, 1st Edition dated 2001)
- Agenda Item 4: Consider route requirements (changes to existing routes and establishment of new routes)
- Agenda Item 5: Amendment proposals to the Asia Pacific BANP, Part VIII, Table ATS 1
- Agenda Item 6: Implementation strategy
- Agenda Item 7: Aeronautical information service and charting considerations
- Agenda Item 8: Other business

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TERMS OF REFERENCE

ATS ROUTE NETWORK REVIEW TASK FORCE (ARNR/TF)

The Task Force shall:

- a) review the ATS route network of the ASIA/PAC Regions as described in Doc 9673 (1st Edition of the Basic Air Navigation Plan dated 2001) and subsequent changes;
- b) determine the required ATS route network;
- c) assist in the development of, and apply, mechanisms to estimate or otherwise quantify the environmental benefits resulting from route amendments;
- d) revise Doc 9673 to the extent necessary after considering whether the requirements for routes still exists or if the requirements need to be modified in order to ensure that an up-to-date basis is provided for taking into account;
 - i) an orderly flow of air traffic and the need for a well balanced cost/benefit relationship for both users and providers of services;
 - ii) an ATS route system based on area navigation (RNAV) and CNS/ATM, providing for optimal routing where possible and offering possibilities to aircraft to operate on routes not provided with station reference aids;
 - iii) the current pattern of aircraft operations and the need for fuel conservation and economy of operations;
 - iv) the opportunity for long haul flights to operate along, or as near as possible to preferred routes from the point of departure to destination in accordance with the principles contained in the Global CNS/ATM Plan and further developed by the ATM Concepts Panel (ATMCP). Particular emphasis should be focussed on a flexible use of airspace approach wherever possible.

The Task Force will report to the ATM/AIS/SAR Sub-Group.

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APANPIRG REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM/AIS/SAR FIELDS IN THE ASIA/PACIFIC REGION

(Changes shown in strikeout and underlining)								
Identification		Deficiencies			Corrective action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action**
<u>ATS Routes</u>								
Requirements of Part V.III, Table ATS 1 of the air navigation plan	Hong Kong, China/Japan	A202 - Partially implemented	24/11/93	Hong Kong-Bangkok segment was implemented on 1 November 2001. Japan considering implementation as a conditional route. <u>Reviewed by ARNR/TF/1.</u> <u>Route to be included in Route Catalogue as USER requirement as requested by IATA.</u>	Japan co-ordinate Hong Kong, China <u>Hong Kong, China and Japan requested deletion and will submit an amendment to BANP.</u>	Hong Kong, China/ Japan	HongKong-Bangkok segment 1/11/2001; Hong Kong-Chitose segment TBD <u>Review by ARNR/TF/1</u> Subject to BANP amendment	B
	China/Hong Kong, China	A203 - Not implemented	24/11/93	China advises no international flight requirements. <u>Reviewed by ARNR/TF/1.</u> <u>Route to be included in Route Catalogue as USER requirement as requested by IATA.</u>	China, Hong Kong <u>China</u> requested deletion and <u>will submit an amendment to BANP.</u>	China/Hong Kong, China	Subject to BANP amendment	B
	Indonesia	A211 - Partially implemented	24/11/93	ICAO has requested Malaysia to co-ordinate the early implementation of A211 with States concerned. Malaysia has advised at SEACG/10 of the implementation of the route within Malaysia on 29 November 2001.	Indonesia - implement the missing segment ICAO coordinate the implementation with Indonesia	Indonesia ICAO	29/11/2001 (by Malaysia) TBD by Indoensia <u>Review by ARNR/TF</u> <u>Implemented 22/1/04</u>	B

APANPIRG REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM/AIS/SAR FIELDS IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action**
	China/Russian Federation	A218 - Partially implemented in Russia and Alaska	24/11/93	ICAO has taken action to co-ordinate with China/Russian Federation for implementation of Harbin-Ekimchan segment and to amend ANP. APAC 99/1-ATS was approved on 26/1/00. CAAC subsequently advises (14 Apr 03) that current route G212 meets the requirements and the proposed A218 is no longer required. <u>Reviewed by ARNR/TF/1.</u> <u>Route to be included in Route Catalogue as USER requirement as requested by IATA.</u>	China requested deletion and amendment to BANP.	China/Russian Federation ICAO	Subject to BANP amendment <u>Review by ARNR/TF/1</u>	B
	Japan	A223 - Not implemented	24/11/93	Japan has advised that a domestic route network covers the route. <u>Reviewed by ARNR/TF/1.</u> <u>Route to be included in Route Catalogue as USER requirement as requested by IATA.</u>	Japan - consider implementation as a conditional route <u>requested deletion and amendment to BANP</u>	Japan	TBD <u>Review by ARNR/TF/1</u> <u>Subject to BANP Amendment</u>	B

APANPIRG REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM/AIS/SAR FIELDS IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action**
	China/Mongolia/Russian Federation	A335 - Partially implemented	24/11/93	China and Mongolia advised that this segment is covered by other ATS routes properly; thus will <i>has</i> proposed its deletion from ANP. China reported to APANPIRG/14 the portion between HOHHOH - TUMURTAI was implemented. <u>Reviewed by ARNR/TF/1.</u> <u>Route to be included in Route Catalogue as USER requirement as requested by IATA.</u>	China, Mongolia - propose BANP amendment	China/Mongolia	Deletion of A335 notified 9 Oct 01 Subject to BANP amendment	B
	Indonesia/Malaysia	A341 - Partially implemented	24/11/93	ICAO has requested Indonesia to co-ordinate implementation with Malaysia. Malaysia has advised that the existing route B584 fulfils sufficiently the requirement and would propose the deletion of the requirement for Surabaya-Kota Kinabalu segment.	Indonesia/Malaysia - consider full implementation	Indonesia/Malaysia	12/2001 Review by ARNR/TF BANP amended by APAC 04/3	B
	Indonesia/United States	A450 - Partially implemented	24/6/94	ICAO has requested Indonesia to co-ordinate implementation with United States. United States has agreed to the implementation, and a response from Indonesia is being awaited. <u>Reviewed by ARNR/TF/1.</u> <u>To be coordinated by Regional Office.</u>	Indonesia/United States - consider full implementation	Indonesia/United States	TBD <u>Review by ARNR/TF</u>	B

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APANPIRG REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM/AIS/SAR FIELDS IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action**
	Viet Nam	A469 - Implemented as W9 before. As of 1 Nov 2001 implemented as L643.	19/8/94	ICAO has requested Viet Nam to implement as A469. Viet Nam advised that W9 was replaced with L643 on 1 November 2001. <u>Reviewed by ARNR/TF/1 and actioned confirmed.</u>	Viet Nam - propose deletion of the requirement as A469 ICAO process BANP amendment	Viet Nam ICAO	Subject to BANP amendment	B
	India/Nepal	A473 - Not implemented	16/3/99	A new proposal was submitted in mid 2003 by Nepal. This is being coordinated by AAI with defense authorities. <u>Reviewed by ARNR/TF/1 and actioned confirmed.</u>	India/Nepal- implement the route <u>as L626</u>	India/Nepal	TBD 12/2004 <u>Review by ARNR/TF</u>	B
	Thailand	A581 - Partially implemented	17/2/97	China, Lao PDR and Thailand proposed an amendment to ANP. ICAO processed APAC99/11 in co-ordination with China/Myanmar/Thailand. APAC99/1 was approved on 15 December 2000. <u>Reviewed by ARNR/TF/1 and action confirmed.</u>	Thailand - implement accordingly.	Thailand	11/2002 <u>Review by ARNR/TF Completed</u>	B
	United States	A584 - Partially implemented	24/6/94	ICAO has requested United States to implement the missing segment. United States has proposed deletion of the missing segment, and the proposal is under preparation. <u>Reviewed by ARNR/TF/1 and actioned confirmed.</u>	ICAO - process an amendment in co-ordination with United States. <u>United States - will propose to delete</u>	United States ICAO	Subject to BANP amendment	B

APANPIRG REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM/AIS/SAR FIELDS IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action**
	Fiji/New Zealand	B201 - Not implemented	24/11/93	Fiji/New Zealand have advised that they agreed to delete the requirement. ICAO will process ANP amendment as this was covered by routes B575, G457 and R327. <u>Reviewed by ARNR/TF/1 and actioned confirmed.</u>	Fiji/New Zealand - propose an amendment to delete the requirement in BANP	Fiji/New Zealand ICAO	Subject to BANP amendment	B
	Maldives	B204 - The requirements for this route are not detailed in BANP	24/1/96	<u>Reviewed by ARNR/TF/1 and actioned confirmed.</u>	Maldives propose an amendment to ANP to add the route. <u>ICAO - will follow up the current implementation with Maldives.</u>	Maldives ICAO	Subject to BANP amendment	B
	Japan/Rep of Korea	B212 - Not implemented	24/11/93	Japan is considering implementation as a conditional route and will coordinate with Republic of Korea. <u>Reviewed by ARNR/TF/1 and actioned confirmed.</u>	Japan/Rep of Korea - consider implementation	Japan/Rep of Korea	12/2005 <u>Review by ARNR/TF</u>	B
	Papua New Guinea	B456 - Partially implemented	24/11/93	Papua New Guinea has advised that they will formally propose ANP amendment for deletion of the missing segment. <u>Reviewed by ARNR/TF/1 and status to be confirmed by the Regional Office.</u>	Papua New Guinea - propose an amendment to BANP. ICAO-process BANP amendment.	Papua New Guinea ICAO	Subject to BANP amendment	B
	China	B591 - Partially implemented	22/7/97	Co-ordination is in progress among States and ICAO. <u>Reviewed by ARNR/TF/1 and actioned confirmed.</u>	ICAO continue on going implementation co-ordination related to the Revised South China Sea route structure with States. <u>China - will consider for future implementation.</u>	China	TBD <u>Review by ARNR/TF</u>	B

APANPIRG REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM/AIS/SAR FIELDS IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action**
	Indonesia	G461 - Implemented with different route specification	24/11/93	ICAO co-ordinated with Indonesia to amend BANP requirement. APAC00/1-ATS was approved on 15 January 2001. Reviewed by ARNR/TF/1 and actioned confirmed.	Indonesia-implement the requirement accordingly. <u>ICAO - will coordinate with Indonesia.</u>	Indonesia/ <u>ICAO</u>	TBD <u>Review by ARNR/TF</u>	B
	Cambodia /Philippines Thailand/Viet Nam	G473 - Partially implemented	24/11/93	Co-ordination is in progress among States and ICAO. Reviewed by ARNR/TF/1 and action confirmed.	ICAO - continue ongoing implementation co-ordination related to the Revised South China Sea route structure with States	Cambodia /Philippines Thailand/Viet Nam/ <u>ICAO</u>	TBD <u>Review by ARNR/TF</u>	B
	DPR Korea/ Rep of Korea	G589 - Not implemented	24/11/93	Reviewed by ARNR/TF/1 and status to be confirmed by the Regional Office.	B467 established instead of G589 April 1998	DPR Korea/ Rep of Korea	April 1998 Completed Review requirement for G589 by ARNR/TF	B
	China/Kazakhstan	R216 - Not implemented	24/11/93	CAAC advises current routes B215 KUQA, A460 REVKI to Alma Ata meets the requirements for traffic from Urumqi to Alma Ata and requests deletion of R216 from BANP (14 Apr 03). Reviewed by ARNR/TF/1. <u>Route to be included in Route Catalogue as USER requirement as requested by IATA.</u>	CAAC proposed deletion	China/Kazakhstan ICAO	Subject to BANP amendment <u>Review by ARNR/TF.</u>	B
	China	R333 - Not implemented	24/11/93	China is considering future implementation. Reviewed by ARNR/TF/1. <u>Route to be included in Route Catalogue as USER requirement as requested by IATA.</u>	China, Hong Kong China - co-ordinating with Hong Kong CAA propose deletion.	China/ <u>Hong Kong, China</u>	TBD <u>Review by ARNR/TF</u> <u>Subject to BANP amendment</u>	B

APANPIRG REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM/AIS/SAR FIELDS IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action**
	China/Hong Kong, China	R335 - Not implemented	24/11/93	CAAC advises no international flight requirements and requests deletion from ANP (14 Apr 03). <u>Reviewed by ARNR/TF/1.</u> <u>Route to be included in Route Catalogue as USER requirement as requested by IATA.</u>	China proposed deletion and amendment to BANP	China/Hong Kong, China ICAO	Subject to BANP amendment	B
	Cambodia/Lao PDR/Thailand	R345 - Not implemented	24/11/93	Cambodia has advised that the requirement is no longer valid and will propose the deletion of requirement in consultation with Lao PDR and Thailand. <u>Reviewed by the ARNR/TF/1 and action confirmed.</u>	ICAO - continue ongoing implementation co-ordination related to the Revised South China Sea route structure with States Cambodia- coordinate the deletion with IATA as well as Lao PDR and Thailand	Cambodia/Lao PDR/ Thailand	TBD <u>Review by ARNR/TF</u> Subject to BANP amendment	B
	Indonesia	R459 - Implemented as W51 and W36	24/11/93	ICAO has requested Indonesia to implement as R459. <u>Reviewed by the ARNR/TF/1 and action confirmed.</u>	Indonesia - consider promulgation implementation of the route with designator R459 in AIP Singapore - consider implementation of the route.	Indonesia/Singapore	TBD <u>Implementation by Indonesia - 25/11/2004</u> <u>Singapore - 20/1/2005</u> <u>Review by ARNR/TF</u>	B
	Russian Federation	R466 - Implemented as R446 in Russian Federation. Route requirement is listed in EUR/NAT ANP	24/11/93	ICAO has requested Russian Federation to delete R221 and promulgate the route as R466 in AIP. Implemented as R446. <u>Reviewed by the ARNR/TF/1 and action confirmed.</u>	<u>ICAO - coordinate with ICAO Paris Office to change the route designator.</u>	Russian Federation ICAO	Coordination with the Paris Office to amend BANP	A

APANPIRG REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM/AIS/SAR FIELDS IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action**
	Indonesia/Malaysia	R579 - Not implemented	24/11/93	ICAO has requested Malaysia to co-ordinate with Indonesia for implementation. Malaysia considered there was no longer requirement due to a low traffic movement; thus will propose the deletion. <u>Reviewed by ARNR/TF/1 and action confirmed.</u>	Indonesia/Malaysia – consider implementation. <u>ICAO - coordinate with Malaysia to delete the route requirement.</u>	Indonesia/Malaysia <u>ICAO</u>	12/2001 <u>Review by ARNR/TF</u> <u>Subject to BANP amendment</u>	B
	India/Oman	R593 - Not implemented	24/11/93	India advised ATM/AIS/SAR/SG/14 that India and Oman had agreed to delete. <u>Reviewed by ARNR/TF/1 and action confirmed.</u>	India proposed deletion and amendment to BANP	India/Oman	Subject to BANP amendment	B

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OUTSTANDING AMENDMENT PROPOSALS OF APAC BANP ON ATS ROUTES

Reference	Brief Description	Proposer	Date of Receipt	HQ for Comments	Date of Circulation to States	Closing Date for Comments	Date of Submission to HQ	Date of Approval	Notification to States	Remarks
APAC 98/13-ATS	ATS Routes in Nadi FIR	Fiji	1/12/98	-	3/2/99	20/3/99 objections from Samoa and Tonga				Special Coordination Meeting was held 6/8/99. Ongoing consultation with Samoa/Tonga/HQ. Special Coordination Meeting in Feb 2002.
APAC 99/1-ATS	ATS Routes A218, B328, B330,B331, B334 and B480	China	24/2/99	N/A	6/10/99	26/11/99	12/1/00	26/1/00	01/2/00	Editorial error in BANP: A218 was actually approved from Harbin, not Beijing.
APAC 99/4-ATS	ATS Routes A459, A466, B345, B457, G452, G598, G669, R328, R331, R462 and UL425	India	29/4/99 consolidating APAC97/11 and 98/1	N/A	24/1/01	09/3/01	23/3/01	12/4/01	19/4/01	Waiting for the Second Edition.
APAC 99/10-ATS	CNS/ATM route L888 in China	China	7/7/99	17/9/99 HQ comments 22/11/99 and 10/1/00						Awaiting from China clarification and detailed information 19/1/00; request made again 16/3/00, further request made 10/5/00

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Reference	Brief Description	Proposer	Date of Receipt	HQ for Comments	Date of Circulation to States	Closing Date for Comments	Date of Submission to HQ	Date of Approval	Notification to States	Remarks
APAC 00/1-ATS	ATS routes B588, G334, G461,R218 and R597	Indonesia, Malaysia and Philippines	10/1/00 combining APAC 99/2 and 99/3	N/A	03/8/00	22/9/00	8/12/00	10/1/01	15/1/01	Waiting for the Second Edition
APAC 00/2-ATS	ATS route A586 in Korea	Republic of Korea	05/1/00	N/A	11/7/00	31/8/00	14/9/00	1/10/00	5/10/00	Waiting for the Second Edition
APAC 03/4-ATS	EMARSSH route structure	APANPIRG/11 Conclusion 11/10								
APAC 04/3-ATS/SAR/AIS	Requirements for ATS route G211 is deleted	Malaysia			Done			Approved	Notified	Waiting for the Second Edition

After the First Edition was published, eight proposals have been developed; five amendment proposals were approved and three amendments are pending.

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CAMBODIA ROUTE REQUIREMENTS

Route Realignment

ATS route R588 from Phnom Penh to BENSAN – UPNEP – within Phnom Penh and Bangkok FIRS.

Route Linkage

ATS/RNAV route P901, linking ATS/RNAV routes P901 at IGNIS or CAVOI to QUANGNGAI within Ho Chi Minh FIR and SANYA AOR.

New ATS/RNAV route

HONG KONG – PHNOM PENH – PHUKET

CH-P901- IGNIS/CAVOI – ~~XXXX~~ – QUANGNGAI – W11 – PLEIKU – R588 – PNH – R588 – BENSAN – UPNEP – W33 – SMU – W32 – STN – G458 – PUT.

1285/1293 NM.

The existing ATS routes

- Hong Kong to Phuket via P901- DAN-A1- BKK - G458 - MENEX: **1360 NM**
- Hong Kong to Phuket via P901- A1 - TOPER- W42– MENEX– W34: **1332 NM**

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INDONESIAN ROUTE REQUIREMENTS

ATS ROUTE	Coordinates			Bearing	Dist	FL
N654						
DKI	05 57 40,300S	107 02 07,880E			
ABASA	04 56 51,900S	107 15 39,700E		13/	193 62	<u>460</u>
TPN	02 43 28,350S	107 45 11,510E		13/	193 136	<u>285</u>
KIKOR	00 23 58,310S	107 05 06,990E		344/	164 144	
M635						
				Bearing	Dist	FL
TPG	00 54 12,760N	104 30 52,420E	/		
SANOS	00 42 00,000S	106 19 00,000E		131/	311 145	<u>460</u>
RAMPY	06 15 00,580S	113 20 45,640E		129/	309 543	<u>285</u>
CURTINS	17 35 18,000S	123 51 06,000E				
A576						
				Bearing	Dist	FL
TPG	00 54 12,760N	104 30 52,420E	/		
SANOS	00 42 00,000S	106 19 00,000E		131/	311 145	
SABIL	04 01 08,650S	109 56 18,700E		133/	313 295	<u>280</u>
BLI	08 45 02,050S	115 09 47,900E		133/	313 424	<u>200</u>
FIR						
M774						
				Bearing	Dist	FL
TPG	00 54 12,760N	104 30 52,420E	/		
KIKOR	00 23 58,310S	107 05 06,990E		117/	297 173	
BOMAX	00 54 09,550S	108 05 35,420E		116/	296 68	
BOLSA	01 12 08,010S	108 41 12,140E		117/	297 40	<u>460</u>
KIBON	01 50 00,000S	110 00 00,000E		116/	296 87	<u>285</u>
PKN	02 43 35,330S	111 41 45,510E		118/	298 115	
KOBAS	03 00 00,000S	112 14 36,000E		116/	296 37	
KEVOK	04 20 27,360S	114 56 30,260E		116/	296 181	
KEONG	06 55 16,440S	120 01 58,440E		117/	297 344	
KIKEM	09 52 54,000S	126 07 24,000E		117/	297 407	
A464						
				Bearing	Dist	FL
TPG	00 54 12,760N	104 30 52,420E	/		
KIKOR	00 23 58,310S	107 05 06,990E		117/	297 173	
BOMAX	00 54 09,550S	108 05 35,420E		116/	296 68	
BOLSA	01 12 08,010S	108 41 12,140E		117/	297 40	<u>280</u>
KIBON	01 50 00,000S	110 00 00,000E		116/	296 87	<u>200</u>
PKN	02 43 35,330S	111 41 45,510E		118/	298 115	
KOBAS	03 00 00,000S	112 14 36,000E		116/	296 37	
KEVOK	04 20 27,360S	114 56 30,260E		116/	296 181	
KEONG	06 55 16,440S	120 01 58,440E		117/	297 344	
KIKEM	09 52 54,000S	126 07 24,000E		117/	297 407	
BLI	08 45 02,050S	115 09 47,900E	/		
KOLTA	06 27 53,010S	113 49 40,270E		330/	150 158	<u>460</u>
PKN	02 43 35,330S	111 41 45,510E		330/	150 257	<u>285</u>
OSUKA	01 17 30,000S	110 24 42,000E		318/	138 115	
PNK	00 04 44,950S	109 22 30,370E		319/	139 95	
ARUPA						

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ATS Route	Coordinates	Bearing	Dist	FL
G464				
BLI	08 45 02,050S 115 09 47,900E /			
KOLTA	06 27 53,010S 113 49 40,270E	330/	150 158	
PKN	02 43 35,330S 111 41 45,510E	330/	150 257	280
OSUKA	01 17 30,000S 110 24 42,000E	318/	138 115	200
PNK	00 04 44,950S 109 22 30,370E	319/	139 95	
ARUPA				

		Bearing	Dist	FL
P648				
DKI	05 57 40,300S 107 02 07,880E /			
ATOSO	05 08 52,480S 107 28 01,600E	28/	208 55	
AMBOY	04 08 00,000S 108 10 00,000E	35/	215 74	460
AKULA	03 07 11,560S 108 57 03,330E	38/	218 77	285
KIBON	01 50 00,000S 110 00 00,000E	39/	219 99	
OSUKA	01 17 30,000S 110 24 42,000E	37/	217 41	
OMEGA	00 23 00,000S 111 07 12,000E	38/	218 69	
OKADA	01 34 00,000N 112 38 00,000E	38/	218 148	
K.KINABALU				

		Bearing	Dist	FL
B592				
DKI	05 57 40,300S 107 02 07,880E /			
ATOSO	05 08 52,480S 107 28 01,600E	28/	208 55	
AMBOY	04 08 00,000S 108 10 00,000E	35/	215 74	
AKULA	03 07 11,560S 108 57 03,330E	38/	218 77	280
KIBON	01 50 00,000S 110 00 00,000E	39/	219 99	200
OSUKA	01 17 30,000S 110 24 42,000E	37/	217 41	
OMEGA	00 23 00,000S 111 07 12,000E	38/	218 69	
OKADA	01 34 00,000N 112 38 00,000E	38/	218 148	
K.KINABALU				

		Bearing	Dist	FL
M522				
BLI	08 45 02,050S 115 09 47,900E /			
GALKO	06 49 35,510S 115 04 53,850E	358/	178 115	460
KEVOK	04 20 27,360S 114 56 30,260E	357/	177 149	285
MAMOK	04 05 06,000N 115 47 12,000E	6/	186 505	
K.KINABALU				

		Bearing	Dist	FL
B584				
BLI	08 45 02,050S 115 09 47,900E /			
GALKO	06 49 35,510S 115 04 53,850E	358/	178 115	280
KEVOK	04 20 27,360S 114 56 30,260E	357/	177 149	200
ELANG	00 55 35,640S 114 50 03,100E	358/	178 204	
MAMOK	04 05 06,000N 115 47 12,000E	11/	191 304	
K.KINABALU				

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ATS ROUTE	Coordinates	Bearing	Dist	FL
M768				
ELBIS	09 05 18,000S 127 43 42,000E /			
PORAK	04 58 38,840S 124 00 23,520E	318/	138 331	<u>460</u>
LADOP	00 01 42,360N 119 30 40,870E	318/	138 404	<u>285</u>
MAMOK	04 05 06,000N 115 47 12,000E	317/	137 331	
B583				
ELBIS	09 05 18,000S 127 43 42,000E /			
PORAK	04 58 38,840S 124 00 23,520E	318/	138 331	<u>280</u>
LADOP	00 01 42,360N 119 30 40,870E	318/	138 404	<u>200</u>
MAMOK	04 05 06,000N 115 47 12,000E	317/	137 331	

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HIMALAYA 1
(KOLKATA TO INDEK)

SIGNIFICANT POINT	COORDINATE	TRACK (M)	DISTANCE (NM)
CALCUTTA	N2238.7 E08827.2	313	489
NEPALGUNJ	N2806.1 E08139.1	305	516
INDEK	N3246 E7316		1005

HIMALAYA 2
(KATHMANDU TO KUNMING)

SIGNIFICANT POINT	COORDINATE	TRACK (M)	DISTANCE (NM)
KATHMANDU (KTM)	N2740.5 E08521.0	110	170
BAGHDOGRA (BBD)	N2641.3 E08819.8	101	179
GUWAHATI (GGT)	N2606.1 E09135.3	134	104
SILCHAR (KKU)	N2454.8 E09258.9	101	51
IMPHAL (IIL)	N2446.0 E09354.5	087	481
KUNMING (KMG)	N2501 E10244	-	985

	<u>ROUTE</u>	<u>DISTANCE (NM)</u>
A.	KATHMANDU-DHAKA-LASIO-KUNMING-HONGKONG	1770
B.	KATHMANDU-BAGHDOGRA-IMPHAL-LASIO-KUNMING-HONGKON	1725
C.	KATHMANDU-BAGHDOGRA-IMPHAL-KUNMING-HONGKONG	1669

HIMALAYA 3
(KATHMANDU TO DELHI)

SIGNIFICANT POINT	COORDINATE	TRACK (M)	DISTANCE (NM)
KATHMANDU (KTM)	N2740.5 E08521.0	278	197
NEPALGUNJ (NGJ)	N2806.3 E08140	278	243
DELHI (DPN)	N2834 E7706.3	-	440

<u>ROUTE</u>	<u>DISTANCE (NM)</u>
A. KATHMANDU-NEPALGUNJ-DELHI	440
B. KATHMANDU-BHAIRAHAWA-DELHI	480

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ICAO GUIDELINES FOR DEVELOPING ATS ROUTES

1. ATS routes will satisfy appropriate ICAO SARPs;
2. Where possible, routes should be established to increase efficiency, reduce complexity and provide additional benefits to users;
3. Separation assurance principles should apply;
 - a) Routes should be established with sufficient separation to operate independently;
 - b) Where possible, routes in a radar environment should be procedurally (laterally) separated); and
 - c) Segregated tracks should be established on medium/high density routes and determined by set criteria;
4. Where required, routes should be constructed to support terminal area management procedures, e.g. SIDS/STARS and flow management techniques, as applicable;
5. Holding patterns should be laterally separated from other tracks and tolerances captures within a single sector;
6. A maximum of two routes containing high-density traffic should be blended at a single point. Inbound tracks should be blended at <90 degrees. Up to three low density traffic routes may be blended at a single pint;
7. Multiple crossing points involving major traffic flows should be avoided;
8. Enroute crossings should be minimized. Where crossings are inevitable they should, where possible, be established for cruise configuration. Such crossings should occur, where possible, within radar coverage;
9. Airspace sectorization should take account of the route structure and workload considerations. If necessary, airspace should be re-sectorized to accommodate changes to the air route configuration;
10. Routes should be constructed so as to reflect the optimum navigational capabilities of the principal user (e.g. RNAV or conventional);
11. The prime determinant should not be the minimum number of track miles. A small increase in track miles may optimize traffic flows, avoid unpredicted delays or avoid holding requirements;
12. Due allowance should be given to existing and future Flight Data Processing (FDP)/Radar Data Processing (RDP) capability (i.e. notification of messages for auto hand-off) etc;
13. A periodic safety audit and review process of routes should be conducted to test traffic demand against capacity criteria, and the guidelines. This should ideally be done in parallel with an annual sectorization review; and
14. Routes that can no longer be justified should be deleted.

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DRAFT AIP AMENDMENT

IMPLEMENTATION OF STRATEGIC LATERAL OFFSET PROCEDURES

X. STRATEGIC LATERAL OFFSETS IN OCEANIC OR REMOTE AIRSPACE

- X.1 Offsets are only applied in the oceanic (or remote continental) airspace in the XXX FIR.
- X.2 Offsets are applied only by aircraft with automatic offset tracking capability.
- X.3 The following requirements apply to the use of the offset:
 - a) the decision to apply a strategic lateral offset is the responsibility of the flight crew;
 - b) the offset shall be established at a distance of one or two nautical miles to the right of the centre line relative to the direction of flight;
 - c) the strategic lateral offset procedure has been designed to include offsets to mitigate the effects of wake turbulence of preceding aircraft. If wake turbulence needs to be avoided, one of the three available options (centreline, 1NM or 2NM right offset) shall be used;
 - d) in airspace where the use of lateral offsets has been authorized, pilots are not required to inform air traffic control (ATC) that an offset is being applied; and
 - e) aircraft transiting areas of radar coverage in airspace where offset tracking is permitted may initiate or continue an offset.

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ARNR/TF/1 — TASK LIST

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
Resources					
1	Identify resources Consider the preferred time line and magnitude of the task, and identify resource requirements.	IMMEDIATE	Task Force	On-Going	APANPIRG/15 acknowledged the magnitude of the task and the impact it would have on Regional Office resources.
2	Secondments from States Regional Office to consider obtaining assistance by way of appropriately skilled staff from States, users.	IMMEDIATE	States/Regional Office/Users	On-Going	The meeting considered that the Regional Office would need a 3 month secondment to assist with preparation of databases and BANP amendment proposals (one ATM officer retires in May 2005).
Deficiencies List					
3	Review Route component of Deficiencies List Review the route related deficiencies included on the APANPIRG list of Deficiencies in the Air Navigation Field. Identify safety related Deficiencies and address with suitable priority. Assess remainder for BANP amendment action, reclassification as ‘User Request’, ‘State Request’ or reclassification as ‘in BANP – Not Implemented’ . Amend Deficiency List accordingly.	ARNR/TF/1	Task Force	Completed	Completed by ARNR/TF/1
4	BANP Amendment Action Create BANP amendment proposals in accordance with existing procedures for routes to be deleted or revised.	IMMEDIATE	States/Regional Office	On Going	Amendment proposals to be raised by States and sent to Regional Office.
5	Outstanding route issues From APANPIRG Deficiencies List, progress outstanding route issues with States concerned.	ARNR/TF/2	States/Regional Office	On Going	

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ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
6	Formulate list of User Requirements From APANPIRG Deficiencies List, identify routes in the BANP to be deleted but retained on a List of User Requirements.	ARNR/TF/2	States/Regional Office	On Going	List to be prepared by Regional Office.
8	Formulate List of 'In BANP-Not Implemented' From Deficiencies List, identify routes that are described in the BANP for implementation, but have not been implemented. Formulate list of 'In BANP – Not Implemented' routes	ARNR/TF/2	Regional Office	On Going	
Review of the Basic Air Navigation Plan (BANP)					
9	Identify the difference between the BANP and the actual route systems in place States and Regional Office to identify differences between BANP and existing State AIPs and take corrective action	ARNR/TF/2	States/Regional Office	On Going	BANP requires updating. State. AIP data to be used as reference.
10	Identify Routes no longer required States to review route networks to identify routes no longer required and commence BANP amendment action accordingly	ARNR/TF/2	States	On Going	
11	Clarify BANP requirements regarding number/type of significant points listed Regional Office to provide clarification on the number and type of significant points to be listed in the BANP route description.	IMMEDIATE	Regional Office	On Going	
12	BANP Amendments States to review outcomes of ARNR/TF/1 and raise amendment proposals accordingly.	IMMEDIATE ARNR/TF/2	States	On Going	In addition to ARNR/TF mechanisms, States to utilise bi-lateral negotiation processes wherever possible to facilitate route amendments

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ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
Data Updates					
13	<p>Master Database</p> <p>Work on master route database commenced by Regional Office in preparation for ARNR/TF/1. States to assist with provision of data in format specified by Regional Office.</p> <p>Regional Office to collate responses from States and maintain master data base</p>	IMMEDIATE	States	On Going	States provided with diskette copy of master data base during ARNR/TF/1 for updating and return to Regional Office as soon as possible.
14	<p>Provide soft copy of AIP to Regional Office</p> <p>To enable harmonisation of BANP and State AIP, States to provide soft copy of relevant parts of AIP related to routes to Regional Office for review.</p>	IMMEDIATE	States/Regional Office	On Going	
Reference Materials					
15	<p>List of ICAO Publications</p> <p>Create reference list of ICAO documentation related to route implementation/amendment, including BANP amendment processes.</p>	IMMEDIATE	Regional Office	On Going	
16	<p>Task Force Guidance</p> <p>Task force to formulate list of preferred options for routes in Asia/Pacific Region including consideration of :</p> <ul style="list-style-type: none"> • Common route vertical limits FL275 – FL460; • RNAV/RNP only above FL275; • Use of great circle GNSS tracking above FL275 in preference to ground based nav aids; • Class A airspace for RVSM & RNP operations; • Leave space between routes to facilitate extra routes when RNP4 enabled. 	ARNR/TF/2	Task Force	On Going	

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ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
Environment Issues					
17	<p>Assist CAEP to create tools for quantification of environmental savings</p> <p>APANPIRG/15 acknowledged the work of CAEP/6 (February 2004) and tasked the ARNR/TF to support CAEP in developing tools for estimating environmental benefits of CNS/ATM systems, and to apply those tools to the work of the task force.</p>	ARNR/TF/2	States/Regional Office/Users	On Going	<p>APANPIRG/15 Decision 15/53 refers.</p> <p>IATA has experience in environmental calculations and offered to assist States..</p>
18	<p>States to consider environmental issues</p> <p>State Planners to consider environmental implications when proposing changes to routes</p>	IMMEDIATE	States	On Going	
19	<p>Ensure all track distance savings quantified</p> <p>ARNR/TF/1 noted APANPIRG/15 guidance requiring that the distances saved by the realignment and shortening of routes would be recorded by ARNR/TF in each case to facilitate calculation of environmental benefits.</p>	IMMEDIATE	States/Regional Office/Users	On Going	Route Catalogue template will require data on track distance savings.
Identify Major Traffic Flows					
20	<p>Update and Identify new major traffic flows (including Table 10-1)</p> <p>The <i>Asia Pacific Regional Plan for the new CNS/ATM Systems</i>(Chapter 10) includes detail of major traffic flows for the region. Review and update this material to ensure accurate detail of major regional traffic flows.</p>	ARNR/TF/2	States/Regional Office/Users	On Going	Regional Office Air Transport Section to be consulted and take into account Traffic Forecasting Group material for this review.
21	<p>Review and Update the ATM operational enhancement, aircraft and ground system requirements (including Table 10-2)</p> <p>The <i>Asia Pacific Regional Plan for the new CNS/ATM Systems</i>(Chapter 10) includes detail of the requirements for aircraft and ground systems for ATM operational enhancements. This material has not been updated since 2002 and requires significant amendment.</p>	ARNR/TF/2	Regional Office	On Going	The Plan to be reviewed and considered for inclusion in the ANP. Regional Office to consider producing an implementation style plan.

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ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
22	Review and Update the Current implementation Status (including Table 10-3) As above	As above	As above	As above	As above
Route Catalogue					
23	Adopt Route Catalogue methodology ARNR/TF/1 identified the logistical difficulties of keeping track of the number and complexity of the route proposals that would be generated as a result of the work of the task force and agreed to prepare a route catalogue to manage this data.	ARNR/TF/1	Task Force	Completed	ARNR/TF/1 reviewed the format of the Russian/American Coordinating Group for ATC (RACGAT) Polar Route Catalogue and similar IATA format for route proposals and agreed to produce a similar route catalogue for the region.
24	Prepare Chapter 'Routes In BANP- Implemented'	ARNR/TF/2	Regional Office, IATA	On Going	
25	Prepare Chapter 'Routes In BANP- Not Implemented'	ARNR/TF/2	Task Force (IATA)	On Going	
26	Prepare Chapter 'Routes Implemented – Not in/or in accordance with BANP'	ARNR/TF/2	Task Force (IATA)	On Going	
27	Prepare Chapter 'Future Requirements - States'.	ARNR/TF/2	Task Force (IATA)	On Going	Identified by States as future requirements for route network enhancement
28	Prepare Chapter 'Future Requirements – Users'	ARNR/TF/2	Task Force (IATA)	On Going	Identified by users as future requirements for route network enhancement
Identify Future Route Requirement					
29	Identify route requirements to ARNR/TF States and users to undertake a thorough review of their ATS route requirements (including future requirements) and submit this information to the ARNR/TF	ARNR/TF/2	States/Users	On Going	APANPIRG/15 Conclusion 15/3 refers.

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ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
ARNR Task Force Core Team					
30	<p>1) — Selection of Core Team</p> <p>In creating the task force, APANPIRG/14 had suggested that a core team approach to the work of the task force was to be considered.</p>	ARNR/TF/1	Task Force	Completed	The ARNR/TF/1 agreed to use the State representatives identified during the meeting as the primary contacts

EXAMPLE OF ATS AMENDMENT PROPOSAL

**Proposal for Amendment of Basic Air Navigation Plan
(Serial No. APAC 04/X – ATS)**

- a) **Plan:** ASIA/PAC, Basic ANP Doc 9673
- b) **Proposed Amendment:** Editorial note: Amendments are arranged to show “deleted text” using strikeout (~~text to be deleted~~), and “added text” with grey shading (text to be inserted).
- i) Route xxxx
Delete the requirement for this route
[cf Doc. 9673, Table ATS 1, Chart ATS 3A]
- ii) Route xxxx
Amend the requirement as follows:
[cf Doc. 9673, Table ATS 1, Chart ATS 3A]
- III) B 203
Add the requirement for a new ATS route as follows:
[cf Doc. 9673, Table ATS 1, Chart ATS 3A]
- KATHMANDU
BAGDOGRA
GUWAHATI
SILCHAR
IMPHAL
LASHIO
- c) **Originated by:** State(s)
- d) **Originators reasons for amendment:**
- e) **Intended date of Implementation:** Upon approval by Council.....
- f) **Proposal circulated to the following States and Organizations:**
- g) **Secretariat comments:** States of the Asia/Pacific Region and international organizations
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EXAMPLE OF
ATS ROUTE DESCRIPTION - B203 (KATHMANDU TO LASHIO)

Significant Point	Co-ordinate	Track(M)	Distance(NM)
KATHMANDU (KTM)	N2740.5 E08521.0	109	170
BAGDOGRA (BBD)	N2641.3 E08819.8	100	178
GUWAHATI (GGT)	N2606.1 E09135.3	132	104
SILCHAR (KKU)	N2454.8 E09258.9	099	51
IMPAL (IIL)	N2446.0 E09354.5	115	236
LASHIO (LSO)	N2259.0 E09745.0	-	-

ATS ROUTE DESCRIPTION - EXTENSION OF G348 (PARO TO BAGDOGRA)

Significant Point	Co-ordinate	Track(M)	Distance(NM)
PARO (PRO)	N2718.1 E8930.3	239	72
BAGDOGRA (BBD)	N2641.3 E08819.8	-	-

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