INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE FIFTEENTH MEETING OF THE ASIA/PACIFIC AIR NAVIGATION PLANNING AND IMPLEMENTATION REGIONAL GROUP (APANPIRG/15)

BANGKOK, THAILAND - 23 – 27 AUGUST 2004

The views expressed in this Report should be taken as those of the APANPIRG and not of the Organization. This Report will be presented to the Air Navigation Commission/Council and any formal action taken will be published in due course as a supplement to the Report.

Approved by the Meeting
and published by the ICAO Asia/Pacific Regional Office

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PART I - HISTORY OF THE MEETING

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1.1 Introduction

1.1.1 The Fifteenth Meeting of the ASIA/PAC Air Navigation Planning and Implementation Regional Group (APANPIRG/15) was held in Bangkok, Thailand from 23 to 27 August 2004 at the new Kotaite Wing, ICAO Asia/Pacific Regional Office.

1.2 Attendance

1.2.1 The meeting was attended by 90 participants from 15 Member States, 6 other Contracting States of the Asia/Pacific region and 4 International Organizations.

1.2.2 A list of participants is given at **Attachment 1** to the Report.

1.3 Opening of the meeting

1.3.1 The ICAO Regional Director, Mr. L.B. Shah welcomed the participants from the APANPIRG member States, non-member States and the International Organizations to the newly inaugurated Kotaite Wing of the ICAO Asia/Pacific Regional Office. He expressed his deepest gratitude to the Royal Kingdom of Thailand for having very generously provided the excellent facilities in the building.

1.3.2 Mr. Shah acknowledged the presence of several Directors General, Secretary, Chairman and Chief Executives who were attending APANPIRG/15 thus enhancing the value of the proceedings. With regard to International Organizations, he welcomed the presence of IATA, IFALPA, IFATCA and IBAC. He also extended a warm welcome to the Chief of Regional Affairs Office of ICAO Headquarters to the meeting.

1.3.3 He drew the attention of the delegates to the letter of 2 August 2004 from the ICAO Secretary General stating that the delay in the receipt of contributions by Contracting States was severely impacting on the cash resources of the Organization. The Secretary General had urged Contracting States to take immediate steps to fulfil their financial obligations to ICAO as a matter of great urgency.

1.3.4 Mr. Shah recalled that participating States and International Organizations in offering full commitment to APANPIRG had registered their confidence and value on the commendable role played by the regional office. He further exhorted delegates representing the Contracting States from the ASIA/PAC region to the upcoming 35th Session of the Assembly to make efforts in preventing any reduction in the resources of the regional office so that the productivity achieved thus far will not be impacted.

1.3.5 Mr Shah then proceeded to highlight some of the notable achievements in the region including the successful opening of the airspace between the Democratic People's Republic of Korea and the Republic of Korea, implementation of the revised route structure over South China Sea, EMARSSH, RVSM, partnership initiatives such as the COSCAP mechanism, enhancing meteorological safety services and the increasing involvement of ICAO technical assistance in the transfer of mega-airport and airline projects.

1.3.6 The Chairman, Mr. W.L. Wong in welcoming the delegates to APANPIRG/15, noted that a year had gone by since the war in Iraq and global outbreak of the Severe Acute Respiratory (SAR) disease. Security concerns and the spread of highly communicable disease remain very real threats.

Compounding the problem, the civil aviation industry is currently witnessing rapid increases in fuel costs. Airlines are struggling to remain competitive and it befalls all in the industry to ensure that aviation remains safe, efficient and competitive.

1.3.7 In commending the achievements of the ASIA/PAC region, Mr. Wong highlighted a number of areas in which he felt that more work needed to be carried out such as the extension of the route P628 to Kandahar which is a cost-effective alternative to the popular L759 for flights between Europe and the Asia/Pacific region. On ADS/CPDLC, he pointed out the need to speed up the implementation plans with the aim of providing point-to-point, seamless datalink service as quickly as possible and clear goals needed to be set with regard to the implementation of ADS-B and ATN services. Reducing the list of deficiencies remains an integral part of the activities of APANPIRG.

1.3.8 Mr. Shah then invited Mr. Vladimir Zubkov to briefly share some thoughts that may be of interest to the meeting.

1.3.9 Mr. Zubkov extended to the delegates attending APANPIRG/15 the greetings and best wishes from the President of the Council and Secretary General of ICAO. He also took the opportunity to thank the Royal Kingdom of Thailand for its unfailing support to ICAO which is further reinforced through its generous funding of the new Kotaite Wing.

1.3.10 In acknowledging the contributions made towards the development of regional air navigation infrastructure, he stressed the need for APANPIRG to have a reliable measure of performance to be able to quantify the results of the efforts and to assess the benefits achieved against the resources spent. He called for greater efficiency and more effective work of the staff as well as participants from States in view of the very tight resources allocated to ICAO in general and the regional office in specific.

1.3.11 Mr. Zubkov reiterated on the five main areas of focus for the forthcoming 35th Session of the Assembly, viz. effective global security system, uniform implementation of existing and evolving ICAO SARPs, continued progressive liberalization of air transport, global interoperable air traffic management systems and the balance between orderly development of civil aviation and quality of environment. In this regard, he recognised that APANPIRG and the Asia/Pacific region were very important and valuable contributors to the global implementation process.

1.4 Officers and Secretariat

1.4.1 Mr. W.L.Wong, DGCA, Singapore as Chairperson of the Group presided over the meeting. Mr. Lalit B. Shah, ICAO Regional Director, Asia and Pacific Office, was the Secretary of the meeting assisted by Mr. K. W. Cheong, Regional Officer/AGA from the ICAO Asia and Pacific Office. Mr.Vladimir Zubkov, Chief of Regional Affairs Office, ICAO Headquarters, was advisor to the meeting.

1.4.2 The meeting was also assisted by Mr. Shaukat A. Ali, Deputy Regional Director, Mr. H.V. Sudarshan, Regional Affairs Officer, ICAO Headquarters, Mr. Dimitar Ivanov, Regional Officer/MET, Mr. David Moores, Mr. Andrew Tiede and Mr. Kyotaro Harano, Regional Officers/ATM, Mr. K.P. Rimal and Mr. Li Peng, Regional Officers/CNS, Dr. Paul Hooper, Regional Officer/AT and Ms. Sarangtip Sundarachampaka, Regional Officer/Administration from the ICAO Asia/Pacific Regional Office.

1.5 **Agenda of the Meeting**

1.5.1 The meeting adopted the following agenda:

Agenda Item 1 Review of Council and ANC actions on APANPIRG/14 Report

Agenda Item 2 ASIA/PAC Air Navigation System and Related Activities

2.1 ATM/AIS/SAR Matters

2.2 CNS/MET Matters

2.3 ATS Co-ordination Groups' Activities

2.4 Other Air Navigation Matters

Agenda Item 3 CNS/ATM Implementation and Related Activities

Agenda Item 4 Deficiencies in the Air Navigation Field

Agenda Item 5 Review of Outstanding Conclusions and Decisions of APANPIRG

Agenda Item 6 Develop Future Work Programme

Agenda Item 7 Any other business

1.6 **Working Arrangements, Language and Documentation**

1.6.1 The Group met as a single body throughout the meeting. The working language of the meeting was English inclusive of all documentation and this Report. Information Papers (IPs) and Working Papers (WPs) presented at the meeting are listed in the **Attachment 2** to this Report.

1.7 **Conclusions and Decisions - Definition**

1.7.1 The APANPIRG records its actions in the form of Conclusions and Decisions with the following significance:

1) Conclusions deal with matters which, in accordance with the Group’s Terms of Reference, require the attention of States or actions by ICAO in accordance with established procedures; and

2) Decisions deal with matters of concern only to the APANPIRG and its contributory bodies.

List of Conclusions and Decisions are given on pages i-6 to i-9.

1.8 **Terms of Reference of APANPIRG**

1.8.1 The revised Terms of Reference of APANPIRG approved by the Council of ICAO (6th Meeting of its 171st Session on 27 February 2004) are as follows:

a) to ensure continuous and coherent development of the Asia/Pacific Regional Air Navigation Plan and other relevant regional documentation in a manner that is harmonized with adjacent regions, consistent with ICAO SARPs and Global Air Navigation Plan for CNS/ATM systems (DOC 9750) and reflecting global requirements;

b) to facilitate the implementation of air navigation systems and services as identified in the Asia/Pacific Regional Air Navigation Plan with due observance to the primacy of air safety, regularity and efficiency; and

c) to identify and address specific deficiencies in the air navigation field.

In order to meet the Terms of Reference, the Group shall:

a) review, and propose when necessary, the target dates for implementation of facilities, services and procedures to facilitate the coordinated development of the Air Navigation Systems in the Asia/Pacific region;

b) assist the ICAO Asia/Pacific Regional Office in fostering the implementation of the Asia/Pacific Regional Air Navigation Plan;

c) in line with the Global Aviation Safety Plan (GASP), facilitate the conduct of any necessary systems performance monitoring, identify specific deficiencies in the air navigation field, especially in the context of safety, and propose corrective action;

d) facilitate the development and implementation of action plans by States to resolve identified deficiencies, where necessary;

e) develop amendment proposals to update the Asia/Pacific Regional Air Navigation Plan to reflect changes in the operational requirements;

f) monitor implementation of air navigation facilities and services and where necessary, ensure interregional harmonization, taking due account of organizational aspects, economic issues (including financial aspects, cost/benefit analyses and business case studies) and environmental matters;

g) examine human resource planning and training issues and propose where necessary human resource development capabilities in the region that are compatible with the Asia/Pacific regional Air Navigation Plan;

h) review the Statement of Basic Operational Requirements and Planning Criteria and recommend to the Air Navigation Commission such changes as may be required in the light of new developments in the air navigation field;

i) request financial institutions, on a consultative basis as appropriate to provide advice in the planning process;

j) maintain close cooperation with relevant organizations and State grouping to optimize the use of available expertise and resources; and

k) conduct the above activities in the most efficient manner possible with a minimum of formality and documentation and call meetings of the APANPIRG when deemed necessary to do so.

List of Conclusions

Conclusions 15/2	-	**Capture and circulate lessons learn from EMARRSSH Task Force**
Conclusions 15/3	-	**Review of ATS route requirements**
Conclusions 15/6	-	**Designation of Airservices Australia to provide RMA and SMA services for the international airspace within the western part of the Melbourne and Brisbane FIRs**
Conclusions 15/7	-	**FANS 1/A Operations Manual (FOM)**
Conclusions 15/8	-	**Implementation of a 2 NM lateral offset procedures in the Asia/Pacific region**
Conclusions 15/9	-	**Review of Annex 11 airspace classification provisions for RVSM and RNP operations**
Conclusions 15/11	-	**Use of X.25 protocol**
Conclusions 15/12	-	**Development of AMHS Addressing Scheme and PRMD value for Asia/Pacific region**
Conclusions 15/13	-	**AHMS Naming Registration Form**
Conclusions 15/14	-	**Use of AMHS over TCP/IP in the Asia/Pacific region**
Conclusions 15/15	-	**ASIA/PAC Regional ATN Implementation System Management Operational Procedures**
Conclusions 15/16	-	**Table CNS-1D - AIDC**
Conclusions 15/17	-	**Amendment Table CNS-1C – ATSMHS Implementation Plan**
Conclusions 15/18	-	**Amendment to Table CNS-1B – ATN Router Plan**
Conclusions 15/19	-	**Amendment of the Table CNS-1A – AFTN Plan**
Conclusions 15/20	-	**Procedure for calculation of AFTN circuit loading statistics**
Conclusions 15/23	-	**Revision of the Strategy for Precision Approach and Landing Guidance Systems and the Strategy for the Implementation of GNSS Navigation Capability in the Asia/Pacific region**

List of Conclusions (Cont'd)

Conclusions 15/24	-	**Revision of FASID Table CNS-3 by States**
Conclusions 15/25	-	**Airlines plan for the deployment of ADS-B**
Conclusions 15/26	-	**Exchange of ADS-B surveillance data with neighbours**
Conclusions 15/28	-	**SADIS Internet-based FTP Service**
Conclusions 15/29	-	**SADIS strategic assessment tables**
Conclusions 15/30	-	**State's migration plans for the transition from 1G to 2G SADIS service**
Conclusions 15/31	-	**Annual survey of the ISCS/2 operational efficacy and nomination of ISCS Focal Points**
Conclusions 15/32	-	**Limited extension of the availability of WAFS forecasts in chart form beyond 1 July 2005**
Conclusions 15/33	-	**States' actions for the migration to the operational use of GRIB and BUFR coded WAFS products**
Conclusions 15/34	-	**Automatic depiction of SIGWX forecast in chart form from BUFR coded WAFS products**
Conclusions 15/36	-	**12th edition of the ROBEX Handbook and 3rd edition of the ASIA/PAC ICD**
Conclusions 15/37	-	**Fostering the standardization of OPMET information in the Asia/Pacific region**
Conclusions 15/38	-	**New data type designators for bulletins containing special air-reports**
Conclusions 15/39	-	**Feasibility of extending the validity of TAF to 30 hours**
Conclusions 15/41	-	**Designation of State volcano observatories**
Conclusions 15/42	-	**Conducting SIGMET tests in the Asia/Pacific Region**
Conclusions 15/43	-	**Improvement of issuance of SIGMET for tropical cyclones**

List of Conclusions (Cont'd)

Conclusions 15/47	-	**Implementation of AN-Conf/11 Recommendations by States**
Conclusions 15/48	-	**Implementation of AN-Conf/11 Recommendations by international organizations**
Conclusions 15/54	-	**Adoption of the ASIA/PAC Supplement to the Uniform Methodology**

List of Decisions

PART II - REPORT ON AGENDA ITEMS

AGENDA ITEM 1: REVIEW OF ACTIONS TAKEN BY ANC AND THE COUNCIL ON THE REPORT OF APANPIRG/14 MEETING

Agenda Item 1: Review of Action taken by ANC and the Council on the Report of APANPIRG/14 Meeting

1.1 The meeting reviewed the actions taken by the Air Navigation Commission and the Council on the Report of the Fourteenth Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) held in Bangkok from 4 to 8 August 2003. The meeting also noted the follow-up actions by the States and Secretariat on Conclusions and Decisions of the meeting as contained in **Appendices A to D** to the Report on Agenda Item 1.

1.2 With respect to the request (paragraph 2.1.29 of the APANPIRG/14 Report refers) for inclusion of RVSM phraseologies for air traffic control communications in *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444), the meeting took note that on the advice of the Commission the Secretariat had already completed this task.

1.3 With regard to Conclusion 14/10 (MET support to ATM large-scale weather deviation contingency procedures), the meeting was informed that the Secretary General has been requested to develop provisions for additional meteorological service to the ATS in regard to the weather phenomena that cause significant changes in the ATC procedures, such as large-scale weather deviations contingency procedures.

1.4 In relation to Automatic Dependent Surveillance-Broadcast (ADS-B), the meeting noted that the Commission supported Conclusion 14/22 regarding the inclusion of source data accuracy and integrity in ADS-B standards and also the development of separation standards for ADS-B surveillance.

1.5 In view of the difficulties expressed by APANPIRG in the implementation of Annex 3 provisions for tropical cyclone advisories and SIGMETs (Conclusion 14/42 refers), the meeting noted that the Commission requested the Secretary General to consider further development of Annex 3 provisions so as to address this issue.

1.6 On the subject of protection of the aeronautical frequency spectrum, the meeting noted that the Council recognized the contribution of the Asia/Pacific Region in addressing this issue in a number of fora, such as meetings of Directors General of Civil Aviation (DGCAs) and Asia-Pacific Telecommunity (APT) regional preparatory meetings. It also noted that the Council requested the need for the civil aviation community to continue to remain vigilant in safeguarding the aeronautical interest.

1.7 In relation to filling of key vacant posts in the Asia/Pacific Regional Office (Conclusion 14/53 refers), the meeting expressed its deep concern over the severe impending resource cutbacks in regional programmes in the proposed ICAO triennium budget (2005- 2006-2007), thus affecting its delivery of service to States. The meeting agreed that States be sensitized on this issue and be called upon to express their views on the value of regional programmes and regional activities during the discussion on the programme budget in the upcoming 35th Session of the ICAO Assembly in Montreal in September 2004.

1.8 Concluding the review, the meeting thanked the Council and Air Navigation Commission for their valuable guidance on various activities of the APANPIRG which would be taken into account in the development of ongoing action plan of the region.

STATUS OF CONCLUSIONS/DECISIONS OF APANPIRG/14 IN THE ATM/AIS/SAR FIELDS

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C14/1~~	~~ANC~~	~~**Review of the ICAO flight plan to include aircraft RNP type approval status**~~ ~~That, in light of the requirements of some States for a detailed knowledge of the RNP type approval status of aircraft, ICAO be requested to review current flight planning equipment suffix provisions and revise the ICAO Flight Plan accordingly.~~ ~~Noted the conclusion and that it had already agreed to the establishment of a study group to address this issue.~~	~~A Study Group has been established by ICAO Headquarters.~~	~~Closed~~ ~~(Action being taken by HQ)~~
~~C14/2~~		~~**Revision of the *Guidance Material on CNS/ATM Operations in the Asia/Pacific Region***~~ ~~That, as a matter of priority, and in line with the review by ICAO at the request of the Air Navigation Commission, a Task Force be established to revise the *Guidance Material on CNS/ATM Operations in the Asia/Pacific Region*, in coordination with States responsible for the Pacific Operations Manual (POM) with the intent of harmonizing both documents.~~	~~A Review Task Force was established and met in Honolulu, Hawaii in October 2003, and conducted an extensive review of the Guidance Material addressing comments provided by ICAO Headquarters. Also, the operations procedures document used in the Pacific Region (Pacific Operations Manual) was also reviewed and harmonized with ICAO requirements to the extent possible. A revision to the Guidance Material is under preparation by the Regional Office.~~	~~Completed~~
~~C14/4~~		~~**Circulation of amendment proposal APAC 99/9 ATS (Sigmet in Volmet) to the APAC ANP (Doc 9673)**~~ ~~That, the Asia/Pacific Regional Office circulates the amendment proposal APAC 99/9 ATS to the Asia/Pacific ANP (Doc 9673) to States and international organizations.~~	~~APAC 99/9 ATS was circulated to States and International organizations for comment by the Regional Office on 20 May 2004. The results are under review.~~	~~Completed~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
C14/5		**ATS Route Network Review Task Force (ARNR/TF)** 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.	The Regional Office requested States and users by letter to identify present and future route requirements to be considered by ARNR/TF/1 to be held in September 2004.	On-going
C14/6	ANC	**Implementation of ACAS II and pressure-altitude reporting transponders in the Asia Pacific Region** That, States in the Asia/Pacific Region as a matter of urgency implement ACAS II and pressure-altitude reporting transponders required by Annex 6 especially in view of RVSM operations. Noted the conclusion and, as one of the possible means, requested the Secretary General to write specifically to States not having done so to urge them to ensure carriage of ACAS II and pressure-altitude reporting transponders by aircraft in accordance with Annex 6 provisions.	ICAO State Letter AN 11/6.1-04/31 issued on 30 April 2004 on a proposed amendment to Annex 6 on additional requirements for carriage of ACAS II and associated training requirements for pilots. States to update the Regional Office on status of implementation of ACAS II and pressure-altitude reporting transponders. During APANPIRG/15, States undertook to update Regional Office by the end of 2004. States not in compliance with the SARPs will be included on the Deficiencies list	On-going
C14/7		**Implementation of a 2 NM lateral offset procedure** That, subject to the ICAO guidelines being revised, States should develop a 2 NM lateral offset procedure to be implemented in all relevant airspace in the Asia/Pacific Region, and the Regional Supplementary Procedures amended as appropriate. This procedure to be harmonized with other regions to ensure uniform application globally.	A State Letter is under preparation by ICAO Headquarters to revise the guidelines for 2 NM offset procedures to be applied globally . Based on the ICAO revised guidelines, States to promulgate in State AIPs the routes and airspace where offsets are authorized as required by Annex 2 (Chapter 3, 3.6.2.1.1).	On-going

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~D14/8~~		~~**Reactivation and renaming of the AIS Automation Task Force**~~ ~~That, the AIS Automation Task Force be reactivated and renamed the AIS Implementation Task Force (AITF) to study AIS automation and related matters, and assist States to implement ICAO SARPs on AIS in an expeditious manner. Amended terms of reference are provided in Appendix E of the report on Agenda Item 2.1.~~	~~AIS Implementation Task Force has been activated; first meeting is scheduled for 29 November - 3 December, 2004.~~	~~Completed~~
C14/9		**AIRAC provisions** That, ICAO be requested to again reinforce to States the critical safety nature of AIS and adherence to Annex 15 provisions, particular those relating to AIRAC, as well as the need to ensuring accurate and timely publication of AIS data.	Timelines for the dissemination of changes to AIS are contained in Annex 15. The AIS Implementation Task Force (AI/TF) to undertake a study of the application of Annex 15 requirements.	On-going
~~D14/11~~		~~**Revision to the Title of the ATS/AIS/SAR Sub-Group**~~ ~~That, the title of the ATS/AIS/SAR Sub-Group is changed to the ATM/AIS/SAR Sub-Group to more adequately reflect the activities of the group.~~	~~The Sub-Group has been renamed the ATM/AIS/SAR Sub-Group.~~	~~Completed~~
C14/45		**Fostering of exchanges between MET and ATM** a) the MET Authorities/Providers of the States, be encouraged to continually assess with the corresponding ATM authorities the requirements for MET information with the aim of developing new products/information to		

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
		support the ATM, bearing in mind the potential costs and benefits involved; and		
		b) ICAO be invited, in coordination with WMO, to organize a MET/ATM coordination seminar in ASIA/PAC Region in 2004, to foster the exchanges between the MET and ATM experts in order to facilitate further development of the MET component of the CNS/ATM systems in the ASIA/PAC Region.	A seminar to be scheduled by the Regional Office during 2005.	On-going
	C	Noted the conclusion and invited the Secretary General, in coordination with WMO, to organize a MET/ATM coordination seminar in the ASIA/PAC Region during 2004.		
~~D14/46~~		~~**Amendment to the key priorities for implementation of the CNS/ATM systems of the Asia/Pacific Region**~~ ~~That, the amended list of Key Priorities for implementation of the CNS/ATM systems for the Asia/Pacific Region be adopted as shown in Appendix B to the Report on Agenda Item 3.~~	~~The list was reviewed and updated by the CNS/MET/8 and ATM/AIS/SAR/14 Sub-Group meetings.~~ Note: APANPIRG/15 abandoned this list, replaced with specific Sub Groups Lists	~~Completed~~
~~D14/47~~		~~**Establishment of the Future Directions Task Force**~~ ~~That, a post 11th Air Navigation Conference Future Directions Task Force be established in accordance with the Terms of Reference as shown in Appendix C to the Report on Agenda Item 3.~~	~~The Future Directions Task Force (FDTF) was established and met on 17 - 19 May 2004. As the work of the Task Force was completed at this meeting, the FDTF formulated Draft Decision 1/4 recommending the dissolution of the Task Force.~~	~~Completed~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~D14/48~~		~~**Establishment of the Regional Airspace Safety Monitoring Advisory Group**~~ ~~That, the Regional Airspace Safety Monitoring Advisory Group (RASMAG) be established with terms of reference as shown in Appendix D to the Report on Agenda Item 3. The RASMAG shall report annually to APANPIRG and the ATM/AIS/SAR/SG on the results of its airspace safety monitoring activities. The members of the Group should comprise experts from the regional monitoring agencies and other specialists as required.~~	~~The RASMAG was established and first met on 26 - 30 April, 2004. The second meeting of RASMAG is scheduled for 4 - 8 October, 2004.~~	~~Completed~~
~~D14/49~~		~~**To dissolve the Asia/Pacific Airspace Safety Monitoring Task Force**~~ ~~That, the Asia/Pacific Airspace Safety Monitoring Task Force, having completed its work programme, be dissolved.~~	~~The Asia/Pacific Airspace Safety Monitoring Task Force (APASM/TF) was dissolved by this Decision.~~	~~Completed~~
~~C14/53~~ ~~C~~		~~**Filling up key vacant posts in the ASIA/PAC Regional Office**~~ ~~That, the ASIA/PAC Regional Office resources be strengthened by filling up the ATM and AIS/MAP vacant positions.~~ ~~Noted the conclusion and requested the Secretary General, as a matter of urgency, to strengthen the Asia/Pacific Regional Office specifically by filling the AIS/MAP vacant post.~~	~~ATM is at full strength as of June 2004.~~ ~~The AIS/MAP position remains vacant.~~ Note: Triennium Budget proposal 2005/07 from Council for consideration by 35th Assembly (Oct 2004) does not include provision for maintaining existing establishment of Regional Officers. Consequently the AIS/MAP Post has been abolished and the ATM P4 Post becoming vacant in May 2005 is also expected to be abolished.	Closed, being actioned by HQ, no positive outcome to be expected.

STATUS OF CONCLUSIONS/DECISIONS OF APANPIRG/14 IN THE CNS FIELD

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C. 14/12~~	~~-~~	~~**Conclusion 14/12 - ASIA/PAC Interface Control Document (ICD) for ATN Router**~~ ~~That, the ASIA/PAC regional ICD for ATN Router be adopted and published.~~	~~Published in the website and States notified.~~	~~Completed~~
~~C.14/13~~	~~-~~	~~**Conclusions 14/13 - - ATN Documentation Tree**~~ ~~That, the updated ATN Documentation Tree be included in the Second Edition of the ATN Planning and Technical Document and forwarded to States.~~	~~Included in the Second Edition of ATN Planning Document and published and States notified.~~	~~Completed~~
~~C.14/14~~	~~-~~	~~**Conclusion 14/14 -ASIA/PAC ATN Inter Domain Routing Policy (IDRP)**~~ ~~That, the ASIA/PAC ATN Inter Domain Routing Policy (IDRP) be adopted and distributed to States.~~	~~Published in the website and States notified.~~	~~Completed~~
~~C.14/15~~	~~-~~	~~**Conclusion 14/15 - Use of Public Internet to support AFTN**~~ ~~That, the guidance material for the use of Public Internet to support low speed AFTN circuits be adopted and circulated for States for use as an interim means pending the outcome of the result of Aviation Use of Public Internet Study Group.~~	~~- Provided to the Study Group;~~ ~~- Published in the website and State notified.~~	~~Completed~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C.14/16~~	~~-~~	~~**Decision 14/16 – Revision of the Subject/Tasks List of the ATN Transition Task Force**~~ ~~That, the updated Subject/Tasks List of the ATN Transition Task Force provided in Appendix A be adopted.~~	~~Task Force noted the changes made.~~	~~Completed~~
~~C. 14/17~~	~~*ANC*~~	~~**Conclusion 14/17 - Use of SATCOM voice for ATS**~~ ~~That,~~ ~~a) SATCOM voice be used in compliance with existing SARPs; and~~ ~~b) ICAO develop a global policy for the use of SATCOM voice for ATS function.~~ ~~*Noted the Conclusion and relevant provisions in Annex 10, and requested the Secretary General to consider developing, if necessary, additional procedures to address the use of SATCOM voice for ATS.*~~	~~The task has been assigned to ACP. ACP is looking for more details about the problem statement.~~ ~~State concerned has been advised to furnish details.~~	~~On going~~ Closed (Task being undertaken by concerned ICAO Panels.)

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C.14/18~~	~~-~~	~~**Conclusion 14/18 – Inclusion of Seoul in MWARA NCA 3**~~ ~~That, the ASIA/PAC FASID be amended in accordance with the established procedure to specify requirement for an aeronautical station in Seoul to provide HF air-ground communication in the MWARA NCA 3 Network.~~	~~- A proposal for amendment to the Table CNS 2 of FASID was processed.~~ ~~- States notified of the adoption of the proposal.~~	~~Completed~~
~~C.14/19~~	~~-~~	~~**Conclusion 14/19 – Updated Revision of the Strategy for Precision Approach and Landing Guidance Systems and the Strategy for the Implementation of GNSS Navigation Capability in the ASIA/PAC region**~~ ~~That, the updated Strategy for Precision Approach and Landing Guidance Systems and the Strategy for the Implementation of GNSS Navigation Capability in the ASIA/PAC region provided in Appendices B and C respectively, to the report on Agenda Item 2.2 be adopted and provided to States.~~	~~The updated strategies were published in the website and States notified.~~	~~Completed~~
~~C. 14/20~~	~~-~~	~~**Conclusion 14/20 - Near term ADS-B data link selection**~~ ~~That, Mode S Extended Squitter (1090 ES) be used as the data link for ADS-B radar like services in the ASIA/PAC region in the near term.~~	~~Task Force is proceeding with the development of implementation plan based on 1090 ES as data link.~~ ~~AN Conf/11 also endorsed this link for near-term use.~~	~~Completed~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
C.14/21	-	**Conclusion 14/21 - Target date of ADS-B Implementation** That States, where necessary to do so, be encouraged to implement "ADS-B out" for ground-based surveillance services in ASIA/PAC Region on a sub-region by sub-region basis with a target date of January 2006.	ADS-B Task Force developing plan for air-ground ADS-B implementation on a Sub-regional basis in an evolutionary manner.	On going
~~C.14/22~~	~~-~~	~~**Conclusion 14/22 – Needs for development of ICAO SARPs for ADS-B**~~ ~~That, in view of the progress made by States with operational trials for the implementation of ADS-B, ICAO be requested to give priority to:~~ ~~a) the inclusion of positional source data accuracy and integrity requirements for ADS-B services in the appropriate standards; and~~ ~~b) development of separation standards for ADS-B surveillance.~~ ~~*ANC*~~ ~~*Noted the Conclusion and requested the Secretary General to consider including source data accuracy and integrity requirements in ADS-B standards and also develop separation standards for ADS-B surveillance.*~~	~~ICAO HQ requested to take appropriate action with respect to the global provisions.~~ ~~The Surveillance and Conflict Resolution System Panel (SCRSP) and Separation Panel (SASP) are expected to take appropriate actions.~~	~~On going~~ Closed (Task being undertaken by concerned ICAO Panels)

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~D. 14/23~~	~~-~~	~~**Decision 14/23 - Revision of the Terms of Reference of ADS-B Study and Implementation Task Force**~~ ~~That, the new Terms of Reference of the ADS-B Study and Implementation Task Force be adopted as shown in Appendix D.~~	~~Task Force noted the revised TOR.~~	~~Completed~~
C. 14/24		**Conclusion 14/24 - Preparation for World Radio Communication Conference 2007 (WRC-2007)** That, States, a) assign high priority to aeronautical spectrum management; b) participate in the development of States' position for WRCs at the national level to ensure support to the ICAO position; c) ensure, to the extent possible that, aviation representatives are included in States delegations to the Asia-Pacific Telecommunity (APT) Conference Preparatory Group) meetings and at WRCs; d) to nominate an ICAO designated focal point or contact person for aviation issues related to the WRC-07; and e) ensure participation of the designated focal point or contact person at the ICAO Regional Preparatory Group Meetings for WRC-07, APT Conference Preparatory Group Meetings for WRC-07, and at WRC-2007.	As a follow up action this Conclusion was presented to the 40th DGCA Conference. States have been urged to nominate focal point of contact. 24 States have designated focal point of contact and replies from 11 States awaited.	On going

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
	ANC	*Noted the Conclusion and requested the Secretary General to continue encouraging the States to participate at various levels in different fora to provide support for the ICAO position at the forthcoming WRC-2007 so as to protect aeronautical frequency spectrum.*		
~~C. 14/43~~	~~-~~	~~**Decision 14/43 Update Subject/Tasks List of the CNS/MET Sub-Group**~~ ~~That, the updated Subject/Tasks List of the CNS/MET Sub-Group presented in Appendix L be adopted.~~	~~Brought to the attention of the Sub-Group.~~	~~Completed~~
~~D. 14/46~~	~~-~~	~~**Decision 14/46 Amendment to the key priorities for implementation of the CNS/ATM systems for the ASIA/PAC Region**~~ ~~That, the amended list of Key Priorities for implementation of the CNS/ATM systems for the ASIA/PAC Region provided in Appendix B to the Report on Agenda Item 3 be adopted.~~	~~Brought to the attention of the Sub-Group.~~	~~Completed~~

STATUS OF CONCLUSIONS/DECISIONS OF APANPIRG/14 IN THE MET FIELD

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C. 14/25~~		~~**Conclusion 14/25 - Implementation of the SADIS second generation system (SADIS 2G)**~~ ~~That, subject to the successful completion of the trials, the APANPIRG endorses the implementation of the SADIS second generation broadcast (SADIS 2G)~~ ~~*Noted the conclusion and recognized that the transition to SADIS 2G would accrue benefits to States, although there would be an initial cost implication at the system level.*~~	~~The implementation of SADIS 2G has been endorsed.~~	~~Completed~~
~~C. 14/26~~	~~*ANC*~~	~~**Conclusion 14/26 - Discontinuation of the current first generation SADIS two way VSAT programme**~~ ~~That, the APANPIRG notes the plan to discontinue the current SADIS two way VSAT programme as of 1 January 2004.~~ ~~*Noted the conclusion and acknowledged that the discontinuation of the current SADIS two way VSAT programme effective 1 January 2004 constituted and initial step for migration from first to second generation SADIS broadcast system.*~~	~~SADIS two way VSAT programme discontinued 1 January 2004~~	~~Completed~~
~~C.14/27~~	~~-~~	~~**Conclusion 14/27 - SADIS strategic assessment tables**~~ ~~That, the ASIA/PAC SADIS strategic assessment tables, as given in Appendix F to the report on Agenda Item 2.2, be adopted and forwarded to the SADISOPSG for planning the future SADIS bandwidth requirements.~~	~~SADIS strategic assessment tables forwarded to the SADISOPSG.~~	~~Completed~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C. 14/28~~	~~-~~	~~**Conclusion 14/18 – Use of the SADIS Internet Back-up Service by ISCS User States**~~ ~~That, the ISCS user States be encouraged to consider the use of the SADIS internet-based ftp back-up service as an interim solution for reception of WAFS products and OPMET data in the event of difficulties in meeting the ISCS transition schedule.~~ ~~*Note: The use of the SADIS internet-based back-up service would require a software for visualization of the WAFS products.*~~	~~ISCS user States have been informed of the availability of the SADIS ftp back-up service.~~	~~Completed~~
~~C. 14/29~~		~~**Conclusion 14/29 – Cost Recovery for the utilization of WAFS by the States**~~ ~~That, ASIA/PAC States be encouraged to include the costs associated with the receipt and provision of WAFS products, in particular, the mandatory SADIS charges, the cost for the replacement or upgrade of WAFS workstations and software required for the transition to the GRIB and BUFR coded WAFS products, the upgrade and maintenance of the SADIS/ISCS VSAT equipment, in the cost recovery for the meteorological services provided in their territory via the air navigation service charges.~~ ~~*Note: The recovery of the costs should be in accordance with ICAO principles and policy on the air navigation service charges.*~~	~~States notified.~~	~~Completed~~
C. 14/30	-	**Conclusion 14/30 – States' Actions for the Migration to the Operational Use of GRIB and BUFR coded WAFS Products** That,	States have been notified on a number of occasions on the need to upgrade their systems for receiving/processing WAFS data. The migration process is yet to be	On-going 2005

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
		a) ASIA/PAC States be urged to start the necessary preparations for the migration to the operational use of GRIB and BUFR coded WAFS products as a matter of urgency, if they have not already done so; b) States having difficulties in the migration to the operational use of GRIB and BUFR coded WAFS products be encouraged to urgently approach WMO for assistance under the WMO Voluntary Cooperation Programme (VCP). *Note: In order to expedite WMO consideration of VCP requests, States are encouraged to contact potential donors and subsequently inform WMO.*	finalized by 1 July 2005.	
~~C. 14/31~~	~~-~~	~~**Conclusion 14/31 – Automatic Production of SIGWX Charts from BUFR Coded WAFS Products**~~ ~~That, the WAFSOPSG be invited to consider the requirement for automatic production of SIGWX charts for the standard ICAO chart areas from BUFR coded WAFS products to be included into the set of minimum requirements to be achieved by the WAFS workstation manufacturers.~~	~~The conclusion had been considered by the first meeting of the WAFS Operations Group (WAFSOPSG/1, Lima, September 2003)~~	~~Closed~~ ~~(Action being taken by WAFSOPSG)~~
C. 14/32		**Conclusion 14/32 – GRIB/BUFR Training** That, the SADIS and ISCS provider States be invited to provide further training on the operational use of GRIB and BUFR coded WAFS products for the States in the ASIA/PAC Regions in coordination with ICAO and WMO. *Note: It is desirable that the above training is organized conjointly by the SADIS and ISCS provider States for both SADIS and ISCS user States in the ASIA/PAC Region in late 2004/early 2005.*	Consultations between SADIS and ISCS provider States carried out. Training event ~~expected~~ agreed and scheduled for ~~December 2004~~. January 2005.	On-going 2005

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
	C	*Noted the conclusion and requested the Secretary General to invite the SADIS and ISCS Provider States to arrange, in coordination with ICAO and WMO, training on the operational use of GRIB- and BUFR-coded WAFS products for the States in the Asia/Pacific Regions during 2004/2005.*		
C. 14/33		**Conclusion 14/33 – Amendment of regional procedures related to WAFS in the ASIA/PAC Basic ANP and FASID** That, the ASIA/PAC Basic ANP and FASID (Doc 9673) be amended as indicated in Appendix G to the report on Agenda Item 2.2.	Amendment proposal is under preparation; scheduled for circulation to States in September 2004.	On-going 2004
~~C. 14/34~~	-	~~**Conclusion 14/34 – Notification for significant changes in the WAFS operation**~~ ~~That, WAFSOPSG be invited to develop adequate notification procedure for significant changes in the WAFS operation to ensure that all States/users concerned are informed with enough lead time to prepare for those changes.~~	~~WAFSOPSG/1 meeting adopted Conclusion 1/6 on the subject~~	~~Completed~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C. 14/35~~	~~-~~	~~**Conclusion 14/35 – Inclusion of 9-hour TAF in the ROBEX exchange**~~ ~~That, the ASIA/PAC States who are issuing 9-hour TAF, be invited to include these bulletins into the regular exchange under the ROBEX scheme.~~	~~State letter issued. OPMET/MTF/2 meeting created a new ROBEX Table for the 9-hour TAF~~	~~Completed~~
~~C. 14/36~~	~~-~~	~~**Conclusion 14/36 – ASIA/PAC Regional SIGMET Guide**~~ ~~That,~~ ~~a) ICAO publish the new edition of the ASIA/PAC Regional SIGMET Guide in accordance with the established procedures; and~~ ~~b) based on the guidance provided in the ASIA/PAC Regional SIGMET Guide, the States be invited to review the operations of the designated MWOs and ensure that SIGMET messages are issued in full compliance with the Annex 3 provisions and the requirements stated in the ASIA/PAC Regional ANP.~~	~~SIGMET Guide published in September 2003 and sent to all States. The Guide is published on ICAO web site.~~	~~Completed~~
~~C. 14/37~~	~~*ANC*~~	~~**Conclusion 14/37 – Amendments to the SIGMET format**~~ ~~That, ICAO be invited to consider amendments to the SIGMET format specified by Annex 3, in particular to the part of the SIGMET message related to the geographical location of the weather phenomenon, for which the SIGMET is issued, aimed at facilitating the preparation of SIGMET information and further standardization of the message format.~~ ~~*Note: Examples of proposed changes to the SIGMET format are shown in Appendix I to the report on Agenda Item 2.2.*~~ ~~*Noted the conclusion and requested the Secretary General to develop amendments to the SIGMET format specified by Annex 3, in particular to the part of the SIGMET message*~~	~~Task undertaken by the ICAO HQs~~	~~Closed~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
		~~*related to the geographical location of the weather phenomenon, aimed at further standardization of the message format.*~~		
~~D. 14/38~~	~~-~~	~~**Decision 14/38 – Task Force on the implementation of volcanic ash and Tropical cyclone advisories and warnings (VA/TC Implementation TF)**~~ ~~That,~~ ~~a) the Volcanic Ash Task Force, established by Decision 13/31 of APANPIRG be disbanded; and~~ ~~b) a Task Force on the implementation of the volcanic ash and tropical cyclone advisories and SIGMETs in the ASIA/PAC Region (VA/TC Implementation TF) be established with terms of reference, work programme and composition as shown in Appendix J to the report on Agenda Item 2.2.~~	~~VA/TC Implementation TF established~~	~~Completed~~
~~C. 14/39~~	~~-~~	~~**Conclusion 14/39 – Harmonization of the format of volcanic ash and tropical cyclone advisories**~~ ~~That, IAVW Operations Group (IAVWOP SG) be invited to review the format of the volcanic ash and tropical cyclone advisories and propose changes aimed at harmonizing the format of those elements which are common for both types of advisory messages.~~	~~The subject was addressed by the IAVWOPSG/1 meeting and the Secretariat was tasked to prepare amendment proposal.~~	~~Closed~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
C. 14/40	-	**Conclusion 14/40 – Amendment to FASID Table MET 1B in regard to the service provided by the meteorological watch office Wellington** That, FASID Table MET 1B be amended by adding a note for MWO Wellington, New Zealand, as shown in the Appendix K to the report on Agenda Item 2.2.	Amendment proposal is under preparation; scheduled for circulation to States in September 2004.	On-going 2004
~~C. 14/41~~	~~-~~	~~**Conclusion 14/41 – Implementation of the requirement for TC advisories by TCAC New Delhi**~~ ~~That, India, as TCAC Provider State, be invited to implement, as a matter of urgency, the requirement for issuance of TC advisories by TCAC New Delhi as specified in the ASIA/PAC Basic ANP and FASID (Doc 9673), following the provisions of Annex 3, regarding the format of these advisories.~~	~~Communication with the Indian Meteorological Department carried out and the TCAC New Delhi started issuing TC advisories from the beginning of 2004~~	~~Completed~~
~~C. 14/42~~	~~*ANC*~~	~~**Conclusion 14/42 – Further development of the ICAO provisions for the tropical cyclone advisories and SIGMETs**~~ ~~That, ICAO be invited to consider further development of the Annex 3 provisions related to the format and content of the tropical cyclone advisories issued by the Tropical Cyclone Advisory Centres (TCAC) and SIGMETs for tropical cyclones issued by the meteorological watch offices (MWO).~~ ~~*Noted the conclusion and requested the Secretary General to consider further development of the Annex 3 provisions related to the format and content of the tropical cyclone advisory centre and SIGMETs for tropical cyclones issued by the MWO*~~	~~Task undertaken by the ICAO HQs.~~	~~Closed~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C. 14/44~~	~~*ANC*~~	~~**Conclusion 14/44 – Application of Mode-S data link in automatic weather reporting**~~ ~~That, ICAO be invited to consider the application of the Mode-S data link in automatic air-reporting as an alternative to ADS over areas covered by surveillance radars and to consider ways to facilitate its implementation in the ASIA/PAC Region.~~ ~~*Noted the conclusion and called upon the Secretary General to consider the use of Mode-S data link in automatic air-reporting.*~~	~~Task undertaken by ICAO HQs.~~	~~Closed~~
C. 14/45	*C*	**Conclusion 14/45 – Fostering of exchanges between MET and ATM** That, a) the MET Authorities/Providers of the States, be encouraged to continually assess with the corresponding ATM authorities the requirements for MET information with the aim of developing new products/information to support the ATM, bearing in mind the potential costs and benefits involved; and b) ICAO be invited, in coordination with WMO, to organize a MET/ATM coordination seminar in ASIA/PAC Region in 2004, to foster the exchanges between the MET and ATM experts in order to facilitate further development of the MET component of the CNS/ATM systems in the ASIA/PAC Region. *Noted the conclusion and invited the Secretary General, in coordination with WMO, to organize a MET/ATM coordination seminar in the ASIA/PAC Region during 2004.*	Letter from ICAO Secretary General to the Secretary-General of WMO sent in August 2004, inviting WMO to assist ICAO in organizing the regional MET/ATM coordination seminar.	On-going 2005

STATUS OF CONCLUSIONS/DECISIONS OF APANPIRG/14 IN OTHER FIELDS

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C. 14/50~~		~~**Conclusion 14/50 – Asia Pacific Supplement to the Uniform Methodology**~~ ~~That, the concept for the "Asia Pacific Supplement to the Uniform Methodology for the identification, assessment and reporting of air navigation deficiencies be circulated to States for comments and the Task Force finalize the development of the Supplement taking into account comments from States".~~	~~Draft Supplement had been circulated to States and International Organizations vide State Letter AP 0253/03 dated 16 September 2003. Ten(10) responses were received and all indicated no comment or agreed with draft.~~	~~Completed~~
	~~*ANC*~~	~~*Noted the conclusion and requested the Secretary General to monitor and evaluate the development of Asia Pacific Supplement to the Uniform Methodology and consider extending it's application to other regions.*~~	~~*ICAO HQ requested to take appropriate action.*~~	
~~D. 14/51~~		~~**Decision 14/51 – 2nd Meeting of the Asia Pacific Deficiency Review Task Force (DRTF/2)**~~ ~~That, a second meeting of the DRTF be convened during early 2004 to finalize the procedures and develop further guidelines to be included in the Asia Pacific Supplement to the Uniform Methodology, taking into account comments received from States and Organizations concerned.~~	~~DRTF/2 was held from 13-14 May 2004 and the work of finalizing the Asia/Pacific Supplement was completed.~~	~~Completed~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C.14/52~~	~~C~~	~~**Conclusion 14/52 – Revised Terms of Reference of APANPIRG**~~ ~~That, the ICAO Council approves the revised Terms of Reference of APANPIRG, available at Appendix A to the Report on Agenda Item 6.~~ ~~*Approved the revised Term of Reference*~~	~~State Letter ref. AP 0016/04 dated 8 March 2004 containing revised TORs and replacement pages to APANPIRG Procedural Handbook had been issued to States and International Organizations.~~ ~~Procedural Handbook had been updated.~~	~~Completed~~
~~C. 14/54~~	~~C~~	~~**Conclusion 14/54 – Viet Nam's application for Full Membership with APANPIRG**~~ ~~That, the ICAO Council consider approving Viet Nam's application for full membership with APANPIRG.~~ ~~*Approved membership of Viet Nam of APANPIRG*~~	~~Viet Nam had been informed vide State Letter AP0034 dated 29 April 2004.~~	~~Completed~~

AGENDA ITEM 2: ASIA/PACIFIC AIR NAVIGATION SYSTEM AND RELATED ACTIVITIES

AGENDA ITEM 2.1: ATM/AIS/SAR MATTERS

Agenda Item 2: Asia/Pacific Air Navigation System and Related Activities

2.1 **ATM/AIS/SAR matters**

2.1.1 The meeting reviewed the report of the Fourteenth Meeting of the APANPIRG Air Traffic Management/Aeronautical Information Services/Search and Rescue (ATM/AIS/SAR/SG/14), which was held at the ICAO Asia/Pacific Regional Office, Bangkok, Thailand from 28 June to 2 July 2004. The meeting expressed its appreciation for the work progressed by the Sub-group.

RVSM implementation

2.1.2 The meeting reviewed the work of the RVSM Task Force (RVSM/TF) established by APANPIRG to implement and follow-up on implementation of RVSM in the Asia/Pacific region. The status of RVSM implementation in the Asia/Pacific region is included in **Appendix A** to the Report on Agenda Item 2.1.

2.1.3 Seven Task Force and special coordination meetings were held since its activities were reported to APANPIRG/14 (4-8 August 2003) as shown below:

Special ATS Coordination Meeting – Finalization of RVSM Operational Plan for the Bay of Bengal and Beyond

2nd RVSM Joint Coordination Meeting (JCM/2) – Middle East/Asia region

Special ATS Coordination Meeting – RVSM Transition Procedures

RVSM/TF/20 – RVSM Implementation Bay of Bengal and Beyond (Go/No-Go)

Special ATS Coordination Meeting – India and Pakistan RVSM Transition Procedures

RVSM/TF/21 – 90-day Review of Bay of Bengal and Beyond Implementation

Special ATS Coordination Meeting – RVSM Implementation in the Incheon, Naha and Tokyo FIRs

Bay of Bengal and Beyond Area implementation

SCM – Finalization of RVSM Operational Plan for the Bay of Bengal and Beyond

2.1.4 The RVSM/TF convened a SCM (August 2003) to finalize the operational plan for RVSM operations in the Bay of Bengal and Beyond, and to complete preparations for RVSM implementation. The meeting identified a number of operational matters that required consideration to improve the traffic flow across the Bay of Bengal, and agreed to follow-up action with the States concerned.

JCM/2 – Middle East/Asia region

2.1.5 The JCM/2 (August 2003) was held between the RVSM Task Forces of the Middle East and Asia regions to harmonize their implementation plans for a coordinated RVSN implementation on 27 November 2003. The meeting reviewed and agreed to a revised RVSM implementation strategy for the Middle East and Asia regions. The meeting noted that the Middle

East had made a final decision to go ahead with implementations as planned based on the outcome of their safety work.

SCM – RVSM transition procedures

2.1.6 The RVSM/TF convened a SCM (September 2003) to address issues concerning transition procedures arising from RVSM implementation in the Bay of Bengal and Beyond area, and adjacent non-RVSM airspaces, and where a different RVSM flight level orientation scheme was being used. In this regard, the Bay of Bengal and Beyond would implement the single alternate FLOS and the West Pacific/South China Sea was operating the modified single alternate (FLOS). The meeting agreed to transition procedures between China and Myanmar for the Kunming and Yangon FIRs respectively, and between Afghanistan and Pakistan for the Kabul (non-RVSM) and Karachi FIRs respectively. It was agreed that States should undertake a comprehensive study of the use of the modified single alternate FLOS in the WPAC/SCS with a view to harmonization with the single alternate FLOSs used elsewhere in the region. A RVSM/TF meeting would be held to consider the harmonization issues.

RVSM/TF/20 – RVSM implementation Bay of Bengal and Beyond (GO/NO-GO)

2.1.7 The RVSM/TF/20 meeting (October 2003) carried out a final review of the RVSM Implementation Plan for the Bay of Bengal and Beyond area, which had been completed by the States concerned. The Task Force noted that most States had finalized their Letters of Agreement (LOAs) with adjoining ATS Units and other States had exchanged draft LOAs ahead of finalization. Transition procedures between the Kunming FIR and the Yangon FIR were finalized but the meeting recognized that these procedures should be an interim arrangement and improved procedures developed for consideration by China and Myanmar. Also, the post implementation monitoring requirements and arrangements were agreed. The importance of timely submission of monthly large height deviation reports to the Regional Monitoring Agency (RMA), the Monitoring Agency for the Asia region (MAAR) for monitoring of airspace safety was emphasized.

2.1.8 The meeting reviewed the final safety assessment that had been completed by MAAR who verified that the total risk estimates had met the target level of safety (TLS) of 5×10^{-9} fatal accidents per flight hour.

2.1.9 The meeting considered the transition arrangements and air traffic flow management (AFTM) procedures between India and Pakistan for flights transiting the Afghanistan airspace (Kabul FIR), where RVSM would not be implemented. Measures were put in place on a trial basis and would be reviewed in January 2004. India had informed the meeting that the EMARSSH route P628, which had been partially implemented, was approved to be extended from ASOPO to Rahim Yar Khan (RK) VOR, and to lower the minimum en-route altitude (MEA) to FL300. This would improve the traffic flow across India and was expected to relieve congestion in the Delhi area.

2.1.10 In regard to problems with Myanmar communications, it was noted that Myanmar had taken action to improve arrangements by making use of the Mandalay Airport Approach Control facilities as an interim measure until permanent communication improvements were made. In regard to RVSM training of Myanmar air traffic controllers, the Civil Aviation Authority of Singapore (CAAS) had offered to provide training, and was arranging for training to take place in Yangon, Myanmar in October 2003.

2.1.11 In light of the progress made and the result of the safety assessment, the meeting agreed to go ahead with RVSM implementation in the Bay of Bengal and Beyond area as planned on 27 November 2003 simultaneously with the Middle East region at 0200 UTC.

SCM – India and Pakistan RVSM transition procedures

2.1.12 The SCM to review the India and Pakistan RVSM transition procedures was held in January 2004. The meeting recognized that further improvements were required by implementing the route segment RK – Kandahar, and this should be implemented as soon as possible. This matter would be coordinated by the Regional Office with the parties concerned.

2.1.13 The meeting agreed that in the short term, the main concern was to optimize the use of available airspace by applying a flexible use of flight levels and routes, and to improve coordination and sharing of flight plan information between the ACCs concerned. It was agreed that all flight level assignments for the Bay of Bengal routes should be subject to a flexible approach where due consideration would be given to airports with the higher traffic load. The States concerned agreed to review their practices and to optimize flight level assignment. In addition, the meeting identified areas where long term improvements could be made. This included a route network review, integrated ATFM system, integration of ATM systems (e.g. ADS, CPDLC and ADS-B), reduction of longitudinal separation to 50 NM, and improvement to the ATS infrastructure in Afghanistan.

RVSM/TF/21 – 90-day review of Bay of Bengal and Beyond implementation

2.1.14 The RVSM/TF/21 (March 2004) carried out the 90-day review of RVSM implementation in the Bay of Bengal and Beyond area. The meeting reviewed the operation of RVSM taking into account the experience of the operators. It was noted that RVSM, which had doubled the flight levels available had led to an overall easing of traffic congestion and assignment of more economic flight levels to both overflying and Indian domestic traffic. However, there were a number of outstanding issues, such as longitudinal separation requirements for A466 and N644 for traffic transiting the Kabul FIR, flight level transition and communications in the Yangon FIR, air traffic management in the Bay of Bengal area, and overall optimization of airspace capacity. The meeting agreed that further improvements to the traffic flow between Asia and Europe during the peak period was required, and this was on the work programme of the Bay of Bengal ATS Coordination Group (BBACG).

2.1.15 The meeting continued to consider the air traffic flow management (ATFM) plan being developed for the Bay of Bengal, and noted the users requirements to provide a comprehensive air traffic management plan for the whole of the Bay of Bengal including provision of ATS automated systems. The meeting also recognized the need to further enhance the allocation of all RVSM levels during the night time peak period and agreed to convene a special coordination meeting of the States concerned.

2.1.16 The meeting reviewed the on-going monitoring requirements and acknowledged the need for consistency in applying global monitoring requirements. In this regard, MAAR intended to adopt the monitoring requirements recommended by ICAO which would be contained in an RMA Handbook expected to be published in late 2004. Operators were reminded that there was a limited number of GPS Monitoring Units (GMUs) available in the Asia/Pacific region, and they should make arrangements with MAAR for monitoring before their RVSM operational approvals expired.

2.1.17 In regard to safety matters, MAAR reported that the TLS continued to be well within the required safety level. It was agreed to update the safety assessment for the one-year review meeting in November 2004 using a traffic sample data for July 2004.

Action arising from the RVSM reports

2.1.18 The meeting noted that the following matters required further follow-up action:

a) the MEA for P628 and L333 was restricted to FL310 by Pakistan although India could accept FL300 and coordination to continue;

b) radar service was provided on A202 by Sanya ACC and the entire route Hong Kong, China to Bangkok was under radar service. This would need to be taken into account by MAAR when reviewing the safety assessment, which included a portion that was previously not under radar service;

c) pilot radio communication reporting procedures on routes in the Yangon, Dhaka and Kolkata FIRs required imporvement taking into account ICAO provisions in the PANS-ATM;

d) the RVSM transition procedures for the Kunming and Yangon FIRs required improvement in line with the proposal submitted to China and Myanmar and coordinated by the Regional Office; and

e) the minimum monitoring requirements for the Asia/Pacific region needed to be determined in line with the ICAO RMA handbook and be reviewed by MAAR, PARMO and RASMAG.

2.1.19 The meeting congratulated the RVSM/TF on the successful implementation of RVSM in the Bay of Bengal and Beyond Area on 27 November 2003, and noted the considerable safety, operational, environmental and passenger service benefits accrued as a result.

RVSM implementation in the Incheon, Naha and Tokyo FIRs

2.1.20 The meeting was updated on progress by Japan and the Republic of Korea to implement RVSM in the Naha and Tokyo FIRs (domestic) and Incheon FIR respectively. It was recalled that at the RVSM/TF/18 meeting in July 2003, Japan and the Republic of Korea had indicated that they would appreciate the participation of the ICAO RVSM/TF to support their implementation planning.

2.1.21 A SCM to review progress on the RVSM implementation and planning process, and to consider the impact of RVSM implementation on the traffic flows and air traffic management in adjacent FIRs was held at the Regional Office in July 2004.

2.1.22 The SCM meeting reviewed the implementation plan of Japan and Republic of Korea and noted that they had adopted the single alternate FLOS, a flight level band of FL290 to FL410 inclusive, and the airspace would be exclusive with provisions for special flights to be accommodated. Appropriate transition areas would be established with the adjacent non-RVSM airspace. The target implementation date agreed was 9 June 2005.

2.1.23 It was recognized that an important outstanding issue was harmonization of the flight level orientation schemes between the single alternate FLOS and the modified single alternate FLOS being used in the SCS airspace. It was noted that this subject would be addressed by the RVSM/TF/22 meeting to be held at the Regional Office on 20-24 September 2004.

2.1.24 Japan had carried out the safety assessment for RVSM implementation in the Naha and Tokyo FIRs, and the technical risk calculated was 1.56×10^{-9}, which was well below the required level of safety of 2.5×10^{-9} fatal accidents per flight hour. Planning includes provisions for further assessment of operational risk before implementation.

2.1.25 The safety assessment for the Republic of Korea was being carried out by the Pacific Approvals Registry and Monitoring Organization (PARMO) operated by the Federal Aviation Administration (FAA) of the United States. However, due to PARMO's resource constraints arising from the domestic RVSM implementation in the United States planned for June 2005, as an interim measure, and in view of the urgency to progress the readiness and safety assessment for the Incheon FIR, MAAR would assist PARMO by conducting the safety assessment.

2.1.26 The SCM agreed to the following meeting schedule for RVSM implementation and follow-up:

RVSM/TF/23	18-22 October 2004	Bangkok
RVSM/TF/25	January 2005	Bangkok
RVSM/TF/26 (Go/No-go decision)	May 2005	Bangkok
RVSM/TF/27 (90-day follow-up review)	September 2005	Bangkok
RVSM/TF/28 (One-year follow-up review)	June 2006	Bangkok

SCM – Air Traffic Flow Management Bay of Bengal

2.1.27 The SCM to review the air traffic flow management arrangements put in place on a trial basis following RVSM/21was held at Singapore on 12-13 April 2004. The meeting reviewed the existing assignment of RVSM levels to reduce ground delays for westbound international departures from Bangkok, Kuala Lumpur and Singapore during the night time peak traffic periods. In particular, the SCM took into account the current No-PDC procedures with a view to introducing a flexible system that would cater for traffic based on actual demand at departure airports.

2.1.28 The SCM agreed that the assignment of FL280 and FL320 (as No-PDC levels) for westbound international departures from Kuala Lumpur and Singapore would continue on a 24-hour basis. In the event that additional levels were required, Kuala Lumpur ACC would coordinate with Bangkok ACC on the assignment of FL300 or FL340 respectively.

2.1.29 In addition, during the period 1330-1930 UTC, pre-departure coordination would be effected between the ACCs concerned on the assignment of other levels, in order to maximize traffic flows on the respective ATS routes.

2.1.30 The SCM also agreed that the assignment of RVSM levels for traffic operating outside the period 1330-1930 UTC would be based on existing procedures specified in the respective State AIP Supplement for RVSM operations in the Bay of Bengal area. In addition, current No-PDC procedures between Malaysia, Singapore and Thailand would continue to be applied and the present operational trial on the assignment of RVSM levels would be extended until 16 May 2004. The States concerned would hold a review meeting in June 2004.

EMARSSH One-year post implementation review

2.1.31 The meeting reviewed the outcome of the EMARSSH One-year Post Implementation Review Meeting (OYR) held on 12-16 January 2004 at the Regional Office. The EMARSSH OYR considered operational and technical aspects of air traffic management and flight operations related to the route structure as well as further enhancements since implementation on 28 November 2002. The review also took into account the results of the EMARSSH Post Implementation Review Meeting (PIRM) held at the Gold Coast, Australia on 31 March to 2 April 2003.

2.1.32 In considering air traffic management and operational issues concerning the operation of the revised route structure, the OYR meeting identified outstanding issues that would require further action by States. In this regard, the meeting noted that the following operational issues required follow-up:

a) route and airspace restrictions affecting the traffic flow across the Bay of Bengal and Kabul FIR;

b) six EMARSSH routes pass through the Yangon FIR where RVSM operates and safety concerns arising from poor ATS communications require Myanmar to make immediate improvements to their communication infrastructure, and to address the deficiency contained on APANPIRG's List of Deficiencies;

c) extend the use of N563, which was restricted across Indian airspace as it entered a military restricted area that was operational during day time hours (India was not confident that any further concessions from the military for the extended use of N563 could be gained in the short term);

d) harmonization of the application of 10 minute longitudinal separation using the Mach number technique (MNT) across the Bay of Bengal in respect to the faster aircraft following in accordance with ICAO provisions. States should update their LOAs taking into account entry/exit points on the Bay of Bengal routes where the procedure should be applied;

e) consider applying a fixed Mach number, M0.84 on L759 as part of ATFMP measures being introduced to improve departure delays experienced at South-East Asia airports; and

f) consider further refinements and modifications to the alignment of routes and introduction of additional routes, taking into account future requirements of long-haul flights and new city pairs.

2.1.33 The meeting acknowledged the successful implementation of the EMARSSH routes, noting that follow-up matters were being appropriately addressed by the BBACG and other ICAO ATS coordination groups and task forces. All matters associated with ATS routes would be considered by the ATS Route network Review task Force (ARNR/TF).

2.1.34 In view of the above, the meeting formulated the following Decision:

Decision 15/1 – To dissolve the EMARSSH Task Force

That, as the EMARSSH Task Force has completed the EMARSSH project, and that all outstanding issues have been identified and follow up actions completed or assigned to ATS coordination groups as appropriate, the EMARSSH Task Force be dissolved.

Lessons learnt

2.1.35 The meeting recognized that the planning and implementation of the EMARSSH project had led to a number of important lessons learnt and benefits that would be of considerable value to States and other ICAO PIRGs when planning similar activities, and should be brought to their attention. The list of lessons learnt are at **Appendix B** to the Report on Agenda Item 2.1.

2.1.36 The meeting agreed that the Regional Office should issue a State Letter informing States of the lessons learnt from the EMARSSH project and formulated the following Conclusion:

Conclusion 15/2 – Capture and circulate lessons learnt from EMARSSH Task Force

That, the valuable lessons learnt by the EMARSSH Task Force be highlighted to ICAO and States as beneficial in the conduct of project based Task Force activities.

2.1.37 Singapore also acknowledged the value of the ATS and AIS lessons learnt during the implementations completed in the Western Pacific and South China Sea areas and urged States to draw on these experiences to facilitate further implementations in all areas, including the Bay of Bengal.

Implementation of ATS routes

2.1.38 The meeting reviewed progress by the ARNR/TF to undertake the review of the Asia/Pacific ATS route network called for under APANPIRG/14 Conclusion 14/2. In regard to the outstanding routes in the Asia/Pacific region Basic Air Navigation Plan (BANP, Doc 9673) that had been agreed to by the Third Asia/Pacific Regional Air Navigation Meeting (RAN/3) in 1993 and not implemented, these routes were on the APANPIRG List of Deficiencies, and the meeting agreed that these would be included in the ARNR/TF review.

2.1.39 The meeting recognized that the ARNR/TF work programme would be substantial, taking up considerable Regional Office resources. The constraints on Regional Office resources over the past two years had led to the need for an update of the BANP route network database including a large number of changes to the ATS routes and assignment of five-letter name-codes with corresponding coordinates of the significant points on these routes. The majority of these changes had not yet been recorded in the BANP. Also, it was noted that the revised Asia/Pacific ANP, comprising the BANP and FASID had not yet been published by ICAO, and there would be a large number of amendments to be incorporated.

2.1.40 In light of foregoing, the meeting was advised that the Regional Office was unable to convene the first meeting of the ARNR/TF before September 2004. Further, the meeting 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 aviation industry and a primary activity of the Regional Office. Therefore, it was imperative that the Regional Office had adequate resources to undertake this work programme. The meeting urged ICAO to take this into account in its budgetary consideration for allocation of resources to the Asia/Pacific Regional Office.

2.1.41 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 the their ATS route requirements, provide details of any changes made to existing routes and notify future route requirements. In support of this initiative, the meeting 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.

SCM – Implementation of direct routing between Hong Kong, China and Jakarta

2.1.42 The meeting considered the report of the SCM on implementation of direct routing between Hong Kong, China and Jakarta (city-pair) held at Manila, Philippines on 11-13 August 2004. It was recalled that the SEACG/11 Meeting in May 2004 had agreed to an IATA request to implement improvements to the Hong Kong/Jakarta routing. This was necessary due to the inefficient and uneconomic routing presently being used, arising from the implementation of the revised SCS route structure implemented on 1 November 2001.

2.1.43 At SEACG/11, the States concerned: Hong Kong, China, Indonesia, Malaysia, Philippines, Singapore, Thailand and Viet Nam agreed to implement the route improvements and determined the operational requirements. In this regard, a northbound one-way route, M772 would be introduced from Jakarta to Hong Kong, China via the Jakarta, Singapore, Kota Kinabalu, Manila and Hong Kong FIRs. For the southbound route, the existing L642 would be utilized from Hong Kong, China to position CONSON then a new one-way route, L644 would be implemented direct to Jakarta via the Ho Chi Minh, Singapore and Jakarta FIRs. To complete the arrangements a SCM would be convened.

2.1.44 The SCM meeting completed the implementation process and considered some concerns of the Manila ACC on operational matters regarding weather deviation, ATC coordination and harmonization of the RVSM FLOSs. The meeting agreed to introduce a weather deviation contingency procedure to cater for aircraft on M772 in the Manila FIR deviating westward into the adjacent Ho Chi Minh FIR and Sanya AOR. This procedure would be included in the Philippines AIP and the LOAs between States. In regard to coordination problems arising from the proximity of M772 to the adjacent airspace, use of HF for radio communications and RVSM transition procedures, imposing a one-way restriction on M772 northbound for traffic between Jakarta and Hong Kong, China and beyond in the initial phase, would ease the coordination burden for Manila ACC. Issues related to the harmonization of the RVSM FLOSs would be addressed by the RVSM/TF/22.

2.1.45 The implementation date was agreed as AIRAC date 20 January 2005 at 0000 UTC and ATS providers would issue their AIP Supplements on 11 November 2004. The meeting agreed that a Go/No-Go decision would be made on 1 November 2004. The Asia/Pacific BANP would be amended in due course.

2.1.46 The safety assessment for the RVSM/TF would be conducted by MAAR and lateral separation aspects would be considered by the States concerned. This work would need to be completed prior to making the Go/No-Go decision by 1 November 2004.

Cambodia ANP route proposals

2.1.47 Cambodia presented the meeting with proposals for realignment and linkage of the ATS/ RNAV routes in the South China Sea area to facilitate air traffic movement from Hong Kong – Phnom Penh – Phuket and beyond. As a basis for the proposals, Cambodia reported that this was due to the difficulty of traffic movement in the South China Sea area on ATS/RNAV route A202, A1 and P901 from Hong Kong through Bangkok to Phuket and beyond, where the aircraft operators encounter traffic congestion and optimum level constraints.

2.1.48 In facilitating traffic movement from Hong Kong, Phnom Penh to Phuket and beyond, the proposed realignment would bring positive benefits to airline operators and users, such as direct routing, less heading changes, shorter distances, less traffic congestion, time saving, less fuel consumption and more optimum cruising levels.

2.1.49 The meeting appreciated the detailed proposal presented by Cambodia and noted that it would be submitted to the ARNR/TF/1.

Development of ATS routes, AIS and SAR activities in Mongolia

2.1.50 Mongolia updated the meeting regarding the activities of the Civil Aviation Authority of Mongolia (CAAM) on ATS routes, AIS and SAR matters. Mongolia services a number international air routes, including A575, A91, B330 (ASIA-1), M520, B480 (POLAR-2), G218 (POLAR-3), B339 and G588. Mongolia reported that the next step would be the establishment of some new ATS routes to support cross-polar operations and advised that work to utilize ADS-C and ADS-B capability was on-going, and use of ADS-B for domestic operations had been approved. In addition, a number of proposals were being considered to increase the number of routes using ground based navigation aids and to enhance radar systems in order to increase total airspace capacity. Twenty-two VSAT stations have been installed throughout Mongolia, which provides a total coverage of VHF communications. In addition, there was approximately 50 percent coverage of VHF Data-link for ADS/CPDLC.

2.1.51 Mongolia advised that they had also established an AIS section as a separate department, and work was on-going to increase the automation of activities in this area. Also, an agreement between the Mongolian and Russian governments regarding mutual cooperation in the SAR sector would be signed in the near future.

IATA ANP route review and proposals

2.1.52 IATA presented information on the review carried out by the IATA Asia Pacific Route Review Working Group on airline route requirements for the Asia/Pacific region. IATA had formed recommendations for the implementation, amendments, deletions or additions to the routes found in the Air Navigation Plan.

2.1.53 The meeting noted IATA's recommendations on the 32 routes of the existing Asia Pacific ANP, which were contained on the APANPIRG List of Deficiencies. IATA also provided draft route proposals for new routes to be included into the ANP. In addition, IATA would be submitting a comprehensive list of route requirements to the ARNR/TF.

2.1.54 Japan replied to IATA comments on the requirements for connecting significant points defining ATS routes. Japan stated that the Basic ANP lists only prominent locations to define ATS routes. Additional points, where facilities are provided to complete navigational guidance along a route, have normally not been included, therefore it is not necessary to establish ATS routes directly connecting the significant points detailed in the ANP. The meeting considered that this matter would be discussed further by the ARNR/TF.

2.1.55 The meeting noted that the current Asia/Pacific Basic ANP did not fully reflect airlines' requirements for Asia/Pacific and that IATA's proposals would be considered by the ARNR/TF at its first meeting on 6-10 September 2004.

Review of the Report of the Regional Airspace Safety Monitoring Advisory Group (RASMAG)

2.1.56 The meeting recalled that APANPIRG/14 in considering the increasing implementation of data link capability and reduced horizontal and vertical separation minima throughout the Asia/Pacific region, acknowledged that the already extensive airspace safety monitoring requirements would continue to increase. APANPIRG/14 addressed the need for a transparent airspace safety oversight capability, to which all States could contribute and participate. Under APANPIRG/14 Decision 14/48, the RASMAG was established.

2.1.57 The first meeting of the RASMAG was held on 26 – 30 April, 2004 and its primary objective was to set up its working practices, review the airspace safety arrangements established in the Asia/Pacific region and to establish its future work programme.

2.1.58 The meeting reviewed the report of RASMAG/1 and recognized the important role that RASMAG would play in the future to support the safe implementation and operation of CNS/ATM systems in the region, as well as providing APANPIRG with a source of expertise on airspace safety management, which would be highly beneficial to States in meeting Annex 11 provisions on ATS safety management.

2.1.59 RASMAG/1, on reviewing its Terms of Reference and Task List, proposed an amendment to address the need for coordination with the contributory bodies of APANPIRG. In this regard, the meeting agreed to the proposal and formulated the following Decision.

Decision 15/4 – Revision to the Terms of Reference of RASMAG

That the Terms of Reference and Task List of RASMAG be revised as shown in **Appendix C** to the Report on Agenda Item 2.1.

2.1.60 The meeting noted that RASMAG/1 in its review of the airspace safety monitoring activities in the region, identified airspace and route systems including the implementation and operation of data link systems (e.g. ADS and CPDLC), where regional safety monitoring arrangements needed to be established as follows:

a) South-East Asia area including the South China Sea route system;

b) Bay of Bengal and Arabian Sea route systems; and

c) Indian Ocean area.

2.1.61 In consideration monitoring agencies that could provide safety monitoring services in the region, RASMAG noted the various terms that described these bodies, e.g. Central Monitoring Agency (CMA), Regional Monitoring Agency (RMA), Monitoring Authority (MA), and Central Reporting Agency (CRA). In regard to RVSM, the term RMA had been adopted by ICAO (Doc 9574 refers) and was generally understood as applying to RVSM specific monitoring activities. A variety of terms were used in respect to naming entities that provide services for separation applications in the horizontal dimension. RASMAG proposed that for the Asia/Pacific region, a new term should be adopted, Safety Monitoring Agency (SMA) that described an organization that provided all safety management services for an airspace and would include the RMA when this function was being carried out. The term RMA would continue to be used to refer to RVSM monitoring activities.

2.1.62 In light of the foregoing, the meeting formulated the following Decision:

Decision 15/5 – Adoption of the term Safety Monitoring Agency (SMA)

That, the term Safety Monitoring Agency (SMA) be used to describe an organization approved by regional agreement to provide airspace safety services for international airspace in the Asia/Pacific region for implementation and operation of RNP, reduced horizontal separation and data link.

2.1.63 The RASMAG recognized that Airservices Australia, who had provided the safety assessment services for the implementation of the SCS and Bay of Bengal route systems and reduced lateral separation, was presently providing safety monitoring services including conducting safety assessments for the international airspace of the Brisbane and Melbourne FIRs that included the airspace of the southern Indian Ocean. In addition, they were responsible for RVSM operations and associated safety management services. RASMAG recommended that Airservices Australia be designated as an RMA and SMA for the airspace where it provides these services.

2.1.64 In light of the foregoing, the meeting formulated the following Conclusion:

Conclusion 15/6 – Designation of Airservices Australia to provide RMA and SMA services for the international airspace within the western part of the Melbourne and Brisbane FIRs

That, recognizing the safety management services provided by Airservices Australia for RVSM with the international airspace of the western part of the Melbourne and Brisbane FIRs, they be designated as the Regional Monitoring Agency for RVSM and as the Safety Monitoring Agency for RNP, data link services and related separation minima.

Revision of the guidance material on CNS/ATM operations in the Asia/Pacific region

2.1.65 The meeting recalled that under APANPIRG/14 Conclusion 14/2, a Task Force was set up to review the regional *Guidance Material on CNS/ATM Operations in the Asia/Pacific Region* (hereafter referred to as the *Guidance Material*). APANPIRG/14 took this action on the request of the Air Navigation Commission to ensure that the *Guidance Material* was brought in line with ICAO Standards and Recommended Practices (SARPs) and the *Procedures for Air Navigation Services—Air Traffic Management* (PANS-ATM, Doc 4444), and in particular with Amendment 1 to PANS-ATM applicable on 28 November 2002.

2.1.66 The Commission also wished to see other ADS and CPDLC operating procedures being used by States brought into line with ICAO provisions to the extent possible. In this regard, APANPIRG/14 requested the Review Task Force to coordinate its work with States responsible for the Pacific Operations Manual (POM) with the intent of harmonizing the *Guidance Material* and the POM. The POM contains the FANS-1/A operating procedures and requirements being applied by States in the Pacific region in the provision of data link services (ADS and CPDLC).

2.1.67 The meeting recalled that ICAO Headquarters had carried out a detailed technical review of the *Guidance Material*, which provided the basis for the Review Task Force's work. The Task Force at its meeting in Honolulu, Hawaii, United States on 2-4 October 2003 completed its review of the *Guidance Material* taking into account the detailed analysis carried out by ICAO Headquarters. The Task Force recognized that the POM would be adopted by other States in the Asia region planning to implement data link services, which was in the interest of safety, whereby it was essential that common operating procedures were used by ATS providers in the region. The Task Force suggested that the name of the POM should be changed to the FANS-1/A Operations Manual (FOM) for the document to be more readily adapted by States in other areas. Subsequently, States in the Pacific region through ISPACG and IPACG agreed to change the name of the POM to the FOM.

2.1.68 The meeting noted that ATM/AIS/SAR/SG/14 had endorsed the outcome of the Review Task Force, and drafted a conclusion that States and users in the Asia/Pacific region should adopt the FOM as the operations procedures and requirements document. The Secretariat advised the meeting that the report of the Review Task Force had been coordinated with ICAO Headquarters, who drew attention to ICAO provisions and guidance that were applicable to operating data link services and should be followed by States in conjunction with the FOM.

2.1.69 The meeting agreed that States should take all relevant ICAO provisions on data link into account when establishing their operating requirements and procedures. Further, the meeting agreed that the FOM provided necessary operating procedures for ATS providers and should be used as a basis to operate ADS and CPDLC with aircraft equipped with the FANS-1/A system.

2.1.70 In light of the foregoing, the meeting formulated the following Conclusion:

Conclusion 15/7 – FANS 1/A Operations Manual (FOM)

That, the FANS 1/A Operations Manual (FOM) be used by States and users in the Asia/Pacific region as a basis for operating automatic dependent surveillance (ADS) and controller pilot data link communications (CPDLC) in conjunction with Annex 10 – *Aeronautical Telecommunications* Volume II – *Communications Procedures* including those with PANS status, the *Procedures for Air Navigation Services – Air Traffic Management* (PANS–ATM. Doc 4444) and the *Guidance Material on CNS/ATM Operations in the Asia/Pacific Region*.

2.1.71 In regard to further development of the regional *Guidance Material* and the FOM, and harmonizing these documents with ICAO provisions, in light of information provided by ICAO Headquarters, the meeting recognized that additional work was required to more closely align the material of the documents concerned. In this regard, the meeting appreciated that ICAO Headquarters was willing to undertake the lead to progress this work in coordination with the Regional Office and the States responsible for the FOM. In consideration of global issues, the meeting agreed that this was a matter for ICAO Headquarters to pursue. The meeting reiterated the importance of common data link operating procedures for global applicability, and urged States to continue to support ICAO's efforts to achieving this goal.

Implementation of lateral offsets

2.1.72 The meeting recalled that following the issue of ICAO State letter AN 13/11.6-00/96 dated 3 November 2000 on the use of lateral offsets as a safety measure to reduce the risk of collision in the event of loss of vertical separation, the implementation of lateral separation in the Asia/Pacific region had been considered by the ATM/AIS/SAR/SG. The guidelines allowed for the use of a 1 NM offset right of centre line in cases where the lateral separation was not less than 50 NM in an RNP 10 non-radar environment.

2.1.73 The SASP revised the guidelines and ICAO issued State letter AN 13/11.6-02/21 dated 31 May 2002 to allow for the application of offset procedures of up to 2 NM right of centre line, provided that a safety analysis for the particular airspace had shown that the proposed procedures would meet appropriate safety criteria.

2.1.74 The MID/ASIA/PAC/RAC *Regional Supplementary Procedures* (Doc 7030) was amended (APAC-S 00/4 refers) on 4 March 2004 allowing for implementation of 1 NM offset procedures in designated FIRs in the Asia/Pacific region. The following FIRs were approved to apply the 1 NM offset procedures: Auckland Oceanic, Brisbane, Honiara, Melbourne, Nauru, New Zealand, Port Moresby, Easter Island, Nadi and Tahiti.

2.1.74 The Secretariat informed the meeting that SASP had completed its work to provide global guidelines on the use of 2 NM lateral offsets to the right of centre line. A State Letter was issued on 27 August 2004 (AN 13/11.6-04/85) that circulated the guidelines for the application of 2 NM lateral offsets to the right of centre line to States and international organizations. In this regard, application of 2 NM lateral offset procedures achieved greater safety benefit than 1 NM offsets and also incorporated wake turbulence procedures. The 2 NM lateral offset procedures to the right of centre line could also be applied where 30 NM lateral separation was used based on RNP 4.

2.1.75 The meeting recalled that APANPIRG/14 Conclusion 14/7 recommended that States should develop 2 NM lateral offset procedures to be implemented in all relevant airspace in the Asia/Pacific region. In this regard, the meeting recognized that as guidance on global 2 NM lateral offset procedures to the right of centre line were now provided by ICAO, State were no longer required to develop offset procedures. Accordingly, the meeting urged States to implement the ICAO guidance for 2 NM lateral offset procedures in all relevant airspace as soon as practicable.

2.1.76 IATA requested that when implementing 2 NM offset procedures, this should be done in a coordinated manner over contiguous airspaces. The meeting agreed that the Asia/Pacific region should adopt a coordinated approach to implementing the 2 NM offset procedures to the right of centre line simultaneously, and the Regional Office should coordinate an implementation date coincident with an AIRAC date as soon as practicable. In this regard, a draft AIP amendment is provided in **Appendix D**.

2.1.77 In light of the foregoing, the meeting agreed to the following Conclusion:

Conclusion 15/8 – Implementation of a 2 NM lateral offset procedures in the Asia/Pacific region

That, States in the Asia/Pacific region implement the 2 NM lateral offset procedures to the right of centre line in accordance with ICAO guidance on a common AIRAC date to be coordinated by the ICAO Regional Office with States, ATS Coordination Groups and users concerned.

Air Traffic Flow Management over the Bay of Bengal

2.1.78 The meeting was informed by IATA of difficulties being experienced both by air traffic control and airlines with the westbound traffic flows across the Bay of Bengal to Europe through Afghanistan airspace (Kabul FIR) during peak periods. In IATA's view, this was primarily because there was no air traffic management programme in place that looked at the total flow with the capability to ensure that all traffic would fit through the known bottlenecks in the system. The traffic flow mainly originated from Singapore, Kuala Lumpur and Bangkok and merged over India with traffic departing from Indian airports and traffic joining the routes from Pakistan airports.

2.1.79 The route capacity was constrained by restrictions in the Kabul FIR, including the loss of levels due to RVSM not being implemented. At times, aircraft required costly reroutes resulting in technical stops to take on additional fuel. The full benefits of the EMARSSH route implementation on 28 November 2002 and RVSM on 27 November 2003 had not been realized, as the envisaged four independent Asia to Europe routes had been reduced to two. However, with the implementation of the ASOPO – Rahim Yar Khan (RK) segment in January this year, and the expected implementation of the RK – Kandahar leg by the end of the year, this would improve the situation. However, there was still the problem of a shortage of viable levels with only FL310 and FL350 available. FL280 had been made available in the Kabul FIR on a restricted basis for the period 2400-0400 UTC but at times this level was withdrawn.

2.1.80 The IATA Asia Pacific Regional Coordination Group (RCG) of airlines were extremely concerned with the lack of air traffic management provided for this traffic flow and requested IATA to take a closer look at available options for a collaborative decision making (CDM) means of slot control. In this regard, IATA had investigated automated systems used by two States that would be suitable and allow airlines to collaborate and manage the slots over Afghanistan. Based on these systems, IATA and airlines conducted a paper test on actual flights and demonstrated that substantial improvements could be achieved. This had led to the conclusion that such automated tools could manage the traffic flows with the desired results.

2.1.81 Based on the positive results of the test, IATA urgently requested that the Bay of Bengal ATS providers adopt a collaborative decision making programme to manage the traffic flows to Europe during the night time peak period.

2.1.82 The meeting noted the problems being encountered and the potential of automated ATFM tools to offer a solution. The Secretariat informed the meeting that the air traffic flow management difficulties were well known to the ATS providers and were being addressed primarily by the BBACG. Further, the matter had been discussed at all the RVSM/TF meetings concerning the Bay of Bengal RVSM implementation. A special coordination meeting on ATFM was held in Singapore in April 2004 attended by IATA to specifically address the issues.

2.1.83 The meeting was advised that the States concerned were making a concerted effort and had shown considerable flexibility in accommodating users' requests to make improvements to air traffic operations. Planning measures to make available additional levels and more flexible use had been implemented and some improvements gained. Through the considerable discussions that had been held, it was evident that the operating conditions over the Bay of Bengal through the Kabul FIR were complex and influenced by many factors. One of the contributing problems was caused by economic considerations that led to over demand on a single preferred route, and a lack of distribution of traffic on all available routes.

2.1.84 Whilst, it was recognized that the route system had sufficient capacity to meet present demand, inefficiencies in making use of available slots was a contributing factor to delays. However, the primary problem was the inadequate air navigation services in the Kabul FIR. Improvements

were dependent on the Afghanistan civil aviation rehabilitation programme and availability of funding, which had not been forthcoming until recently. On a positive note, the meeting was informed by the Secretariat that significant progress was now being made. The military authority in Afghanistan was making major upgrades to the Kabul Flight information Centre (FIC), and by January 2005 it was anticipated that an ATC service would be provided and the Kabul ACC established. The communications systems were expected to be restored by the end of this year. Also, the route segment RK - Kandahar had been agreed by all parties, and the LOAs were intended to be signed in September 2004.

2.1.85 In light of the foregoing, the meeting was pleased to note that ICAO was playing a major role in assisting the Afghanistan Ministry of Civil Aviation and Tourism to reconstruct their air navigation infrastructure and to establish civil air traffic services. ICAO has an on-going Technical Cooperation project in Afghanistan and in July 2004, completed a master plan for civil aviation. Given the present pace of developments and continued stability of the civil society in Afghanistan, 2005 should see significant improvements to the operation of civil flights into and transiting Afghanistan's airspace.

2.1.86 The meeting noted the considerable effort being made by States to collaborate together and with IATA and the airlines to improve the air traffic flow management over the Bay of Bengal. It was recognized that considerable constraints on the airspace were beyond the control of the States concerned. All parties were encouraged to continue their efforts and to take into account the benefits to be derived from ATM automated systems.

AIS – Amendments to Annex 4 and Annex 15

2.1.87 The meeting noted that since ATS/AIS/SAR/SG/13, some important amendments to Annexes 4 — *Aeronautical Charts* and Annex 15 — *Aeronautical Information Services* had been adopted by ICAO with effective date 25 November 2004. Amendment 53 to Annex 4 would introduce changes concerning: the new definitions; common reference system and the introduction of a new Radar Minimum Altitude Chart. Amendment 33 to Annex 15 included new provisions concerning definitions, the vertical reference system and the temporal reference system for international civil aviation, electronic terrain data (effective 2008), obstacle data (effective 2010) and aeronautical data quality requirements, and new requirements to include GNSS-related elements in the Aeronautical Information Publication (AIP) and in NOTAM.

2.1.88 The meeting reminded States to take note of the above amendments.

AIS Implementation Task Force (AITF)

2.1.89 The meeting recalled that APANPIRG/14 had reactivated the AIS Implementation Task Force to study AIS automation and related matters and to assist States to implement ICAO SARPs on AIS in an expeditious manner. The first meeting of the Task Force was scheduled for 29 November – 3 December 2004.

Importance of timely and accurate AIS data

2.1.90 The meeting recalled that APANPIRG/14 Decision 14/9 requested ICAO again to reinforce to States the critical safety nature of AIS and of adherence to Annex 15 provisions, particular those relating to AIRAC, as well as the need to ensure accurate and timely publication of AIS data. This matter would be included on the agenda of the AITF.

2.1.91 The ATM/AIS/SAR/SG/14 had expressed concern that the Regional Office AIS post remained vacant and reiterated the need for expertise at the Regional Office to manage AIS matters which were critical to effective implementation of airspace improvements.

Regional Office ATM resources

2.1.92 The meeting was informed that due to ICAO's budget situation, which required a reduction in its overall operating budget, the ICAO Regional Offices were required to reduce costs and eliminate posts. Regrettably, the Asia/Pacific Regional Office AIS/MAP post, which had not been filled for over 10 years, had been eliminated. The meeting was also advised that with a senior ATM officer retiring in May 2005, this post was also expected to be eliminated. This would result in serious consequences for the Regional Office, and the present ATM work programme could not be sustained without additional resources at a time when major ATM work was being initiated, e.g. regional route network review, implementation of data link services in Asia, development of ATS safety management programmes, and commencement of the expanded USOAP programme. States were urged to bring matters relating to the Regional Office ATM staffing to the attention of the highest levels in their administrations, and to make known their views at the 35th Session of the Assembly of ICAO in September/October this year, which would decide on ICAO's budget for the next triennium (2005-2007).

Building and operating Aeronautical Information Service (AIS) in the Republic of Korea

2.1.93 The meeting was provided with information on the AIS developments in the Republic of Korea**.** The Civil Aviation Safety Authority (CASA) of Korea was responsible for publishing and updating the AIP and NOTAMs for the Republic of Korea. In response to the increasing demand for the flexible provision of these services, a review was carried out into methods of providing web based AIP and NOTAM information.

2.1.94 The CASA of Korea has now developed a web based system that accesses multiple diverse information sources, enabling the provision of real time AIP and NOTAM information to operators. The system includes a number of interface mechanisms to provide access for a variety of users. Development of the system, known as the Aeronautical Information Service (AIS) System, has now been completed.

2.1.95 The AIS System is conveniently providing all users with real time AIP and NOTAM information. This system was ultimately expected to assist with the safety of civil aviation while enhancing the development of the air transport industry. The AIP component of the system was consistent with ICAO Annex 15. The NOTAM component has a number of search functions that increase the flexibility of the system, enabling users to search for information.

Carriage and operation of the airborne collision avoidance system (ACAS-II) and pressure-altitude reporting transponders

2.1.96 The meeting recalled that APANPIRG/14 had noted and endorsed the APANPIRG/12 position (paragraph 2.1.68 to the Report on Agenda Item 2.1 refers) that where States had not established the requirement for the carriage and operation of pressure-altitude reporting transponders specified as a Standard in Annex 6, this should be reported and managed as a deficiency on the APANPIRG List of Deficiencies.

2.1.97 The meeting drew the attention of States to the importance of complying with Annex 6 provisions on the carriage of ACAS II and pressure-altitude reporting transponders and the potential safety consequences of operators being non-compliant especially in RVSM operations. The

Regional Office had issued a letter to States in July 2004 requesting an update on the status of implementation.

2.1.98 In light of the foregoing, the meeting agreed that States who had not implemented the ICAO provisions in respect to pressure reporting transponders and ACAS II would be included on the List of Deficiencies presented to APANPIRG/16.

Search and Rescue matters

SAR capability of ICAO States in the Asia/Pacific region

2.1.99 The meeting reviewed and updated the SAR Capability Matrix Table, which provided a comprehensive listing of the SAR Capability of ICAO States in the Asia/Pacific region. The SAR Capability Table was updated by the meeting as shown in **Appendix E** to the Report on Agenda Item 2.1.

2.1.100 The meeting noted that the Rescue Coordination Centre New Zealand (RCCNZ) had taken over responsibility from the National Rescue Coordination Centre for search and rescue in New Zealand at 0000 UTC on 5 July 2004. The New Zealand SAR region remains unchanged but SAR activities would be coordinated by the RCCNZ.

Provision of SAR and SAR agreements

2.1.101 The meeting reviewed the ICAO register of SAR agreements for the Asia/Pacific region and updated the register with the following information:

a) New Zealand was developing SAR agreements with the Cook Islands, Fiji, Samoa, Tonga and French Polynesia;

b) France had exchanged working papers with New Zealand and the United States for SAR agreements with Auckland and Hawaii;

c) the Australian Maritime Safety Authority provided an updated SAR Agreement between Australia and Indonesia; and

d) LAO PDR notified the Regional Office that a LOA had been put in place with View Nam since 1998 for provision of assistance for SAR.

2.1.102 In light of the foregoing, the meeting agreed that States who had not implemented the ICAO provisions would be included on the List of Deficiencies presented to APANPIRG/16.

2.1.103 The updated register of SAR Agreements is shown at **Appendix F** to the Report on Agenda Item 2.1.

SAR seminar and exercises

2.1.104 The meeting recalled that in accordance with previous APANPIRG conclusions, States were requested to develop formal programmes for SAR exercises and forward these to the ICAO Asia/Pacific Regional Office on an annual basis by 30 April. Such exercises should be made available for other States to participate in as observers. States were requested to provide information on such activities to the Regional Office.

2.1.105 The meeting noted that the ICAO Asia/Pacific regional seminar and SAREX planned for the Bay of Bengal area as recommended by APANPIRG/12 was deferred to 2003, and then, due to the outbreak of the Severe Acute Respiratory Syndrome (SARS) in the Asia region in February 2003, it was further deferred to 2004. The ICAO seminar and SAREX for the Bay of Bengal area would be held in India during March 2005.

2.1.106 The Regional Office conducted a two-day ICAO SAR Seminar in conjunction with the Hong Kong, China Annual SAREX hosted by the Civil Aviation Department, Hong Kong, China on 24-25 November 2003.

Amendment 17 to Annex 12

2.1.107 The meeting reminded States of Amendment 17 to Annex 12 — *Search and Rescue* with an applicability date of 25 November 2004. This amendment stemmed from a review by ICAO to align Annex 12 with the International Maritime Organization (IMO) Convention to the extent possible, and to make provision for more cost-effective civil SAR services by more closely harmonizing them with maritime SAR services and facilitating, where practicable, organization on a cooperative regional basis.

40th Conference of Director-Generals of Civil Aviation in the Asia/Pacific region

2.1.108 The meeting considered the 40th DGCA Conference Action Item 40/4 in regard to SAR agreements;

> *Recognizing the complexity and the need to place highly specialized resources at a short notice for search and rescue, the Conference urged States to cooperate fully in sharing information and resources as far as practicable and to keep ICAO Regional Office informed of all agreements in this regard.*

2.1.109 The meeting endorsed this position, which was being given priority by the ATM/AIS/SAR/SG. In addition, APANPIRG maintained and updated a register of SAR agreements between States. In this regard, the Regional Office reminded States prior to APANPIRG meetings on action to be taken to establish SAR agreements. Further, at ICAO SAR seminars, the importance of SAR agreements was always highlighted as a priority matter to be addressed by States.

ATC contingency procedures during failure of data link system

2.1.110 The meeting considered an amendment proposal to the Regional Supplementary Procedures (Doc 7030) MID/ASIA/PAC/RAC-5 presented by Japan relating to ATC contingency procedures in the event of failure of data link systems in the oceanic airspace of the Pacific region. This proposal had been coordinated through IPACG and ISPACG. In this regard, IPACG was planning to implement 50 NM longitudinal separation minimum in the North and Central Pacific using data link systems (ADS and CPDLC), and intended in the future to further reduce longitudinal separation minimum to 30 NM based on the use of ADS. ISPACG was planning to implement 30 NM longitudinal separation in the South Pacific in November 2004.

2.1.111 The meeting noted that ATM/AIS/SAR/SG/14 had reviewed the proposal and suggested that further information was needed on the intent of the procedure and time limitations for applying alternate separation. The meeting also agreed that the amendment proposal would need to be harmonized with existing PANS-ATM provisions related to short-term data link outage. The Regional Office would review and coordinate with the Japan Civil Aviation Bureau (JCAB) and ICAO Headquarters to finalize the proposal.

Classification of airspace in RVSM and RNP environments

2.1.112 The meeting considered the airspace classification requirements in Annex 11 in respect to airspace where RVSM and RNP were specified. RVSM and RNP requirements had been widely implemented in the Asia/Pacific region and a variety of airspace classifications ranging from Class A to Class F had been assigned to these airspaces, and this showed a lack of consistency in assigning airspace classifications.

2.1.113 The meeting recognized the stringent safety requirements necessary for implementation and operation of reduced vertical and horizontal separation minima. In addition, airspace safety monitoring was required to monitor aircraft height-keeping and navigation performance. Further, in the event that aircraft were unable to maintain the requirements specified in the respective operational approvals, ATC would be required to apply an alternate form of separation and be able to intervene within the time parameters specified by the appropriate safety assessment. Inherent in these requirements was a need for an ATC service. Therefore, in RVSM and RNP airspace, it was important to specify the appropriate classification commensurate with the stringent operating restrictions that applied.

Exclusion of VFR aircraft from RVSM airspace

2.1.114 ICAO SARPs do not explicitly provide for airspace classification in regard to RVSM or RNP designated airspace. In regard to RVSM airspace (FL290-410 inclusive), Annex 2 – *Rules of the Air* does not permit VFR*:*

2.1.115 Under Class A airspace, only IFR flights were permitted, and in the view of the Secretariat, as Class A airspace excludes VFR operations, it should be used for RVSM airspace in accordance with Annex 2.

RNP considerations

2.1.116 In the case of RNP being applied in RVSM airspace, VFR operations would be excluded as per Annex 2. But in non-RVSM airspace, there were no ICAO provisions that related to what airspace classification should be used.

2.1.117 Where RNP was used as the basis for applying reduced horizontal separation, a safety assessment had to be performed using the appropriate collision risk model against a TLS, to implement reduced separation. In the view of the Secretariat, VFR operations were not taken into account in the safety assessments necessary for application of 30 and 50 NM horizontal separation. This would also be the case for RVSM safety assessments. Therefore, there did not appear to be any valid operational reason why a VFR aircraft should be permitted to operate in RNP airspace, and to do so, could compromise the safety assessment.

2.1.118 The meeting considered the issues concerning the classification of airspace for RVSM and RNP operations, and agreed that further study of the subject was required. Accordingly, ICAO should be requested to look into this issue.

2.1.119 In light of the foregoing, the meeting formulated the following Conclusion:

Conclusion 15/9 – Review of Annex 11 airspace classification provisions for RVSM and RNP operations

That, ICAO review the airspace classification provisions in Annex 11 to clarify requirements for specifying the class of airspace appropriate for RVSM and RNP operations (where reduced horizontal separation was introduced based on safety assessments requiring a collision risk model to be carried out).

2.1.120 The meeting urged States to review their airspace classifications specified for RVSM and RNP airspaces, and where necessary, to change the airspace classification, taking into account the safety issues raised above, and specify Class A for such airspaces.

United States Pacific military altitude reservation function (PACMARF)

2.1.121 The meeting noted information provided by the United States regarding some of the issues related to PACMARF altitude reservation (ALTRV) activities in the Pacific region.

2.1.122 The meeting was reminded that PANS-ATM (Doc 4444, paragraph 16.1) addresses responsibilities in regard to military aircraft. Temporary airspace reservations, either stationary or mobile, may be established for the use of large formation flights or other military air operations. Arrangements for the reservation of such airspace were required to be accomplished by coordination between the user and the appropriate ATS authority. The coordination was required to be effected in accordance with the provisions of Annex 11, and completed early enough to permit timely promulgation of information in accordance with the provisions of Annex 15.

2.1.123 An ALTRV was an authorization between PACMARF and the appropriate ATS provider, “for airspace utilization under prescribed conditions.” The PACMARF located in Hawaii has responsibility for coordinating all ALTRV requests in the Pacific region where a memorandum of understanding (MOU) exists with the appropriate civil aviation authorities.

2.1.124 The purpose of implementing ALTRV procedures was to provide a higher level of safety when a number of aircraft must be moved with less IFR separation between participating aircraft than required by standard ATC criteria. It was also used when multiple aircraft must operate within prescribed altitudes, times, and/or areas. The objective of the ALTRV co-ordination was to achieve the best arrangement in order to avoid hazards to civil aircraft and minimize interference with the normal operation of military aircraft.

2.1.125 The United States advised that the U.S. Department of Defense (DOD) would like to partner with individual ATS units in providing an ALTRV co-ordination capability in their airspace/FIRs. The DOD currently has agreements that establish ALTRV procedures with ACCs in Japan, the Republic of Korea and the Philippines. The establishment of an MOU did not eliminate diplomatic clearance requirements, and the decision to approve any request would remain solely with the appropriate air traffic control authority.

2.1.126 The United States encouraged States to consider developing an MOU as a means to ease coordination and increase the level of safety for all airspace users. The outcome would be a formal process for States to receive ALTRV requests, transmit their decision on the ALTRV request, and operate ALTRVs within their appropriate FIRs. A sample MOU format was available from PACMARF on request. In the interim, appropriate ATS providers within the Asia/Pacific region were requested to identify a point of contact to PACMARF for ALTRV requests and future discussions on this topic.

2.1.127 The meeting appreciated the initiative taken by the U.S. DOD to encourage States to enter into MOUs to adopt the ALTRV procedures. The meeting supported this effort and urged States to enter into appropriate arrangements, which would greatly facilitate coordination and enhance safety.

Draft guidance on RNP 4 oceanic and remote area approval

2.1.128 The United States presented information on a DRAFT FAA Order on *Required Navigation Performance 4 (RNP 4) Oceanic and Remote Operational Approval*. The meeting welcomed the development of this draft document, which would enable the implementation of RNP 4 in oceanic airspace. Also, with States in the Pacific region planning to implement 30 NM separation requiring RNP 4 to be specified, the FAA order would provide a basis for States to develop their operational approval documentation.

Establishment of an Air Traffic Management Centre in Japan

2.1.129 Japan provided information on the JCAB's planning to implement the ICAO ATM Operational Concept by integrating the air space management function and some parts of ATS function into the Air Traffic Flow Management Center (ATFMC) established at Fukuoka in 1994. The ATFMC was responsible for the ATFM in the Tokyo and Naha FIRs. The planned facility, provisionally named the Air Traffic Management Center (ATMC), was expected to commence its initial operations in October 2005.

2.1.130 The meeting was informed that, in considering the current roles of the ATFMC, JCAB had reviewed the role of the ATFMC and the four ACCs, Sapporo, Tokyo, Fukuoka and Naha, and decided to reorganize the overall structure. The ATMC will be responsible for ATFM, ASM and the oceanic ATC, and the four ACCs, Sapporo, Tokyo, Fukuoka and Naha would be responsible for ATC in the domestic airspace.

2.1.131 At present Tokyo and Naha ACCs provided the oceanic ATC service in Tokyo and Naha FIRs. For more efficient ATFM of international flights and for more efficient oceanic ATC service, the Tokyo FIR and the Naha FIR would be consolidated into a single FIR, and the ATMC would take over the responsibility from the ACCs for the oceanic ATC service. Data link applications, such as ADS and CPDLC would be fully utilized for the efficient use of the airspace.

2.1.132 The meeting noted that the consolidation of Tokyo and Naha FIRs, and the relocation of the Flight Data Processing System (FDPS) and the AFTN station were planned on an AIRAC date of 16 February 2006. The ATMC was expected to commence its initial operation in October 2005. The meeting recognized that the reorganization of Japan's airspace and air traffic control services by incorporating the ICAO ATM Operational Concept was a significant step forward to rationalizing airspace and air traffic services, and should result in greater operational efficiency and capacity.

Unknown military flight movements - Mumbai FIR

2.1.133 India advised the meeting that the Arabian Sea area of the Mumbai FIR was a busy airspace encompassing seven major international ATS routes (EMARSSH) between South-East Asia and the Middle East, as well as traffic flows between Hong Kong, China and Johannesburg, Mumbai and Mauritius/Seychelles/Mogadishu/Yemen. RVSM exclusive airspace was implemented in a major portion of this area on 27 November 2003.

2.1.134 India reported that during the Afghanistan conflict there were approximately 65 reports of unknown military flights crossing flight paths in close proximity to civil flights in this airspace. Generally these military flights were not squawking SSR codes readable by civil equipment.

Further, Mumbai ATC did not receive any information (flight plan information or position reports, etc) in respect of such flights. India had informed ICAO, the United States FAA and the National Transportation Safety Board (NTSB) of the United States during May 2002 of the prevalence of these incidents.

2.1.135 ICAO had clarified that since the incidents had taken place in areas over the high seas and that State aircraft were not subject to compliance with the Convention on International Civil Aviation, there was no requirement for these military flights to be coordinated with the ATC authorities responsible for the Mumbai FIR. In international airspace, Article 3[d] of the Convention requires States when issuing regulations for their state aircraft, that they have "Due Regard" for the safety of navigation of civil aircraft.

2.1.136 India further advised that a number of the incidents reported were extensively investigated by the U.S. DOD. Subsequently, at a SCM on Afghanistan airspace held at the ICAO Regional Office, Bangkok in August 2002, United States military representatives agreed to suitable procedures for these operations, which included circumstances where military aircraft would generally operate at levels which included some segregation from civil traffic (e.g. ±500 feet), and that some flight information would be provided to the responsible civil ATS unit. The implementation of these procedures reduced the number of incidents reported.

2.1.137 India raised concerns that the introduction of RVSM in the Mumbai FIR meant that the procedures previously agreed were no longer suitable as the vertical separation between aircraft was now 1000 feet, leaving less scope for military aircraft to operate at segregated levels between civil levels.

2.1.138 India informed the meeting that on 30 July 2004 and on 1 August 2004, i.e. subsequent to the introduction of RVSM, two reports were received of civil aircraft taking collision avoidance action with respect to military flights unknown to Mumbai ATC near waypoint DONSA (N 143518.5, E 06511133.4).

2.1.139 The United States advised the meeting that reports of this nature were taken very seriously and were routinely investigated by the U.S. DOD, and that this would be the case with these incidents. IATA advised the meeting that since the changes agreed at the SCM in August 2002, they had received very few reports of this type of incident in the area, but would like to be involved in any related discussions.

2.1.140 The meeting noted and understood India's concerns, and acknowledged the complex issues surrounding operations conducted under "Due Regard". The United States and IATA undertook to follow up on the two incidents reported by India and provide feedback as it became available.

2.1.141 The meeting was advised that ICAO had scheduled a four day regional Civil/Military Seminar at the Regional Office on 14-17 December 2004, and encouraged States to bring their military compatriots to the seminar in order to improve coordination linkages between civil and military agencies. Further details of the seminar would be advised by the Regional Office in due course.

ATS incident reporting

2.1.142 The meeting recalled that the ICAO *ATS Planning Manual*, Doc 9426, Part II, Chapter 3 required that reporting of air traffic incidents and ATS investigation procedures be established in order to ensure high standards of safety in the conduct and control of air traffic. Near collisions, serious difficulty caused by faulty procedures or lack of compliance with applicable

procedures, and serious difficulty caused by failure of ground facilities were identified as air traffic incidents and were reportable.

2.1.143 IATA informed that they routinely receive a large number of incident reports from operators that often contain an ATS related factor. In order to undertake appropriate investigation, information was required from the ATS provider in relation to the report, and the information was required in a timely manner to ensure the investigation could move forward and before the expiry of ATS records/recordings, etc. In order to allow ATS providers to meet their investigation responsibilities, IATA was able to provide data to ATS providers to assist with their investigations.

2.1.144 Considering the lack of success in obtaining from the respective ATS providers suitable contact details of a person or position to which incident reports could be provided and discussions held, the meeting requested States to consider providing details of a responsible contact person to which operators could send incident reports for investigation and resolution.

Review of the Terms of Reference of the ATM/AIS/SAR Sub-group

2.1.145 The ATM/AIS/SAR/SG/14 meeting reviewed its Terms of Reference (TORs) to ensure that the Sub-group maintained a suitable focus for its work programme. It was recalled that during APANPIRG/14, it was considered timely in view of the wider area of interest of the ATS/AIS/SAR SG, which included matters related to airspace management, airspace safety management and air traffic flow management, to revise the title to the ATM/AIS/SAR Sub-group (APANPIRG Decision 14/11 refers) but the TORs were not updated.

2.1.146 The meeting agreed that it was appropriate to revise the TORs of the ATM/AIS/SAR SG to properly reflect its expanded role, as shown in **Appendix G** to the Report on Agenda Item 2.1.

2.1.147 In light of the foregoing the meeting formulated the following Decision:

Decision 15/10 – Amendment to the Terms of Reference of the ATM/AIS/SAR SG

That, proposed amendments to the Terms of Reference of the ATM/AIS/SAR SG as presented in Appendix G to the Report on Agenda Item 2.1 be adopted.

Updated Task List

2.1.148 The meeting reviewed the updated Task List for ATM/AIS/SAR SG approved by APANPIRG/14.

2.1.149 The meeting noted that the Future Directions Task Force had made three recommendations to APANPIRG/15 to include additional items on the ATM/AIS/SAR SG Task List as follows:

a) review key priorities for implementation of CNS/ATM systems for the Asia/Pacific region, identify new items as required and monitor implementation;

b) make recommendation aimed at improving ATM and CNS support for Terminal Area and Airport Operations, respectively; and

c) to study and take action to implement AN-Conf/11 Recommendations 1/1,

1/10, 1/13, 4/1, 4/2, 4/4, 6/11 and 7/1.

2.1.150 The meeting agreed with the Future Directions Task Force's recommendations and included the items on the Task List as Items 17, 18 and 19 respectively.

2.1.151 The meeting agreed that the agenda for the ATM/AIS/SAR/SG meeting should include items for CNS/ATM developments and a review of ATS coordination group meetings. In addition, as a result of the dissolution of the CNS/ATM/IC/SG, the meeting agreed to include on the Task List additional items for environmental issues, training and business cases. The updated Task List is shown in **Appendix H** to the Report on Agenda Item 2.1.

RVSM IMPLEMENTATION STATUS IN THE ASIA/PACIFIC REGION

(Last updated June 2004)

FIR/AOR	RVSM Implementation Date	Comments
Anchorage Arctic	24 Feb 2000	RVSM Transition Airspace only
Anchorage Continental	24 Feb 2000	RVSM Transition Airspace only
Anchorage Oceanic	24 Feb 2000	
Auckland Oceanic	24 Feb 2000	
Bali	31 Oct 2002	
Bangkok	21 Feb 2002	Specific routes on 21 Feb 2002. Whole FIR on 27 Nov 2003
Beijing	TBD	
Biak	Not applicable	Subject to Indonesia upper airspace consolidation
Brisbane	24 Feb 2000	Oceanic East of Australia 24 Feb 2000 - Remainder of FIR 1 Nov 2001
Calcutta	27 Nov 2003	
Chennai	27 Nov 2003	
Colombo	27 Nov 2003	
Delhi	27 Nov 2003	
Dhaka	27 Nov 2003	
Guangzhou	TBD	
Hanoi	31 Oct 2002	
Ho Chi Minh	21 Feb 2002	
Hong Kong	31 Oct 2002	
Honiara	24 Feb 2000	
Incheon	9 June 2005	Planned implementation
Jakarta	31 Oct 2002	
Karachi	27 Nov 2003	
Kathmandu	27 Nov 2003	

FIR/AOR	RVSM Implementation Date	Comments
Kota Kinabalu	21 Feb 2002	
Kuala Lumpur	21 Feb 2002	Eastern part on 21 Feb 2002. Western part on 27 November 2003
Kunming	TBD	
Lahore	27 Nov 2003	
Lanzhou	TBD	
Male	27 Nov 2003	
Manila	21 Feb 2002	
Melbourne	1 Nov 2001	
Mumbai	27 Nov 2003	
Nadi	24 Feb 2000	
Naha	24 Feb 2000	Pacific Oceanic (non-exclusive RVSM airspace) on 24 Feb 2000. Whole FIR planned on 9 June 2005.
Nauru	24 Feb 2000	
New Zealand (Domestic)	13 July 2000	Non-exclusive RVSM airspace
Oakland Oceanic	24 Feb 2000	
Phnom Penh	21 Feb 2002	
Port Moresby	13 Apr 2000	
Pyongyang	TBD	
Sanya AOR	31 Oct 2002	N892 within the oceanic airspace of Sanya AOR on 21 February 2002
Shanghai	TBD	
Shenyang	TBD	
Singapore	21 Feb 2002	
Tahiti	24 Feb 2000	Non-exclusive RVSM airspace
Taibei	21 Feb 2002	
Tokyo	24 Feb 2000	Pacific Oceanic (non-exclusive RVSM airspace) on 24 Feb 2000. Whole FIR planned on 9 June 2005.
Ujung Pandang	31 Oct 2002	Phased Implementation

FIR/AOR	RVSM Implementation Date	Comments
Ulaan Baatar	TBD	
Urumqi	TBD	
Vientiane	31 Oct 2002	
Wuhan	TBD	
Yangon	27 Nov 2003	

LESSONS LEARNT FROM THE EMARSSH PROJECT ON IMPLEMENTATION PLANNING FOR THE REVISED ROUTE STRUCTURE

a) using a small core team of experts to manage the project provided continuity, impetus and centralized project management. This arrangement was highly recommended for projects of this size;

b) AIS is an integral and essential element of a modern ATM system and as such the composition of future core teams should include an AIS expert;

c) in planning airspace arrangements, careful attention needed to be given to operational end use ensuring that the airspace structure met operational requirements. Also, users should take full advantage of all routing options available;

d) unexpected international events could seriously impair the effectiveness of route operations and attention needed to be given to contingency arrangements;

e) data collection and management should be assigned to a single management source;

f) project timing should be kept to a minimum and careful attention given to meeting timelines;

g) Regional Monitoring Agency (RMA) services should be identified and established early in the process;

h) cooperation and coordination from military authorities was essential. They must be involved early in the process and well informed on the objectives of the project;

i) meeting requirements for international operators, domestic operations must be fully considered and measures put in place to ensure minimum disruption to their operations;

j) with complex airspace changes, information on developments must be kept in the public forum to ensure all operators remain up-to-date on the changes to be implemented and the operational requirements;

k) planning should be forward looking and cognizant of the potentially rapidly changing technological advances in aircraft operations and commercial imperatives;

l) close coordination with adjacent regions was necessary to harmonize procedures and planning objectives;

m) information flow for the planning process should be broadly available and especially at the operational level;

n) early provision for training requirements must be thoroughly developed and timely delivered;

o) awareness of and coordination on other related changes being planned or implemented by other groups, and to continually update the ICAO Regional Office on progress especially on early advice of potential difficulties; and

p) plan must be well defined, meet user requirements, be realistic, achievable in a timely manner and supported by all parties.

TERMS OF REFERENCE
REGIONAL AIRSPACE SAFETY MONITORING ADVISORY GROUP (RASMAG)

Terms of Reference of the RASMAG

The objectives of the Group are to:

a) facilitate the safe implementation of reduced separation minima and CNS/ATM applications within the Asia and Pacific regions in regard to airspace safety monitoring; and

b) assist States to achieve the established levels of airspace safety for international airspace within the Asia and Pacific regions.

To meet these objectives the Group shall:

a) review airspace safety performance in the Asia and Pacific regions at the regional level and within international airspace;

b) review and develop as necessary guidance material for airspace safety monitoring, assessment and reporting activities;

c) recommend and facilitate the implementation of airspace safety monitoring and performance assessment services;

d) review and recommend on the competency and compatibility of monitoring organizations;

e) review, coordinate and harmonize regional and inter-regional airspace safety monitoring activities;

f) review regional and global airspace planning and developments in order to anticipate requirements for airspace safety monitoring and assessment activities;

g) address other airspace safety related issues as necessary;

h) facilitate the distribution of safety related information to States, and

i) provide to APANPIRG comprehensive reports on regional airspace safety and coordinate with other contributory bodies of APANPIRG as appropriate.

Task List

To review the safety monitoring programmes in the Asia and Pacific regions for implementation and operation of:

a) reduced vertical separation minimum (RVSM);

b) reduced horizontal (lateral and longitudinal) separation minima using RNP; and

c) aircraft separation applications using data link, e.g. ADS and CPDLC.

DRAFT AIP AMENDMENT

IMPLEMENTATION OF STRATEGIC LATERAL OFFSET PROCEDURES

X. STRATEGIC LATERAL OFFSETS IN OCEANIC 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.

e. Aircraft transiting areas of radar coverage in airspace where offset tracking is permitted may initiate or continue an offset.

Analysis of SAR Capability of ICAO States in the ASIA/PAC Region

	Training	Alerting	Legislative	SAR committee	Agreements	Relationships	Communications	Quality Control	Civil/Military	Resources	SAREX	Library	Computerisation	SAR programme	Supply dropping	Special equipment	SAR aircraft	Navigation	ELTs	LUT
Australia	E	E	E	E	E	C	E	E	E	E	E	E	E	E	E	E	E	E	C	E
Bangladesh	B	C	D	A	A	C	C	A	D	A	A	C	A	A	C	C	D	A	D	C
Bhutan																				
Brunei	E	E	E	E	E	E	E	E	E	E	E	E	E	E	D	D	E	E	E	A
Cambodia	B	B	B	B	B	B	C	A	B	B	A	C	A	A	A	A	B	A	A	A
China	E	E	E	E	E	E	D	D	E	D	D	C	B	A	E	E	E	E	E	A
Cook Islands	A	B	B	A	A	C	C	C	B	A	B	A	A	A	A	B	B	A	E	A
DPR Korea	B	D	B	D	A	B	D	D	D	C	B	A	A	A	B	A	C	C	A	A
Fiji	B	C	C	C	C	C	C	B	D	C	D	C	A	C	B	A	C	C	C	A
French Polynesia	C	D	D	D	C	D	E	A	E	C	C	B	A	A	E	D	E	E	E	**A**
Hong Kong, China	E	E	E	E	D	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
India	D	C	C	B	B	C	C	A	C	C	C	C	C	D	D	D	C	A	B	E
Indonesia	E	D	E	E	E	D	D	D	E	D	E	D	D	D	C	D	D	D	D	E
Japan	E	E	E	E	D	E	E	E	E	E	E	E	D	E	E	E	E	E	E	E
Kiribati																				
Lao PDR	B	A	B	B	B	A	B	A	B	B	A	C	A	A	A	A	A	A	A	A
Macau, China	E					E	E				E						E			
Malaysia	E	E	C	E	D	E	E	E	E	E	E	D	E	E	E	D	E	E	E	B
Maldives	B	A	A	A	A	A	A	A	D	A	C	A	A	A	A	A	A	A	A	A
Marshall Islands																				
Micronesia	C	B		A	A	B	C					A		B	B					
Mongolia	A	C	C	A	B	B	B	A	B	B	B	C	B	B	A	A	A	A	B	A
Myanmar	B	A	B	C	A	D	C	C	D	A	A	A	A	A	C	A	D	C	A	A
Nauru																				
Nepal	D	D	C	B	A	C	C	B	D	B	A	B	A	D	D	C	D	D	D	B
New Caledonia	C	D	D	D	C	D	E	A	E	C	C	B	A	A	E	D	E	E	E	E
New Zealand	E	E	E	E	A	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Pakistan	C	C	D	D	A	D	D	C	D	C	A	A	A	A	D	A	D	D	C	E
Palau																				
Papua New Guinea	D	E	D	C	D	D	C	C	D	C	C	D	C	C	C	A	A	A	E	A
Philippines	D	C	E	D	D	C	D	D	E	C	C	C	C	C	C	B	C	E	C	A
Rep. of Korea	C	C	C	C	C	D	E	E	E	E	C	A	D	E	D	E	E	E	E	E
Samoa																				
Solomon Islands																				
Singapore	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Sri Lanka	D	A	C	D	B	C	C	D	E	D	B	C	A	A	D	D	C	A	C	A
Thailand	E	E	E	E	D	E	E	E	E	E	E	D	B	B	E	E	E	E	E	B
Tonga	C	B	A	A	B	C	C	A	D	A	A	A	A	A	A	A	C	A	E	A
United States	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Vanuatu																				
Viet Nam	D	D	D	E	C	D	D	B	E	D	C	C	B	C	C	D	D	C	D	B

Updated 28 June 2004

Categorisations:

A = Not implemented

B = Initial implementation

C = Meets Annex 12 requirements in some areas

D = Meets Annex 12 requirements in most areas

E = Fully meets Annex 12 requirements

Blank = No response

STATE SAR AGREEMENTS
(updated 28 June 2004)

ID NO.	DATE	STATES	REMARKS
1	June 1982	Indonesia / Singapore	
2	August 1984	Malaysia / Singapore	
3	July 1996	Viet Nam / Singapore	
4		Singapore / Thailand	
5		Philippines / Singapore	
6	November 1990	Australia / Indonesia	Updated 5 April 2004
7	February 1999	Cambodia / Viet Nam	
8	December 2000	Malaysia / Singapore Malaysia / Philippines Malaysia / Thailand Malaysia / Indonesia Malaysia / Brunei Darussalam	
9	February 2001	Australia / Papua New Guinea	
10	September 2002	New Caledonia / New Zealand	
11	November 2002	United States / Republic of Palau	
12	1998	Lao PDR/Vietnam	LOA for provision of assistance
		New Zealand/ Cook Islands, Fiji, Samoa, Tonga and French Polynesia	Under development

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TERMS OF REFERENCE

AIR TRAFFIC MANAGEMENT/AERONAUTICAL INFORMATION SERVICES AND SEARCH AND RESCUE (ATM/AIS/SAR) SUB-GROUP OF APANPIRG

1. Ensure the continuing and coherent development of the ASIA/PAC Regional Air Navigation Plan and the ASIA/PAC Regional Plan for the New CNS/ATM Systems in the ATM/AIS/SAR fields.

2. Review and identify deficiencies that impede the implementation or provision of efficient ATM/AIS/SAR services in the Asia/Pacific region

3. Monitor CNS/ATM systems research and development, trials and demonstrations in the fields of ATM/AIS/SAR and facilitate the transfer of this information and expertise between States.

4. Make specific recommendations aimed at improving ATM/AIS/SAR services by the use of existing procedures and facilities and/or through the evolutionary implementation of CNS/ATM systems.

5. Review and identify inter-regional co-ordination issues in the fields of ATM/AIS/SAR and recommend actions to address those issues.

…….

SUBJECT/TASKS IN THE ATM/AIS/SAR FIELDS

The priorities assigned in the list have the following connotation:

A = Tasks of a high priority on which work should be expedited;
B = Tasks of a medium priority on which work should be undertaken as soon as possible but not to the detriment of Priority "A" tasks; and
C = Tasks of a medium priority on which work should be undertaken as time and resources permit but not to the detriment of Priority "A" & "B" tasks.

No.	Reference	Subject/Task	Priority	Action Proposed / In Progress	Action By	Target Date
1	RAN/3 C 6/9 R 14/22 APANPIRG C 2/22 C 3/24 C 4/4 C 4/5 C 5/2 C 5/3	Subject: Implementation of RNP Task: Implement RNP into the Asia Pacific Region ~~b) Develop further SUPPS material by ISPACG for RNP4, 30NM longitudinal and lateral separation minima~~	A	a) ~~Sub-Group to~~ Identify routes and areas where RNP implementation is required; and ~~i) SUPPS amendment required to extend area of applicability of RNP10 (50NM longitudinal and lateral separation minima) beyond Pacific~~ b) ~~Sub-Group to~~ monitor progress	ATM/AIS/SAR/SG ~~ICAO~~ ~~ICAO~~	On-going ~~Completed~~ ~~Completed~~
2	APANPIRG C 3/22	Subject: Traffic congestion within the region Task: Suggest ways of reducing this congestion by means of appropriate traffic management ~~d) Develop revised ATS Route Structure – Southeast Asia to/from Europe/Middle East, South of the Himalayas~~	A ~~EMARSSH/TF established - commenced work~~		 Onging ~~EMARSSH/TF~~	 ~~11/02~~
3	RAN/3 C 13/14 APANPIRG D 2/35	Subject: AIS Automation Task: Develop a Regional AIS Automation Plan	B	a) Develop AIS automation plan and introduction of AIS quality systems and AIS databases ~~ANP amendment proposal following AIS/MAP Divisional Meeting, April 1998 introduction of quality systems and AIS databases~~ ~~b) Develop AIS Guidance Material for static data procedure~~ Decision 14/8 reactivated the AIS Automation Task Force and changed the name and role of the task force to the AIS Implementation Task Force (AITF). First meeting expected November 2004	~~AA/TF~~ AITF ATM/AIS/SAR/SG ATM/AIS/SAR/SG AITF	On-going ~~Completed~~ On-going

No.	Reference	Subject/Task	Priority	Action Proposed / In Progress	Action By	Target Date
4	APANPIRG C 2/31	Subject: Provision of AIS within the Region Task: Examine and comment on the provision of AIS and develop a programme to improve the provision of AIS within the region	B	a) Increase AIS support from the ICAO APAC Office b) Regional AIS seminars to be conducted periodically c) Review the use of Internet for aeronautical information taking into account results of the ICAO AUPI Study Group and update Chapter 4 to the AIS Guidance Manual	APANPIRG ICAO ICAO ~~AATF~~ ATM/AIS/SAR/SG	On-going On-going ~~Dec. 2002~~ No update avbl to ATM/AIS/ SAR/SG/14 re internet
5	APANPIRG C 3/24 C 9/3 D 9/4	Subject: Implementation of RVSM in the Asia Pacific Region Task: Plan for and facilitate implementation of RVSM, as appropriate, in the Asia Pacific Region	A	a) Plan schedule and facilitate implementation of RVSM in the Asia Pacific Region	RVSM/TF	On-going ~~South China Sea and Western Pacific~~ ~~(phase one 2/2002)~~ ~~(phase two 10/2002)~~ ~~Parts of Asia and MID Regions – EMARSSH (11/2003)~~ North Asia - 2005
6	APANPIRG D 3/12 D 3/2 C 4/2	Subject: Inappropriate provision of SAR facilities, services and procedures within the Asia Pacific Region Task: a) Review SAR facilities, services and procedures in the region b) Assist States without SAR services to provide SAR coverage	A	a) Encourage States to delegate or negotiate SAR services b) Identify deficiencies	ICAO ATM/AIS/SAR/SG	On-going On-going

No.	Reference	Subject/Task	Priority	Action Proposed / In Progress	Action By	Target Date
7	APANPIRG D 3/21 C 9/2	Subject: Transition to WGS-84 in the Asia Pacific Region Task: Monitor and facilitate the transition to WGS-84	A	a) Maintain status report of WGS-84 implementation within the Asia Pacific Region b) Identify States requiring assistance and where possible assist those States c) Identify deficiencies	ATM/AIS/SAR/SG States ICAO ATM/AIS/SAR/SG ATM/AIS/SAR/SG	On-going On-going On-going
8	RAN/3 R 14/13 APANPIRG C 5/12 D 6/21 C 9/8	Subject: Implementation of ATS route requirements Task: a) Identify ATS routes in the ANP which have not been implemented; and ~~b) Propose guidelines for the establishment of ATS routes using RNP and/or with ADS functions.~~	B	~~a)~~ ATS routes identified as not implemented ~~are considered by ATS/AIS/SAR/SG~~ b) ~~ATS/AIS/SAR/SG~~ Monitor progress c) Identify deficiencies Decision 14/4 created the ATS Route Network Review Task Force (ARNR/TF). ATM/AIS/SAR/SG/14 referred matters on the deficiencies list relating to ATS routes to the ARNR/TF for study. First meeting of ARNR/TF expected September 2004.	ATM/AIS/SAR/SG ATM/AIS/SAR/SG ATM/AIS/SAR/SG ARNR/TF	~~2004~~ 2005 On-going On-going On-going
9	C 11/8	**SAR Capability Matrix** That, a) the "SAR Capability Matrix" be distributed to States for information and action as appropriate; and b) States provide information to ICAO by 30 April ~~2001~~ each year to permit the periodic update of the Matrix.	C	a) The SAR Matrix is reviewed by States at all ATM/AIS/SAR/SG Meetings b) States to update the Matrix by providing information to ICAO by 30 April each year	ATM/ASI/SAR/SG States ICAO	On-going On-going
10	RAN/3 R 7/18 APANPIRG C 8/9	Subject: SAR training and exercises Task: Facilitate SAR training and exercises	B	a) Co-ordinate SAR training available in the region b) Facilitate international participation in SAR exercises c) Bay of Bengal SAREX planned for second quarter 2005	ICAO States India	On-going ~~2003~~ On-going 2005
11	APANPIRG C 6/13	Subject: Appropriate SAR legislation, National SAR Plans and Amendments Task: Establish appropriate documentation and National SAR Committee	A	a) Implement appropriate legislation, establish National SAR Committees and Plans to support SAR operations b) Monitor developments of SAR Agreements between SAR organizations c) Establish and maintain a Register of SAR Agreements	States ATM/AIS/SAR/SG ICAO	On-going On-going On-going

No.	Reference	Subject/Task	Priority	Action Proposed / In Progress	Action By	Target Date
12	APANPIRG C 9/9	Subject: Lack of consideration of Human Factors in the provision of ATS Task: Consider ways by which Human Factors aspects in the provision of ATS within the region could be improved	B	a) ~~States to~~ Provide input including lessons learned (ICAO to encourage States to submit reports) b) ICAO to conduct seminars	States ICAO ICAO	On-going ~~2004~~ On-going
13	APANPIRG D 8/	Subject: Maintenance of the CNS/ATM/GM for the Region Task: ~~Maintain the CNS/ATM/GM~~	B	a) Update the Guidance Material taking into account the ICAO Headquarter's review and coordinate with States responsible for the Pacific Operations Manual ~~b) Develop "Concept of Operations" for application in an initial ADS environment~~	ATM/AIS/SAR/SG States ~~ATS/AIS/SA+R/SG~~ ~~States~~	~~2003~~ 2005 ~~Completed~~
14	APANPIRG C 9/48	Subject: ~~Shortcomings &~~ Deficiencies in the field of air navigation Task: Develop and maintain ~~Shortcomings &~~ Deficiencies list	A	a) Identify unimplemented items in the ANP b) Review mission reports c) Analyze differences from SARPs d) Review accidents / incidents	ATM/AIS/SAR/SG ICAO ICAO ATM/AIS/SAR/SG ICAO ATM/AIS/SAR/SG	On-going On-going On-going On-going
15	APANPIRG/12	Subject: Lateral Offset Procedures	A	a) Review ICAO Guidelines on Lateral Offsets ~~b) Identify bodies developing offset procedures~~ c) Coordinate with all parties concerned d) Identify issues regarding route structures where offsets could be applied ~~e) Consider methodologies for safety assessment~~ f) Implement 2NM right of route offsets in accordance with ICAO guidelines	ATM/AIS/SAR/SG States	On-going 2004/2005
16	APANPIRG/13 C12/6	Subject: Regional Contingency Planning Survey Task: That, ICAO survey States in the Asia/Pacific Region to determine the status of contingency planning and the extent to which contingency plans are exchanged between neighboring States.	C	a) States to complete their State Contingency Plans, using framework supplied in their Y2K CP b) Coordinate with neighboring States c) Send copy of their Contingency Plan to ICAO	ICAO/States	On-going On-going On-going

No.	Reference	Subject/Task	Priority	Action Proposed / In Progress	Action By	Target Date
17	FDTF Draft Decision 1/3	Review key priorities for implementation of CNS/ATM systems for the ASIA/PAC region, identify new items as required and monitor implementation	A	a) Include new Agenda item on the Agenda of ATM/AIS/SAR/SG meetings - "Review CNS/ATM activities in the Asia Pacific Region"; b) Review key priorities and recommend appropriate actions	ICAO/States ATM/AIS/SAR/SG	On-going On-going
18	FDTF Draft Decision 1/3	Make recommendation aimed at improving ATM and CNS support for Terminal Area and Airport Operations, respectively.	B	a) Study operational problems being experienced; b) identify requirements/areas for improvement from States	ATM/AIS/SAR/SG States	On-going Ongoing
19	FDTF Draft Decision 1/2	That recommendations 1/1, 1/10, 1/13, 4/1, 4/2, 4/4, 6/11 and 7/1 of AN-Conf/11 be studied by the ATM/AIS/SAR/SG, and action be taken to implement them.	B	Review recommendations and take appropriate action to implement	ATM/AIS/SAR/SG	On-going

AGENDA ITEM 2.2: CNS/MET MATTERS

Agenda Item 2: Asia/Pacific Air Navigation System and Related Activities

2.2 **CNS/MET matters**

2.2.1 The meeting reviewed report of the Eighth Meeting of CNS/MET Sub-group (CNS/MET/SG/8) which was held in Bangkok from 12 to 16 July 2004. The contents of the report were noted with appreciation of the work done by the Sub-group. The meeting expressed satisfaction on the result of actions taken by States and the Secretariat on all Decisions and Conclusions of APANPIRG/14 in the CNS and MET fields. The meeting took the following actions on the report of the CNS/MET SG/8.

Aeronautical Fixed Service

2.2.2 The meeting reviewed the work accomplished by the Sixth Meeting of the ATN Transition Task Force which was held in Bali, Indonesia from 26 to 30 April 2004 and endorsed the draft Conclusions and draft Decisions.

Reference document for the ATN router description

2.2.3 The meeting noted that the ATN Transition Task Force had developed reference document on description for the Asia/Pacific regional ATN ground-ground router to be used as an advisory document. The document was prepared to provide description of the ground-ground router related protocols, performance, network management and security requirements and is posted in the ICAO web site. The document would facilitate implementation of ATN infrastructure in the region.

Study of X.25 protocol

2.2.4 It was noted that the ATN Transition Task Force had conducted a thorough study of impact of X.25 capability within the region to determine the availability and the need for X.25 technology. It was observed that the regional ATN network unlike in the EUR region is not dependent on X.25 packet switched networks, but uses a private leased channels for point-to-point communication between ATN routers, which provides the necessary data relay functionality. In most cases, the communication links will be “clear channel” links, and the only X.25 equipment required are the X.25 cards and software built into the ATN routers. It was also pointed out that X.25 boards will be readily available and will serve adequately to allow the regional ATN network to be established and to operate in the short-to-medium term (5 to 10 years).

2.2.5 Based on the result of study, it was concluded that in the short-to-medium term (5 to 10 years) that X.25 will be suitable to be used in the region. In the medium to long-term, it is recommended that ATN equipment should be able to be upgraded to interconnect by using IP when the ATN SARPs have been developed and are mature enough to be implemented. It was also recognized that alternate technology to replace X.25 during the medium term. Accordingly, the meeting adopted the following Conclusion:

Conclusion 15/11 - Use of X.25 protocol

That, States continue using X.25 as recommended protocol to support implementation of ATN ground infrastructure in the short to medium term (5-10 years) and consider acquisition of sufficient spares for the service life of the equipment. States not implementing X.25 consider the use of emerging replacement technology.

AMHS addressing schemes and Private Management Domain (PRMD) name value

2.2.6 It was noted that in order to facilitate the development of AMHS addressing scheme and to provide PRMD value this issue was discussed at the ATN Seminar held in Chiang Mai, Thailand in February 2004.The meeting also noted that the response to the ICAO State Letter SP 54/1 – 03/39 dated 30 May 2003, which had requested States to develop AMHS addressing scheme, was not satisfactory, apparently due to lack of clear understanding of the concept. To assist States in this regard Hong Kong, China was requested to develop a comprehensive list of AMHS addressing and PRMD value for all the States in Asia/Pacific region with options of both the XF and CAAS schemes and present it to the ATN Working Group Meeting to be held in Bangkok from 13-17 September 2004 for review and comments. It was also agreed to request ICAO to provide the list to States for consideration and appropriate action. Accordingly, meeting adopted the Conclusion:

Conclusion 15/12 – Development of AMHS Addressing Scheme and PRMD value for Asia/Pacific region

That,

i) Hong Kong, China be requested to develop a comprehensive draft of the AMHS Addressing Scheme and PRMD value for each State in the Asia/Pacific region with options of both XF and CAAS address and present it to the ATN Transition Task Force Working Group Meeting in September for review and comments; and

ii) ICAO be requested to circulate the addressing scheme to States for consideration.

AMHS Naming Registration Form

2.2.7 The meeting noted the AMHS Naming Registration Form developed by the ATN Transition Task Force for registration of essential information of network service access point (NSAP) address of each AMHS and also to include details of designated contact points at each facility for coordination. Based on the experience gained during trial operations on the use of the form and considering the discussion at the meeting, it was proposed to modify the structure of the registration forms to include, among others, two levels of hierarchy for CAAS address. It was also agreed to refer the form to the ATN Transition Task Force for necessary modification and request ICAO to circulate the modified form to States in the Asia/Pacific region for use. In view of the foregoing , the meeting adopted the following Conclusion:

Conclusion 15/13 - AMHS Naming Registration Form

That,

a) the AMHS Naming Registration Form be reviewed and refined by the ATN Transition Task Force based on the result of trial operation; and

b) ICAO be requested to circulate the form to Asia/Pacific States.

AMHS over TCP/IP

2.2.8 It was noted that, at the Fifth Meeting of the Task Force held in 2003, it was agreed that if administrations within the Asia/Pacific region wish to pursue the implementation of the TCP/IP subnet as part of the ATN, they should be able to do so through bilateral agreements on the understanding that they may be required to make changes to their subnets if and when the TCP/IP subnet is developed as part of the ATN SARPs.

2.2.9 In view of the foregoing and also considering the action taken in the EUR region to use TCP/IP protocol for initial implementation of AMHS as a transition mechanism to enable AMHS operations to commence ahead of the eventual SARPs compliant data transmission system as an interim local solution, the meeting adopted the following Conclusion:

Conclusion 15/14 -Use of AMHS over TCP/IP in the Asia/Pacific region

That, Administrations within the Asia/Pacific region willing to pursue the implementation of the TCP/IP subnet as part of ATN may do so on a bilateral basis on the understanding that they may be required to make changes to their subnet if and when the TCP/IP is developed as a part of the ATN SARPS.

AMHS implementation and support of BUFR code

2.2.10 The meeting noted the information provided by France that the AMHS provides the most appropriate way to support the transfer of BUFR coded MET messages. To meet the BUFR requirements, there is no need to implement the full Extended ATS Message Handling Service. The Aeronautical Communication Panel (ACP) is currently developing an appropriate AMHS implementation profile based on ICAO Document 9705. Minor upgrades to the systems which have been already deployed or planned to be deployed in the near future for the Basic ATS Message Handling Service will be sufficient to enable the AMHS to handle binary data as required for the exchange of BUFR-coded MET messages. The meeting also noted the EANPG / AFS Group's recommendation in this regard to consider AMHS implementation profile being developed by the ACP to accommodate BUFR coded message exchanges.

Asia/Pacific ATN Performance Document

2.2.11 One of the tasks assigned to the ATN Transition Task Force was to develop documentation on the ATN Performance. The Task Force developed the ATN Performance Document. However, with a view to avoid duplication of work and considering that the RCP, as described in the document, also included air-ground communication aspect, it was agreed that it should be coordinated with OPLINK Panel. Japan was requested to refer the ATN Performance Document to OPLINK Panel for comment and provide the resulting comment to the next Task Force Meeting.

Asia/Pacific regional ATN implementation system management operational procedures

2.2.12 The meeting noted that the ATN Transition Task Force had developed a document on the system management for ATN transition guidance. The document was intended to provide initial direction and guidance in the identification, development, and selection of ATN administrative management tools, agreements and documents necessary to facilitate and continue operation required for transition from current systems to the ATN. The document also provides samples for service level agreements and Technical Memorandum of Cooperation. Accordingly, the meeting adopted the following Conclusion.

Conclusion 15/15 – Asia/Pacific regional ATN Implementation System Management Operational Procedures

That, the Asia/Pacific regional ATN Implementation System Management Operational Procedures be published to assist States in implementation of the ATN ground infrastructure in the Asia/Pacific region.

Table CNS-1D - ATS Inter-facility Data Communication (AIDC)

2.2.13 With a view to improve presentation of requirements, the existing sample Table CNS-1D provided in ASIA/PAC FASID, Part IV CNS, was modified. The proposed format was reviewed and adopted which would also allow AIDC to operate over AMHS where operationally required and considered cost effective, during initial implementation of AMHS.

2.2.14 It was noted that there were three options available for implementation of AIDC as follows:

- Existing AIDC over AFTN;
- Existing AIDC over AFTN/AMHS; and
- Fully ATN compliant AIDC

2.2.15 It was also noted that the AFTN based AIDC when implemented using a multiplexing technique sharing the single communication line for both AFTN/AMHS gateway and AIDC rather than establishing a link through AFTN/ATN gateway and router, it would meet the requirements. If AFTN based AIDC is implemented through AFTN/ATN gateway, it will have impact on the efficiency of AIDC communication in terms of reliability and response time required for AIDC communication. States are expected to take into account the foregoing considerations while planning implementation of AIDC.

2.2.16 The meeting noted that the format of the Table CNS-1D was reviewed by the ATM/AIS/SAR SG/14 meeting which did not result in any comment. Accordingly the meeting adopted the following Conclusion.

Conclusion 15/16 – Table CNS-1D - AIDC

That,

a) ICAO be requested to circulate Table CNS-1D provided in **Appendix A** to the Report on Agenda Item 2.2 to Asia/Pacific States to specify operational requirements for AIDC; and

b) provide results to the next meeting of the ATN Transition Task Force for appropriate action.

2.2.17 The meeting noted experience of Japan with regard to the operation of AFTN based AIDC service between Oakland ARTCC and Tokyo ACC. The methodology used for monitoring the performance of AIDC was also noted. A need to standardize the methodology for monitoring of AIDC performance with respect to infrastructure, system capability, error rate, outages etc. was also identified by Japan.

2.2.18 The meeting noted that the ATN Transition Task Force was developing an ICD for ATN based AIDC while the AFTN based AIDC has been implemented, where required. The ATN/AIDC would eventually replace the AFTN based AIDC. However, it was felt that there might be a need for co-ordination between the AIDC Task Force and ATN Transition Task Force to plan transition. The meeting, therefore, agreed that one of the two Task Forces could take initiative and arrange co-ordination meeting, as and when required.

ATS Message Handling Service (ATSMHS)

2.2.19 The meeting reviewed the Table CNS-1C – ATSMHS Plan. It was agreed that the existing sample Table CNS-1C provided in ASIA/PAC FASID, Part IV CNS, should be replaced with completed Table CNS-1C provided in **Appendix B.**

In view of the foregoing, the meeting adopted the following Conclusion:

Conclusion 15/17 – Amendment Table CNS-1C – ATSMHS Implementation Plan

That, the sample Table CNS-1C – ATSMHS Implementation Plan provided in ASIA/PAC FASID, Part IV CNS be replaced with the Table CNS-1C shown in **Appendix B** to the Report on Agenda Item 2.2 through the established procedure.

ATN Router Plan

2.2.20 The meeting noted that Table CNS-1B-ATN Router Plan had already been reflected in the ASIA/PAC FASID. It was noted that the Task Force had reviewed various requirements and target dates of implementation of recommended facilities contained in the plan. The meeting agreed that the existing Table CNS-1B should be replaced with an updated Table provided in **Appendix C** and endorsed the following Draft Conclusion.

Conclusion 15/18 – Amendment to Table CNS-1B – ATN Router Plan

That, the existing Table CNS-1B provided in ASIA/PAC FASID, Part IV CNS be replaced with an updated Table contained in **Appendix C** to the Report on Agenda Item 2.2.

ATN implementation/operational activities and issues

2.2.21 It was noted that Japan and the United States conducted technical and pre-operational trials involving ATN router AFTN/AMSH Gateway and ATSAMHS application. Upon successful tests, transition activities to AMHS progressed using a 64 Kbps link. During the AMHS trials, it was recognized that there was a need to make some modification to the addressing scheme. After resolution of the problem, the AMHS is expected to be implemented in 2004 and will carry AFTN messages between Japan and USA.

2.2.22 It was also noted that Australia is replacing its AFTN switch, which is providing three different kinds of data communication services such as AFTN, OPMET Data Bank and AIS services. It is expected to award contract for the supply of AMHS by December 2004. The AMHS is expected to be implemented by 2005 or early 2006.

2.2.23 The meeting also noted Mongolia's communication infrastructure development programme and various phases of implementation of facilities. The ground-to-ground communication within Mongolia utilize VSAT link using X.25 and frame relay. VSAT link is used for AFS communication with China and a fiber optic cable used to support AFS communication with the Russian Federation. The fiber optic system will be upgraded to high speed and high capacity link by the end of 2004. The existing system and network will be progressively upgraded by 2006 and the facilities will also be implemented in different phases during the period 2005-2010. Mongolia has implemented FANS-1/A ATM workstation and is conducting ADS-B trials using VDL Mode-4.

2.2.24 Mongolia has been conducting AMHS trials with Thailand and adjacent States and plans to implement AMHS by the end of 2005.

2.2.25 It was noted that the first ATN link in the region - a 64 Kbps circuit between Bangkok and Hong Kong had been put into operation since June 2004. It was also noted that AMHS training is available at Hong Kong CAD training center.

AFTN Plan

2.2.26 The AFTN Plan Table CNS-1A was reviewed and the status of implementation of AFTN circuits was updated. The updated Table is provided in **Appendix D**. The main highlights of AFTN implementation made during 2003 and early 2004 were as follows:

2.2.27 AFTN circuits

- Bangkok/Singapore 2400 bps AFTN circuit was upgraded to 9600 bps on 13 May 2004;
- The Brisbane/Johannesburg 64 Kbps inter-regional AFTN circuit was implemented to function as AF1/ASIA-PAC entry/exit point;
- The Dhaka/Kolkata circuit was implemented using 64 Kbps signaling speed;
- The Guangzhou/Hanoi 2400 bps circuit was implemented;
- The Karachi/Mumbai circuit was upgraded from 200 baud to 2400 bps;
- The Manila/Taibei circuit was upgraded to 300 baud;
- The Mumbai/Paro AFTN circuit was implemented;
- The Beijing/Yangon 300 baud circuit was implemented;
- The Apia/Christchurch 2400 bps was established; and
- The Christchurch/USA 9600 bps AFTN circuit was established.

2.2.28 The meeting proposed to replace the existing Table CNS-1A in Part IV CNS of the ASIA/PAC FASID with an updated Table reflecting, among others, details the above changes and adopted the following Conclusion.

Conclusion 15/19 – Amendment of the Table CNS-1A – AFTN Plan

That, the Table CNS-1A – AFTN Plan and Chart CNS-1 reflected in Part IV CNS of the ASIA/PAC FASID be replaced with an updated Plan provided in **Appendix D** to the Report on Agenda Item 2.2. in accordance with established procedure.

AFTN circuit loading statistics

2.2.29 A methodology for calculation of AFTN circuit loading statistics for circuit operating at 9600 bps and 64 Kbps using X.25 protocol was developed. It was agreed to include the figures for the maximum number of byte per hour and maximum number of byte per day in the existing methodology as the existing guidance provides formula for calculating loading on circuits operating up to 2400 bps.

2.2.30 The meeting agreed to add a Table to indicate the maximum number of bytes that can be transmitted or received for each X.25 circuits including protocol overhead in the existing guidelines contained in Attachment A to ASIA/PAC FASID Part IV CNS as follows:

Signaling	Maximum Number of bytes per hour	Maximum Number of bytes per day
9600 bps	4,320,000	103,680,000
64 Kbps	28,800,000	691,200,000

2.2.31 Accordingly the meeting adopted the following Conclusion:

Conclusion 15/20 – Procedure for calculation of AFTN circuit loading statistics

That, the guidelines for calculation of AFTN circuit loading statistics contained in Attachment A to ASIA/PAC FASID Part IV CNS be amended to add the maximum number of bytes transmitted/received on 9600 bps and 64 Kbps, X.25, AFTN circuits.

Upgrading of the Tokyo/Moscow AFTN circuit

2.2.32 It was noted that Japan had recognized the need for upgrading the Tokyo/Moscow inter-regional circuit from 200 baud to 2400 bps as the circuit loading continued to exceed the occupancy level to 70% in peak hour. Japan considered that even if the proposal made by Russian Federation to change routing of some traffic via the Tokyo/Khabarovsk AFTN circuit was accepted, the occupancy level on the Tokyo/Moscow circuit would still far exceed the established occupancy level of 40%.

2.2.33 The meeting also noted that Japan had provided a working paper through ICAO Regional Office for presentation at the EUR AFSG/7 meeting held in Paris from 19 to 23 April 2004. The paper was presented at the EUR AFSG/7 Meeting. It was further noted that the EUR AFSG/7 had recognized that the issue should be further discussed on a bi-lateral basis to work out mutually acceptable solution. Secretariat informed the meeting that Japan would be invited to attend EUR AFSG/8 meeting to be held in April 2005 to further discuss this issue.

2.2.34 It was noted that Japan had informed the Russian Federation that the solution proposed for splitting the routing will not resolve problem and that circuit needs to be upgraded. It was further noted that Japan would study an alternate solution, if the proposed upgrading of the Tokyo/Moscow circuit does not materialize.

Relocation of Tokyo AFTN COM Centre

2.2.35 It was noted that the Tokyo AFTN COM Centre is planned to be shifted to Fukuoka where ATM Centre will be established by JCAB in October 2005. The Tokyo AFTN COM Centre will be relocated at Fukuoka on 16 February 2006 and the AFTN address will be RJJJYFYX.

Changes in location indicator in Indonesia

2.2.36 It was noted that Indonesia provided to the Sixth meeting of the ATN Transition Task Force details of the changes in location indicator as a result of change in FIR from four to two, which will be effective from April 2005. In the Makassar FIR in eastern part of Indonesia, there will be one communication centre at Makassar, 12 Sub-communication centres and 16 Tributary communication centres. In addition, voice communication services will be provided at 170 different airports using HF Single Side Band (SSB) voice communication link.

2.2.37 Likewise, under Jakarta FIR in the western part of Indonesia, there will be a communication centre at Jakarta, 9 Sub-communication centres, 16 Tributary communication centre and at 57 airports HF SSB voice communication link will be provided.

2.2.38 The above changes resulted in a complete re-organization of the location indicators, which will be effective from 29th September 2004. In order to provide early notification of the changes in Location Indicators, an Aeronautical Information Circular (AIC No. 01) was published on 1 April 2004.

Improved connectivity for data and voice communication in India

2.2.39 The meeting noted that India is in a process of providing primarily end-to-end Optic Fibre Cable (OFC) links for data and voice communication within the country and with neighbouring countries. Where OFC is not feasible or cost effective the Airports Authority of India (AAI) would provide VSAT link.

2.2.40 The AAI has also planned to connect all Indian airports using VSAT link through dedicated satellite networks. A total number of 81 VSAT terminals are proposed to be installed by the end of 2004.

Delivery of AFTN traffic to Pacific island States via the Internet

2.2.41 The meeting noted that the United States plan to provide Federal States of Micronesia, Republic of Palau and Marshall Islands AFTN link through Aeronautical Information System Replacement (AISR) via public internet. These States have very low volume of AFTN traffic. AISR users would require only a workstation, modem, printer and operating system, approved browser software and access to Internet. The security would be assured through the use of dual firewalls, using Public Key Infrastructure Certificate and issuing user identification and password. The implementation is expected to take place during the fourth quarter of 2004.

Subject/Tasks List of the ATN Transition Task Force

2.2.42 The meeting reviewed the Terms of Reference and Subject/Tasks List of the Task Force, taking note of the relevant items of the Key Priority for the CNS/ATM Implementation approved by APANPIRG/14. The meeting did not feel the need to propose any change to the Terms of Reference.

2.2.43 The meeting noted the updated Subject/Tasks List of the Task Force and adopted the Decision as follows:

Decision 15/21 – Subject/Tasks List of the ATN Transition Task Force

That, the updated Subject/Tasks List of the ATN Transition Task Force provided in **Appendix E** to the Report on Agenda Item 2.2.be adopted.

Proposal for new tasks

2.2.44 The meeting identified the need to define ATN/AMHS performance characteristics to assist States in the development of required specifications for equipment and to establish a sun set date for AFTN to be reflected in Part IV, CNS of ASIA/PAC FASID. The meeting, therefore, proposed that the ATNTTF be tasked to undertaken the above tasks and formulated the following Draft Decision:

Decision 15/22 – Assignment of new tasks

That, the ATN Transition Task Force be tasked to:

i) develop ATN/AMHS performance characteristics as soon as possible to meet the target date of implementation of 2005; and

ii) establish a sunset date for AFTN service to be reflected in Part IV of the ASIA/PAC FASID.

Next meeting of the ATN Transition Task Force

2.2.45 China offered to host the Seventh Meeting of the ATN Transition Task Force in Shanghai in April 2005. The exact date of the meeting will be coordinated with China and all the members of the Task Force will be notified accordingly by the Secretariat.

Air Ground communications

Regional strategy for the implementation of AMS communications data links

2.2.46 The meeting was informed that there was a lack of guidance available for the deployment of data communications and that current implementations of data link did not conform to ICAO standards. Although it did provide satisfactory service for the current applications, the technology being used will face limitations in the future.

2.2.47 The Asia/Pacific region has in place strategies to guide States in the selection and implementation of CNS applications. The GNSS Implementation Strategy, the Strategy for Approach, Landing Guidance, the selection of 1090 MHz extended squitter were noted as existing strategies. These strategies were considered to be of value to States in planning and implementation. The CNS/MET Sub-group considered it necessary to develop a corresponding strategy for the selection

and implementation of an AMS communications data link. It was noted that a Task Force was established by the Sub-group to conduct appropriate consultations, identify factual information and to develop a regional strategy for implementation of AMS data link in the Asia/Pacific region and would present its result to the ninth meeting of the CNS/MET Sub-group in July 2005.

VHF coverage in Indian airspace

2.2.48 The meeting noted information on the improvement and enhancement of VHF coverage in Indian airspace in the Oceanic region.

2.2.49 To enhance the ACC coverage of over Bay of Bengal in Indian Airspace RCAG VHF stations at Vishakapatanam and Port Blair controlled by both Chennai and Kolkata and RCAG/VSAT(s) at Bhubaneswar controlled by Kolkata have already been operational. The ACC VHF coverage of Mumbai and Trivandrum airports over Arabian Sea has been enhanced by RCAG/VSAT at Agatti.

2.2.50 To ensure further improvement, AAI has a plan to deploy high power VHF transmitter with directional antenna at Chennai and Port Blair and High power VHF Transmitters at Kolkata and Vishakapatanam. Once implemented, the Indian Airspace over Bay of Bengal is expected to be covered by VHF communication. The coverage of Delhi ACC has been enhanced by installing RCAG/VSAT at Khajuraho. RCAG at Porbandar controlled from Mumbai airport has been established to enhance the ACC VHF coverage. Similarly, Chennai ACC VHF coverage has been improved by putting RCAG at Bangalore.

2.2.51 AAI has a plan to implement RCAGs at the various locations to provide full VHF coverage over Indian airspace. These stations are proposed to be operated on OFC/VSAT links.

2.2.52 It was pointed out that necessary coordination process would be required for frequencies used at RCAG stations even if such frequencies had been coordinated earlier for use for lower coverage. These radio frequencies operating at RCAGs may cause interference to neighboring ACCs, which have been operating on the same frequencies. It was agreed that while enhancing the VHF coverage, consideration should be given to ensure that the enhanced coverage does not cause interference to other facilities.

Report and analysis of ADS/CPDLC problems

2.2.53 The difficulty caused by delayed data messages from aircraft in Australian airspace was noted. The ADS-C has been used by Australian air traffic controllers for surveillance outside radar coverage since the transition to TAAATS (The Advanced Australian Air Traffic System) since 1999. The paper analyzed all ADS-C reports received by Brisbane (YBBB) and Melbourne (YMMM) Centres over a six month period on a month by month basis. This analysis involved determining the transmission delay for each ADS-C basic report. The information was provided to the FANS Implementation Team, Central Reporting Agency and CRA determined that there was certain equipment from a specific avionics manufacturer that was common to the aircraft types suffering these problems. It appears that the problem relates to the transition of the aircraft from one satellite “spot beam” to another. This problem causes the avionics to “buffer” data link downlink messages (ADS-C & CPDLC), and to transmit the contents of the buffer at a later time. Data link uplink messages appear to be unaffected by this problem. The geometry of how these spot beams overlap explains why the problem is sometimes “direction specific”.

2.2.54 The cooperation between Australia and the FIT CRA in addressing the problem was noted. It was suggested that the information be shared with the FITs supporting the Bay of Bengal and South China Sea if not already done so.

Navigation systems

Regional strategies

2.2.55 The regional strategies for implementation of GNSS and the provision of precision approach and landing guidance systems were last reviewed and updated by the Seventh Meeting of CNS/MET Sub-group in July 2003. Subsequently, APPANIRG/14 adopted the strategies in its Conclusion 14/19.

2.2.56 The meeting noted recommendations of AN-Conf/11 and also additional information provided by States. The meeting noted that the strategies were generally consistent with the AN Conf/11 recommendations and minor changes were required. The revisions to the strategies included the refinement of implementation dates and the provision of approach with vertical guidance (AVP). Accordingly the meeting adopted the following Conclusion.

Conclusion 15/23 - Revision of the Strategy for Precision Approach and Landing Guidance Systems and the Strategy for the Implementation of GNSS Navigation Capability in the Asia/Pacific region

That, the updated Strategy for Precision Approach and Landing Guidance Systems and the Strategy for the Implementation of GNSS Navigation Capability in the Asia/Pacific region provided in **Appendices F and G** respectively, to the Report on Agenda Item 2.2 be adopted.

Transition planning

2.2.57 The meeting noted that Australia intended to transition to a sole means GNSS navigation capability. The transition is to be achieved in phases based on Oceanic and Enroute, Terminal and Non Precision Approach and Precision Approach. Transition to Sole Means GNSS with Airborne Augmentation for oceanic and enroute navigation is planned by 2010. For sole source Terminal and Non Precision Approach navigation for certain classes of aircraft and operation such as domestic General Aviation and lower capacity Regional and Charter aircraft by 2010 and GNSS with airborne augmentation for primary means Terminal and Non Precision Approach navigation, with a network of conventional navigation aids to provide an alternative means of Terminal and Non Precision Approach Navigation for Air Transport and larger Regional and Charter aircraft by 2010. The use of the Instrument Landing System will continue to provide Precision Approach Category I. A close watch is maintained in the development on the Ground Based Augmentation System, which is expected to be deployed at major aerodromes. However, ILS is expected to be retained on some runway ends as a backup until 2020. The possible use of APV as a Precision Approach capability is currently being explored with due consideration of safety of flight, technical, operational and economic factors. No decision to adopt APV has been taken.

2.2.58 During the transition phases there will be a rationalization of NDB and VOR whilst maintaining and in some cases refurbishing NDB and VOR facilities in order to provide a network of conventional navaids as an alternative means of navigation.

2.2.59 It was emphasized that the importance of collaborative planning with stakeholders and urged other States to consider a similar process and to achieve regional coordination through maintaining entries in the FASID.

FASID Table CNS-3

2.2.60 The meeting recognized the need to the conduct a short review of the Table CNS-3. It was observed that the entries of many States were either out of date or lack adequate information. The meeting considered it desirable that the information in the FASID should be comprehensive and current in order to facilitate regional planning and coordination. As an outcome discussion the meeting adopted the following Conclusion;

Conclusion 15/24 - Revision of FASID Table CNS-3 by States

That, States review and revise FASID Table CNS-3 to reflect comprehensive descriptions of the future provision of radio navigation aids and that the revised entries be provided to the Regional Office by the end of May 2005.

Surveillance

ADS-B study and Implementation Task Force

2.2.61 The meeting reviewed the work accomplished by the second meeting of the ADS-B Study and Implementation Task Force held in Bangkok from 22 to 26 March 2004. It was noted that report was also reviewed by CNS/MET SG/8 and ATM/AIS/SAR SG/14.

ADS-trials, demonstration and implementation activities conducted by States

Australia

2.2.62 The meeting noted the status of the operational trial conducted in airspace surrounding Bundaberg, Queensland approximately 300 km north of Brisbane. ADS-B processing and display functions were fully integrated into The Australian Advanced Air Traffic System. It was noted that the objective of ADS-B upper airspace project is to provide additional safety benefits for equipped aircraft. It will also maximise operational flexibility for equipped airlines. Acquisition of the ADS-B ground stations had been completed. Australia has purchased 27 ADS-B ground stations for use above FL 300 and 2 additional ground stations supporting airspace below FL300. Each station is expected to have coverage up to 250 NM. All installations will occur at locations at which collocated VHF stations are being upgraded. All ground stations are expected to be operating by the end of 2005. Airservices Australia is working with a number of vendors to demonstrate low cost avionics. ADS-B is considered as a viable and economic alternative to existing SSR for en-route surveillance in Australia. It is envisaged that mandatory fitment and use of ADS-B will be introduced in the medium traffic density en-route airspace of Australia before 2009

China

2.2.63 The meeting noted plan for trial and implementation and ADS-B in western part of China. SSR Mode-S 1090 ES link will be used as the ADS-B link for the trial. Three airports will be included in this trial, two of which are primary sites and one is optional. In addition to performance and parameters of ADS-B equipment such as accuracy, reliability, update rate and coverage, safety and operation evaluation will be also conducted. This trial will start before the end of 2004. The early date for implementation will be subject to the result of the trial. Hong Kong, China has set-up an ADS-B working group comprising members from Civil Aviation Department, local airlines, IFALPA, etc. Hong Kong, China is conducting ADS-B test for airport surface surveillance function in 2004 and 2005 using “ASMGCS” trial system, which could display ADS-B reports from aircraft.

India

2.2.64 It was noted that ADS-B study group was established in India which consisted of air traffic controllers and engineers of Airport Authority of India (AAI) and technical experts from manufacturer. The study group reviewed the current situation of the CNS infrastructure in India including ATS route structure, aircraft movement data, VHF stations, RCAG stations, HF RT stations, surveillance radars and their coverage, details of NDB and DVOR stations, airline operators and their fleet, avionics equipage, etc. Since the Indian continental airspace is almost covered by radar, ADS-B was to be considered as a supplement to fill the gaps which are not covered by radar to enhance safety and airspace capacity. It is expected to identify one suitable site from amongst the three possible sites that have been proposed for installation of ADS- B ground station, in the southern part of the country in Chennai FIR. AAI is planning to purchase a new aircraft for flight inspection with SSR Mode-S ES for ADS-B trial.

Mongolia

2.2.65 FANS ADS-C was introduced a couple of years ago with a good coverage for the international air routes. Mongolian CAA is also planning to start a trial with Mode-S ES ground station to be installed in Ulaanbaatar. The trial will be very special since it will include ADS/C, ADS/B over VDL Mode-4 and ADS/B over Mode Mode-S ES for international operation. Mongolia will coordinate with neighbouring States for future implementation of ADS-B to provide a seamless coverage.

Indonesia

2.2.66 The SSR Mode S 1090 extended squiter link is planned to be used for ADS-B implementation in Indonesia from 2005 to 2010 time frame in two Phases in non-radar environment. In Phase I, 15 ADS-B ground stations will be established at different locations in Eastern part of Indonesia within the Makassar FIR. In phase II, 10 ADS-B ground stations will be established at different locations in the Western part of Indonesia within Jakarta FIR.

Japan

2.2.67 ADS-B related activities are being undertaken by ADS-B Planning and Implementation Working Group (ADS-B WG) established by Japan. The WG is composed of JCAB, Electronic Navigation Research Institute (ENRI), JAL, ANA; JAS, Japan Radio Air Navigation Systems Association (JRANSA), Data Link Service Providers, Air Traffic Services (ATS) automation system vendors and ATC related consultants. The enhancement of situation awareness of general aviation aircraft flying in the radar blind areas is desired and the use of ADS-B on the aerodrome for surface surveillance in high traffic density airport is highly desired as current airport surface detection equipment (ASDE) has some undetected radar area. A basic test was conducted in Sendai airport area, which is about 200 NM northeast of Tokyo. ADS-B avionics installed consist of a Mode S transponder (ACSS XS-950), a Processor unit (UPS-AT AT9051) and a GPS receiver. The detection probability was 100% on the arc flight, but loss of targets occurred on the outbound and inbound flight. The comprehensive evaluation tests will be conducted in financial year 2005.

USA

2.2.68 It was noted that the USA is proceeding with a national 3 NM separation analysis, 1090 MHz ADS-B avionics TSO, and continued deployment of ADS-B ground stations (>40) and avionics (additional 300 aircraft). To date, this requirement has cantered on reviewing and authenticating the results of previously completed operational evaluations and preparing an initial

investment analysis based on deploying ADS-B in three implementation spirals between 2005 and 2016, as follows:

- Spiral One: Fielded in 2005-2008, will provide low altitude broadcast services and a surface management system (SMS) capability;
- Spiral Two: Fielded in 2009- 2012, will build on the spiral one architecture by adding additional ground stations that will also be located at towered airports; and
- Spiral Three: Fielded in 2013-2016, will provide additional interfaces into en route automation systems

2.2.69 The FAA ADS-B link decision will recognize a national deployment of 900 ADS-B ground based transceivers by 2012. Detailed information on the above developments can be obtained by accessing the following FAA websites: http://www.alaska.faa.gov/capstone/

ADS-B capable avionics

2.2.70 It was noted that the major drivers for the recent upgrades to avionics were European Elementary Surveillance (ELS) and Enhanced Surveillance (EHS) programmes. Boeing had taken the ELS/EHS upgrade opportunity to incorporate ADS-B/Mode-S ES in anticipation of upcoming ADS-B requirements. Boeing is upgrading the Mode-S transponder installation to ARINC 718A compliant transponders, which are compliant with ICAO Annex 10, Amendment 77 and are capable of supporting ELS/EHS/ES functions. In 2003, Airbus certified Collins, ACSS and Honeywell Mode S Transponders with European Elementary Surveillance (ELS), Enhanced Surveillance (EHS) and 1090 ES ADS-B air-ground surveillance together with wiring provisions to bring the parameters to the transponders. The Airbus transponder installation is compliant with ICAO SARPS Annex 10 Amendment 77, RTCA DO181B or C, EUROCAE ED73A, and ARINC/AEEC 718A. The meeting noted the activities related to the development and demonstration of avionics for general aviation and small regional aircraft being conducted by Australia.

Avionics standards organizations

2.2.71 It was noted that the Task Force had recommended States in the region to actively participate in the ADS-B related meetings of Eurocae, AEEC and RTCA in order to bring the Asia/Pacific perspectives to the development of avionics standards to facilitate early implementation of air-ground ADS-B capabilities in Asia/Pacific region.

Industry's perspective on ADS-B

2.2.72 It was noted that Thales ATM as a ground equipment manufacturer has developed ground infrastructure capabilities to support ADS-B based surveillance, which include ADS-B 1090 ES ground stations and ADS-B reports processing and display capabilities in the EUROCAT air traffic control center system. It was also noted that in the scope of European Research & Development programme NUP Phase 1 (Northern Europe ADS-B Network Update Programme) Thales ATM had developed and delivered 6 VDL Mode 4 based ADS-B Ground Stations. This station is capable of uplinking traffic data to mobile users. The output format complies with the ASTERIX standard, Category 21. The meeting noted the current activities and programmes conducted by Sensis Corporation, which designs & manufactures ADS-B ground station infrastructure. It was stated currently more than 400 Mode-S ADS-B capable ground stations installed throughout the US and Europe today and testing of the system is being undertaken by Hong Kong, China.

Airlines equipage plans

2.2.73 The meeting noted that the Qantas group of airlines has expressed its support for the deployment of ADS-B as an ATC surveillance tool (ADS-B air-ground surveillance) as well as recognizing its potential for airborne surveillance. New jet aircraft received by Qantas will have an ADS-B capability and European requirements for "elementary" and "enhanced" SSR operation offer a convenient opportunity to retrofit the long haul fleet. The meeting noted Qantas' serious commitment to ADS-B by equipping several aircraft with ADS-B. It is also planned to make the B747-400 fleet compliant with European Mode-S "enhanced" requirements by 15 March 2005 (bypass the "elementary" stage). It was considered beneficial to know the airlines plans to have ADS-B capability. Since IATA is in the best position to conduct a survey and provide the information to the next meeting of the Task Force, the meeting adopted the following Conclusion.

Conclusion 158/25 - Airlines plan for the deployment of ADS-B

That, IATA be requested to conduct a survey of its member airlines' plan for the deployment of ADS-B in the Asia/Pacific region and provide result to the ADS-B Task Force Working Group to be held on 14-15 October 2004.

2.2.74 The meeting also noted the need to conduct a large-scale survey for deployment plan of those non IATA member airlines, regional carriers as well as those State aircraft. It was noted that this suggestion would be considered by ADS-B Task Force for further action.

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Near-term definition

2.2.75 It was agreed that the definition of "Near-Term" of implementation of ADS-B air-ground surveillance service is approximately in the next 5 years. It was recognised that these implementations would have a life of at least 10 to 15 years.

Three city pairs

2.2.76 In selecting the three city pairs for analysis, the Task Force meeting looked specifically for long haul; international routes where there was a demonstrated interest in implementing ADS-B and where the traffic flows are relatively dense. It was noted that ICAO's Digest of Statistics No. 518 *Traffic by Flight Stage* provides information on capacity, revenue traffic, aircraft operators and types of flight equipment for each station pair. It was noted that the Task Force decided that the key indicator of activity on a route for the purposes of the analyses should be aircraft movement. In considering the data available, it was agreed to examine Sydney-Singapore, Hong Kong, China-Tokyo, and Singapore-Delhi city pairs.

2.2.77 It was recognised that work needed to continue on the development of plans for selected city pairs to highlight issues for possible implementation in any sub-region. It was considered necessary for a coordinator to gather information such as possible benefits and make proposals for each city pair to use ADS-B to improve capacity as follows:

- City pair 1 (Australia - Singapore): Singapore will act as co-ordinator;
- City Pair 2 (Hong Kong, China - Tokyo): Japan will act as co-ordinator; and
- City Pair 3 (Singapore - Delhi): India will act as co-ordinator.

2.2.78 The meeting noted that the draft conclusion developed by the ADS-B Task Force to plan at the early stages of deployment of ADS-B to share surveillance data. i.e. there is potential to share surveillance data in at least the following environments including Australia & Indonesia, Papua

New Guinea, Fiji, New Zealand; Indonesia & Singapore and China & Japan. In view of foregoing, the meeting adopted the following Conclusion.

Conclusion 15/26 – Exchange of ADS-B surveillance data with neighbours

That, States be encouraged to share ADS-B surveillance data with neighbouring States and to develop mechanisms to achieve this as ADS-B ground infrastructure requirements are being identified during the design phase.

Problem report database and contact point for implementation

2.2.79 The meeting noted the need identified by the ADS-B task for to establish a problem reporting database similar to that used successfully by ISPACG. The meeting agreed the proposal of establishment of a database, which will be initially managed by Australia. The meeting noted that the ADS-B Task Force had recognized the need to invited States to provide contact points for ADS-B study and implementation. The meeting noted Tasks List containing the various activities required to be addressed by the Task Force and adopted the following Decision:

Decision 15/27 – Subject/Tasks List of ADS-B Study and Implementation Task Force

That, the Subject/Tasks List of the ADS-B Study and Implementation Task Force provided in **Appendix H** to the Report on Agenda Item 2.2 be adopted.

2.2.80 The meeting noted that result of discussions on the report of ADS-B Task Force by ATM/AIS/SAR/SG/14 and CNS/MET/SG/8. It was agreed to refer the comments made by the Sub-groups to the Task Force for further action and study.

Aeronautical electromagnetic spectrum utilization

2.2.81 The meeting noted the favorable results obtained at the ITU WRC-2003 and identified areas of critical concern to aviation that will be addressed at the WRC-2007. The meeting also recognized the need for ICAO to intensify its activities to secure protection of aeronautical systems from electro-magnetic interference and to develop relevant guidance material, as required

2.2.82 With regard to the organization of spectrum planning mechanisms in ICAO, the meeting agreed that ICAO should conduct a review of the current working arrangements. The meeting further recognized the need for developing a plan for the shared use of frequency bands used for radio navigation aids with global navigation satellite system (GNSS) elements, as well as the long-term ability to provide for required microwave landing system (MLS) assignments.

2.2.83 The meeting noted that there are significant issues that have implications for aviation resulting from WRC-2003.

2.2.84 The meeting also noted the changes agreed at WRC-2003 to Article 5 of the Radio Regulations relating to radio services. The meeting noted the new footnotes against the frequency bands allocated to ARNS and RNSS.

Review preparations for WRC-2007

2.2.85 The meeting noted the course of action proposed for the development and finalization of ICAO position for WRC-2007.

2.2.86 It was noted that a State Letter was issued urging States to designate a focal point or a contact person responsible for preparation for WRC-2007 in accordance with Conclusion 14/24 of APANPIRG/14 and Action Item 40/5 of the DGCA Conference and notify the Asia/Pacific Regional Office detail of designated focal point or contact person in each Administration responsible for preparation for WRC 2007. It was noted that most States have already designated focal points and had provided contact addresses to the Regional Office. All the details have been posted in the ICAO website to facilitate coordination.

Regional preparatory meetings

2.2.87 It was recognized that the two Regional Preparatory Meetings conducted for WRC-2003 at the Asia/Pacific Regional Office in conjunction with the Working Group F Meetings of the ACP were found to be very helpful and productive. It is, therefore, expected that the First Preparatory Meeting for WRC-2007 will be held in Bangkok in conjunction with ACP Working Group F Meeting during February 2005. It was noted further that the second APT Regional Preparatory Group Meeting for WRC-2007 is expected to be held during early March 2005.

Preparation for WRC- 2007 by Australia and USA

2.2.88 The meeting noted the main highlights of the preparatory works underway in Australia for WRC-2007. It was stated that there are significant issues that have implications for aviation in the Agenda for WRC-07 including co-primary allocations in the 9000 MHz aeronautical radar band, spectrum requirements for wideband aeronautical telemetry and telecommand, air-ground voice communication and runway incursion systems, and modernization of civil aviation telecommunication systems through current satellite allocations. It is important that careful consideration should be given to protect aeronautical services at WRC-2007.

2.2.89 The United States also reviewed WRC-2007 agenda of interest and fully supported ICAO's initiative and urged participation by States aviation representatives at various regional forums to support the ICAO position.

2.2.90 It was noted that IATA had emphasized that active participation by States representatives at national level and regional level preparatory activities well before WRC-2007 is very crucial. It was further stated that satisfactory result of WRC-2003 was achieved due to conducted efforts by all concerned.

Progress in implementation of the ISCS and SADIS

2.2.91 FASID Table MET 7, which indicates the current status of implementation of SADIS and ISCS broadcasts in the Asia/Pacific region, was reviewed and updated, as necessary.

Follow-up of the SADISOPSG/9 meeting

2.2.92 The meeting reviewed the executive summary of the ninth meeting of SADISOPSG, Dakar, 1 to 4 June 2004, and noted that two draft conclusions were formulated for consideration by the PIRGs concerned, as follows:

SADIS Internet-based FTP service.

2.2.92.1 It was recalled, that the FTP service was introduced as a **back-up** to the SADIS broadcast and that, until now, the back-up service has been provided free-of-charge to the authorized SADIS users. The SADISOPSG was of the opinion that the components of the SADIS FTP service should be included in the SADIS inventory, with the understanding that the users of the FTP service

would continue to be considered SADIS users and would have to contribute to the mandatory cost recovery. The meeting noted that the SADIS Provider State would not recover any of the initial capital costs associated with establishing the FTP service; only the costs associated with providing an on-going operational service were proposed for inclusion in the SADIS inventory, as of 1 July 2005. With the proposed change, the management of the SADIS FTP service would become part of the tasks of the SADISOPSG, and the SADIS users would be in a position to influence the development of the SADIS FTP service. Based on the recommendation by the SADISOPSG/9 meeting, and in order to formalize the role of the SADIS Internet-based FTP service, the meeting formulated the following conclusion:

Conclusion 15/28 – SADIS Internet-based FTP Service

That, in parallel with the satellite broadcast, the SADIS Provider State be invited, as of 1 July 2005, to make WAFS forecasts and OPMET data available, as a primary component of the SADIS service, in accordance with the *SADIS User Guide*, through the Internet-based FTP service.

Note 1.— The development and management of this service will be overseen by the SADISOPSG and its work programme will be amended accordingly.

Note 2.— The SADIS Cost Recovery Administrative Group (SCRAG) will be informed of the planned date of implementation.

SADIS strategic assessment tables

2.2.92.2 The meeting reviewed the SADIS Strategic Assessment Tables prepared by the SADIS Provider State with entries regarding the current and projected data volumes during the years 2005-2008. Noting that 9-hour TAFs from a number of Asia/Pacific States will soon be included in the regular exchange and relayed to the SADIS provider for uplink, the projected data volumes were slightly revised. The meeting agreed on the revised tables and formulated the following draft conclusion:

Conclusion 15/29 - SADIS strategic assessment tables

That, the Asia/Pacific SADIS strategic assessment tables, as given in **Appendix I** to the report on this agenda item, be adopted and forwarded to the SADISOPSG for planning the future SADIS bandwidth requirements.

2.2.93 The meeting noted the information regarding the introduction by the SADIS provider of the SADIS second generation (SADIS 2G) service as from 1 September 2004. This system involved a new type of data modulation and utilized internet protocol (IP) end-to-end. The system was engineered to make use of “off-the-shelf hardware”, as opposed to the proprietary nature of the current first-generation (1G) system hardware. The difference in modulation scheme would require all SADIS users to purchase a new receiver that is compatible with the 2G broadcast. It was also noted that there would be a four year transition period of dual operation of the SADIS 1G and SADIS 2G services until 31 December 2008. In view of the obvious advantages of the SADIS 2G service, the meeting agreed that the SADIS user States in the Asia/Pacific region should be encouraged to start planning for the transition from SADIS 1G to 2G and formulated the following conclusion:

Conclusion 15/30 - State's migration plans for the transition from 1G to 2G SADIS service

That, the SADIS user States in the Asia/Pacific region be encouraged to commence planning for transition from SADIS 1G to 2G to ensure that the transition can be achieved well within the agreed time scale, i.e. before the termination of the 1G service on 31 December 2008.

Note: ICAO Regional Office to inform the SADIS user States by a State letter (4th quarter of 2004) and keep record of the progress of the transition to SADIS 2G.

Implementation of the ISCS

2.2.94 The meeting was informed that the transition to the TCP/IP successor ISCS network, undertaken by the ISCS Provider State, was nearing completion, but the switch to TCP/IP only broadcast had not yet been accomplished. The meeting was assured that the ISCS Provider would take all necessary action to resolve the residual problems with the TCP/IP broadcast. In the meantime, the dual broadcast of X.25 and TCP/IP protocols had been extended and the ISCS provider State would notify ISCS users and ICAO at least two weeks prior to the cessation of the X.25 broadcast.

2.2.95 The meeting agreed that a mechanism for monitoring the ISCS implementation in the Asia/Pacific region should be utilised and recalled outstanding APANPIRG Conclusion 9/18, which required the conduct of a survey of the operational efficacy of the ISCS/2. It was noted that the action on the above conclusion was postponed until the time the new generation ISCS became operational. Since this has been already achieved, the meeting agreed that regular annual survey of the operational efficacy of the ISCS/2 should be conducted in a format similar to the annual SADIS operational efficacy survey. To facilitate the annual survey and the coordination of other ISCS operational matters, the meeting supported a proposal for nomination of ISCS focal point by each ISCS user State. The member formulated the following conclusion:

Conclusion 15/31 - Annual survey of the ISCS/2 operational efficacy and nomination of ISCS Focal Points

That,

a) the ISCS provider State be invited to conduct, in coordination with the ICAO Regional Office, annual surveys of the operational efficacy of the ISCS/2 in the Asia/Pacific region, starting with a survey for 2004-2005; and

b) the ISCS user States in the Asia/Pacific region be invited to nominate operational personnel to act as an ISCS focal point to facilitate coordination of ISCS implementation matters.

Notes:

(1) The survey will be carried out through a survey questionnaire circulated to the ISCS user States by the ICAO Regional Office; the survey results will be analyzed by the ISCS provider State and reported to the CNS/MET Sub-group of APANPIRG.

(2) The format of the annual survey questionnaire and summary report will be similar to those for SADIS operational efficacy in order to allow inter comparison.

Transition to GRIB and BUFR coded WAFS products

2.2.96 The meeting was informed of the review carried out by the CNS/MET SG/8 meeting of the results of the latest assessment of the SADIS visualization software packages conducted by the SADIS Provider State during February and March 2004. This assessment showed that only two of the evaluated BUFR visualization software packages were currently able to produce Annex 3 compliant WAFS SIGWX charts. The rest of the software packages continued to exhibit various non-compliant issues, some of which have safety implications, e.g. tropical cyclone symbol missing/obscured. The meeting considered the situation described above as a serious obstacle for the successful completion of the migration to GRIB and BUFR coded WAFS products by the target date of 1 July 2005. In view of this, the meeting agreed to invite the WAFSOPSG to consider a continuation of the issuance of WAFS SIGWX forecasts in a chart form, for a limited period of time with minimum cost implications, beyond 1 July 2005, in order to ensure that most WAFS users are prepared to process BUFR-coded SIGWX forecasts, and formulated the following conclusion:

Conclusion 15/32 – Limited extension of the availability of WAFS forecasts in chart form beyond 1 July 2005

That, the WAFSOPSG be requested to consider, as a matter of urgency, the continuation of the issuance of WAFS SIGWX forecasts in a chart form, for a limited period of time after 1 July 2005 to ensure that the WAFS users be prepared to operationally use BUFR-coded WAFS products in SIGWX chart production.

2.2.97 The meeting realized that less than one year was left prior to the final migration to GRIB and BUFR coded WAFS products on 1 July 2005. Therefore, it was imperative for the States to complete, as a matter of urgency, the necessary preparations regarding the acquisition of appropriate equipment, workstations, software and training for the migration to the operational use of GRIB and BUFR coded WAFS products. In view of the very short time remaining, States should be reminded that any request for financial assistance under the WMO Voluntary Cooperation Programme (VCP) should be submitted to WMO as soon as possible. The processing of such requests by WMO would be significantly facilitated if the States concerned could contact potential donors and subsequently inform WMO. However, in view of the short time left, it would be unlikely that sufficient funds could be made available through the WMO VCP unless the WMO Permanent Representatives of the States concerned gave high priority to this issue and took appropriate action within WMO.

2.2.98 The meeting was informed that the SADIS and ISCS provider States agreed to organize a joint training on the operational production of WAFS charts from GRIB and BUFR coded WAFS products for the SADIS and ISCS user States in the Asia/Pacific region. The training will be conducted by instructors from the UK Met Office and will be held at the ICAO Regional Office in January 2005.

2.2.99 It was considered important that the SADIS and ISCS user States in the Asia/Pacific region should be made aware of the evaluation results of the visualization software packages and should make full use of the conjoint training on the operational use of GRIB and BUFR coded WAFS products. Therefore, the meeting formulated the following conclusion regarding the actions to be undertaken by the States, as a matter of urgency, to ensure the successful migration to the operational use of GRIB and BUFR coded WAFS products:

Conclusion 15/33 – States' actions for the migration to the operational use of GRIB and BUFR coded WAFS products

That, the Asia/Pacific States

(a) be urged to complete, as a matter of urgency, the necessary preparations for the migration to the operational use of GRIB and BUFR coded WAFS products, if they have not already done so, prior to the target date for final migration to GRIB and BUFR-coded WAFS products, 1 July 2005;

(b) be urged to review the GRIB and BUFR visualization software evaluation results available on the WAFSOPSG and SADIS websites and ensure that software packages capable of producing WAFS forecast charts fully compliant with Annex 3 are acquired; and

(c) arrange for appropriate personnel to attend the training on the operational production of WAFS charts from GRIB and BUFR coded WAFS products provided conjointly for the SADIS and ISCS user States to be held in the Asia/Pacific region in January 2005.

2.2.100 The meeting noted that WAFSOPSG/1 meeting, held in Lima, 10 to 14 November 2003, did not support APANPIRG Conclusion 14/31 on the automatic production of SIGWX charts from BUFR-coded WAFS products. The meeting recalled in this regard that the gist of APANPIRG Conclusion 14/31 was the automatic depiction of SIGWX forecast in chart form from BUFR-coded WAFS products for *at least* the standard ICAO areas for which States would continue to provide charts as part of the flight documentation. The intention was to eliminate the need of human intervention in the generation of WAFS SIGWX charts compliant with Annex 3 requirements. It was stressed that the manual quality control, if needed in the future, would have serious operational and cost implications for the States' aeronautical meteorological services. In view of this, the meeting formulated the following conclusion:

Conclusion 15/34 – Automatic depiction of SIGWX forecast in chart form from BUFR-coded WAFS products

That, the WAFSOPSG and SADISOPSG be invited to consider, as a matter of urgency, the requirement for eliminating the need for human intervention with regard to the depiction of SIGWX forecast in chart form from BUFR-coded WAFS products.

Note: The SADIS Provider State would liase with the WAFS workstation manufacturers with a view of carrying out a further evaluation of their software against this new requirement.

Asia/Pacific WAFS Implementation Plan

2.2.101 The meeting reviewed and updated the Asia/Pacific WAFS Implementation Plan and Procedures and the work programme of the WAFS Implementation Task Force in view of the changes in the plans and schedules of the two WAFCs in the migration to GRIB and BUFR coded products.

Second meeting of the OPMET Management Task Force (OPMET/M TF/2)

2.2.102 The Second Meeting of the Asia/Pacific OPMET Management Task Force (OPMET/M TF/2) was held in Bangkok, Thailand from 10 to 13 February 2004. The meeting

reviewed the current status of the regional and inter-regional OPMET exchange and the operations and content of the Regional OPMET Data Banks (RODB). The meeting considered new requirements for OPMET exchanges under the ROBEX scheme. It was agreed that the available 9 and 12-hour TAF from the Asia/Pacific States should be included in the exchange. The meeting stressed on the need to improve the availability of AIREP, SIGMET and advisories and formulated corresponding action items. The meeting considered also the development of OPMET management procedures, in particular, procedures for monitoring the OPMET data availability and regularity, the OPMET bulletins update procedure, procedures for SIGMET tests, OPMET data banks quality control procedures.

2.2.103 The meeting reviewed the TORs, work programme and composition of the OPMET/M Task Force and noted, in particular that Indonesia and Hong Kong, China expressed the wish to become members of the group. The meeting agreed on the proposals made by the OPMET/M TF/2 meeting and formulated the following draft decision:

Decision 15/35 – Terms of reference and work programme of OPMET/M TF

That, the terms of reference, work programme and composition of the OPMET management Task Force be amended as shown in **Appendix J** to this agenda item of the Report.

New edition of *ROBEX Handbook* and the *ASIA/PAC ICD for access to the OPMET Data Banks*

2.2.104 The meeting recalled that the *ROBEX Handbook* was the main regional guidance material providing detailed procedures for OPMET exchange in the Asia/Pacific and Middle East ICAO regions under the ROBEX scheme. The meeting noted that a fully revised 12th edition of the ROBEX Handbook as well as a new 3rd edition of the ASIA/PAC ICD for access to the OPMET Data Banks were prepared by the ICAO Regional Office and reviewed by the CNS/MET SG/8 meeting. The meeting agreed that the two documents should be published and circulated to the States and formulated the following conclusion:

Conclusion 15/36 – 12th edition of the *ROBEX Handbook* and 3rd edition of the *ASIA/PAC ICD*

That, ICAO Regional Office publish the new 12th edition of the *ROBEX Handbook* and the new 3rd edition of the *ASIA/PAC Interface Control Document for Access to the Regional OPMET Data Banks* (RODB), in accordance with the established procedures.

Note: Both documents are available on the ICAO Regional Office web site as part of the CNS/MET SG/8 documentation.

Issues related to the format of the METAR and TAF bulletins

2.2.105 The meeting noted with concern the findings of OPMET/M TF that serious discrepancies in the format of METAR and TAF messages and bulletins existed in the Region. This was illustrated by a number of examples provided by RODB Singapore to the OPMET/M TF/2 meeting. The meeting felt it necessary to urge the States to implement fully the ICAO and WMO provisions related to the format of the OPMET messages and bulletins and formulated the following conclusion:

Conclusion 15/37 – Fostering the standardization of OPMET information in the Asia/Pacific region

That, the States in the Asia/Pacific region be urged to fully implement the provisions related to the format of the METAR, SPECI and TAF messages and bulletins specified in the Annex 3 and in WMO Manual on Codes (WMO No. 306).

Note: ICAO Regional Office to circulate a State letter and provide the States concerned with specific information regarding the observed discrepancies from the standard formats.

Issues related to AIREP exchange

2.2.106 The meeting noted the concern expressed by the OPMET/M TF/2 meeting regarding the lack of up-to-date information on the status of AIREP exchange in the Region. It was agreed to conduct a survey on AIREP exchange with the Asia/Pacific and Middle East States in order to collect information on the availability and the usage of the AIREP information, and to verify the adequacy of the ROBEX procedures on the AIREP exchange.

2.2.107 The meeting noted that the WMO abbreviated heading currently used for the AIREP bulletins, exchanged through the AFTN, did not make any distinction between the routine and special air-reports; the data type designator UA was used for both. Knowing that the Annex 3 requirements for the dissemination of the routine (AIREP) and special air-reports (SPECIAL AIREP) reports were different, it was considered necessary to introduce a new data type designator for the special air-reports in order to ensure their proper exchange. Taking into account that, according to the *Working Arrangements between the International Civil Aviation Organization and the World Meteorological Organization* (Doc 7475), matters related to the aeronautical meteorological codes should be addressed to the WMO, the meeting formulated the following conclusion:

Conclusion 15/38 – New data type designators for bulletins containing special air-reports

That, in order to facilitate the exchange of the special air-reports, WMO be invited to designate a new data type designators (T_1T_2) for the WMO abbreviated headings of the bulletins containing special air-reports and, in particular, for special air-reports for volcanic ash.

Proposal for TAF with extended period of validity

2.2.108 The meeting was informed of the new user requirements regarding the validity of the terminal aerodrome forecasts (TAF). With the current increased operational flight times, i.e. 18 hours or even more (e.g. SIN-JFK), it was considered that the current 18-hour or 24-hour TAF were not sufficient for the flight planning phase. Some operators have indicated a requirement for TAF with a validity period of at least 30-hour. The meeting considered these new requirements as a significant change to the current Annex 3 provisions, therefore, ICAO should study the feasibility of extending the validity of TAF. It was also recognized that this was “global” rather than a regional issue. The following conclusion was formulated:

Conclusion 15/39 – Feasibility of extending the validity of TAF to 30 hours

That, ICAO be invited to study, in coordination with the WMO, the feasibility of the introduction of a TAF with a period of validity of 30 hours in view of the new requirements for very long haul flights.

Migration to BUFR-coded aeronautical meteorological messages (METAR/ SPECI and TAF)

2.2.109 The meeting was informed that the Fourteenth WMO Congress held in Geneva, 5 to 23 May 2003, endorsed a plan for migration from the traditional alphanumeric codes (TACs) to the so-called table-driven code formats (TDCFs), i.e. BUFR and CREX code forms. The migration plan would allow the use of table-driven codes in parallel with alphanumeric codes as of the year 2007, and would require the exclusive use of table-driven codes around the year 2015.

2.2.110 The meeting recognized that the transition to the TDCFs for aeronautical meteorological messages would be a major undertaking and potentially expensive. Therefore, in order to ensure an orderly migration to the TDCFs, it was recommended that detailed regional implementation plan should be developed by MET and CNS experts.

2.2.111 The communication problems related to the transition to TDCFs were outlined. With the introduction of AMHS it would be expected that the OPMET traffic, currently, promulgated on AFTN, would be transferred to the AMHS, as AFTN cannot support binary data. It should be noted that according to the implementation plan most Asia/Pacific States would be ready for bit oriented data exchange for the identified transition period. However, in order to handle BUFR-coded OPMET data detailed information should be provided regarding the message headers, the detailed format of the messages and bulletins, etc.

2.2.112 The meeting agreed that the task to address the migration to TDCFs should be assigned to the existing ATN Transition Task Force, which reported directly to APANPIRG, and to the OPMET Management Task Force, which reported to CNS/MET SG. Both groups should review the matter based on their specific expertise and coordinate a draft migration plan. In order to foster the coordination between the groups, it was envisaged that one of the next regular annual meetings of the ATN Transition TF and the OPMET/M TF should be held jointly.

2.2.113 In view of the above discussion, the meeting formulated the following Decision:

Decision 15/40 – Planning for migration to BUFR-coded aeronautical meteorological messages

That,

a) the ATN Transition Task Force and the OPMET Management Task Force be tasked to address the issues related to the transition to BUFR-coded aeronautical meteorological messages by conducting studies, as necessary;

b) the two Task Forces develop in coordination a regional plan for migration to BUFR-coded aeronautical meteorological information by the end of 2005.

Progress in the implementation of the IAVW in the Asia/Pacific region

2.2.114 The meeting reviewed the conclusions and decisions by the first meeting of IAVWOPSG, which required follow-up action by the ICAO regions. The meeting noted IAVWOPSG Conclusion 1/13 regarding the development of a new table (FASID Table MET 3C) listing the State volcano observatories required to provide information on volcanic activity and/or volcanic ash clouds to the corresponding ACCs, MWOs and VAACs. In order to assist the PIRGs, IAVWOPSG developed a set of principles, which would allow an equitable evaluation of State volcano observatories for inclusion in the regional ANPs. The meeting agreed that the Asia/Pacific States with active volcanoes should be consulted in order to designate the volcano observatories for inclusion in the new FASID Table MET 3C, based on the principles developed by IAVWOPSG. The meeting formulated the following conclusion:

Conclusion 15/41 – Designation of State volcano observatories

That, the Asia/Pacific States that maintain monitoring of active volcanoes, be invited to designate, based on the principles formulated by the IAVWOPSG/1 meeting, selected volcano observatories for inclusion in the new FASID Table MET 3C of the ASIA/PAC FASID (Doc 9673).

2.2.115 The meeting noted IAVWOPSG Decision 1/15 regarding the upgrade of the status of the volcanic ash advisory to a "warning", which was considered not feasible in view of the far-reaching and legal implications that would emerge from such a change. Thus, the volcanic ash SIGMET issued by the MWOs should continue be regarded as the primary warning product for volcanic ash.

Development of test procedures for volcanic ash (VA) and tropical cyclones (TC) SIGMET

2.2.116 The meeting recalled Recommendation 1/12, Implementation of SIGMET requirements, formulated by the MET Divisional Meeting (2002) and, in particular, sub-item c) of this recommendation, calling for the relevant planning and implementation regional groups to conduct periodic tests of the issuance and reception of SIGMET messages for volcanic ash. In this regard, the VA/TC Implementation task force of the CNS/MET SG had drafted procedures for conducting regional tests on the issuance and dissemination of VA and TC advisories and SIGMETs.

2.2.117 The meeting was aware that the MWOs, listed in FASID Table MET 3A under the area of responsibility of the TCACs, and in FASID Table MET 3B under the area of the responsibility of VAACs, should be prepared to issue SIGMET for TC and VA respectively, when necessary. However, due to the very rare occurrence of these phenomena, many MWOs were issuing such SIGMETs extremely rarely. The meeting recognized that, in order to maintain the IAVW and TC watch systems ready-for-action, regular exercises involving the advisory centres and the MWOs under their areas of responsibility should be performed. It was agreed that detailed test procedures should be finalized by the VA/TC Implementation Task Force very soon to allow for the first test to be conducted by the end of 2004 or latest in early 2005.

2.2.118 The meeting stressed that in order for the tests to be successful it was extremely important that all TCAC and VAAC Provider States and all MWOs concerned in the Asia/Pacific region should contribute actively to their implementation. Therefore, the meeting formulated the following Conclusion:

Conclusion 15/42 – Conducting SIGMET tests in the Asia/Pacific region

That, ICAO Regional office invite all TCAC and VAAC Provider States in the Asia/Pacific region, and all Asia/Pacific States with MWOs responsible for issuance of SIGMET for volcanic ash and/or tropical cyclones, to take part in the SIGMET tests to be carried out according to procedures developed by the VA/TC Implementation Task Force.

Note: ICAO Regional Office will coordinate the tests and notify the participating States about their schedule and procedures.

Tropical cyclone advisories and SIGMET issues

2.2.119 The meeting recalled that APANPIRG Conclusion 14/41 called for implementation, as a matter of urgency, of the requirements for issuance of TC advisories by TCAC New Delhi and that the non-implementation of the advisory service by TCAC New Delhi was included in the APANPIRG List of Air Navigation Deficiencies with urgent priority.

2.2.120 The meeting was informed that as a follow-up of the above conclusion an action plan was set up by India and the issuance of TC advisories by TCAC New Delhi was introduced in the beginning of 2004. Though some technical issues related to the format of the TC advisories by TCAC New Delhi were yet to be fully implemented, the meeting considered that the main issue regarding the availability of advisory information was resolved and that the MET deficiency related to TCAC New Delhi, should be considered eliminated and removed from the List of Air Navigation Deficiencies.

2.2.121 The meeting noted that while a significant improvement has been achieved in the implementation of the TC advisories by the TCACs, the issuance of SIGMETs for tropical cyclones by the MWOs, was still a serious implementation issue for the Region. This issue was addressed by a survey of the Asia/Pacific States on the issuance of TC SIGMET carried out by the VA/TC Implementation Task Force. Based on the survey results it was identified that some States used as a source of information for the issuance of TC SIGMET, information other than the TC advisories, issued by the TCACs; these other information sources were either States' own model data and forecasts, or warnings issued by the Joint Typhoon Warning Center (JTWC) of the U.S. It was identified that this situation might lead to inconsistency between TC advisories and TC SIGMETs.

2.2.122 The meeting recognized that Annex 3 stated clearly that the TC SIGMETs should be based primarily on the advisories issued by the TCACs, designated in the regional ANP. It was also recalled that the ICAO system of TC advisory centres was established in close cooperation with the WMO and the TCACs were selected amongst the WMO Regional Specialized Meteorological Centres (RSMC) for tropical cyclones to ensure that the best expertise available is used in the ICAO TC warning system. In view of this, the meeting agreed that the States should be urged to improve the usage of the TCAC's products in the issuance of TC SIGMETs and formulated the following conclusion was:

Conclusion 15/43 – Improvement of issuance of SIGMET for tropical cyclones

That, the Asia/Pacific States be urged:

a) in preparing SIGMET for tropical cyclone to pay due attention to the TC advisories issued by the responsible TCACs; and

b) to provide feedback on the availability and the quality of the TC advisories provided by the responsible TCACs in order to assist in eliminating any deficiencies.

Note: ICAO Regional Office to send a State letter to the States concerned be the end of 2004

Quality assurance in the MET field

2.2.123 Under this agenda item the meeting was updated on the status of preparation of the Asia/Pacific seminar on Quality Management Systems for the aeronautical meteorological services (QMS seminar). It was recalled that the organization of a QMS seminar was a follow-up of APANPIRG Conclusion 13/32 and that WMO was invited to arrange, in coordination with ICAO, the said training seminar. The meeting noted the work on drafting the programme of the QMS seminar carried out by Hong Kong, China, Australia and New Zealand in coordination with WMO and ICAO. The seminar was initially scheduled for October 2004. However, due to a WMO decision to postpone all training activities in the field of aeronautical meteorology, not funded under the WMO regular budget, until the summer of 2005, the QMS seminar had to be postponed for the second half of 2005, subject to further confirmation by WMO.

MET support for operations at aerodromes and terminal areas

2.2.124 The meeting noted information on recent developments in the windshear and turbulence detection at the Hong Kong International Airport. These developments encompassed introduction of a new anemometer-based automatic windshear detection and alerting algorithm and the use of a pulsed Doppler LIDAR for detection of windshear and turbulence in clear-air conditions. Since its installation, the LIDAR has captured many interesting windshear events in clear air and facilitated the monitoring of windshear by the forecasters. These include sea-breezes, gust front ahead of thunderstorms as well as complex wind flow behind hilly terrain.

Area of responsibility of MWOs provided by the United States

2.2.125 The meeting was informed of the decision by the U.S. to realign responsibilities for the provision of aviation services in the Pacific. Beginning in late September 2004, WFO Guam will no longer have MWO responsibilities. The responsibility for the meteorological watch and provision of SIGMETs for the portion of the Oakland FIR currently provided by Guam will move to MWO provided by the WFO in Honolulu. Information regarding the changes above should be provided to ICAO Secretariat in order to amend the ASIA/PAC FASID Table 1B accordingly.

Provision of VOLMET service by the United States

2.2.126 The meeting was informed of the HF VOLMET broadcasts provided by the U.S. and on the intention to continue such broadcast in the foreseeable future. The meeting was further informed on the ongoing work under the concept of “HF regression” to reduce dependence on high frequency voice. VOLMET equipment was considered costly to maintain and might be unsupportable in the long term. VOLMET was an obvious target to reduce costs in the CNS/ATM infrastructure. However, even the large carriers and business jets were using VOLMET as a backup when other systems failed or were unavailable in certain areas. For smaller operators, VOLMET was often the only means of obtaining these safety critical updates. Therefore, the meeting was advised that the U.S. planned to continue the provision of the HF VOLMET Service in the future.

MET component of CNS/ATM

2.2.127 As a follow-up of APANPIRG Conclusion 13/30**,** a regional survey on the current status and future plans of States to process the MET component of ADS reports was conducted by the MET/ATM Task Force of the CNS/MET SG.

2.2.128 Concern was expressed of the lack of operational procedures regarding the processing and use of the MET block of the ADS messages. In discussing this issue, the group noted the current Annex 3 provisions that automated routine air-reports (i.e. ADS reports) were required only at the WAFCs, and beyond the WAFCs these reports should be considered as basic MET data and therefore, by definition, a prerogative of WMO. Regarding issues of the quality of ADS reports, the meeting was informed that they were already being addressed by the WAFSOPSG.

Fostering of exchanges between MET and ATM

2.2.129 The meeting was informed that as a follow-up of APANPIRG Conclusion 14/45 the MET/ATM task force had been involved in the organization of a MET/ATM coordination seminar and WMO had been approached regarding the availability of funds. The date and venue of the seminar have not yet been specified, however, a tentative programme for the seminar was under preparation with the view of holding it in 2005.

Terms of Reference and Subject/Tasks List of the CNS/MET Sub-group

2.2.130 The meeting noted that of the 40 Tasks, 29 Tasks were completed and the completed Tasks were deleted from the List. The meeting reviewed and updated the List. In the updated List the meeting added a new task item 41 relating to the study of available air-ground data links and to develop near term and long-term strategy for the selection of data links for use in the Asia/Pacific region. The updated Tasks List is provided in **Appendix K**

In view of the foregoing the meeting adopted the Decision as follows:

Decision 15/44 - Updated Subject/Tasks List of the CNS/MET Sub-group

That, the updated Subject/Tasks List of the CNS/MET Sub-group presented in **Appendix K** to the Report on Agenda Item 2.2.be adopted.

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TABLE CNS-1D

ATS INTER-FACILITY DATA COMMUNICATION (AIDC)

IMPLEMENTATION PLAN

Explanation of the Table

Column

1 Administration – the name of the Administration, State or Organization responsible for management of the AIDC;

2 Location of AIDC end system – the location of the AIDC end system under the supervision of Administration identified in column 1;

3 AIDC Pair – the correspondent AIDC end system;

Location – location of the correspondent AIDC end system

Administration – the name of the administration, State or Organization responsible for management of the correspondent AIDC end system

4 AIDC standard used – the AIDC standard adopted for the AIDC connection between the corresponding AIDC pair, AFTN/AMHS or ATN;

5 Target Date of Implementation – date of implementation of the AIDC end system;

6 Remarks – any additional information describing the AIDC end system or the AIDC service between the corresponding AIDC pair.

TABLE CNS-1D

ATS INTERFACILITY DATA COMMUNICATION (AIDC) ROUTING PLAN

Administration	Location of AIDC end system	AIDC Pair		AIDC standard used	Target date of Implementation	Remarks
		Correspondent location	Correspondent Administration			
1	2	3		4	5	6
Australia						
Bangladesh						
Bhutan						
Brunei Darussalam						
Cambodia						
China						
Hong Kong, China						
Macao, China						
Cook Islands						
Democratic People's Republic of Korea						
Fiji						
India						
Indonesia	Jakarta		Australia			
			Singapore			
	Makassar		Australia			
Japan						
Kiribati						
Lao People's Democratic Republic						
Malaysia						
Maldives						
Marshall Islands						

TABLE CNS-1D

ATS INTERFACILITY DATA COMMUNICATION (AIDC) ROUTING PLAN

Administration	Location of AIDC end system	AIDC Pair		AIDC standard used	Target date of Implementation	Remarks
		Correspondent location	Correspondent Administration			
1	2	3		4	5	6
Micronesia (Federated States of)						
Mongolia						
Myanmar						
Nauru						
Nepal						
New Zealand						
Palau						
Papua New Guinea						
Philippines						
Republic of Korea						
Samoa						
Singapore						
Solomon Islands						
Sri Lanka						
Thailand	Bangkok	Phnom Penh	Cambodia	ATN	2005	
		Vientiane	Laos	ATN	2005	
		Kuala Lumpur	Malaysia	ATN	2005	
		Yangon	Myanmar	ATN	2005	
		Hochiminh	Viet Nam	ATN	2005	
Tonga						
Vanuatu						
Viet Nam						

TABLE CNS-1C

ATS MESSAGE HANDLING SERVICE (ATSMHS)

IMPLEMENTATION PLAN

Explanation of the Table

Column

1	Administration – the name of the Administration, State or Organization responsible for management of the facility
2	Location of Facility
3	Facility Type: AMHS UA (Location of AMHS)
4	Target Date of Implementation – date of implementation of the ATSMHS TBD – To be determined
5	Remarks

AMHS – ATS Message Handling System which may include Message Transfer Agents and AFTN/AMHS gateways services.

TABLE CNS-1C ATS MESSAGE HANDLING SERVICE (ATSMHS) IMPLEMENTATION PLAN

Administration	Location of Facility	Facility Type	Target Date of Implementation	Remarks
American Samoa	Pago Pago	UA (Salt Lake City)	2005	
Australia	Brisbane	AMHS	2006	
Bangladesh	Dhaka	AMHS	2005	
Bhutan	Paro	UA (Mumbai)	2008	
Brunei Darussalam	Brunei	AMHS	2006	
Cambodia	Phnom Penh	AMHS	2005	
China	Beijing	AMHS	2005	
	Taibei	AMHS	2005	
Hong Kong, China	Hong Kong	AMHS	2005	
Macau, China	Macau	AMHS	2005	
Cook Island	Rarotonga	UA (Christchurch)	2006	
Timor Leste	Dili	UA (Brisbane)	2006	Under construction
DPR Korea	Pyongyang	AMHS	2005	
Fiji	Nadi	AMHS	2005	
French Polynesia	Papeete	UA (Christchurch)	TBD	
India	Mumbai	AMHS	2005	
Indonesia	Jakarta	AMHS	2006	
	Ujung Pandang	AMHS	2006	
Japan	Tokyo	AMHS	2004	
Kiribati	Tarawa	UA (Nadi)	2005	

TABLE CNS-1C ATS MESSAGE HANDLING SERVICE (ATSMHS) IMPLEMENTATION PLAN

Administration	Location of Facility	Facility Type	Target Date of Implementation	Remarks
Lao PDR	Vientiane	AMHS	2005	
Malaysia	Kuala Lumpur	AMHS	2005	
Maldives	Male	AMHS	2005	
Marshall Island	Majuro	UA (Salt Lake City)	2005	
Micronesia Federated State of	Chuuk	UA (Salt Lake City)	2005	
	Kosrai	UA (Salt Lake City)	2005	
	Ponapei	UA (Salt Lake City)	2005	
	Yap	UA (Salt Lake City)	2005	
Mongolia	Ulaanbaatar	AMHS	2006	
Myanmar	Yangon	AMHS	2005	
Nauru	Nauru	UA (Brisbane)	2006	
Nepal	Kathmandu	AMHS	2005	
New Caledonia	Noumea	UA (Nadi)	TBD	
New Zealand	Christchurch	AMHS	2006	
Niue Is	Niue	UA (Christchurch)	2006	
Pakistan	Karachi	AMHS	2006	
Palau	Koror	UA (Salt Lake City)	2005	
Papua New Guinea	Port Moresby	UA (Brisbane)	2006	
Philippines	Manila	AMHS	2005	
Republic of Korea	Seoul	AMHS	2005	
Samoa	Faleolo	UA (Christchurch)	2006	

TABLE CNS-1C ATS MESSAGE HANDLING SERVICE (ATSMHS) IMPLEMENTATION PLAN

Administration	Location of Facility	Facility Type	Target Date of Implementation	Remarks
Singapore	Singapore	AMHS	2005	
Solomon Is	Honiara	UA (Brisbane)	2006	
Sri Lanka	Colombo	AMHS	2005	
Thailand	Bangkok	AMHS	2005	
Timor Leste	Dili	UA (Brisbane)	2006	
Tonga	Tongatapu	UA (Christchurch)	2006	
Tuvalu	Funafuti	UA (Nadi)	2005	
United States	Salt Lake City	AMHS	2004	
Vanuatu	Port Vila	UA (Brisbane)	2006	
Viet Nam	Hanoi	AMHS	2005	
Wallis Is.	Wallis	UA (Nadi)	TBD	

TABLE CNS 1B – ATN ROUTER PLAN

Explanation of the Table

Column

1	Administration – the name of the Administration, State or Organization responsible for management of the router
2	Location of Router
3	Type of Router: BBIS - Backbone Boundary Intermediate System BIS - Boundary Intermediate System
4	Type of Interconnection: Inter – Regional Intra – Regional Sub – Regional
5	Interconnection, Connected to router of: name of the location of the correspondent router
6	Link Speed – Speed requirements of the interconnecting link
7	Link Protocol – Protocol requirements for the interconnecting link
8	Target Date of Implementation – date of implementation of the router TBD- To be determined
9	Remarks

TABLE CNS-1B – ATN ROUTER PLAN

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
American Samoa	Pago Pago			United States	9600bps	X.25		Intra-domain
Australia	Brisbane			Timor Leste	9600 bps	X.25		Intra-domain
		BBIS	Sub-Regional	Fiji	19200 bps	X.25	2006	
		BIS	Sub-Regional	Indonesia	9600bps	X.25	2006	
		BBIS	Intra-Regional	Japan	64000bps	X.25	2007	
				Nauru	9600bps	X.25		Intra-domain
		BIS	Sub-Regional	New Zealand	9600bps	X.25	2006	
				Papua New Guinea	9600bps	X.25		Intra-domain
		BBIS	Intra-Regional	Singapore	64000bps	X.25	2006	
				Solomon Islands	9600bps	X.25		Intra-domain
		BBIS	Inter-Regional	United States	64000bps	X.25	2006	
				Vanuatu	9600bps	X.25		Intra-domain
Bangladesh	Dhaka	BIS	Sub-Regional	India	9600bps	X.25	2005	
		BIS	Sub-Regional	Thailand	9600bps	X.25	2005	
Bhutan	Paro	BIS	Sub-Regional	India	9600bps	X.25	2008	

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
Brunei Darussalam	Brunei	BIS	Sub-Regional	Malaysia	9600bps	X.25	2006	
		BIS	Sub-Regional	Singapore	9600bps	X.25	2006	
Cambodia	Phnom Penh	BIS	Sub-Regional	Thailand	9600bps	X.25	2005	
China	Beijing	BIS	Sub-Regional	DPR Korea	9600bps	X.25	2005	
		BBIS	Intra-Regional	Hong Kong, China	64000bps	X.25	2005	
		BBIS	Intra-Regional	India	64000bps	X.25	2005	
		BBIS	Intra-Regional	Japan	64000bps	X.25	2005	
		BBIS	Inter-Regional	Kuwait	64000bps	X.25	2006	
		BIS	Sub-Regional	Macau, China	9600bps	X.25	2005	
		BIS	Sub-Regional	Mongolia	9600bps	X.25	2005	
		BIS	Sub-Regional	Myanmar	9600bps	X.25	2005	
		BIS	Sub-Regional	Nepal	9600bps	X.25	2005	
		BIS	Sub-Regional	Pakistan	9600bps	X.25	2006	
		BIS	Sub-Regional	Republic of Korea	9600bps	X.25	2005	
		BBIS	Inter-Regional	Russian Federation	19200bps	X.25	2005	
		BIS	Sub-Regional	Taibei	9600bps	X.25	2005	
		BBIS	Intra-Regional	Thailand	64000bps	X.25	2005	
	Taibei	BIS	Sub-Regional	Hong Kong, China	9600bps	X.25	2005	
		BIS	Sub-Regional	Japan	9600bps	X.25	2007	

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
Hong Kong, China	Hong Kong	BBIS	Intra-Regional	China	64000bps	X.25	2005	
		BIS	Sub-Regional	Macau, China	9600bps	X.25	2005	
		BBIS	Intra-Regional	Japan	64000bps	X.25	2005	
		BIS	Sub-Regional	Philippines	9600bps	X.25	2005	
		BIS	Sub-Regional	Taibei	9600bps	X.25	2005	
		BBIS	Intra-Regional	Thailand	64000bps	X.25	2004	
		BIS	Sub-Regional	Viet Nam	9600bps	X.25	2005	
Macau, China	Macau	BIS	Sub-Regional	China	9600bps	X.25	2005	
		BIS	Sub-Regional	Hong Kong, China	9600bps	X.25	2005	
Cook Islands	Rarotonga			New Zealand	9600bps	X.25		Intra-domain
DPR Korea	Pyongyang	BIS	Sub-Regional	China	9600bps	X.25	2005	
Fiji	Nadi	BBIS	Intra-Regional	Australia	19200 bps	X.25	2006	
		BIS	Sub-Regional	Kiribati	9600bps	X.25	2006	
		BIS	Sub-Regional	New Caledonia	9600bps	X.25	TBD	
		BIS	Sub-Regional	Tuvalu	9600bps	X.25	2006	
		BBIS	Inter-Regional	United States	19200 bps	X.25	2005	
		BIS	Sub-Regional	Wallis Islands	9600bps	X.25	TBD	
		BIS	Sub-Regional	New Zealand	9600 bps	X.25	2006	

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
French Polynesia	Papeete			New Zealand	9600bps	X.25	TBD	Intra-domain
India	Mumbai	BIS	Sub-Regional	Bangladesh	9600bps	X.25	2005	
		BIS	Sub-Regional	Bhutan	9600bps	X.25	2008	
		BBIS	Intra-Regional	China	64000bps	X.25	2005	
		BBIS	Inter-Regional	Kenya	19200bps	X.25	2005	
		BIS	Sub-Regional	Nepal	9600bps	X.25	2005	
		BBIS	Inter-Regional	Oman	19200bps	X.25	2005	
		BIS	Sub-Regional	Pakistan	9600bps	X.25	2006	
		BBIS	Intra-Regional	Singapore	64000bps	X.25	2005	
		BIS	Sub-Regional	Sri Lanka	9600bps	X.25	2005	
		BBIS	Intra-Regional	Thailand	64000bps	X.25	2005	
Indonesia	Jakarta	BIS	Sub-Regional	Australia	9600bps	X.25	2006	
		BIS	Sub-Regional	Singapore	9600bps	X.25	2005	
Japan	Tokyo	BBIS	Intra-Regional	Australia	64000bps	X.25	2006	
		BBIS	Intra-Regional	China	64000bps	X.25	2005	
		BBIS	Intra-Regional	Hong Kong, China	64000bps	X.25	2005	
		BBIS	Inter-Regional	Europe	64000bps	X.25	2005	
		BIS	Sub-Regional	Republic of Korea	9600bps	X.25	2005	

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
Japan (Cont'd)	Tokyo	BBIS	Inter-Regional	Russia Federation	64000bps	X.25	2005	
		BBIS	Intra-Regional	Singapore	64000bps	X.25	2005	
		BIS	Sub-Regional	Taibei	9600bps	X.25	2007	
		BBIS	Inter-Regional	United States	64000bps	X.25	2004	
Kiribati	Tarawa	BIS	Sub-Regional	Fiji	9600bps	X.25	2005	
Lao PDR	Vientiane	BIS	Sub-Regional	Thailand	9600bps	X.25	2005	
		BIS	Sub-Regional	Viet Nam	9600bps	X.25	2005	
Malaysia	Kuala Lumpur	BIS	Sub-Regional	Brunei	9600bps	X.25	2006	
		BIS	Sub-Regional	Singapore	9600bps	X.25	2005	
		BIS	Sub-Regional	Thailand	9600bps	X.25	2005	
Maldives	Male	BIS	Sub-Regional	Sri Lanka	9600bps	X.25	2005	
Marshall Islands	Majuro			United States	9600bps	X.25		Intra-domain
Micronesia Federated State of	Chuuk			United States	9600bps	X.25		Intra-domain
	Kosrae			United States	9600bps	X.25		Intra-domain
	Ponapei			United States	9600bps	X.25		Intra-domain
	Yap			United States	9600bps	X.25		Intra-domain
Mongolia	Ulaanbaatar	BIS	Sub-Regional	China	9600bps	X.25	2005	

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
Myanmar	Yangon	BIS	Sub-Regional	China	9600bps	X.25	2005	
		BIS	Sub-Regional	Thailand	9600bps	X.25	2005	
Nauru	Nauru			Australia	9600bps	X.25		Intra-domain
Nepal	Kathmandu	BIS	Sub-Regional	China	9600bps	X.25	2005	
		BIS	Sub-Regional	India	9600bps	X.25	2005	
New Caledonia	Noumea	BIS	Sub-Regional	Fiji	9600bps	X.25	TBD	
New Zealand	Christchurch	BIS	Sub-Regional	Australia	9600bps	X.25	2006	
				Cook Is	9600bps	X.25		Intra-domain
		BIS	Sub-Regional	Fiji	9600bps	X.25	2006	
				French Polynesia	9600bps	X.25	TBD	Intra-domain
				Niue	9600bps	X.25		Intra-domain
				Samoa	9600bps	X.25		Intra-domain
				Tonga	9600bps	X.25		Intra-domain
Niue Islands	Niue			New Zealand	9600bps	X.25		Intra-domain
Pakistan	Karachi	BIS	Sub-Regional	China	9600bps	X.25	2006	
		BIS	Sub-Regional	India	9600bps	X.25	2006	
Palau	Koror			United States	9600bps	X.25		Intra-domain
Papua New Guinea	Port Moresby			Australia	9600bps	X.25		Intra-domain

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
Philippines	Manila	BIS	Sub-Regional	Hong Kong, China	9600bps	X.25	2005	
		BIS	Sub-Regional	Singapore	9600bps	X.25	2005	
Republic of Korea	Seoul	BIS	Sub-Regional	China	9600bps	X.25	2005	
		BIS	Sub-Regional	Japan	9600bps	X.25	2005	
Samoa	Faleolo			New Zealand	9600 bps	X.25		Intra-domain
Singapore	Singapore	BBIS	Intra-Regional	Australia	64000bps	X.25	2006	
		BBIS	Inter-Regional	Bahrain	64000 bps	X.25	2005	
		BIS	Sub-Regional	Brunei	9600bps	X.25	2006	
		BBIS	Intra-Regional	India	64000bps	X.25	2005	
		BIS	Sub-Regional	Indonesia	9600bps	X.25	2005	
		BBIS	Intra-Regional	Japan	64000bps	X.25	2005	
		BIS	Sub-Regional	Malaysia	9600bps	X.25	2005	
		BIS	Sub-Regional	Philippines	9600bps	X.25	2005	
		BIS	Sub-Regional	Sri Lanka	9600bps	X.25	2005	
		BBIS	Intra-Regional	Thailand	64000bps	X.25	2005	
		BBIS	Inter-Regional	United Kingdom	64000 bps	X.25	2005	
		BIS	Sub-Regional	Viet Nam	9600bps	X.25	2005	
Solomon Islands	Honiara			Australia	9600bps	X.25		Intra-Domain

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
Sri Lanka	Colombo	BIS	Sub-Regional	India	64000 bps	X.25	2005	
		BIS	Sub-Regional	Maldives	9600bps	X.25	2005	
		BIS	Sub-Regional	Singapore	9600bps	X.25	2005	
Thailand	Bangkok	BIS	Sub-Regional	Bangladesh	9600bps	X.25	2005	
		BIS	Sub-Regional	Cambodia	9600bps	X.25	2005	
		BBIS	Intra-Regional	China	64000bps	X.25	2005	
		BBIS	Intra-Regional	Hong Kong, China	64000bps	X.25	2004	
		BBIS	Intra-Regional	India	64000bps	X.25	2005	
		BBIS	Inter-Regional	Italy	19200bps	X.25	2005	
		BIS	Sub-Regional	Lao PDR	9600bps	X.25	2005	
		BIS	Sub-Regional	Malaysia	9600bps	X.25	2005	
		BIS	Sub-Regional	Myanmar	9600bps	X.25	2005	
		BBIS	Intra-Regional	Singapore	64000bps	X.25	2005	
		BIS	Sub-Regional	Viet Nam	9600bps	X.25	2005	
Timor Leste	Dili			Australia	9600bps	X.25		Intra-domain
Tonga	Tongatapu			New Zealand	9600bps	X.25		Intra-domain
Tuvalu	Funafuti	BIS	Sub-Regional	Fiji	9600bps	X.25	2005	
United States	Salt Lake City			American Samoa	9600bps	X.25		Intra-domain

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
United States (Cont'd)	Salt Lake City	BBIS	Inter-Regional	Australia	64000 bps	X.25	2005	
		BBIS	Inter-Regional	Fiji	19200 bps	X.25	2005	
		BBIS	Inter-Regional	Japan	64000bps	X.25	2004	
				Marshall Islands	9600bps	X.25		Intra-domain
				Micronesia, Federated State of	9600bps	X.25		Intra-domain
				Palau	9600bps	X.25		Intra-domain
Vanuatu	Port Vila			Australia	9600bps	X.25		Intra-domain
Viet Nam	Hanoi	BIS	Sub-Regional	Hong Kong, China	9600bps	X.25	2005	
		BIS	Sub-Regional	Lao PDR	9600bps	X.25	2005	
		BIS	Sub-Regional	Singapore	9600bps	X.25	2005	
		BIS	Sub-Regional	Thailand	9600bps	X.25	2005	
Wallis Islands	Wallis	BIS	Sub-Regional	Fiji	9600bps	X.25	TBD	

TABLE CNS-1A - AFTN PLAN

Explanation of the Table

Column

1 The AFS station or facility of individual State, listed alphabetically. Each circuit appears twice in the Table.

2 Category of circuit

M - Main trunk circuit connecting Main AFTN Communication Centres.

T - Tributary circuit connecting Main AFTN Communication Centre and AFTN stations to relay or retransmit AFTN traffic.

S - AFTN circuit which is used to transmit and receive AFTN traffic to and from a Main or Tributary AFTN communication centre directly connected to it and does not relay AFTN traffic except for the purpose of serving national station(s).

3 and 7 Type of circuit provided:

LTT	landline teletypewriter
LTT/a	landline teletypewriter, analogue (eg. cable, microwave)
LTT/d	landline teletypewriter, digital (eg. cable, microwave)
LDD/a	landline data circuit, analogue (eg. cable, microwave)
LDD/d	landline data circuit, digital (eg. cable, microwave)
SAT/n/a/d	satellite link, the number indicates the number of hubs in the circuit: Also use/a for analogue or/d for digital appropriate to the tail circuit.

4 and 8 Circuit signalling speed, current or planned.

5 and 9 Circuit protocols, current or planned.

COP-B	Character oriented data link control procedure – System Category - B
X. 25	X.25 protocol

6 and 10 Data transfer code (syntax), current or planned.

ITA-2	International Telegraph Alphabet No. 2 (Baudot code)
IA-5	International Alphabet No. 5 (7 - unit code)

11 Target date of implementation

12 Remarks

Note 1: Circuit is required for alternate routing and for national routing for international traffic.

Note 2: Requirements exist for speech and data (S + DX) communication.

State/Station	Cat.	CURRENT				PLANNED				Target date of implemen-tation	Remarks
		Type	Signalling Speed	Protocol	Code	Type	Signalling Speed	Protocol	Code		
1	2	3	4	5	6	7	8	9	10	11	12
AMERICAN SAMOA											
PAGO PAGO - S/NSTU											
United States/KSLC	S	LDD/d	2400 bps	X.25	IA-5						
AUSTRALIA											
BRISBANE - M/YBBB											
Christchurch/NZCH	T	LDD/d	2400 bps	X.25	IA-5						Note 2
Honiara/AGGG	S					LTT	75 baud	None	IA-5		Internet as interim measure
Jakarta/WIII	S	SAT/d	9600 bps	X.25	IA-5						Note 1,2
Nadi/NFFN	M	LDD/d	2400 bps	X.25	IA-5						Note 2
Nauru/ANAU	S					SAT/d	2400 bps	X.25	IA-5		Internet as interim measure
Port Moresby/AYPM	S	SAT/d	9600 bps	X.25	IA-5						Note 2
Port Vila/NVVV	S	LTT	300 baud	None	ITA-2						Internet as interim measure
Santiago/SCSC	M					LDD/d	2400 bps	X.25	IA-5	12/05	Current routing via USA
Singapore/WSSS	M	LDD/d	2400 bps	X.25	IA-5						
United States/KSLC	M	SAT/d	2400 bps	X.25	IA-5						
Johannesburg	M	SAT/d	64 Kbps	X.25	IA-5						
BANGLADESH											
DHAKA - S/VGZR											
Bangkok/VTBB	S	SAT/d	300 baud	None	IA-5						
Kolkata/VECC	S	LDD/d	64 Kbps	X.25	IA-5						
BHUTAN											
PARO - S/VQPR											
Mumbai/VABB	S	SAT/a	300 baud	None	ITA-2						Dial up
BRUNEI DARUSSALAM											
BRUNEI - S/WBSB											
Singapore/WSSS	S	LDD/d	2400 bps	X.25	IA-5						
Kuala Lumpur/WMKK	S	LTT	2400 bps	None	IAT-2	LDD/d	9600 bps	X.25	IA-5	12/05	Note 1,2
CAMBODIA											
PHNOM PENH - S/VDPP											
Bangkok/VTBB	S	SAT/d	300 baud	None	IA-5						Note 2
CHINA											
BEIJING - M/ZBBB											
Guangzhou/ZGGG	S	LDD/d	9600 bps	X.25	IA-5						
Karachi/OPKC	M	LTT	50 baud	None	ITA-2	LDD/a		None	IA-5	12/04	
Kathmandu/VNKT	S	SAT/d	300 baud	None	IA-5						
Russian Fedration/UHHH	M	SAT/d	2400 bps	None	IA-5						(Khabarovsk)
Pyongyang/ZKKK	S	SAT/d	300 baud	None	IA-5						
Seoul/RKSS	S	SAT/d	9600 bps	X.25	IA-5						

State/Station	Cat.	CURRENT				PLANNED				Target date of implemen-tation	Remarks
		Type	Signalling Speed	Protocol	Code	Type	Signalling Speed	Protocol	Code		
1	2	3	4	5	6	7	8	9	10	11	12
Tokyo/RJAA	M	LDD/d	9600 bps	X.25	IA-5						
Ulaan Baatar/ZMUB	S	SAT/d	300 baud	None	IA-5						Note 2
Yangon/VYYY	S	SAT/d	300 baud	None	IA-5						
GUANGZHOU-M/ZGGG											
Beijing/ZBBB	M	LDD/d	9600 bps	X.25	IA-5						
Hanoi/VVNB	S	SAT/d	2400 bps	None	IA-5						
Hong Kong/VHHH	M	LDD/d	2400 bps	None	IA-5						Note 1
Macau/VMMC	S	LDD/d	2400 bps	None	IA-5						
Sanya/ZJSY	S	LDD/d	2400 bps	None	IA-5						
SANYA-S/ZJSY											
Guangzhou/ZGGG	S	LDD/d	2400 bps	None	IA-5						
Hong Kong/VHHH	S	LDD/d	2400 bps	None	IA-5						
TAIBEI - S/RCTP											
Hong Kong/VHHH	S	LDD/d	4800 bps	X.25	IA-5						
Manila/RPLL	S	LDD/d	300 bps	None	ITA-2						Note 1, 2
Naha/ROAH	S	LDD/d	4800 bps	X.25	IA-5						
HONG KONG, CHINA											
HONG KONG-M/VHHH											
Bangkok/VTBB	M	LDD/d	64 Kbps	X.25	IA-5						ATN link carrying AFTN Traffic
Guangzhou/ZGGG	S	LDD/d	2400 bps	None	IA-5						Note 1
Ho-Chi-Minh/VVTS	S	SAT/d	2400 bps	None	IA-5						
Macau/VMMC	S	LDD/d	2400 bps	None	IA-5						
Manila/RPLL	S	LDD/d	300 baud	None	ITA-2						
Sanya/ZJSY	S	LDD/d	2400 bps	None	IA-5						Note 1
Taibei/RCTP	S	LDD/d	4800 bps	X.25	IA-5						
Tokyo/RJAA	M	LDD/d	9600 bps	X.25	IA-5						
MACAU, CHINA											
MACAU - S/VMMC											
Hong Kong/VHHH	S	LDD/d	2400 bps	None	IA-5						
Guangzhou/ZGGG	S	LDD/d	2400 bps	None	IA-5						
COOK ISLAND											
RAROTONGA-S/NCRG											
Christchurch/NZCH	S	LDD/d	2400 bps	None	IA-5						
DPR KOREA											
PYONGYANG-S/ZKKK											
Beijing/ZBBB	S	SAT/d	300 baud	None	IA-5						

State/Station	Cat.	CURRENT				PLANNED				Target date of implemen-tation	Remarks
		Type	Signalling Speed	Protocol	Code	Type	Signalling Speed	Protocol	Code		
1	2	3	4	5	6	7	8	9	10	11	12
FIJI											
NADI - M/NFFN											
Brisbane/YBBB	M	LDD/d	2400 bps	X.25	IA-5						Note 2
Christchurch/NZCH	S	LDD/d	2400 bps	X.25	IA-5						Note 2
Funafuti/NGFU	S					LDD/d	2400 bps	None	IA-5	12/05	Dial-up
Noumea/NWWW	S	LDD/d	2400 bps	X.25	IA-5						Note 2
Tarawa/NGTT	S	LDD/d	2400 bps	None	IA-5						
United States/KSLC	M	SAT/d	2400 bps	X.25	IA-5						Note 2
Wallis Is./NLWW	S					LDD/a	2400 bps	None	IA-5	when traffic justifies	Current routing via Noumea
FRENCH POLYNESIA (FRANCE)											
PAPEETE/NTAA											
Christchurch/NZCH	S	LDD/d	2400 bps	X.24	IA-5						
INDIA											
MUMBAI - M/VABB											
Bangkok/VTBB	M	LDD/d	2400 bps	X.25	IA-5						
Kolkata/VECC	S	LDD/d	9600 bps	X.25	IA-5						
Colombo/VCCC	M	LDD/d	64 Kbps	X.25	IA-5						
Karachi/OPKC	M	SAT/d	2400 bps	None	IA-5						Note 2
Kathmandu/VNKT	S	SAT/a	50 baud	None	ITA-2						
Muscat Seeb/OOMS	M	SAT/a	300 baud	None	ITA-2						Note 2
Nairobi/HKNC	M	SAT/a	50 baud	None	ITA-2						
Paro/VQPR	S	SAT/a	300 baud	None	ITA-2						Dial up
KOLKATA - S/VECC											
Dhaka/VGZR	S	LDD/d	64 Kbps	X.25	IA-5						
Mumbai/VABB	S	LDD/d	9600 bps	X.25	IA-5						
DELHI - S/VIDD											
Tashkent/UTTT	S	SAT/a	50 baud	None	ITA-2						
CHENNAI - S/VOMM											
Kuala Lumpur/WMKK	S	LDD/d	9600 bps	X.25	IA-5						Note 1, 2
INDONESIA											
JAKARTA - S/WIII											
Brisbane/YBBB	S	SAT/d	9600 bps	X.25	IA-5						Note1,2
Singapore/WSSS	S	SAT/d	2400 bps	X.25	IA-5						Note 2

State/Station	Cat.	CURRENT				PLANNED				Target date of implemen-tation	Remarks
		Type	Signalling Speed	Protocol	Code	Type	Signalling Speed	Protocol	Code		
1	2	3	4	5	6	7	8	9	10	11	12
JAPAN											
TOKYO - M/RJAA											
Beijing/ZBBB	M	LDD/d	9600 bps	X.25	IA-5						
Hong Kong/VHHH	M	LDD/d	9600 bps	X.25	IA-5						
Russian Federation/UHHH	M	LTT	2400 bps	None	IA-5						(Khabarovsk)
Russian Federation/UUUU	M	LTT	200 baud	None	IA-5	LDD	2400 bps	None	IA-5		Coordination with Russian Federation in progress
Naha/ROAH	S	LDD/d	9600 bps	X.25	IA-5						
Seoul/RKSS	S	LDD/d	9600 bps	X.25	IA-5						Note 2
Singapore/WSSS	M	LDD/d	9600 bps	X.25	IA-5						
United States/KSLC	M	LDD/d	9600 bps	X.25	IA-5						
NAHA - S/ROAH											
Taibei/RCTP	S	LDD/d	4800 bps	X.25	IA-5						
Tokyo/RJAA	S	LDD/d	9600 bps	X.25	IA-5						
KIRIBATI											
TARAWA - S/NGTT											
Nadi/NFFN	S	LDD/d	2400 bps	None	IA-5						
LAO PDR											
VIENTIANE - S/VLVT											
Bangkok/VTBB	S	SAT/d	300 baud	COP-B	IA-5						Note 2
Hanoi/VVNB	S	SAT/d	9600 bps	None	IA-5						
MALAYSIA											
KUALA LUMPUR-S/WMKK											
Bangkok/VTBB	S	SAT/d	2400 bps	X.25	IA-5						Note 1, 2
Brunei/WBSB	S	LTT	2400 bps	None	ITA-2	LDD/d	9600 bps	X.25	IA-5	12/05	Note 1, 2
Chennai/VOMM	S	LDD/d	9600 bps	X.25	IA-5						Note 1, 2
Singapore/WSSS	S	SAT/d	1200 bps	X.25	IA-5						Note 2
MALDIVES											
MALE - S/VRMM											
Colombo/VCCC	S	LTT	50 baud	None	ITA-2	SAT/d	9600 bps	X.25	IA-5	12/04	Note 2
MARSHALL ISLAND											
MAJURO - S/PKMJ											
United States/KSLC	S	SAT/d	1200 bps	X.25	IA-5						

State/Station	Cat.	CURRENT				PLANNED				Target date of implemen-tation	Remarks
		Type	Signalling Speed	Protocol	Code	Type	Signalling Speed	Protocol	Code		
1	2	3	4	5	6	7	8	9	10	11	12
MICRONESIA FEDERATED STATE OF											
CHUUK - S/PTKK											
United States/KSLC	S	SAT/a	1200 bps	X.25	IA-5						
KOSRAE - S/PTSA											
United States/KSLC	S	SAT/a	1200 bps	X.25	IA-5						
PONAPEI - S/PTPN											
United States/KSLC	S	SAT/a	1200 bps	X.25	IA-5						
YAP - S/PTYA											
United States/KSLC	S	SAT/a	1200 bps	X.25	IA-5						
MONGOLIA											
ULAANBAATAR-S/ZMUB											
Beijing/ZBBB	S	SAT/d	300 baud	None	IA-5						Note 2
Russian Federation/UII	S	LTT	50 baud	None	ITA-2						(Irkutsk)
MYANMAR											
YANGON - S/VYYY											
Bangkok/VTBB	S	SAT/d	300 baud	COP-B	IA-5						Note 2
Beijing/ZBBB	S	SAT/d	300 baud	None	IA-5						Note 1,2
NAURU											
NAURU - S/ANAU											
Brisbane/YBBB	S					SAT/d	2400 bps	X.25	IA-5		Internet as interium measure
NEPAL											
KATHMANDU - S/VNKT											
Beijing/ZBBB	S	SAT/d	300 baud	None	IA-5						
Mumbai/VABB	S	SAT/a	50 baud	None	ITA-2						
NEW CALEDONIA (FRANCE)											
NOUMEA - S/NWWW											
Nadi/NFFN	S	LDD/d	2400 bps	X.25	IA-5						Note 2

State/Station	Cat.	CURRENT				PLANNED				Target date of implementation	Remarks
		Type	Signalling Speed	Protocol	Code	Type	Signalling Speed	Protocol	Code		
1	2	3	4	5	6	7	8	9	10	11	12
NEW ZEALAND											
CHRISTCHURCH-T/NZCH											
Faleolo/NSFA	S	LDD/d	2400	X.25	IA-5						
Brisbane/YBBB	T	LDD/d	2400 bps	X.25	IA-5						Note 2
Nadi/NFFN	S	LDD/d	2400 bps	X.25	IA-5						Note 1, 2
Niue/NIUE	S										Currently by FAX
Papeete/NTAA	S	SAT/d	2400 bps	X.25	IA-5						
Rarotonga/NCRG	S	LDD/d	2400 bps	None	IA-5						
Tongatapu/NFTF	S	LDD/d	2400 bps	None	IA-5						
USA/KSLC	S	LDD/d	9600 bps	X.25	IA-5						
NIUE IS											
NIUE - S/NIUE											
Christchurch/NZCH	S										Currently by FAX
PAKISTAN											
KARACHI - M/OPKC											
Beijing/ZBBB	M	LTT	50 baud	None	ITA-2	LDD/a	64Kbps	None	IA-5	12/04	
Mumbai/VABB	M	SAT/d	2400 bps	None	IA-5						Note 2
Kabul/OAKB	S	SAT/d	300 baud	None	IA-5						Note 2
Kuwait/OKBK	M	SAT/a	50 baud	None	ITA-2						
PALAU											
KOROR - S/PTRO											
United States/KSLC	S	SAT/d	1200 bps	X.25	IA-5						
PAPUA NEW GUINEA											
PORT MORESBY-S/AYPM											
Brisbane/YBBB	S	SAT/d	9600 bps	X.25	IA-5						Note 2
PHILIPPINES											
MANILA - S/RPLL											
Hong Kong/VHHH	S	LDD/d	300 baud	None	ITA-2						Note 2
Singapore/WSSS	S	LDD/d	300 baud	None	ITA-2				IA-5		Note 1, 2
Taibei/RCTP	S	LTT	75 baud	None	ITA-2	LDD/d	300 baud	None	IA-5		Note 1, 2
REPUBLIC OF KOREA											
SEOUL - S/RKSS											
Beijing/ZBBB	S	SAT/d	9600 bps	X.25	IA-5						
Tokyo/RJAA	S	LDD/d	9600 bps	X.25	IA-5						Note 2
SAMOA											
FALEOLO - S/NSFA											
Chistchurch/NZCH	S	LDD/d	2400 bps	X.25	IA-5						

State/Station	Cat.	CURRENT				PLANNED				Target date of implemen-tation	Remarks
		Type	Signalling Speed	Protocol	Code	Type	Signalling Speed	Protocol	Code		
1	2	3	4	5	6	7	8	9	10	11	12
SINGAPORE											
SINGAPORE-M/WSSS											
Bahrain/OBBI	M	LTT	200 baud	None	ITA-2	LDD/d	96000 bps	None	IA-5	09/04	
Bangkok/VTBB	M	LDD/d	9600 bps	X.25	IA-5						Note 2
Brisbane/YBBB	M	LDD/d	2400 bps	X.25	IA-5						
Brunei/WBSB	S	LDD/d	2400 bps	X.25	IA-5						
Colombo/VCCC	M	LDD/d	9600 bps	X.25	IA-5						
Ho-Chi-Minh/VVTS	S	SAT/a	300 baud	None	IA-5						
Jakarta/WIII	S	SAT/d	2400 bps	X.25	IA-5						Note 2
Kuala Lumpur/WMKK	S	SAT/d	1200 bps	X.25	IA-5						Note 1,2
London/EGGG	M	LDD/d	1200 bps	X.25	IA-5						
Manila/RPLL	S	LDD/d	300 baud	None	ITA-2				IA-5		
Tokyo/RJAA	M	LDD/d	9600 bps	X.25	IA-5						
SOLOMON IS.											
HONIARA - S/AGGG											
Brisbane/YBBB	S					LTT	75 baud	None	IA-5		Internet as intermedium measure
SRI LANKA											
COLOMBO - M/VCCC											
Mumbai/VABB	M	LDD/d	64 kbps	X.25	IA-5						
Male/VRMM	S	LTT	50 baud	None	ITA-2	SAT/d	9600 bps	X.25	IA-5	12/04	Note2
Singapore/WSSS	M	LDD/d	9600 bps	X.25	IA-5						
THAILAND											
BANGKOK - M/VTBB											
Mumbai/VABB	M	LDD/d	2400 bps	X.25	IA-5						
Dhaka/VGZR	S	SAT/d	300 baud	None	IA-5						
Ho-Chi-Minh/VVTS	S	SAT/d	2400 bps	None	IA-5						
Hong Kong/VHHH	M	LDD/d	64 Kbps	X.25	IA-5						ATN link carrying AFTN Traffic
Kuala Lumpur/WMKK	S	SAT/d	2400 bps	X.25	IA-5						Note 1, 2
Phnom Penh/VDPP	S	SAT/d	300 baud	None	IA-5						Note 2
Rome/LIII	M	LDD/d	2400 bps	X.25	IA-5						
Singapore/WSSS	M	LDD/d	9600 bps	X.25	IA-5						Note 2
Vientiane/VLVT	S	SAT/d	300 baud	COP-B	IA-5						
Yangon/VYYY	S	SAT/d	300 baud	COP-B	IA-5						Note 2
TONGA											
TONGATAPU - S/NFTF	S										
Cristchurch/NZCH		LDD/d	2400 bps	None	IA-5						
TUVALU											
FUNAFUTI - S/NGFU											
Nadi/NFFN	S					LDD/d	2400 bps	None	IA-5	12/05	Dial-up

State/Station	Cat.	CURRENT				PLANNED				Target date of implemen-tation	Remarks
		Type	Signalling Speed	Protocol	Code	Type	Signalling Speed	Protocol	Code		
1	2	3	4	5	6	7	8	9	10	11	12
UNITED STATES											
USA-M/KSLC											
Brisbane/YBBB	M	SAT/d	2400 bps	X.25	IA-5						
Christchurch	S	LDD/d	9600 bps	X.25	IA-5						
Chuuk/PTKK	S	SAT/d	1200 bps	X.25	IA-5						
Koror/PTRO	S	SAT/d	1200 bps	X.25	IA-5						
Kosrae/PTSA	S	SAT/d	1200 bps	X.25	IA-5						
Majuro/PKMJ	S	SAT/d	1200 bps	X.25	IA-5						
Nadi/NFFN	M	SAT/d	2400 bps	X.25	IA-5						
Pago Pago/NSTU	S	SAT/d	2400 bps	X.25	IA-5						
Ponapei/PTPN	S	SAT/a	1200 bps	X.25	IA-5						
Tokyo/RJAA	M	LDD/d	9600 bps	X.25	IA-5						
Yap/PTYA	S	SAT/d	1200 bps	X.25	IA-5						
VANUATU											
PORT VILA - S/NVVV											
Brisbane/YBBB	S	LTT	300 baud	None	ITA-2						Internet as interim measure
VIET NAM											
HANOI-S/VVNB											
Vientiane/VLVT	S	SAT/d	9600 bps	None	IA-5						
Ho-Chi-Minh/VVTS	S	SAT/d	9600 bps	None	IA-5						
Guangzhou/ZGGG	S	SAT/d	2400 bps	None	IA-5						
HO-CHI-MINH - S/VVTS											
Bangkok/VTBB	S	SAT/d	2400 bps	None	IA-5						
Hanoi/VVNB		SAT/d	9600 bps	None	IA-5						
Hong Kong/VHHH	S	SAT/d	2400 bps	None	IA-5						
Singapore/WSSS	S	SAT/a	300 baud	None	IA-5						
WALLIS IS. (FRANCE)											
WALLIS - S/NLWW											
Nadi/NFFN	S					LDD/A	2400 bps	None	IA-5		Current routing via Noumea Circuit will be implemented when traffic justifies.

TITLE AND TERMS OF REFERENCE

TITLE: ATN Transition Task Force

TERMS OF REFERENCE:

Plan for implementation of the Aeronautical Telecommunication Network (ATN) in the ASIA/PAC region to meet performance and capacity requirements of CNS/ATM Systems. The planning also addresses the ongoing development of the AFS including digital speech communication.

SUBJECT/TASKS LIST OF THE ATN TRANSITION TASK FORCE

No.	Ref.	Task	Priority	Action Proposed/In Progress	Target
1	RAN/3 C 10/12 C 10/11d	Subject: ATN Transition Guidance Material. Task: Develop Regional ATN Transition Guidance Material.		1) Development of detailed guidance material.	Completed
2	RAN/3 C 10/11d	Subject: ATN Transition Plan Task: Develop an ATN Transition Plan to provide seamless transition to ATN.		1) Develop Ground Transition Plan taking into account Air-to-Ground aspects. 2) Develop a set of planning documents covering: i) ATN Regional Routing Architecture ii) ATN Naming and Addressing Conventions, and iii) Documentation of the Assigned ATN Names and Addresses.	Completed
3		Subject: ATN major elements. Task: Provide performance and functional requirements of ATN.	A	1) Develop ATN Technical Documents. ~~- Security~~ System integrity - Performance - System Management	~~2004~~ (2005 Monitor development in ACP) ~~2004~~ 2005 ~~2004~~ Completed
4	RAN/3 C 10/11b	Subject: AFTN related issues Task: Review operation of AFTN.	B	1) Evaluate and review the effect of increases or decreases in capacity and network changes, on circuit loading. 2) Plan network changes for support of OPMET and AIS databases, automated VOLMET broadcast.	On-going Completed

No.	Ref.	Task	Priority	Action Proposed/In Progress	Target
5		Subject: Planning and implementation information in ANP. Task: Develop G/G part of the CNS FASID.	A	Development of detail description for the existing tables and Charts for the G/G part of the CNS FASID.	
				1) Table CNS 1B – ATN Router Plan 2) Table CNS 1C – ATS MHS 3) Table CNS 1D – AIDC Routing Plan	Completed ~~2004~~ Completed 2005
6		Subject: ATN Documentation Task: Development of ATN Routing Documentations and ICDs.	A	Development of ATN Documents: 1) A Router ICD 2) A Routing policy for IDRP 3) A Routing policy for MTA 4) Directory of Service 5) An AMHS ICD 6) An AIDC ICD	 Completed Completed ~~2004~~ 2005 ~~2004~~ 2005 Completed ~~2004~~ 2005
7		Subject: Use of the public Internet Task: Develop guidance material for the use of the public internet technology to support AFTN, where required.	A	Study the possibility of using the public Internet and develop guidance material for its use to support low speed AFTN stations, as an interim measure, with particular emphasis on security and reliability.	Completed
8		Subject: Use of IP Task: Develop guidance material for the use of IP as a Sub-Network for ATN	B	In accordance with the work being performed by ACP, develop guidance material for the support of IP as a Sub-Network of the ATN, with particular emphasis on system compatibility between adjacent centers and security.	(2005 Monitor development in ACP)

No.	Ref.	Task	Priority	Action Proposed/In Progress	Target
9		Subject: AMHS Naming Registration Task: Develop registration forms for assigning AMHS address for the region	A	To develop an AMHS Naming Registration Planning Document for registering the AMHS naming conventions and assignments to be used within the region. To develop procedures for completing the Form.	~~2004~~ Completed 2005 (Monitor development in ACP)
10		Subject: AFTN/AMHS Transitional/Operational Procedures Tasks: Revise and develop transitional/operational procedures applicable to the use of the AMHS.	A	To review existing AFTN transitional/operational procedures and develop a new transitional and operational procedures applicable to the operation and use of the AMHS.	~~2004~~ 2005 (Monitor development in ACP)

UPDATED STRATEGY FOR THE PROVISION OF PRECISION APPROACH AND LANDING GUIDANCE SYSTEMS

Considering:

a) in the Asia/Pacific region, ILS is capable of meeting the majority of requirements for precision approach and landing;

b) requirements for provision of terrestrial-based navigation facilities, non-precision and precision approach and landing have been implemented in most cases;

c) the availability of ICAO SARPs and guidance material for GNSS with augmentation to support Cat I precision approach and approach and landing with vertical guidance (APV);

d) the knowledge that APV operations may be conducted using GNSS with augmentation as required or barometric vertical guidance and GNSS or DME/DME RNAV lateral guidance;

e) APV operations provide enhanced safety and generally lower operational minima as compared to non-precision approaches;

~~d)~~ f) the knowledge that GNSS without augmentation can support non-precision approaches and that augmented GNSS- based systems is expected to be available to support Category I operations by year ~~2006~~ 2009.This date may be brought forward with the lunch of another navigation satellite constellation.

~~e)~~ g) GNSS with augmentation to support category II and III operations is expected to be available in 2010-2015 time frame;

~~f)~~ h MLS Cat I is operational and ground and airborne CAT III B certification is in progress.

~~g)~~ i a multi-modal airborne approach and landing capability is necessary and expected to be available;

~~h)~~ j the definition of Required Navigation Performance for approach, landing and departure operations;

~~i)~~k the need to maintain aircraft interoperability both within the region and between the Asia/Pacific region and other ICAO regions and to provide flexibility for future aircraft equipage.

The strategy for Asia/Pacific region in the provision of precision approach and landing guidance is:

a) Retain ILS as an ICAO standard system for as long as it is operationally acceptable and economically beneficial;

b) Implement GNSS with augmentation as required for APV and ~~to support~~ Category I ~~and APV~~ operations where operationally required and economically beneficial;

c) Conduct studies for the implementation of GNSS ground- based augmentation systems and GNSS avionics equipment for Category II and III operations;

d) Introduce applicable Required Navigation Performance (RNP) for approach, landing and departure operations in accordance with ICAO provisions;

e) Conduct necessary on-going GNSS and RNP education and training for operational personnel to ensure safe operations;

f) Implement MLS where operational requirements cannot be satisfied by implementation of ILS or GNSS;

g) Protect radio frequency spectrum of ILS, MLS and GNSS since the transition from ILS to GNSS and /or MLS will be evolutionary and will take some time.

h) Promote the use of APV operations, particularly those using GNSS vertical guidance, to enhance safety and accessibility.

UPDATED STRATEGY FOR THE IMPLEMENTATION OF GNSS NAVIGATION CAPABILITY IN THE ASIA/PACIFIC REGION

Considering that:

1) Safety is the highest priority;

2) Elements of Global Air Navigation Plan for CNS/ATM system on GNSS and requirements for the GNSS implementation have been incorporated into the CNS part of FASID;

3) GNSS SARPs, PANS and guidance material for GNSS implementation are available;

4) The availability of avionics including limitations of some receiver designs; the ability of aircraft to achieve RNP requirements and the level of user equipage;

5) Development of GNSS systems including satellite constellations and improvement in system performance;

6) Airworthiness and operational approvals allowing the current GNSS to be used for en-route and non precision approach phases of flight without the need for augmentation services external to the aircraft;

7) Development status of aircraft-based augmentation systems;

8) Regional augmentation systems include both satellite-based (SBAS) and ground-based systems (GBAS);

9) Human, environmental and economic factors will affect the implementation of GNSS.

10) The vulnerability of GNSS to radio interference and adverse effect of ionosphere;

~~10)~~ 11) The regional navigation requirements are:

(a) RNP10/RNP4 for en-route;
(b) RNP4 for *transition to* terminal phase of flight;
(c) RNP1 for terminal phase of flight;
(d) NPA/APV for approaches and departures; and
(e) Precision approaches at selected airports.

The general strategy for the implementation of GNSS in the Asia/Pacific region is detailed below:

1) There should be an examination of the extent to which the GNSS system accessible in the Region can meet the navigational requirements of ATM service providers and aircraft operators in the Region;

2) Evolutionary introduction of GNSS Navigation Capability should be consistent with the Global Air Navigation Plan for CNS/ATM Systems;

3) During transition to GNSS, sufficient ground infrastructure for current navigation systems must remain available. Before existing ground infrastructure is considered for removal, users should be given reasonable transition time to allow them to equip with GNSS to attain equivalent navigation service;

4) Implementation shall be in full compliance with ICAO SARPs and PANS;

5) Introduce the use of GNSS for en-route, terminal and approach navigation;

6) States are encouraged to implement future GNSS approvals based on SBAS receiver standards or equivalents;

7) To the extent possible, States should work co-operatively on a multinational basis to implement GNSS augmentation systems in order to facilitate seamless and inter-operable systems;

8) States consider segregating traffic according to navigation capability and granting preferred routes to aircraft with better navigation performance**,** taking due consideration of the need of State aircraft.

9) As GNSS is introduced for en-route navigation, States~~/Regions~~ should coordinate to ensure that harmonized separation standards and procedures are developed and introduced concurrently in all flight information regions along major traffic flows to allow for a seamless transition to GNSS-based navigation.

10) The introduction of GNSS offers the possibility to remove conventional ground-based navigation aids. However States should approach this with caution to ensure that safety is not compromised, such as by performance of safety assessment and consultation with users through regional air navigation planning process.

~~9)~~ 11) States undertake a co-coordinated R & D programme on GNSS implementation and operation;

~~10)~~ 12) ICAO and States should undertake education and training to provide necessary knowledge in GNSS theory and operational application, including RNP, and

~~11)~~ 13) States establish multidisciplinary GNSS implementation teams, using section 6.10.2 of ICAO Circular 267, Guidelines for the Introduction and Operational Approval of the GNSS , as a guide.

Note1: Identified SBAS systems are EGNOS, MSAS and WAAS. The MSAS is expected to be available for providing augmentation for the Asia/Pacific region.

SUBJECT/TASK LISTS OF THE ADS-B STUDY AND IMPLEMENTATION TASK FORCE

No.	Ref.	Task	Priority	Action Proposed/In Progress	Target
1	APANPIRG Concl.13/19 TOR	Subject: Selection of links for near term and long term. Task: 1) Select near term link; 2) Select long tern link.	A	1) SSR Mode S 1090 ES has been selected for the near term; 2) Additional data links may be specified as necessary.	Completed TBD
2	APANPIRG Concl. 14/21	Subject: Guidance material for implementation of ADS-B in ASIA/PAC region. Task: Develop a guidance package	A	1) Sample Business case component; 2) Based on OPLINK Concept of use and other ICAO Docs for ADS-B air-ground surveillance service.	2005
3	APANPIRG Concl. 14/21	Subject: Report of ADS-B problem. Task: Establish a problem reporting system	A	Develop a database and a form of report	2004 /Australia
4		Subject: Draft amendment proposal to SUPPs 7030 Regional Supplemental Procedures Task: Prepare a draft for consideration by ATM/AIS/SAR Sub-Group of APANPIRG.	B	Prepare a draft for amendment to Doc7030 for implementation of ADS-B in the ASIA/PAC region pending separation criteria developed by relevant ICAO Panel.	2005/ICAO Regional Office

No.	Ref.	Task	Priority	Action Proposed/In Progress	Target
5	APANPIRG Concl. 14/21	Subject: ASIA/PAC ADS-B operational manual Task: Develop operational procedure manual for using ADS-B.	A	Develop a draft operational manual (include material on NOTAM and available manual data)	2005 New Zealand/ USA
6	APANPIRG Concl. 14/21	Subject: Coordination between States at planning level Task: Coordination for timing of implementation and designate focal point of contact, points of contact for regulators, airframes & ground systems.	A	1) Develop an coordinated implementation plan by city pairs; 2) Inform ICAO regional office names of designated focal point of contact.	2005/States concerned 2004/States
7	APANPIRG Concl. 14/21	Subject: Regional implementation plan Task: Develop a Regional implementation plan taking into account the individual national plans in accordance with a coordinated plan between city pairs.	B	1) States present their ADS-B plans (including any necessary associated air ground voice communication) as WPs to ADS-B study and implementation Task Force; 2) Implementation date, sites being considered and plans for mandates (if any) should be specified; 3) Develop optimal regional plan based on State inputs.	2005

No.	Ref.	Task	Priority	Action Proposed/In Progress	Target
8		Subject: Number of airframes fitted Task: Report on number of airframes fitted	A	Collect and report to the Task Force information on types, operators (numbers of each) and NUC (NIC/NAC/SIL)	2005/USA

SADIS STRATEGIC ASSESSMENT TABLES
CURRENT AND PROJECTED DATA VOLUMES 2005-2008

Note 1: 1 octet = 1 byte = 1 character;

Note 2: low-level (SWL) <FL100; medium level (SWM): FL100 – FL250; high-level (SWH): >FL250.

Table 1. ASIA— OPMET data volumes

Main routing(s): AFTN, direct line (GTS)

OPMET data	*Current 2004*	*Projected 2005*	*Projected 2006*	*Projected 2007*	*Projected 2008*
ALPHANUMERIC DATA					
Number of **FC bulletins** issued per day	34	38	44	50	55
Average number of stations per FC bulletin	4	4	4	4	4
Number of **FT bulletins** issued per day	165	170	175	180	185
Average number of stations per FT bulletin	4	4	4	4	4
Number of **SA bulletins** issued per day	872	875	880	885	890
Average number of stations per SA bulletin	4	4	4	4	4
Number of **SP bulletins** issued per day	24	25	30	35	40
Number of **SIGMET** bulletins issued per day	13	15	15	20	20
Number of **FK/FV bulletins** issued per day	0	1	1	1	1
BINARY DATA					
Number of other bulletins issued per day	0	0	0	2	2
(please specify header(s))					
Average number of stations per bulletin	-	-	-	1	1
TOTALS					
Total number of OPMET bulletins per day	1109	1121	1141	1166	1186
Average size of OPMET bulletin (bytes)	350	350	350	350	350
Total estimated OPMET data volume per day (bytes)	388K	392K	399K	408K	415K

Note: Provision is made for the potential distribution of binary (BUFR) encoded volcanic ash SIGMETs during years 2007 and 2008.

Table 2. ASIA — BUFR data volumes

Main routing(s): GTS

BUFR SIGWX messages	*Current 2004*	*Projected 2005*	*Projected 2006*	*Projected 2007*	*Projected 2008*
WMO Header				N/A	N/A
Time(s) of issue of data (UTC)	-	-	-	Misc	Misc
Average size of message (bytes)	-	-	-	20K	20K
Data level (e.g. FL range or low (SWL)/medium (SWM) level)	-	-	-	Misc	Misc
Validity time(s) of data VT (UTC)	-	-	-	Misc	Misc
TOTALS					
Total number of BUFR messages per day	0	0	0	2	2
Average size of messages (bytes)	-	-	-	20K	20K
Total estimated volume of BUFR messages per day (bytes)	0	0	0	40K	40K

Note: Provision is made for the potential distribution of BUFR encoded VAGs during years 2007 and 2008.

Table 3. ASIA — AIS data volumes

Main routing(s): AFTN

AIS (Subject to statement of an operational requirement)	*Current 2004*	*Projected 2005*	*Projected 2006*	*Projected 2007*	*Projected 2008*
ALPHANUMERIC AIS DATA (e.g. NOTAMs, ASHTAMs)	**ASHTAMS and NOTAMS related to volcanic ash**				
Bulletin type	-	No requirement	ASHTAM	ASHTAM	ASHTAM
Number of bulletins issued per day			2	2	2
Average size of each bulletin (bytes)			5K	5K	5K
Bulletin type			NOTAM	NOTAM	NOTAM
Number of bulletins issued per day			2	2	2
Average size of each bulletin (bytes)			5K	5K	5K
CHART AIS DATA (e.g. AIP CHARTS)					
Header number/Chart type (e.g. AIP)					
Time(S) of issue of chart (UTC)					
Average size of chart (bytes)					
Validity time of chart VT(UTC)					
Header number/Chart type (e.g. AIP)					
Time(S) of issue of chart (UTC)					
Average size of chart (bytes)					
Validity time of chart VT(UTC)					
TOTALS					
Total number of AIS bulletins per day	0		4	4	4
Average size of AIS bulletin (byte)	-		5K	5K	5K
Total number of AIS charts issued per day	0		0	0	0
Average size of AIS chart (byte)	-		-	-	-
Total estimated volume of AIS data per day (bytes)	0		10K	10K	10K

Note: Provision is made for the distribution of ASHTAMS and NOTAMS related to volcanic ash during years 2206, 2007 and 2008.

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TERMS OF REFERENCE OF ASIA/PAC OPMET MANAGEMENT TASK FORCE

ASIA/PAC OPMET MANAGEMENT TASK FORCE (OPMET/M TF)

1. Terms of Reference

- Review the OPMET exchange schemes in the ASIA/PAC and MID regions and develop proposals for their optimization taking into account the requirements by the aviation users and the current trends for global OPMET exchange;

- Develop monitoring and management procedures related to ROBEX exchange and other exchanges of OPMET information;

- Regularly update the regional guidance material related to OPMET exchange;

- Liaise with other groups dealing with communication and/or management aspects of the OPMET exchange in ASIA/PAC and other ICAO regions (ASIA/PAC ATN Transition TF, BMG EUR Region, CNS/MET SG MID Region, etc.).

2. Work Programme

The work to be addressed by the ASIA/PAC OPMET Management Task Force includes:

(a) to examine the existing and any new requirements for OPMET exchange in ASIA/PAC and MID regions and assess the feasibility of satisfying these requirements, taking into account the availability of the data;

(b) to keep under review the ROBEX scheme and other OPMET exchange schemes and prepare proposal for updating and optimizing of the schemes;

(c) to review and update the procedures for interregional OPMET exchange and ensure the availability of the required ASIA/PAC and MID OPMET data for the AFS satellite broadcasts (ISCS and SADIS);

(d) to keep under review and provide timely amendments of the regional guidance materials on the OPMET exchange; to ensure that guidance material covers procedures for the exchange of all required OPMET data types: SA, SP, FC, FT, WS, WC, WV, FK, FV, UA;

(e) to conduct trials and develop procedures for monitoring and management of the OPMET exchange; to foster implementation of quality management of OPMET data by the ROBEX centres and the RODBs.

Note: It is recommended that the EUR OPMET quality control and management procedures be reviewed and utilized in developing similar procedure for the ASIA/PAC and MID regions.

3. Composition

(a) The Task Force is composed by experts from:

Australia (Rapporteur); China; Fiji; Japan; Hong Kong, China; Indonesia, Singapore; Thailand; United Kingdom and United States;

(b) Representatives of IATA, EUR BMG and MID OPMET Bulletin Board are invited to participate in the work of the Task Force

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TERMS OF REFERENCE OF THE

COMMUNICATIONS, NAVIGATION, SURVEILLANCE/METEOROLOGY (CNS/MET) SUB-GROUP OF APANPIRG

TERMS OF REFERENCE

1. Ensure the continuing and coherent development of the ASIA/PAC Regional Air Navigation Plan and the ASIA/PAC Regional Plan for the New CNS/ATM Systems in the CNS/MET fields.

2. Review and identify deficiencies that impede the implementation or provision of efficient CNS/MET services in the Asia/Pacific region.

3. Monitor CNS/ATM systems research and development, trials and demonstrations in the fields of CNS/MET and facilitate the transfer of this information and expertise between States.

4. Make specific recommendations aimed at improving CNS/MET services by the use of existing procedures and facilities and/or through the evolutionary implementation of CNS/ATM systems.

5. Review and identify inter-regional co-ordination issues in the fields of CNS/MET and recommend actions to address those issues.

SUBJECT/TASKS LIST IN THE CNS/MET FIELDS

The priorities assigned in the list have the following connotation:
A = Tasks of a high priority on which work should be expedited;
B = Tasks of medium priority on which work should be under taken as soon as possible but not to the detriment of Priority "A tasks; and
C = Tasks of medium priority on which work should be undertaken as time and resources permit but not to the detriment of priority "A" and "B" tasks.
TOR = Terms of Reference of the Sub-Group

TASKS NO. 1-29 HAVE BEEN COMPLETED AND REMOVED FROM THE LIST

No.	Ref.	Task	Priority	Action Proposed/In Progress	Action By	Target Date
30	RAN/3 C.11/10 (TOR 1)	Subject: Ensure effective transition to satellite communications. Task: Planning for the implementation of satellite communications.	B	In planning for the implementation of CNS/ATM take into account: 1) Requirements for an effective transition, 2) Time frame for implementing changes, 3) HF requirements after implementation of satellite communications, 4) Human factors (staffing, retraining).	CNS/MET	On-going
31	RAN/3 C.11/11 (TOR 1)	Subject: Need for data link to access VOLMET broadcast stations by aircraft. Task: Automation of meteorological information for aircraft in flight (VOLMET) broadcasts.	B	In planning CNS/ATM implementation consider automation of VOLMET broadcast and introduction of D-VOLMET by VOLMET broadcast stations specified in the FASID.	CNS/MET	2008
32	RAN/3 C.8/14 APANPIRG/ 14 (TOR 3)	Subject: Inadequate implementation of procedures for advising aircraft on volcanic ash and tropical cyclones Task: Monitoring of the implementation of international airways volcano watch (IAVW) and tropical cyclone advisories and SIGMETs	A	Monitor and provide assistance in the implementation of volcanic ash and tropical cyclone advisories and SIGMETs procedures to ensure provision of timely information on volcanic ash and tropical cyclones to aircraft.	CNS/MET Task Force on the implementation of Volcanic Ash and Tropical Cyclone advisories and SIGMETs (VA/TC TF)	On going

No.	Ref.	Task	Priority	Action Proposed/In Progress	Action By	Target Date
33	APANPIRG D. 9/21	Problem : SADIS strategic assessment Task: SADIS strategic assessment of data/information to be included in the satellite broadcast.		Review requirements for SADIS broadcasts and maintain the SADIS strategic assessment tables.	CNS/MET SG	On-going
34	APANPIRG (TOR 3)	Subject: Lack of procedure for application of MET data in ADS messages Task: Use of MET data from ADS messages	A	1) Review MET information transmitted with ADS messages Presentation of the WP on the subject to the CNS/MET/SG/6	CNS/MET New Zealand	Completed
35	(TOR 3)	Subject: To facilitate regional implementation of CNS/ATM Tasks: a) coordinate training/workshops to allow States to develop and implement new CNS/ATM procedures b) encourage States to participate in the evaluation and training of new CNS/ATM systems c) progress the adoption of WGS-84 co-ordinate system and introduction of high integrity systems for the management of the co-ordinate data	A	1) identify topics for training, develop syllabi and plan training programme 2) encourage States in the evaluation and training of new CNS/ATM systems 3) co-ordinate with States and monitor progress 4) collect information and suggest methods of resolving problems commonly faced by States	 CNS/MET CNS/ATM IC SG	On-going On-going On-going On-going

No.	Ref.	Task	Priority	Action Proposed/In Progress	Action By	Target Date
36	APANPIRG D. 4/46 RAN/3 C.12/3 APANPIRG 5/3 (TOR 3)	Subject: Provision of adequate CNS/MET services Task: Monitor CNS/ATM systems research and development, trials and demonstrations in the fields of CNS/MET and facilitate the transfer of this information and expertise between States.	A	• Encourage States to conduct R&D, trials & demonstrations of new CNS/MET services • Monitor global developments that may have beneficial consequences on regional planning activities • Consolidate information on new capabilities in the CNS/ATM system, for the Sub-Groups review and action • Serve as a focal point for review of ongoing work of Regional formal and informal working groups that is relevant to CNS/MET • Provide for coordinated training/seminars to keep all States informed on developments of trials and demonstrations	CNS/MET	On-going
37	C 12/24	Subject : Transition to the GRIB and BUFR coded WAFS products Task : Implementation of the transition to the GRIB and BUFR coded WAFS products	A	1) Development of guidelines for the use of BUFR and GRIB codes for the production of WAFS products. 2) Planning and coordinating the transfer of SIGWX and WIND/TEMP charts from the current T4 facsimile format to BUFR and GRIB format. 3) Development of a regional training programme for the operational use of BUFR and GRIB. 4) Participate in the development and implementation of an adequate WAFS back-up system for dissemination of WAFS products in the ASIA/PAC Region.	CNS/MET SG WAFS Implementation Task Force	Completed July 2005 2004 Completed
38	C12/36	Subject : Lack of ATM requirements for MET components of the ASIA/PAC CNS/ATM Plan. Task : Developing the MET Chapter for the ASIA/PAC CNS/ATM Plan.	A	1. Development of the initial draft of the MET Chapter. 2. Development of the MET components of the CNS/ATM concept/ strategy. 3. Inclusion of ATM requirements for MET information in the CNS/ ATM Plan.	CNS/MET SG with assistance of MET WG on CNS/ATM Plan CNS/MET SG with assistance of the METATM TF	Completed Completed 2005

No.	Ref.	Task	Priority	Action Proposed/In Progress	Action By	Target Date
39	APANPIRG /13 D 13/28	Subject: To improve the efficiency of the regional and inter-regional OPMET exchange and the availability of OPMET information from the ASIA/PAC Region Task: Review and optimize the ROBEX scheme and other OPMET exchanges; introduce monitoring and management procedures for the ROBEX centres and Regional OPMET data banks	A	1) Review and update regional ROBEX tables and relevant documents 2) Propose optimization chages to the ROBEX scheme 3) Improve the availability of OPMET data at the Regional OPMET Data Banks (RODB) 4) Improve the availability of OPMET information from the Pacific States 5) Introduce monitoring and management procedures	CNS/MET SG OPMET Management Task Force	2003 2004 on-going on-going on-going
40	APANPIRG /13 C 13/32	Subject: Quality Management of the meteorological service for the international air navigation Task: Foster the development and implementation of quality management systems by the States' MET authorities/providers in the ASIA/PAC Region	B	1) Review the status of implementation of the quality management system in the region 2) Assist in the organization of regional seminars/workhops to foster exchange of information between the States on the matters of quality management systems	CNS/MET SG	On-going
41		Subject: Regional Strategy for air-ground data communication Task: Develop regional strategy for the implementation of air-ground communication data link	B	Development of AMS data link	CNS/MET SG	2005

AGENDA ITEM 2.3: ATS CO-ORDINATION GROUPS' ACTIVITIES

2.3 **ATS Coordination Groups' activities**

Review ATS Coordination Groups activities

2.3.1 The meeting was updated on the activities since the ATS/AIS/SAR/SG/13 in June 2003 of the ICAO and State ATS Coordination Groups that contribute to the work of APANPIRG. The following Sub-Regional ATS Coordination Groups were currently active in the Asia/Pacific Region:

ICAO ATS Coordination Groups

Bay of Bengal ATS Coordination Group (BBACG)
FANS Implementation Team for the Bay of Bengal (FIT-BOB)
South-East Asia ATS Coordination Group (SEACG)
FANS Implementation Team for South-East Asia (FIT-SEA)
China, Mongolia, Russian Federation, and IATA ATS Coordination Group (CMRI)

State ATS Coordination Groups

Informal South Pacific ATS Coordinating Group (ISPACG)
Informal Pacific ATS Coordinating Group (IPACG)
Russian-American Coordinating Group for Air Traffic Control (RACGAT)

ICAO ATS Coordination Groups

Bay of Bengal ATS Coordination Group (BBACG) and FANS Implementation Team for the Bay of Bengal (FIT-BOB)

2.3.2 The BBACG and the FANS Action Team for the Bay of Bengal (FAT-BOB, subsequently renamed the FANS Implementation Team (FIT)) meetings were temporarily suspended after BBACG/12 and FAT-BOB/1 meetings were held at the Regional Office in June 2000 and in Singapore in August 2000 respectively. This was due to the EMARSSH project being established by APANPIRG/11 (October 2000), which took over the work programme of the BBACG.

2.3.3 Following implementation of the EMARSSH routes on 28 November 2002, the EMARSSH Project had been substantially completed, and the BBACG and FAT-BOB were reconvened in a combined meeting held at the Regional Office on 8-12 September 2003. Also, it was recalled that APANPIRG/14 had noted that reactivation of the FIT-BOB was considered essential to implement data link services to alleviate problems presently encountered over the Bay of Bengal due to poor HF air/ground communications.

FIT-BOB/2

2.3.4 The FIT-BOB/2 meeting was held on 8-12 September 2004 at the Regional Office in conjunction with BBACG/13. The meeting considered the implementation of data link services in the Bay of Bengal area and agreed to establish an implementation plan. The first phase would be an operational trial to assess the data link technical performance and analyze problem reports, and determine the level of service that could be achieved by the various ATM data link systems being operated by States concerned.

2.3.5 To initiate the operational trial, the meeting determined the requirements and established a Central Reporting Agency (CRA) to undertake the technical evaluation of the data link systems. It was agreed that Boeing, who had offered to provide the CRA services on a cost recovery basis, be designated as the CRA.

2.3.6 The meeting recalled that APANPIRG/14 had recognized in principle that user charges would be the main means of funding airspace safety monitoring services. In this regard, IATA agreed to establish a contract with Boeing to provide the CRA services on behalf of the States concerned and to collect the user charges.

2.3.7 The meeting agreed to commence an operational trial to assess the performance capability of the ADS and CPDLC systems operated by States in the Bay of Bengal area on AIRAC date 19 February 2004. As a requirement to participate in the trial, the meeting agreed that the ATS providers must have ADS/CPDLC systems that could be evaluated with the objective of bringing these systems into full operational use at the end of the trial period to enable longitudinal and crossing track separation of 10 and 15 minute separations respectively to be reduced to 50 NM. In the initial phase, India, Indonesia and Thailand would participate in the trial.

FIT-BOB/3

2.3.8 The FIT-BOB/3 meeting was held in conjunction with the BBACG/14 meeting at the Regional Office on 2-6 February 2004. It continued to develop the implementation plan. In this regard, the meeting agreed to adopt the FANS 1/A Operations Manual (FOM) as the operational procedures to be applied by States participating in the operational trial for the implementation and conduct of ADS/CPDLC operations. The meeting agreed that the FOM should be used in conjunction with the *ICAO Guidance Material on CNS/ATM Operations in the Asia/Pacific Region*, which was presently being updated by the Regional Office, and compiled a list of reference material to be used by States when planning for implementation of ADS and CPDLC services.

2.3.9 The meeting noted that in the Pacific Region over 96 percent of air/ground data link messages using the FANS-1/A system were being successfully completed within the established performance time limit. The meeting was advised that about 15 airlines were operating in the Bay of Bengal with FANS-1/A equipped aircraft and this would increase. Based on the Pacific results and the number of FANS-1/A aircraft operating in the Bay of Bengal area, substantial benefits would be expected for ATS providers and users with the introduction of ADS/CPDLC services.

BBACG/13

2.3.10 The BBACG/13 meeting took over and progressed the outstanding work items of the EMARSSH/TF (paragraph 2.1.33 under Agenda Item 2.1 refers).

2.3.11 Recognizing the impact of the restricted route structure through the Kabul FIR on the overall traffic flow and combined with the long standing operational difficulties, the meeting adopted a Traffic Orientation Scheme (TOS) proposed by IATA to improve the efficiency of air traffic management and make better use of the available capacity on the routes used by traffic transiting the Afghanistan airspace. Also, the development of the ATFM Plan was progressed.

2.3.12 The meeting endorsed the data link implementation plan developed by FIT-BOB/2. In regard to the funding of the CRA, the meeting recognized that setting up of a CRA was essential. The CRA performs the essential technical analysis of the performance of these systems and undertakes the investigation of system failures and other technical malfunctions. This was necessary to trace the cause of problems whether in the aircraft or ground systems, and to initiate remedial action by the responsible parties. In this regard, the tasks performed by a CRA were highly specialized and required

test equipment and simulation capability that was not readily available. Also, it was important that expertise was continuously available to support the FIT-BOB programme, without which the data link implementation for ATC services could not go ahead. Accordingly, it was agreed that the funding of the CRA would require a special meeting with appropriate expertise to advise on funding arrangements.

SCM – CRA funding

2.3.13 A SMC on CRA funding was held at the Regional Office on 8-10 December 2003 with the support of the Regional Office Air Transport Section. The establishment and operation of a CRA for the Bay of Bengal area exemplified a CNS/ATM systems element that required international cooperation to ensure provision of a multinational service. The meeting considered various models available for States to cooperate with each other to provide shared, multinational infrastructure and services. The meeting having reviewed the funding options, agreed that the model that best met the needs of obtaining funds for the CRA was based on the Joint Financing arrangements. In this regard, the meeting developed a modified version of the traditional model which provided for IATA to collect a levy on the airspace users, and to include provision for contributions to be made from other sources.

2.3.14 The meeting recognized that the cost of operating the CRA was related to the number of States participating in the operational trial and the complexity of the airspace and the ADS/CPDLC systems. In this regard, FIT-BOB would need to undertake a detailed review of the participating States and the extent of their commitment to implement ADS/CPDLC services.

2.3.15 The meeting made recommendations to FIT-BOB on how to set up the funding arrangements including a request to IATA to collect funds for the CRA from airlines and other stakeholders as advised by FIT-BOB, and to establish an arrangement for the provision of CRA services with a service provider subject to available funds for a trial period of one year.

BBACG/14

2.3.16 BBACG/14, which was held in conjunction with FIT-BOB/3 at the Regional Office on 2-6 February 2004, recognized that the Bay of Bengal ATM system lacked a cohesive plan and enhanced technology to allow for a system wide ATFM Plan to be implemented. At the present stage of development, fine tuning procedures and making better use of existing ATM tools were still considered to be the best options.

2.3.17 The meeting reviewed the No-PDC arrangements and agreed that a dynamic and flexible approach to ATM was desirable but this was difficult to achieve in practice in the present ATM environment. States agreed to continue their coordination effort to achieve a more flexible assignment of flight levels.

2.3.18 In regard to using a fixed Mach number (M0.84) on L759, which had been introduced to overcome the problem of optimizing the traffic flow with a faster aircraft following when applying 10 minute longitudinal separation, it was recognized that some aircraft types such as the B777 and Airbus 330/340 have a maximum indicated airspeed (IAS) limit of 330 kts (M0.83) at FL280. These aircraft had difficulty conforming to the restriction, and this matter would be considered further at a later meeting.

2.3.19 The meeting noted that planning and implementation of other elements of the "Asia/Pacific Regional Plan for the New CNS/ATM Systems" such as ATN, AIDC, automated AIS systems, GNSS and ADS-B were progressing slowly. States were urged to give appropriate priority to progressing their implementation planning, in particular in the area of data link communications and ATM automated systems.

South-East Asia ATS Coordination Group (SEACG)

2.3.20 The SEACG/11 meeting was held at the Regional Office on 24-28 May 2004. It was recalled that this meeting scheduled in March 2003 was postponed due to the outbreak of the SARS that affected the Asia Region in early 2003.

2.3.21 The meeting reviewed the mechanisms in place to report and follow-up on deficiencies including the Asia/Pacific region Supplement to the ICAO Universal Methodology for the Identification, Assessment and Reporting of Air Navigation Deficiencies developed by the Deficiency Review Task Force to assist APANPIRG and States better manage the elimination of deficiencies.

2.3.22 Cambodia informed the meeting that they were holding discussions with Thailand to resume the air traffic services on 8 July 2004 for the Bangkok AOR operated by AEROTHAI on behalf of the State Secretariat of Civil Aviation of Cambodia (SSCA). IATA requested consideration be given to simplifying coordination for weather deviations that entered the Bangkok FIR from the Ho Chi Minh FIR and crossed a narrow portion of the southern part of the Phnom Penh FIR. Cambodia agreed with Thailand and Viet Nam that responsibility for such operations would be delegated to the Ho Chi Minh ACC, and the LOAs would be revised accordingly.

2.3.23 The meeting agreed to update the safety assessment for implementation on 1 November 2001 of RNP 10 and 60 NM lateral separation on the South China Sea routes. This had been carried out by Airservices Australia using traffic data based on the previous route structure. It was noted that RASMAG/1 had identified a need for a safety monitoring group to be responsible for safety assessment activities including the separation minima being used with RNP 10, and later when ADS and CPDLC were introduced to apply separation. This matter would be considered by APANPIRG/15, and there would be a need to designate a safety organization for the SCS area.

2.3.24 At the request of IATA, consideration had been given to introducing 50 NM lateral separation on the SCS routes as this could be supported under RNP 10, and the updated safety assessment should take this into account. The meeting agreed to progress this matter.

2.3.25 The meeting supported the need to harmonize the RVSM FLOS between the SCS area using the modified single alternate FLOS and adjacent airspace using the single alternate FLOS. In view of the matter being the responsibility of RVSM/TF/22, SEACG would review the outcome of that meeting on operations on the SCS routes.

2.3.26 In regard to implementation of lateral offset procedures, the meeting endorsed the safety benefit of introducing global 2 NM lateral offset procedures tot eh right of centre line, and agreed that as soon as ICAO published the revised guidelines, States should adopt them.

2.3.27 At the request of IATA, the meeting agreed to improve the routing between Hong Kong and Jakarta and developed the operational requirements. Further development of the implementation arrangements would be undertaken by a special coordination meeting to be arranged by the Regional Office (paragraph 2.1.42 to the Report on Agenda Item 2.1 refers).

2.3.28 The meeting agreed to an IATA request to review the No-PDC arrangements in light of advances in ATM automation and other means available to determine flight level allocation. It was recognized that improvements could be made to the No-PDC practices used by ATC for the ATS routes in the area, and this would be included on the future agenda of this meeting.

2.3.29 The meeting recognized that there was no common lower vertical limit on the RNP 10 routes over the SCS, and there were wide variations in the levels used. This made it difficult for non-RNP operators to transit the SCS airspace whilst remaining clear of the RNP 10 route structure. In this regard, the meeting agreed that RNAV routes (non-RNP 10) should be established under the existing RNP 10 routes. The upper limit should be set at FL285 wherever possible to allow RNAV aircraft to flight plan at FL280. Hong Kong, China agreed to prepare a draft AIP supplement for use by States.

2.3.30 Singapore updated the meeting on the results of the ATS providers monitoring of navigation performance on the SCS routes. The CAA of Singapore, which was the Monitoring Authority for the SCS routes, had collected and analysed the reports from States concerned on gross navigational errors (GNEs), and was pleased to report that there were nil errors for the 12-month report period.

FIT-SEA/1

2.3.31 The FIT-SEA/1 meeting recalled that the Asia/Pacific ANP FASID included requirements for States to implement ADS/CPDLC systems. Also, APANPIRG's List of Key Priorities for CNS Implementation in the Asia/Pacific region included Key Priority 6: *The implementation of ADS in oceanic or remote areas in accordance with the Regional CNS/ATM Plan is required for the enhancement of safety and ATM*. Further, the meeting noted that ISPACG and IPACG had been operating FANS Interoperability Teams for a considerable time in support of data link services in the Pacific Region. Also, BBACG had established the FIT-BOB based on the Pacific model. In light of the foregoing, the meeting agreed to establish the FIT-SEA adopting a similar mechanism for the South-East Asia area. The meeting agreed to implement ADS and CPDLC services for the provision of ATS services in the South-East Asia area.

2.3.32 The meeting agreed to establish an implementation plan, identify the airspace where data link services would be implemented and to establish an operational trial. The operational trial for the SCS routes would be carried out by the Philippines, Singapore and Viet Nam. Indonesia would also participate in the trial to provide ADS and CPDLC services in the eastern part of the Jakarta FIR (they were also participating in the Bay of Bengal trial).

2.3.33 In considering an implementation timeframe, based on the information provided by States, Viet Nam would not be in position to start the trial until 2006 and the Philippines expected to have data link systems operational in 2007. In the case of Singapore, they had been operating ADS and CPDLC since 1997 in the non-radar airspace of the Singapore FIR.

2.3.34 The meeting agreed that it would be necessary to set up a CRA in a similar manner to the FIT-BOB CRA. The Japan CRA, who provided CRA services for the Tokyo FIR since 2001, offered to provide CRA support for FIT-SEA. Noting the arrangements being made by FIT-BOB with Boeing, Japan CRA would coordinate with Boeing on the provision of CRA services for the South - East Asia area.

2.3.35 The FIT-SEA noted the work of the ADS-B Task force and the implementation of ADS-B by Australia and Indonesia. It also considered developments on implementing AIDC, noting that AIDC requirements have not yet been established for inclusion in the ASIA/PAC FASID. In this regard AIDC operational trials would need to be carried out and some States were conducting such trials, e.g. Hong Kong/Guangzhou, Hong Kong/Bangkok and Japan/United States.

China, Mongolia, Russian Federation IATA (CMRI)

2.3.36 The meeting noted that the CMRI had not held a meeting in 2004. In this regard, the last CMRI/4 meeting was held in Shenzhen, China in March 2003. At that meeting, it was agreed that the next meeting would be dependent on progress of work to be accomplished to further improve the Cross Polar Routes.

2.3.37 IATA advised the meeting that, significant progress had been made at CMRI/4 to improve the Polar routes operation. However, there were a number of important matters on which users would like to see further improvement, particularly in respect to flexible flight planning and use of border crossings, as well as other improvements to air navigation services.

2.3.38 In considering a need for another meeting, IATA drew attention to the new longer range aircraft, which opened up new city pairs and could take advantage of cross-polar, trans-polar and supporting tracks. The world economic situation had also placed an increased demand for air travel to China, and the 2008 Olympics in Beijing would likely see traffic double over that of 2003. It was recognized that China had made substantial investment in its air navigation system infrastructure and ATM systems that greatly enhanced operational capability. The present increasing fuel prices had also led to airlines facing severe economic penalties. In the view of IATA, it was timely to convene the CMRI/5 meeting to consider areas where further improvements to the operation of the Polar routes could be achieved.

2.3.39 The meeting noted information provided by IATA on studies carried out regarding cost savings and environmental benefits that could be achieved by introducing more flexible flight planning that enabled operators to choose optimum routing.

2.3.40 IATA requested that the CMRI/5 meeting consider further improvements to the operation of the Polar routes taking into account the following issues:

a) flight planning requirements
b) border-crossings in China
c) available hours of operation on routes in Russia
d) ATS, in particular English speaking in Russian ATC
e) flow control from North America
f) alternate aerodromes
g) air temperature during winter operations
h) available weather at alternate aerodromes
i) solar radiation in the polar region
j) ETOPS requirements
k) CNS/ATM services

2.3.41 The meeting noted IATA's concerns regarding the Polar routes operation and also recognized the significant progress made, and commended all parties concerned. The Secretariat brought to the attention of the meeting that the establishment and operation of the Polar routes was a high priority for ICAO. It was also the subject of an ICAO Assembly resolution and was fully supported by the Council of ICAO and the Regional Office.

2.3.42 China advised the meeting that they supported convening the CMRI/5 meeting. However, there were still operational issues to be resolved before further significant improvements could be made as requested by IATA. Therefore, it would not be productive to hold a meeting until a positive outcome could be assured. They would give appropriate priority to pursuing the issues, and would inform the Regional Office as soon as the CMRI/5 meeting could be held.

State ATS Coordination Groups

Eighteenth meeting of the Informal South Pacific ATS Coordinating Group (ISPACG/18)

2.3.43 The meeting noted the main activities and outcomes of the ISPACG/18 meeting held at Fiji on 23-27 February 2004 as follows:

a) agreement was completed for Auckland to provide ATM contingency services in the Tahiti FIR, while Brisbane was expected to finalise contingency arrangements with Papua New Guinea by 30 April 2004;

b) a working group was established to implement 30 NM lateral and 30 NM longitudinal (30/30) separation. The first implementation would be over the Tasman Sea, with a target date of 25 November 2004. The meeting agreed that assistance from ICAO was not yet required, as the resources for implementation exist within ISPACG;

c) a working group was established to assist in the development of geographically seamless data communications to develop a gateway function which allows ATS providers to communicate with data link equipped aircraft;

d) Action Item 16-12 regarding REPORT REACHING was closed with an INFORMAL RESPONSE received from ICAO;

e) generic RNP airspace was implemented in Australian administered airspace on 17 April 2003;

f) user preferred routes (UPRs) have been established between defined city pairs;

g) Dynamic Airborne Re-route Program (DARP) procedures are now being progressed and reported by the FIT;

h) the FIT approved domestic CPDLC Requests for Change (RFC) to the FOM; and

i) Fiji agreed to implement ATS inter-facility data communications (AIDC).

2.3.44 The ISPACG/19 meeting would be hosted by Airservices Australia in Brisbane, Australia from 28 February to 3 March 2005.

Twenty-first meeting of the Informal Pacific ATS Coordinating Group (IPACG/21)

2.3.45 The meeting noted that the following IPACG meetings had been conducted since the ATS/AIS/SAR/SG/13 in June 2003.

a) IPACG/19 (Providers Only), Tokyo, Japan, 14-17 July 2003;

b) IPACG/20 (ISPACG representatives invited), Honolulu, USA, 6-10 October 2003; and

c) IPACG/21, Tokyo, Japan, 7-11 June 2004.

Major outcomes of IPACG/21

2.3.46 The meeting noted the following matters arising from IPACG/21:

a) inconsistencies between North Atlantic, North Pacific and South Pacific turnback procedures. Efforts should be made to harmonize the different procedures;

b) pending 90-day trial to validate use of non-standard altitude for direction of flight on G344 and R591 when these routes were designated as part of the Pacific Organized Track System (PACOTS;

c) JCAB and FAA agreed on the removal of city-pair restrictions on PACOTS tracks, and removal of time restrictions on PACOTS Track A effective in July 2004;

d) position report deficiencies that occur in the Oakland FIR continue to be a problem. The number of overdue reports had declined only slightly since 2003. Tokyo ACC and Oakland ARTCC would continue to investigate overdue reports;

e) Anchorage ARTCC reported their intent to begin testing of ADS-C in 2004; and

f) JCAB presented a proposed amendment to the ICAO Regional Supplementary Procedures regarding contingency procedures in the event of a loss of data link communication.

Thirteenth meeting of the Russian/American Coordinating Group for Air Traffic Control (RACGAT/13)

2.3.47 The meeting was updated on national and regional activities of the RACGAT/13 meeting held in Vladivostok, Russia on 20-23 October 2003. During the past 10 years, the work of RACGAT had developed to include three main areas of focus addressed by independent Sub-groups:

a) ATS devoted to resolution of near-term procedural issues and to the development of optimized route structures across the region;

b) ATC Modernization Committee devoted to implementation of infrastructure necessary to support the objectives of the ATS Sub-group, and

c) ATFM Sub-group focused on the development of strategic planning initiatives to improve the efficiency of traffic flows.

2.3.48 RACGAT/13 continued the development of a RACGAT Route Catalogue. This document was designed as a planning aid for ATS providers in the RACGAT service area. In light of the difficulty of forecasting route demand in today's economic environment, the meeting recognized the importance of solid planning data in prioritizing investment decisions within the region. The first version of the route catalogue was published in April 2004.

2.3.49 RACGAT did not meet in the Mini-RACGAT format in the spring 2004 timeframe. Both the State Civil Aviation Authority of Russia and the United States FAA were undertaking significant realignment of their ATS organizations.

Matters arising from the review of the ATS Coordinating Groups

2.3.50 IATA informed the meeting of the high value that its members placed on the bi-lateral RACGAT and the ICAO CMRI meetings for resolving both long-standing and newly emerging issues affecting the safety, regularity and efficiency of operations on the Cross-Polar and Russian Far East Routes (RFE). In this regard, IATA was of the opinion that, because ICAO had not attended recent RACGAT meetings and the lack of a CMRI meeting since early 2003, this had resulted in a lack of coordinated development and harmonization of the Cross-Polar and RFE route systems. With an increasing number of operations in the areas concerned, and considering the current economic pressures, IATA requested ICAO to give serious consideration to the possibilities of attending future RACGAT meetings.

2.3.51 It was also brought to the attention of the meeting that ICAO had not attended meetings of ISPACG and IPACG in the past two years. The importance of ICAO attending these meetings was emphasized as they were the main forums where operational ATS matters concerning the international airspace in the Pacific Region were dealt with, and ICAO's attendance was an essential component which facilitated the successful outcome of the meetings.

2.3.52 The meeting was advised by the Secretariat, that it was regretted that for the past two years, the Regional Office had to restrict attendance at meetings outside Bangkok due to budget and staffing constraints. However, the Regional Office recognized the importance of these meetings for the safe and efficient operation of international airspace and to enhance air traffic operations. The problem was purely a budgetary one. However, there were indications that this situation was unlikely to improve in 2005. The situation should become clear after the 35th Session of the Assembly of ICAO to be held in September/October 2004 which would approve ICAO's budget for the triennium 2005 to 2007.

Oakland ARTCC – Concept for application of 50/50 NM and 30/30 NM separation minima in mixed RNP environment

2.3.53 The meeting noted information on the introduction of the Ocean21 ATC System in the Oakland ARTCC, and its ability to provide the FAA with a robust automation platform to support reduced separation standards based on RNP equipage. This system would provide a capability to accommodate non-RNP approved aircraft to operate in RNP 4 and RNP 10 airspace in the Oakland Oceanic FIR. The system having a full AIDC capability, would also support greater flexibility where different separation minima were being used in adjacent airspace,. This would facilitate seamless transfer of aircraft between participating ATS providers.

User Preferred Routings (UPRs)

2.3.54 The meeting noted that user preferred route trials between Sydney and Los Angeles were conducted on a limited basis during mid-2000. The trials revealed training and workload issues and the need for accurate databases. However, the most notable limiting factors experienced were the lack of full AIDC capabilities between all necessary facilities, and controller workload involved in analyzing a new route and re-clearing the aircraft. The Ocean 21 system provided controllers with the tools to manage a more efficient use of the airspace.

Implementation of 30 NM lateral and 30 NM longitudinal separation in the South Pacific

2.3.55 The meeting noted that New Zealand and Australia were planning to implement 30 NM lateral and 30 NM longitudinal separation in the Auckland Oceanic and Brisbane FIRs, with a target date for implementation of 25 November 2004. The implementation planning was being carried out under ISPACG.

2.3.56 The Secretariat drew attention to ICAO requirements for safety assessments when implementing the 30/30 NM separation. In this regard, the ICAO collision risk model contained in the *Manual on Airspace Planning Methodology for the Determination of Separation Minima* (Doc 9689) for application of lateral and longitudinal separation was performed for specific operational environments with specific characteristics and assumptions. Implementation of 30/30 NM separation in any other environment would require validation of the safety assessment model.

2.3.57 The meeting noted ICAO requirements in regard to performing safety assessments, and advised that ISPACG should review their actions in regard to safety assessment requirements for the airspace where the 30/30 NM separation would be implemented.

Report of the IFATCA 7th North East Asia Traffic Management Meeting (NEAT/7)

2.3.58 IFATCA provided information on the NEAT/7 meeting held in Taipei, China on 29 August 2003. The NEAT meetings were organised by IFATCA to address issues specific to the North-East Asia airspace.

2.3.59 Issues relating to the longitudinal spacing applied to traffic departing Hong Kong and Taipei routing via Tokyo for North American destinations were discussed during NEAT/7 with representatives from Hong Kong, China, Taipei, China and Naha, Japan. The outcome of the NEAT/7 discussions was a reduction in the longitudinal separation minima for aircraft departing Hong Kong and the revision of the Hong Kong, China/Taipei, China LOA to standardize the separation minima on this route. IATA conveyed its appreciation of the work and outcomes achieved by IFATCA and the NEAT meeting process.

2.3.60 The next NEAT meeting planned for September 2004 would include issues associated with the implementation of RVSM in the North-East Asia area, co-ordination at the boundary of South China Sea RVSM airspace due to differences in the respective FLOSs, and the transfer of radar control and the disparity of en-route radar separation.

AGENDA ITEM 2.4: OTHER AIR NAVIGATION MATTERS

Agenda Item 2.4 Other Air Navigation Matters

Statement of Basic Operational Requirements and Planning Criteria (BORPC)

2.4.1 The meeting recalled that work of a Regional Air Navigation (RAN) Meeting is to be based on the updated Statement of Basic Operational Requirements and Planning Criteria (BORPC). Accordingly, the Commission had last approved the Statement of BORPC on 17 June 1999 for use, inter alia, at the third Caribbean/South American Regional Air Navigation (CAR/SAM/3) Meeting held in Buenos Aires, Argentina, in October 1999. The updated Statement was then circulated to States and international organizations in September 1999 (State letter A 16/8.4–99/93 dated 3 September 1999 refers).

2.4.2 As a result of the Planning and Implementation Regional Groups (PIRGs) carrying out most of the planning tasks in recent times, the meeting observed that RAN meetings are not frequently convened and in fact, since 1999, no RAN meeting has been convened; moreover, none are scheduled for the near future. It should be noted, however, that a number of advancements in many of the fields of air navigation systems have taken place since the last update of Statement in 1999. Consequently, the meeting was informed that, on the advice of the Commission, the secretariat using the 1999 Statement of BORPC as the basis, developed proposals for the update and sent to States (State letter A 16/8.4-04/84 dated 13 August 2004 refers). The meeting in reviewing this updated Statement noted the proposals and agreed that detailed comments will be provided by the States and International organizations through the established procedure.

2.4.3 Whereas the Statement of BORPC is considered a vision statement and should apply equally to every region, the meeting noted that it has until now been applicable to all the regions except for the European Region. However, the meeting was apprized that the Commission recognizing that a common Statement would be another tool for ensuring interregional harmonization and, eventually, a global ATM system agreed to henceforth extend its application to all regions.

2.4.4 The meeting noted that a final draft revised Statement of BORPC, updated in light of the comments to be received in response to State letter A 16/8.4-04/84 dated 13 August 2004 will be submitted to the Commission for approval in its 167th Session (October-December 2004).

Expansion and continuation of the ICAO USOAP

2.4.5 The meeting was provided with a report on continuation and expansion of the ICAO Universal Safety Oversight Audit Programme (USOAP) through the concept of a comprehensive systems approach. The meeting was reminded that ICAO Universal Safety Oversight Audit Programme (USOAP) was established in 1999, pursuant to Assembly Resolution A32-11, with the objective of promoting global aviation safety through the conduct of regular and mandatory safety oversight audits of all Contracting States.

2.4.6 Safety oversight audits performed thus far have been planned and conducted on an Annex-by-Annex basis, starting with Annex 1 — *Personnel licensing*, Annex 6 — *Operation of aircraft* and Annex 8 —*Airworthiness* and with a view to progressively introducing other Annexes. While this approach served its purpose and proved effective for the establishment of the Programme and the initial audits, it has become clear that continuing along the same lines to assess the capabilities of Contracting States for safety oversight and the implementation of safety-related provisions would be both lengthy and expensive. On the basis of the experience gained so far, it is time for USOAP to evolve from an Annex-by-Annex to a comprehensive systems approach, which would focus on the States' overall safety oversight capabilities. The comprehensive systems approach would cover all safety-related Annexes and

would provide an improved and cost-effective approach to auditing. This proposal for further expansion of USOAP to include safety-related provisions in all safety-related Annexes effective 2005 would be presented to the 35th Session of the Assembly (Montreal, 28 September – 8 October 2004). With the foreseen expansion of USOAP to cover sixteen of the eighteen Annexes to the *Convention on International Civil Aviation* (Doc 7300), it is inevitable that the workload placed on ICAO and on States will increase significantly.

2.4.7 Under the comprehensive systems approach, it is envisaged that, in many States, ICAO will have to deal with several entities responsible for safety oversight tasks, in addition to the Civil Aviation Authority. To facilitate the task, and in order to ensure proper communications and coordination with Contracting States during all phases of the audit process, the States have been requested to appoint a National Safety Oversight Coordinator.

2.4.8 Because of the invaluable support that an appropriately informed National Safety Oversight Coordinator would be to the management of an effective State's safety oversight system, ICAO intends to conduct a one-and-a half-day seminar/workshop for national safety oversight coordinators on 26 and 27 September 2004, prior to the opening of the 35th Session of the Assembly. The seminar would enable all participants to gain valuable knowledge and understanding on the process and implementation of the comprehensive systems approach-based safety oversight audits. Noting the above, the meeting agreed that States should include the National Safety Oversight Coordinator in their respective delegation to the 35th Assembly.

Unified strategy to resolve safety-related deficiencies

2.4.9 Results from the ICAO safety oversight audits and the audit follow-up missions have shown that many States have not made much progress in resolving the deficiencies identified during the initial audits. This problem is not restricted to any particular region or level of development. Therefore, to address this issue, the Council of ICAO developed an all-encompassing strategy to assist States to remedy their oversight deficiencies.

2.4.10 This unified strategy, which is being proposed to the 35th Session of the ICAO Assembly later this year provides for the identification of problems, the analysis of root causes, and the tailoring of solutions and implementation methods at a regional, sub-regional or State level. Increased transparency, assistance and cooperation are the basic principles of the strategy. Consequent to approval by the Assembly, States will be invited through the Regional Office to contribute and participate in the implementation of the unified strategy.

ANC consultation with Industry

2.4.11 The meeting was also informed of the ANC consultation with the Industry that took place in Montreal on 18-19 May 2004. Specific attention was drawn to the Conclusion 3 of this consultative meeting, which invites the Industry to participate in the work of ICAO regional bodies including PIRG meetings to ensure that benefits are achieved from early implementation of systems, facilities and services.

Asia/Pacific Traffic Forecasting Group

2.4.12 The meeting was advised that the Asia/Pacific Area Traffic Forecasting Group (APA TFG) held its Twelfth Meeting in Bangkok from 23 to 30 July 2004. The key findings of the Group were presented, noting that trans-Pacific aircraft movements are expected to grow by 5.0% per annum to the year 2020, while intra-ASIA/PAC aircraft movements are predicted to grow by 4.6% per annum over this

same period. The meeting was reminded that the APA TFG, at its Eleventh Meeting, revised its long-term forecasts of Trans-Pacific aircraft movements downwards by approximately 20% as a result of the events of 11 September 2001. It was noted that the combined effect of SARS and other factors appear to be exerting an additional negative impact on the long-term trend for Trans-Pacific traffic.

2.4.13 The attention of the meeting was also drawn to the Group's forecasts of passenger movements between the top 41 city-pairs of Intra-ASIA/PAC and Trans-Pacific for the year 2007. The value of this information was noted, particularly for those routes where explosive growth in traffic is occurring or is anticipated. In response to the discussions, the meeting was informed that it would be possible to extend the analyses of city-pair traffic levels depending upon the priorities and the available resources.

2.4.14 It was pointed out that the APA TFG requires the full support of States through the provision of suitable experts to participate in the development of forecasts and regularly attend TFG meetings. The meeting's attention was drawn to the advice given by a State that it no longer is able to participate in the work of the Group. The meeting recognized the valuable contribution of those States providing data and other information for the development of the forecast and urged States to continue providing this support.

2.4.15 The meeting noted the revised forecasts and the strong need for States to continue to support the Group through closer participation.

ICAO requirements for the operation of New Larger Aircraft (NLA)

2.4.16 The meeting was apprised on the work of ICAO in formulating Standards and Recommended Practices (SARPs) for NLA.

2.4.17 Commencing in 1995, the Airport Design Study Group (ADSG) was requested to assist ICAO in developing the relevant specifications. Further works of the ADSG in 1996 and 1997 culminated in a proposed amendment to Annex 14 Vol.1 introducing a new aerodrome reference Code F to cover aeroplanes with wing spans from 65m up to but not including 80m and outer main gear wheel span from 14m to 16m. The relevant provisions of Amendment 3 containing the requirements for the design and operation of NLA adopted by the Council in March 1999 were provided to the meeting.

2.4.18 In order to assist States with information on the issues concerning facilities and services, air traffic management and flight operations which should be considered for accommodating the NLA operations at existing airports, the meeting was advised that an ICAO Circular had been developed. The Circular provided guidance on the development of suitable operational procedures, alternative measures and operating restrictions at existing aerodromes which do not meet the relevant Annex 14 Vol I Code F provisions so that safety will not be compromised at those aerodromes when used by a specific NLA.

2.4.19 The meeting was advised on the work done by several States in preparing for the operations of the Airbus A380 such as the United Kingdom CAA, United States FAA and the European Civil Aviation Commission (ECAC).

2.4.20 Considering the comments from Australia, Hong Kong, China; India, Philippines and Singapore, the meeting formulated the following decision:

Decision 15/45 – Seminar on the operation of the New Larger Aircraft

That, a seminar be convened in 2005 to share the experiences by States in preparing for the operation of the Airbus A380 scheduled for commercial operation in 2006.

Language proficiency

2.4.21 The meeting was informed of ICAO provisions on language proficiency in Annex 1 – *Personnel Licensing*, Annex 6 – *Operation of Aircraft*, Annex 10 – *Aeronautical Telecommunications* and Annex 11 – *Air Traffic Services* adopted in March 2003. The language proficiency requirements clarified and extended existing provisions.

2.4.22 The increasing concern over the number of airline accidents in which investigators determined that language problems had played a contributory role resulted in new ICAO requirements for controllers and pilots involved in international operations to demonstrate a minimum level of English language proficiency. The ICAO language requirements focus on the assessment of communicative proficiency, that is, an individual's speaking and listening skills. In addition, the proficiency requirements apply to native or non-native speakers alike, in order to identify other issues (e.g. any speech impediment) that would affect an individual's capacity to operate safely.

2.4.23 Amendment 164 includes an Attachment specifying the criteria for the requirements and assessment of language proficiency. This rating scale describes 6 levels of proficiency and will be used to guide the assessment of an individual's language ability. The extract from the Attachment relating to the Level 4 criteria required for pilot and controller proficiency is reproduced in **Appendix A** to the Report on Agenda Item 2.4.

2.4.24 The meeting was informed of ICAO's worldwide educational and awareness campaign to introduce ICAO language proficiency requirements and to provide practical information to facilitate implementation of SARPs that take effect in 2008. Two events were planned for this year at ICAO Headquarters, Montreal and at Tokyo as described below.

ICAO Headquarters, Montreal symposium

2.4.25 A three-day symposium on the new ICAO language proficiency requirements will take place at ICAO Headquarters, Montreal, from 1 to 3 September 2004. Participants will receive practical advice on how to comply with the ICAO Standards and Recommended Practices concerning language proficiency

Asia/Pacific regional seminar - Tokyo

2.4.26 The first language proficiency regional seminar for the Asia/Pacific region will be held in Tokyo, Japan from 8 - 10 December 2004, hosted by the Japanese Civil Aviation Bureau. Details on this seminar will be provided in due course by the ICAO Asia/Pacific Regional Office.

2.4.27 The meeting urged States to take full advantage of these events as they would be of considerable benefit to assist States to understand and apply the language proficiency requirements.

Manual on the Implementation of the ICAO Language Proficiency Requirements

2.4.28 A manual addressing the various training and evaluation issues related to the implementation of ICAO language proficiency Standards is in preparation. The *Manual on the Implementation of the ICAO Language Proficiency Requirements* (Doc 9835-AN/453) is expected to be published at the end of the third quarter of 2004.

Cooperation between Fiji and Tonga to establish a single provider of Air Traffic Services below FL245 in the Pacific Region.

2.4.29 The meeting was advised by Tonga that Aviation Ministers of Pacific Island States have long recognized the need to unite and adopt a regional approach if the resource limited individual Island States involved in international air navigation were to meet and comply with the ICAO SARPs contained in the eighteen Annexes to the Convention on International Civil Aviation. This recognition led to the establishment of the Pacific Upper Airspace Management (PUAM) concept which, in essence, was intended to consolidate the airspace in the region and establish a regional entity to provide air traffic services in the consolidated upper airspace.

2.4.30 Although the PUAM concept was widely supported, there were divisions amongst participating States regarding the implementation methodologies and the target time frames. Consequently, Samoa and Tonga, in cooperation with New Zealand, proceeded with a partial application of the PUAM concept, initiating an amendment proposal to the Asia/Pacific region Air Navigation Plan which was aimed primarily at achieving a homogenous traffic flow in the upper airspace on the main trunk route connecting New Zealand and the west coast of the United States.

2.4.31 In a similar initiative relating to the lower airspace, Fiji and Tonga jointly updated the meeting regarding their intention to pool resources and establish a single regional ATS provider with responsibility within their combined territories for airspace at FL245 and below. Although still in the planning stage, it was anticipated that this initiative would result in improvements in the provision of air traffic services, communications and navigation aids in the lower airspace, specifically in the Tonga sector of the Auckland FIR. This would assist to meet the forecasted increase in medium turbo-prop traffic operating regionally between Pacific Island States at FL245 and below. Additional States in the regionhave indicated their support for the single provider concept, and it was anticipated that some of these States may become further involved in due course.

2.4.32 The proposal was not expected to affect the provision of ATS in the upper airspace over Fiji and Tonga**.**

2.4.33 With respect to regulatory and safety oversight responsibilities, Fiji and Tonga were among the eight founding members, including Australia, of the Pacific Aviation Safety Office (PASO) which had been established in Port Vila, Vanuatu, and would become operational in the near term.

2.4.34 The meeting noted with appreciation the developments being progressed by Fiji and Tonga within the framework of cooperative airspace arrangements promoted by ICAO. The meeting commended the spirit of collaborative decision making exhibited by Tonga and Fiji in their regional coordination process.

LANGUAGE PROFICIENCY

ICAO RATING SCALE FOR OPERATIONAL LEVEL 4

Pronunciation: (Assumes a dialect and/or accent intelligible to the aeronautical community)

Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation but only sometimes interfere with ease of understanding.

Structure: (Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task)

Basic grammatical structures and sentence patterns are used creatively and are usually well controlled. Errors may occur, particularly in unusual or unexpected circumstances, but rarely interfere with meaning.

Vocabulary:

Vocabulary range and accuracy are usually sufficient to communicate effectively on common, concrete, and work-related topics. Can often paraphrase successfully when lacking vocabulary in unusual or unexpected circumstances.

Fluency:

Produces stretches of language at an appropriate tempo. There may be occasional loss of fluency on transition from rehearsed or formulaic speech to spontaneous interaction, but this does not prevent effective communication. Can make limited use of discourse markers or connectors. Fillers are not distracting.

Comprehension:

Comprehension is mostly accurate on common, concrete, and work related-topics when the accent or variety used is sufficiently intelligible for an international community of users. When the speaker is confronted with a linguistic or situational complication or an unexpected turn of events, comprehension may be slower or require clarification strategies.

Interactions:

Responses are usually immediate, appropriate, and informative. Initiates and maintains exchanges even when dealing with an unexpected turn of events. Deals adequately with apparent misunderstandings by checking, confirming, or clarifying.

(Note: For complete information on the ICAO language proficiency rating scales, please refer to the Attachment to Annex 1.)

AGENDA ITEM 3: CNS/ATM IMPLEMENTATION AND RELATED ACTIVITIES

Agenda Item 3: CNS/ATM Implementation and Related Activities

Results of the Eleventh Air Navigation Conference (An-Conf/11) 2003 – Follow-up action to be taken by APANPIRG

3.1 The meeting was presented with a report on the outcome of, and actions taken by, the Council of ICAO on the Eleventh Air Navigation Conference held in Montreal from 22 September to 3 October 2003. The Conference, while focusing its attention on Global ATM systems, developed sixty-one recommendations enveloping a wide range of issues and called for further follow-up by ICAO, States, international organizations and Planning and Implementation Groups (PIRGs), as well as CNS/ATM partners.

3.2 The Council of ICAO on reviewing the report of AN-Conf/11 recommended the follow-up action that should be taken by States, PIRGs, and international organizations. In this regard, the meeting reviewed and agreed with the recommendations of the Council, taking into account the outcome of the report of the Future Direction Task Force (see paragraph 3.7 below).

3.3 In light of the foregoing, the meeting formulated the following Decision and Conclusions:

Decision 15/46 – Implementation of AN-Conf/11 Recommendations by APANPIRG

That, the following recommendations of AN-Conf/11 be studied by the concerned Sub-groups, action taken to implement them, and the outcome presented to APANPIRG:

Recommendations 1/1, 1/10, 1/13, 4/1, 4/2, 6/11 and 7/1: ATM/AIS/SAR/SG
Recommendations 1/1, 1/10, 1/13, 4/1, 4/2, 6/11, 7/1 and 7/3: CNS/MET/SG
Recommendations 4/8: DRTF

Conclusion 15/47 – Implementation of AN-Conf/11 Recommendations by States

That, States of the Asia/Pacific region take action to implement the following twenty-five recommendations of AN-Conf/11:

1/1, 1/2, 1/7, 1/10,1/13, 1/15, 2/2, 2/3, 2/7, 2/8, 4/1, 4/2, 4/5, 4/6, 4/8, 4/9, 5/1, 6/1, 6/2, 6/9, 6/13, 6/14, 7/1, 7/2 and 7/3

Conclusion 15/48 – Implementation of AN-Conf/11 Recommendations by international organizations

That, international organizations take action to implement the following twelve recommendations of AN-Conf/11:

1/1, 1/7, 1/10, 1/13, 4/8, 5/1, 6/1, 6/2, 6/9, 6/13, 7/2 and 7/3

Report on the global and regional developments in the modernization of air navigation systems

3.3 The meeting was presented with an overview on global and regional developments in the modernization of air navigation systems and as well as a number of updates on various issues. The

meeting among other things noted the following:

a) a summary of work of ICAO`s Planning PIRGs;

b) development status of Standards and Recommended Practices (SARPs) and guidance material;

c) work programmes of various panels and Study Groups engaged in CNS/ATM related activities; and

d) comparative analysis of regional developments in air navigation systems.

3.4 The meeting was informed that the Commission made the following observations:

a) the general observations made in the previous annual report were still valid;

b) although good progress had been made with implementation of certain elements of CNS/ATM systems, the overall pace of implementation was understandably slower than originally expected; and

c) invited PIRGs and States to enhance their activities in the area of planning and implementation of CNS/ATM systems.

Report of the meeting of the APANPIRG Future Directions Task Force (FDTF)

3.5 APANPIRG/14, in making provision for the effective regional management by APANPIRG of the potential outcomes of AN-Conf/11, and considering the need to review the work programme of the CNS/ATM/IC/SG, established the Future Directions Task Force (FDTF) under Decision 14/47. The first meeting of the FDTF was held at the Regional Office on 17 – 19 May, 2004. The meeting was attended by 30 participants from 9 States and 3 international organizations.

3.6 In accordance with its TORs and after considering the outcomes of the AN-Conf/11, the FDTF was required to ensure that APANPIRG was fulfilling its mandate in line with the Procedural Handbook by:

a) reviewing the terms of reference and work programmes of APANPIRG’s contributory bodies;

b) reviewing the coordination, effectiveness and efficiency of the Sub-groups to achieve the APANPIRG objectives taking into account the TORs and work programme of each Sub-group; and

c) making recommendations as to the changes that may be necessary in the operation of APANPIRG’s contributory bodies.

3.7 The FDTF reviewed the outcomes of AN-Conf/11 and the actions taken by the Council of ICAO in regard to the recommendations of AN-Conf/11. The Council agreed to a number of recommendations, which called for further follow-up work by ICAO, States, international organizations and PIRGs, as well as CNS/ATM partners. The FDTF reviewed the suggested recommendations and agreed to the assignment of the AN-Conf/11 recommendations to the APANPIRG Sub-groups.

3.8 The FDTF also reviewed the TORs and work programmes of the following APANPIRG Sub-groups and contributory bodies:

a) CNS/MET Sub-group

b) ATN Transition Task Force

c) ADS B Study & Implementation Task Force

d) ATM/AIS/SAR Sub-group

e) RASMAG

f) RVSM Task Force

g) ATS Route Network Review Task Force

h) CNS/ATM/IC Sub-group

3.9 In regard to the contributory bodies, the FDTF considered that the TORs and work programmes of the contributory bodies reviewed were suitable without amendment to meet the required tasks, and that the contributory bodies were effective and efficient in undertaking the work of APANPIRG.

3.10 In regard to the Sub-groups, the FDTF noted that the role and function of the CNS/ATM/IC/SG had been the subject of considerable scrutiny and discussion since APANPIRG/10 in September 1999. The FDTF considered that the TORs of both the ATM/AIS/SAR/SG and the CNS/MET/SG were appropriate for the present work programme of the respective Sub-group. Also, it was noted that there was significant overlap of the work programmes of both these Sub-groups with the work programme of the CNS/ATM/IC/SG.

3.11 The FDTF identified that there were essentially only three areas of the TOR of the CNS/ATM/IC/SG that did not overlap with the other two Sub-groups. In regard to the first item concerning the development of a framework for regional training plans for the introduction of CNS/ATM systems, no significant work had been undertaken recently. In the context of implementation, where the introduction of new CNS/ATM systems and operating procedures require training elements, this aspect was being effectively addressed in implementation plans by the Task Forces concerned. The FDTF recognized that training issues were an important part of operational considerations and where specific training needs were identified, these would be dealt with by the implementation groups and ATS coordination groups concerned.

3.12 The FDTF considered that the second item regarding business cases, and the third item regarding environment issues were closely related to implementation, and would be included in implementation planning and considered by the relevant implementation groups. Matters of a more general nature arising from ICAO's work in these fields would be brought to the attention of the respective groups and APANPIRG by the Regional Office. The FDTF noted from the experience of the RVSM/TF, the significant part that operational training and business cases played in the implementation of RVSM, and that substantial fuel savings had led to significant environmental benefits.

3.13 Whilst acknowledging the very effective role undertaken by implementation Task Forces, Australia and the United States noted the importance of training and environmental issues, observing that neither of these items were specifically included on the TORs of either the

ATM/AIS/SAR or CNS/MET Sub-groups. The meeting noted that the TORs of each Sub-group and contributory body were regularly reviewed and that these matters would therefore be addressed as required. The Chairman noted that training was inevitable in any implementation because if the training was not done, the implementation could not proceed.

3.14 During its review of the TORs of the Sub-groups, the FDTF identified some tasks that should be incorporated into the task lists of the ATM/AIS/SAR and CNS/MET Sub-groups and formulated the following Decision:

Decision 15/49 – Assignment of new tasks to the ATM/AIS/SAR and CNS/MET Sub-groups

That, the following tasks be included in the Subject/Tasks List of the ATM/AIS/SAR and CNS/MET Sub-groups:

a) review key priorities for implementation of CNS/ATM systems for the Asia/Pacific region, identify new items as required and monitor implementation; and

b) make recommendation aimed at improving ATM and CNS support for Terminal Area and Airport Operations, respectively.

3.15 On completing its review of the TORs of the three Sub-groups, the FDTF agreed that the TORs of the CNS/ATM/IC/SG were being already covered or could be adequately covered by the other two Sub-groups and the Regional Office. Accordingly, the FDTF recommended for consideration by APANPIRG/15 that the CNS/ATM/IC/SG be dissolved. The United States, Australia and IATA supported the proposed decision, noting that care should be taken to ensure the environmental and training issues discussed above were addressed. A number of other States including Hong Kong, China and Japan also agreed to dissolve the Sub-group and the following Decision was adopted:

Decision 15/50 – Dissolution of the CNS/ATM Implementation Coordination Sub-group

That, in consideration of optimizing the effectiveness and efficiency of the contributory bodies of APANPIRG and in accordance with the provisions of the APANPIRG Procedural Handbook, the CNS/ATM/IC/SG be dissolved.

3.16 In recommending the dissolution of the CNS/ATM/IC/SG, the FDTF expressed its appreciation for the substantial contribution the CNS/ATM/IC/SG had made to the work of APANPIRG since it was established by APANPIRG/4 in 1994 to facilitate, promote and educate States and partners on the ICAO CNS/ATM system. The fact that CNS/ATM was an intrinsic part of the air navigation system in the Asia/Pacific region, was credit to all members who had served the Sub-group. The meeting concurred with the Task Force and acknowledged the excellent work the Sub Group had accomplished.

3.17 In view of the outcome of the FDTF and its recommendation to dissolve the CNS/ATM/IC/SG, APANPIRG member States were advised and consulted on whether to convene the tenth meeting of the CNS/ATM/IC/SG scheduled from 26 to 30 July, 2004. It was decided to postpone the meeting until after APANPIRG/15 had considered the recommendations of the FDTF.

3.18 At the end of the FDTF meeting, it was agreed that the work of the Task Force had been completed and no further meetings were required. Accordingly, the meeting agreed that the FDTF should be dissolved and formulated the following Decision to this effect:

Decision 15/51 – Dissolution of the Future Directions Task Force

That, the Future Directions Task Force, having completed its work programme as set out in its Terms of Reference, be dissolved.

Key Priorities

3.19 In reviewing the list of APANPIRG Key Priorities for CNS/ATM Implementation, as updated by the CNS/MET/SG/8 and ATM/AIS/SAR/SG/14 meetings, the meeting recognized that the list now contained 17 items. In this regard, the effectiveness and appropriateness of the current Key Priorities list was questioned.

3.20 The United States considered that it was important to maintain ome type of key priorities list in order to provide summary information on the activities considered particularly important to APANPIRG. The meeting agreed that any list of this nature should be highly focused, fit for the purpose intended, time bounded and succinct. Further, the list should also be reviewed and updated regularly.

3.21 Australia updated the meeting regarding the history of the key priorities list, noting that the intention of the list had been to facilitate CNS/ATM implementation programmes by highlighting matters that should be given priority for implementation. A way forward was suggested, under which the Sub-groups would compile and maintain key priority lists of matters relevant to the respective Sub-group. The lists were to be kept to a minimum number of items and contain items adopted by APANPIRG as priorities for CNS/ATM implementation that would serve to focus the Sub-groups' work programmes.

3.22 The meeting agreed to retain the current list of key priorities as updated by the Sub-groups, and adopt the mechanism whereby the Sub-groups compile and evaluate key priorities relevant to their activities and present these to APANPIRG. The current list is retained as **Appendix A** to the Report on Agenda Item 3 to facilitate the compilation of suitable Sub-group key priority lists.

3.23 In light of the foregoing, the meeting formulated the following Decision:

Decision 15/52 – Sub-group Key Priority Lists

That, in order to identify priorities for CNS/ATM implementation programmes or highlight other critical functions of the Sub-groups' work programmes, the CNS/MET and ATM/AIS/SAR Sub-groups are to compile and evaluate Key Priority lists relevant to their activities for review by APANPIRG. Lists should be highly focused, fit the purpose intended and be time bounded.

Delayed ADS-C reports in Australian airspace

3.24 The meeting was advised by Australia that in recent times, problems relating to the occasional delayed receipt of late ADS-C reports and/or CPDLC downlinks from aircraft in Australian airspace have been observed. Australia had conducted an analysis of ADS-C reports received by Brisbane and Melbourne Centres over a 6 month period in order to:

a) gain an indication of the relative frequency of these 'delayed' ADS-C reports;

b) identify any problem locations (if any) where delayed reports were more prevalent; and

c) identify whether the problem was possibly related to a specific airline or aircraft type.

3.25 The analysis had involved determining the transmission delay for each ADS-C basic report. The transmission delay was defined to be the difference between the time stamp contained in the ADS-C report, and the time of receipt of the ADS-C report by TAAATS. ADS-C reports subject to minor (between 300 and 500 seconds) and major (greater than 500 seconds) delays had been stored, to allow later trend analysis. A sample of 27968 ADS-C reports was analyzed, of which 105 were classified as minor delay and 138 as major delay.

3.26 FIT and CRA analysis determined that there was certain equipment (Satellite Data Unit) from a specific avionics manufacturer that was common to the aircraft types suffering these problems. The manufacturer had been advised of the findings, however the time frame to implement a fix was unknown.

3.27 Australia reported that it appeared that the problem was related to the transition of the aircraft from one satellite 'spot beam' to another. This problem causes the avionics to "buffer" data link downlink messages (ADS-C and CPDLC), and to transmit the contents of the buffer at a later time. It was noted that data link uplink messages appeared to be unaffected by this problem.

Surveillance implementation programme for the Tahiti FIR

3.28 The meeting was provided with information regarding the increase in surveillance capability in the Tahiti FIR, noting that IFR flights to or from Tahiti Faa'a airport during 2003 increased by 4.9 percent over 2002 figures.

3.29 Tahiti have already moved from fully procedural ATC to ADS/CPDLC based ATC for en-route oceanic traffic, utilising a Linux based VIVO system. Planned improvements include CLAM (Conformance Level Adherence Monitoring) and improvement of ADS. Safety studies had also commenced to enable the use of RNP10 based separation minima in the Tahiti FIR.

3.30 In addition, a programme for the installation of a monopulse secondary radar providing surveillance within the Faa'a airport terminal airspace was commenced in June 2004 with target date for implementation of 2007. Studies have also commenced regarding the implementation of ADS-B to provide extended automated surveillance over a large area utilized by domestic en-route traffic.

Assessment of environmental benefits of CNS/ATM Systems — Need for guidelines at the national level

3.31 This meeting noted that the Sixth Meeting of the 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 approach that ICAO is 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 systems.

3.32 The meeting was apprized that considerable effort has been made by CAEP to estimate the aviation's emissions impact and sophisticated emissions models are currently being developed to estimate the benefits which accrue from the different emissions reduction measures.The first model to address environmental benefits of CNS/ATM Systems implementation was the parametric model developed by CAEP. The results demonstrated overall fuel savings, and associated reductions of CO_2, on the order of 5 per cent annually in both the U.S. and European regions. In the meantime, the meeting was informed of the development of new modelling efforts — specifically AERO2K in Europe and SAGE (System for assessing Aviation's Global Emissions) by the United States — that had the potential to do these regional studies.

3.33 In terms of implementation of CNS/ATM systems, although the different elements could be implemented using global, regional, sub-regional or national approaches, the 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 are. Recognizing such a need, the meeting noted that ICAO has just completed developing the relevant business case guidance material that includes financial analysis and risk management by means of user friendly software. This guidance on business case analysis, while quantifying the technical, operational and economic benefits, it makes only qualitative reference to environmental benefits. Consequently, the meeting agreed on the need for the development of model and associated guidance material for estimating environmental benefits at the national level. Such a model and resultant estimated benefits would further reinforce the approach of the States for the transition to CNS/ATM systems. In this context, the meeting noted that the main focus of CAEP was at the global and regional levels and as such necessary tools were being developed to undertake this task.

3.34 The meeting recognized that the level of maturity and complexity of these global/regional tools and their proprietary nature would not allow States to use them in their business case analysis. To respond to specific needs at the national level, the meeting noted the advice of CAEP that a more practical tool would be necessary.

3.35 Consequently to develop such a tool at the national level, the meeting agreed to extend its support and assistance to CAEP through regional CNS/ATM experts. Accordingly the meeting agreed to allocate this task to ATS Route Network Review Task Force (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.

CNS/ATM Implementation Planning Matrix

3.36 The meeting noted the CNS/ATM Implementation Planning Matrix, which contained the implementation status of CNS elements such as ATN, AIDC, CPDLC, GNSS and ADS. The Matrix was expected to be reviewed by APANPIRG and its Sub-groups on a regular basis to access progress of implementation. The updated Matrix is provided in **Appendix B** to the Report on Agenda Item 3.

GAGAN Implementation in India

3.37 India provided updated information on GPS and GEO Augmented Navigation in India (GAGAN), which is being implemented jointly by the Airports Authority of India (AAI) and the Indian Space Research Organization (ISRO). In the first phase of three phases, a Technology Demonstration System (TDS) with 8 Reference Stations (INRES), a Indian Master Control Centre (INMCC) and an Uplink Station (INLUS) with necessary communication links to connect the ground elements would be established. One of the GSAT series satellites, GSAT-4 would carry a navigation payload. The L-band Transponder would have L-1 frequency and would also have the capability to broadcast on L-5 frequency as and when this was used. The TDS phase was targeted for completion by mid-2006 and the Final Operational Phase will be completed by 2008. A contract had been signed for implementation of the ground elements of GAGAN.

Status of the U.S. Wide Area Augmentation System (WAAS)

3.38 The United States provided updated information on the status of the Wide Area Augmentation System (WAAS). WAAS performance consistently demonstrates 1 metre horizontal and 1.5 metres vertical accuracy. WAAS IOC provides users with the capability to fly approaches with vertical guidance throughout the U.S. NAS. This initial WAAS capability also provides improved guidance to users in the en route and departure domains. LNAV/VNAV was an approach procedure with vertical guidance with nominal minimums of a 350' decision height, 1½-mile visibility, 556m horizontal alert limit (HAL), and 50m vertical alert limit (VAL).

3.39 The FAA's goal was to have additional GEOs (at least one) on orbit by 2006/07. Beyond this time frame, the FAA would continue to develop a GEO constellation containment strategy to ensure the required redundancy in WAAS broadcast over the U.S. National Airspace. WAAS development of full LPV capability in the United States was scheduled to be completed in 2008. At this time, the U.S. Government schedule to incorporate a second civil frequency (L5 at 1176.45 MHz) on GPS satellites to have it more solidified. When available for use, WAAS would incorporate L5 into its operation to upgrade the LPV capability to a GPS Landing System (GLS) capability. GLS was the Category I precision approach equivalent for GPS systems with aviation minimums of 200 ft. decision height and ½ mile visibility. More information on WAAS program was provided at website http://gps.faa.gov.

Asia/Pacific Regional Navigation Feasibility Study

3.40 The United States provided information on a regional navigation study performed for the APEC GNSS Implementation Team (GIT) by The MITRE Corporation and sponsored by the U.S. Trade Development Agency (US TDA). The objective of the study was to present the costs, benefits, and performance of various GNSS and augmentation systems for some economies in the Asia-Pacific region. The study should be completed in early 2005. The study was to concentrate primarily on the navigational areas and integration of navigation components in CNS/ATM technologies. It also should provide a "menu" for the economies to decide what components they really need and what costs they could realistically afford. MITRE would produce an interim report in the last quarter of 2004, which would be reviewed in a second meeting of the participating economies during November 2004.

Note:— *APANPIRG/15 discontinued this List of key priorities. The list is retained to facilitate the compilation of key priorities lists for the respective APANPIRG Sub-groups*

KEY PRIORITIES FOR CNS/ATM IMPLEMENTATION IN THE ASIA/PACIFIC REGION

NO.	KEY PRIORITIES	DESCRIPTION	MILESTONES	SUB-GROUP	STATUS
1	ATN Implementation	Implementation of Ground-to-Ground element of ATN is required.	2005	CNS/MET ATN Transition Task Force.	Implementation plan to be completed and implementation to commence in 2005
2	Incorporation of CNS/ATM Material into Regional ANP & FASID	Incorporation of CNS/ATM Material into Regional ANP & FASID	Report to APANPIRG	ATM/AIS/SAR	On-going
3	WGS-84 Implementation	To achieve uniformity in aeronautical data publication across the Region in order to ensure a standard reference system for CNS/ATM.	Immediate (Effective Date was 1 Jan 1998)	ATM/AIS/SAR	Implementation is monitored at each meeting using the uniform format for the reporting of WGS-84 implementation.

NO.	KEY PRIORITIES	DESCRIPTION	MILESTONES	SUB-GROUP	STATUS
4	RVSM Implementation	To provide more efficient flight profiles and to increase airspace capacity in conjunction with the implementation of CNS/ATM.	Bay of Bengal – 27 November 2003 Domestic airspace of Tokyo and Naha FIRs and Incheon FIR – June 2005.	ATM/AIS/SAR	Completed On-going
5	RNP Implementation En-route RNP 10 & 4 Terminal RNP 4 & 1 Approach RNP 0.3	Implement RNP based navigation, operation and procedures to improve the efficiency and flexible use of airspace.	Report to APANPIRG	ATM/AIS/SAR	On-going Phased implementation.
6	ADS-C	The implementation of ADS in oceanic or remote areas in accordance with the Regional CNS/ATM Plan is required for the enhancement of safety and ATM.	Report to APANPIRG FIT-BOB reconvened September 2003. Bay of Bengal operational trial of ADS/CPDLC commenced February 2004 FIT-SEA inaugural meeting May 2004. South China Sea operational trial of ADS/CPDLC expected 2006/2007	ATM/AIS/SAR	Phased implementation. Revised Regional CNS/ATM Guidance Material developed containing ADS section. Implementation focus and timetable need to be developed. States are gaining experience in the use of ADS.

NO.	KEY PRIORITIES	DESCRIPTION	MILESTONES	SUB-GROUP	STATUS
7	Technical Co-operation in Regional CNS/ATM Planning & Implementation	The continuation and enhancement of ICAO's co-ordinating role of technical co-operation in CNS/ATM planning and implementation, in close co-operation with all partners and taking into account the regional approach, is required.	Report to APANPIRG	All	Sub-Groups to identify requirements.
8	Preparation for WRC-2007	The co-operative participation of States is required with their respective telecommunications regulatory authorities, regional groups, at the APT forums and at the WRC regional preparatory meetings for WRC-2007 to ensure that aviation spectrum requirements are fulfilled and protected.	WRC-2007	All	States are designating contact points responsible for preparation for WRC 2007 and are providing contact details for posting on the website to facilitate coordination.
9	GNSS Implementation • ABAS • SBAS • GBAS	To implement GNSS in accordance with the Asia Pacific Regional Strategy. Develop regional GNSS augmentation requirements Ensure region wide awareness of developing GNSS systems integrate into Regional Plan.	On Going. Report to APANPIRG	All	SBAS – WAAS IOC announced on 10 July 2003 SBAS receivers – (TSO C145/6) now available GBAS – FAA LAAS contract for delivery in 2009

NO.	KEY PRIORITIES	DESCRIPTION	MILESTONES	SUB-GROUP	STATUS
10	ATS route implementation	To review and develop new requirements for ATS routes.	Report to APANPIRG APANPIRG/14 established the ATS Route Network Review Task Force (ARNR/TF). The first meeting is scheduled in September 2004.	ATM/AIS/SAR	On-going States to undertake review of current and future route requirements to submit to ARNR/TF
11	Final phase of WAFS	To implement transition to the final phase of WAFS to support the CNS/ATM system.	2005	CNS/MET WAFS Implementation Task Force	• WAFS Transition Plan and Procedures have been developed and are being successfully implemented. • Transfer of responsibility of RAFCs to WAFCs London and Washington has been implemented. • RAFCs have been closed.
12	MET Chapter 11 of the ASIA/PAC Regional Plan for New CNS/ATM System	To develop MET components of the ASIA/PAC CNS/ATM concept/strategy To develop MET Chapter of the Regional CNS/ATM Plan To identify the ATM	2003 2004 2005	CNS/MET with assistance of the ATM/AIS/SAR & METATM TF	• The first draft of MET Chapter of the Regional CNS/ATM Plan has been developed. • MET Chapter 11 of the Regional CNS/ATM Plan incorporated in issue 6 of the Plan. • METATM TF to survey the

NO.	KEY PRIORITIES	DESCRIPTION	MILESTONES	SUB-GROUP	STATUS
		requirements for new MET products supporting CNS/ATM systems and update the plan accordingly.			requirement and update the MET components of the ASIA/PAC CNS/ATM Plan.
13	Data link Communications	Implementation of CPDLC.	On -going February 2004- CPDLC operational trial in the Bay of Bengal area. 2006/2007 CPDLC operational trial expected in the South China Sea area	All	Sub–Groups to review progress of implementation.
		AIDC to be introduced where ATM automated systems are implemented.	2005	All	Implementation focus and time-table need to be developed.
14	ADS-B	Data Link Selection for ADS/B recommended by ADS-B Task Force	2003	CNS/MET	APANPIRG/14 adopted 1090 MHz ES as the data link for ADS-B in ASIA/PAC region.
		ADS-B Task Force to develop implementation plan and sub-groups foster implementation.	2005	ADS-B Task Force	On-going
		States, where appropriate, implement ADS-B Air-Ground surveillance service on a sub-regional basis.	2006	All	On-going Australia actively progressing wide implementation of ADS-B.

NO.	KEY PRIORITIES	DESCRIPTION	MILESTONES	SUB-GROUP	STATUS
15	Implementation of APV and RNP Approaches	Review applicability of APV and RNP Approach Design Standards for Asia Pacific. Develop implementation strategy.	On Going. Report to APANPIRG	ATM/AIS/SAR	APV and RNP Design standards now in PANS OPS. Aircraft certified for RNP and APV approaches.
16	Data Link Flight Information Services (DFIS) applications	To implement the following applications via request/response mode of data link in the Asia and Pacific Regions: a) Data link –automatic terminal information services (D-ATIS); b) VOLMET data link service (D-VOLMET); c) Pre-Departure Clearance (PDC) delivery via data-link;	2008	All	Trials and demonstrations are conducted and some operational services are provided by States.
17	Safety Management Systems	States to establish national safety management systems and effective application of safety programmes which are required for the provision of air traffic services.	APANPIRG/14 established the Regional Airspace Safety Monitoring Advisory Group (RASMAG). First RASMAG meeting held 26-30 April 2004	RASMAG	Annex 11 provisions effective 27 November 2003. On-going RASMAG activities

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CNS/ATM Implementation Planning Matrix								
State/ Organization	**ATN G/G Boundary Intermediate System (BIS) Router/AMHS**	**AIDC**	**CPDLC**	**GNSS**		**ADS-B**	**ADS-C**	**Remarks**
				NPA Supplemental Means (S) Primary means (P)	**En-route Supplemental Means (S) Primary means (P)**			
AUSTRALIA	ATN tests were conducted. BIS Router and Backbone BIS Router and AMHS will be implemented by 2006.	AFTN based AIDC Implemented between Brisbane and Auckland.	Implemented and integrated with ATM systems to support FANS1/A equipped aircraft.	Implemented (S) 360 -370 GPS NPA Final 26 aerodromes completed 2004.	Developed en-route as (P) for approval to use in domestic airspace.	ADS-B trial being conducted. 27 ground stations are expected operational end of 2005 for upper air space which not cover by radar.	FANS 1/A ADS-C implemented.	
BANGLADESH	BIS Router and AMHS planned for 2005							
BHUTAN	ATN BIS Router and UA service 2008			Procedures developed for NPA as (S)				
BRUNEI DARUSSALAM	ATN BIS Router and AMSH planned 2006							
CAMBODIA	BIS Router and AMHS planned for 2005							
CHINA	ATN BIS Router AND AMHS will be implemented in 2005 and 2006.	AIDC between ACCs within China are being implemented.	Implemented to support ATS Route L888 and polar routes. Trial on HF data link conducted for use in western China.		Implemented in certain airspace as (S).	ADS-B trial will be conducted in 2004	FANS 1/A ADS-C implemented to support L888 and polar routes.	

CNS/ATM Implementation Planning Matrix								
State/ Organization	**ATN G/G Boundary Intermediate System (BIS) Router/AMHS**	**AIDC**	**CPDLC**	**GNSS**		**ADS-B**	**ADS-C**	**Remarks**
				NPA Supplemental Means (S) Primary means (P)	**En-route Supplemental Means (S) Primary means (P)**			
HONG KONG, CHINA	- Tripartite BBIS trial with Beijing and Bangkok completed in Jan 2003; -64 Kbps ATN Link with Bangkok put into operational use in June 2004. -ATN trials with China and Japan conducted in 2003/04; -AMHS trials with China and Japan planned in 2004. Implementation of AMHS with Japan in 2005. - ATN/AMHS trials with Viet Nam, Philippines, Macao China planned in late 2004/2005.	Trial on the AFTN based AIDC with Guangzhou and Sanya, China commenced. Implementation planned for 2005.	FANS 1/A based CPDLC conducted. D-ATIS D-VOLMET and PDC implemented. VDL Mode-2 technical trial completed in Dec. 2002 and planning on further trials was in progress.	Pilot Programme on RNAV (GPS) departure procedures will be conducted in 2004.	Implemented in certain airspace as (S).	ADS-B trial using "ASMGCS" trial system in 2004/2005.	FANS 1/A Trials for ADS-C conducted.	
MACAO, CHINA	ATN BIS router and AMHS planned for 2nd half of 2005. Planning for trial with China and Hong Kong, China going on							ATZ within Hong Kong and Guangzhou FIRs. In ATZ full VHF coverage exist. Radar coverage for monitoring purposes.
COOK ISLANDS								
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA								

CNS/ATM Implementation Planning Matrix								
State/ Organization	**ATN G/G Boundary Intermediate System (BIS) Router/AMHS**	**AIDC**	**CPDLC**	**GNSS**		**ADS-B**	**ADS-C**	**Remarks**
				NPA Supplemental Means (S) Primary means (P)	**En-route Supplemental Means (S) Primary means (P)**			
FIJI	AMHS in-house trials planned for 2003. AMHS trials with USA in 2004. ATN BIS Router and AMHS will be implemented in 2005.	Implementation of AFTN based AIDC with Brisbane and Auckland in 2003.	FANS-1. Implemented since 1997.	NPA procedures for (S) completed in Dec. 2002.	Implemented as (S).	ADS-B trials planned for 2004. Implementation in 2005/2006.	ADS-C implemented in oceanic airspace using EUROCAT 2000 X.	
FRANCE French Polynesia Tahiti		Implementation of limited message sets with adjacent centres under discussion.	FANS-1. Implemented since 1996.				FANS 1/A ADS-C implemented since March 1999.	
INDIA	ATN BBIS router and AMHS planned for implemention at Mumbai in 2005 and 2006.		FANS-1 implemented at Kolkata and Chennai. Planned for Mumbai and Delhi.		SBAS (S). Planned for 2005.	Considering using ADS-B to reduce coverage holes and proposal for trial to be conducted at Chennai.	FANS 1/A ADS-C implemented at Kolkata and Chennai. Plan to implement in Delhi and Mumbai.	
INDONESIA	ATN BIS Router and AMHS planned for implementation in 2005 and 2006.	AFTN based AIDC planned for implementation between Brisbane and Jakarta in 2004.	FANS-1/A. CPDLC in Jakarta, Ujung Pandang FIRs planned for 2005.	Procedure to be completed in 2006 for NPA (S).		Planning ATS-B round stations at 5 locations in the eastern part of Indonesia as first stage of phase I.	FANS 1/A ADS-C trial conducted at Jakarta ACC in 2005.	

CNS/ATM Implementation Planning Matrix								
State/ Organization	**ATN G/G Boundary Intermediate System (BIS) Router/AMHS**	**AIDC**	**CPDLC**	**GNSS**		**ADS-B**	**ADS-C**	**Remarks**
				NPA Supplemental Means (S) Primary means (P)	**En-route Supplemental Means (S) Primary means (P)**			
JAPAN	ATN BBIS already implemented. AMHS implementation between Japan and USA in 2004 and between Japan and Hong Kong planned for 2005.	AIDC based. AFTN procedure implemented with Oakland USA.	FANS1/A system Implemented in Tokyo FIR.				FANS 1/A. ADS-C implemented in Tokyo FIR.	
KIRIBATI								
LAO PDR	ATN BIS Router and AMHS planned for implementation with Bangkok in 2005.		FANS-1/A Planned for Bay of Bengal and South China Sea areas. Equipment is under test operation.		Implemented as (S).		FANS-1/A. ADS-C planned for Bay of Bengal and South China Sea areas. Equipment under test operation.	
MALAYSIA	ATN BIS Router and AMHS planned for 2005.		Planned for Bay of Bengal and South China Sea areas.	NPA (S) at KLIA planned for 2003.			FANS 1/A ADS-C planned for Bay of Bengal and South China Sea areas.	
MALDIVES	BIS Router/AMHS planned for implementation in 2005.	Planned for 2006.	FANS1/A planned for 2006.		Trials planned for 2005-2008. Implementation in 2008.	Trials planned for 2004-2006. Implementation in 2006.		
MARSHALL ISLANDS				NPA (S) implemented at Majuro Atoll.				

CNS/ATM Implementation Planning Matrix								
State/ Organization	**ATN G/G Boundary Intermediate System (BIS) Router/AMHS**	**AIDC**	**CPDLC**	**GNSS**		**ADS-B**	**ADS-C**	**Remarks**
				NPA Supplemental Means (S) Primary means (P)	**En-route Supplemental Means (S) Primary means (P)**			
MICRONESIA FEDERATED STATES OF								
Chuuk				NPA(S) implemented				
Kosrae				NPA(S) implemented				
Pohnpei				NPA(S) implemented				
Yap				NPA(S) implemented				
MONGOLIA	ATN BIS Router and AMHS planned for 2005 and 2006. Trial with Bangkok conducted		Function available. Regular trials are conducted.	GPS procedures are being developed and implemented at 10 airports.	Implemented as (P).	ADS-B trial in progress implementation planned for 2006.	FANS 1/A ADS-C implemented since August 1998.	
MYANMAR	Trial for ATN BIS Router with Thailand planned for 2003. Test with China planned for 2005.		Implemented since August 1998				Implemented since August 1998	
NAURU								
NEPAL	BIS Router and AMHS planned for 2005.			Development of arrival procedure and NPA as (S) completed. Departure procedure is being developed.	Implemented as (S).			

CNS/ATM Implementation Planning Matrix								
State/ Organization	**ATN G/G Boundary Intermediate System (BIS) Router/AMHS**	**AIDC**	**CPDLC**	**GNSS**		**ADS-B**	**ADS-C**	**Remarks**
				NPA Supplemental Means (S) Primary means (P)	**En-route Supplemental Means (S) Primary means (P)**			
NEW ZEALAND	BIS Router and AMHS implementation planned for 2006.	AFTN based AIDC implemented between New Zealand, Australia and USA. Tests with Fiji planned	FANS/1A. Implemented	42 NPA implemented presently.	will be implemented as required.	Trials planned 2005. National coverage starts 2008 to be completed by 2015.	FANS 1/A Implemented.	
PAKISTAN	Implementation of ATN considered for Phase II (2005-2010).	Implemented between Karachi and Lahore ACCs	Implementation planned from 2005-2010.	Arrival and departure NPA procedure as (s) are being developed.	Planned for 2005-2010.	Planned for 2005 – 2010.	Planned for 2005-2010	RADAR coverage provided in Karachi and Lahore FIRs.
PAPUA NEW GUINEA								
PHILIPPINES	ATN BIS Router planned for 2005. Implementation for AMHS in April 2007.		D-ATIS and CPDLC Planned for 2008.				FANS 1/A ADS-C planned for 2008.	
REPUBLIC OF KOREA	ATN BIS Router/AMHS planned for 2005-2010.	AFTN based AIDC implemented between Incheon ACC and Seoul APP.	PDC & D-ATIS implemented 2003.			Planned for 2005-2010	Trial for FANS 1/A ADS-C implemented since 2003.	

CNS/ATM Implementation Planning Matrix								
State/ Organization	**ATN G/G Boundary Intermediate System (BIS) Router/AMHS**	**AIDC**	**CPDLC**	**GNSS**		**ADS-B**	**ADS-C**	**Remarks**
				NPA Supplemental Means (S) Primary means (P)	**En-route Supplemental Means (S) Primary means (P)**			
SINGAPORE	ATN BBIS Router trial with Hong Kong conducted between April and June 2003. Trial with Thailand planned for 2004. Planned for ATN and AMHS implementation in 2005		Implemented since 1997. Integrated in the ATC system in 1999. D-ATIS implemented since February 2000.	NPA (S) procedure developed. RNAV (SID/STAR) in 2005	Implemented (S).	Trial planned for 2006.	FANS 1/A ADS-C implemented since 1997. Integrated with ATC system in 1999.	
SRI LANKA	ATN BIS Router Planned for 2005. AMHS planned along with BIS in 2005.		CPDLC implemented since November 2000.	NPA (S) planned for 2005.			FANS 1 /A ADS-C implemented since November 2000.	GPS based domestic route structure being developed.
THAILAND	ATN G/G system implemented for domestic services. BBIS/BIS Routers already implemented. AMHS 2005.	ATN based AIDC Implemented in Domestic Sector.	FANS-1/A Implemented.		Implemented as (S).		FANS 1/A ADS-C Implemented.	
TONGA	Target date for AMHS in 2006			NPA planned for 2010		Trial planned for 2010		CPDLC and ADS-C is not considered for lower airspace
UNITED STATES								
Anchorage			FANS1/A based CPDLC implemented.	NPA(S) implemented	En-route (P) implemented	ADS-B trials continuing.	FANS/1-ADS-C 2005.	

CNS/ATM Implementation Planning Matrix								
State/ Organization	**ATN G/G Boundary Intermediate System (BIS) Router/AMHS**	**AIDC**	**CPDLC**	**GNSS**		**ADS-B**	**ADS-C**	**Remarks**
				NPA Supplemental Means (S) Primary means (P)	**En-route Supplemental Means (S) Primary means (P)**			
Fairbanks				NPA(S) implemented		Trials continuing		
Oakland		AFTN based AIDC implemented. ATN AIDC planned for 2005.	FANS-1/A based CPDLC implemented.	NPA (S) implemented	En-route (P) implemented		FANS-1/A ADS-C planned for Dec. 2004.	
Salt Lake City (Network Centre)	AMHS implementation between Japan and USA scheduled for 2004. Acceptance testing completed. USA/China and USA/Fiji AMHS testing scheduled for 2004.	AFTN based AIDC implemented. ATN AIDC planned for 2005.						
VANUATU								
VIET NAM	ATN trials with Bangkok in July 2004. Implementation of ATN BIS Router planned for 2004 and AMHS in 2006.	ATN based AIDC planned in 2005.	Planned for 2005.	Planned for NPA (S) for 2004.	Implementation as (S) planned for 2004.		FANS 1/A ADS-C planned for 2005.	Most of air space in Hanoi and Ho-Chi-Minh FIRs covered by RADAR.

AGENDA ITEM 4: DEFICIENCIES IN THE AIR NAVIGATION FIELDS

Agenda Item 4: Deficiencies in the Air Navigation Field

Report of the second meeting of the Deficiency Review Task Force (DRTF)

4.1 APANPIRG/15 was briefed on the second meeting of the Deficiency Review Task Force (DRTF/2) which was convened from 13 – 14 May 2004 and attended by ten (10) members from Australia, Hong Kong (China), Fiji, India, Malaysia, Singapore, IATA, IFALPA and IFATCA.

4.2 The meeting recalled that APANPIRG/14 adopted Conclusion 14/50 requesting that the draft ASIA/PAC Supplement to the Uniform Methodology be circulated to States in the Asia/Pacific region for comments. In addition to support from the States of the task force, a total of ten (10) responses from States were received which generally indicated no comments or agreement with the draft Supplement. IFALPA, in particular, expressed full agreement with the draft Supplement and offered to assist ICAO in identifying air navigation deficiencies and reporting when the deficiency is resolved.

4.3 It was further noted that the Supplement, in amplifying the procedures set forth in the ICAO Uniform Methodology, was to provide for a systematic approach to the management of deficiencies in the Asia/Pacific region by detailing the regional procedures to be followed by the Users, States and the ICAO Asia/Pacific Regional Office in implementing the Uniform Methodology. The deficiencies identified shall follow the **SMART** concept where the description of a deficiency shall be:

- **S**pecific – clear task on what needs to be done
- **M**easurable – precise requirements
- **A**chievable – task sensible in scope
- **R**ealistic – task has deadlines and completion requirements
- **T**ime-bounded – sensible guide for completion and imposes a schedule

4.4 The meeting was grateful for the work done by the DRTF and commended the excellent guidance materials in the "Flow Chart to ASIA/PAC Supplement to the Uniform Methodology for Identification, Assessment and Reporting of Air Navigation Deficiencies" providing clear and concise procedures for the identification, assessment, prioritization and verification, validation and action plan, monitoring, rectification and removal from list of deficiencies. Recognizing the immense value of the ASIA/PAC Supplement, the meeting urged provider and user States and International Organizations as users of air navigation facilities to utilize the guidance materials and formulated the following conclusion:

Conclusion 15/54 – Adoption of ASIA/PAC Supplement to the Uniform Methodology

That, the ASIA/PAC Supplement to the Uniform Methodology for the Identification, Assessment and Reporting of Air Navigation Deficiencies be adopted and circulated to States and International Organizations.

A copy of the ASIA/PAC Supplement is included as **Appendix A** to the Report on Agenda Item 4.

4.5 The meeting was of the opinion that a post-implementation review should be carried out to review the effectiveness and efficiency of resolving the deficiencies using the guidance materials in the ASIA/PAC Supplement. This included such issues as identification, collection and validation of information, safety assessment and prioritization, development of action plans, reporting and monitoring

of the corrective actions. The review is to be conducted post APANPIRG /16 and to be completed not later that 30 May 2006.

4.6 In response to a query from IFALPA pertaining to deficiencies identified during the USOAP, the meeting was advised that while the USOAP audits were essentially to reveal compliance with States' regulatory processes and consequently deficiencies identified during such audits which were of a structural and/or organizational nature, deficiencies identified by PIRGs were, on the other hand, urgent and operational in substance. Additionally, it was to be recognized that USOAP deficiency was a matter between ICAO and the Contracting State being audited with only an Executive Summary distributed to all Contracting States; whereas APANPIRG deficiencies, in a way, were public documents discussed during PIRG meetings.

Lists of deficiencies in the Air Navigation Field

4.7 During the meeting, some of the States attending the meeting advised actions taken by them with regard to the items on the List of Deficiencies. The updated information had been included in the Appendices to the Report on Agenda Item 4. The meeting requested States and users to provide regular updates to the Regional Office on the List of Deficiencies, including instances where actions had been taken by States for the resolution of deficiencies.

ATM/AIS/SAR deficiencies

4.8 The list of Deficiencies in the ATM/AIS/SAR fields is included as **Appendix B** to the Report on Agenda Item 4. The meeting noted that the following progress had been made since APANPIRG/14:

ATS routes

4.9 The Deficiency list records thirty (30) ATS route related entries, mainly as priority 'B' status. ANP amendment procedures had commenced for about half of these and the remainder had been allocated to the ATS Route Network Review Task Force (ARNR/TF) for review. The meeting was of the view that the deficiency status on the ATS routes be retained as currently reflected until the ARNR/TF had undertaken a suitable review.

4.10 In considering the list of ATS Route Deficiencies, the meeting noted that the first meeting of the ATS Route Network Review Task Force (ARNR/TF/1) was scheduled for the 6 – 10 September 2004. The ARNR/TF had been established by APANPIRG/14 (Conclusion 14/5) to conduct a review of the ATS route requirements in the region and to amend the APAC ANP as appropriate.

4.11 The meeting 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 a Regional Air Navigation (RAN) meeting. There would be a considerable volume of work, in particular the compilation and management of databases, charts and ANP amendments. States were encouraged to make suitable experts available for the Task Force.

4.12 The meeting 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 programme of the ARNR/TF would be developed to ensure that distances saved

by the realignment and shortening of routes would be recorded to facilitate subsequent calculation of environmental benefits.

WGS-84

4.13 There were ten (10) States listed as deficient under priority 'A', of which four (4) had partially implemented WGS-84 at main airports. The Regional Office had recently issued a letter to the ten (10) States involved, seeking an update to their respective WGS–84 status, however replies had not been received in time for the meeting. Of the six (6) States that had not implemented, the meeting noted that four (4) of these were small States that may not have suitable resources to undertake this work. It was important that the reasons behind the non-compliance be accurately established, in order that suitable assistance could be arranged if required.

4.14 IATA and IFALPA stressed the importance of WGS-84 compliance, noting that all FMS and GNSS based navigation was reliant on WGS-84 data, and requested that the meeting seek resolution to these remaining deficiencies quickly as they represented a fundamental safety problem. The meeting was unanimous in supporting this position.

4.15 Japan, in agreeing with the concerns raised, undertook to follow up with the Japan Civil Aviation Bureau with a view to assessing whether assistance would be available via current assistance programs sponsored by the Japanese government. Australia also agreed with the concerns expressed and advised that Australia had an effective relationship with the Pacific Aviation Safety Office (PASO). Australia undertook to coordinate with PASO to see if assistance could be provided.

4.16 Although China had filed a difference to Annex 15 in regard to WGS-84, a deficiency was still recorded in accordance with ICAO requirements. China advised the meeting that they were aware of the importance of full WGS-84 implementation and were very concerned because it would be more dangerous if two different geodetic systems were authorised for use in the same airspace. The Civil Aviation Authority of China (CAAC) were making every effort to implement WGS-84 and significant progress was being made. The meeting acknowledged the efforts of CAAC and recognized the difficulties expressed by China.

Type of ATS

4.17 One (1) State was listed as deficient under priority 'A" as not providing Area Control Service on international ATS routes. Equipment upgrades were taking place, with a HF radio upgrade expected to be completed by the end of 2004 and CPDLC by the end of 2005, thereby addressing the deficiencies.

Airspace classification

4.18 10 States were listed as deficient under priority 'A' as not having classified their airspace. Of these, 1 State has notified a difference and 2 States have advised the Regional Office that classification has been carried out but have not provided official confirmation. The remaining States had not updated the Regional Office.

AIP format

4.19 Eight States were listed as deficient under priority 'A' as not having published their AIP in the ICAO format. Of these, 2 States advised the Regional Office that they have completed the format but have not provided official confirmation. The remaining States had not updated the Regional Office. A query was raised whether there could be more than one AIP published by a State. The Secretariat

informed the meeting that only one AIP should be published by the responsible authority approved by the State.

SAR capability

4.20 Three States were listed as deficient under priority 'U'. Of these, 1 State had provided written information that a SAR agreement was being developed. One (1) State advised the Regional Office that they provided SAR services and facilities, and SAR agreements with their neighbouring States were under development, and official confirmation would be provided. One State had not up-dated the Regional Office.

AOP deficiencies

4.21 In the AOP field, the meeting was informed on the good progress that had been achieved in the rectification of deficiencies. The meeting was apprised that twenty-two (22) deficiencies were identified and reflected in the list of deficiencies. Based on additional information provided at the meeting and corrective actions taken by States concerned, a total of eight (9) deficiencies representing forty percent (40%) of the deficiencies were identified as being completed. The list of Deficiencies in the AOP field is included as **Appendix C** to the Report on Agenda Item 4.

4.22 It was also noted that a number of deficiencies had recurred despite being reported as satisfactorily resolved. Whilst it is commendable that States had taken immediate ad-hoc actions with respect to deficiencies identified, it was vitally important to establish at an aerodrome a continuous and rigorous programme to maintain facilities in a condition that does not impair the safety, regularity or efficiency of air navigation.

CNS deficiencies

4.23 In the CNS field three (3) deficiencies were identified. The meeting was informed that. Bangladesh and India had eliminated the AFS deficiency by implementing required services. The problem of lack of VHF coverage in Dhaka FIR had been resolved by delegating responsibility for the provision of ATS for the portion of the airspace outside VHF coverage to the adjacent ACC. An urgent need to overcome the air-ground communication deficiency in Yangon FIR was brought to the attention of the higher authorities in the State. This resulted in an action plan developed in consultation with Myanmar for implementation by the end of 2004. The list of Deficiencies in the CNS field is included as **Appendix D** to the Report on Agenda Item 4.

MET deficiencies

4.24 The List of MET deficiencies contained eight (8)items related to seventeen (17) States. Out of these only two items had not been progressed since APANPIRG/14. One deficiency had been fully resolved and two others had been partly resolved. Action plans and target dates had been specified by the States concerned. It should be noted, however, that the rectification of some of the deficiencies in the MET field in States like, Kiribati, Solomon Islands and Cambodia would be a long lasting task due to serious problems related to lack of trained meteorological personnel, lack of basic MET equipment, etc. Special emphasize has been given to the rectification of deficiencies related to the most safety related MET services, such as the issuance and dissemination of SIGMET. A new regional SIGMET guide was published and circulated to the States in the Region; a SIP on SIGMET for volcanic ash was conducted through visits to the States with active volcanoes in Asia/Pacific region and providing on-site assistance. As a result, the availability of SIGMET, including SIGMET for volcanic ash and tropical cyclones has

improved. The list of Deficiencies in the MET field is included as **Appendix E** to the Report on Agenda Item 4.

4.25 The meeting recognised that considerable progress had been made since APANPIRG/14 in addressing deficiencies and noted the further action that was in hand, including the role of the ATS Route Network Review Task Force in addressing route deficiencies. The meeting was advised that the Regional Office had recently sent letters to affected States seeking updates to the status of a number the deficiencies listed. A letter under the signature of the ICAO Secretary General had also been sent during July 2004 to the DGCAs of affected States, drawing their attention to published deficiencies and seeking their assistance. In accordance with the requirements of the Secretary General States were again reminded to up-date the Regional Office by 30 April each year and to provide official confirmation whenever deficiencies have been rectified.

IATA's Shortcoming and Deficiency Programme

4.26 IATA provided information on its Asia Pacific Shortcoming and Deficiency Programme, which was in its final stages of development and should be implemented later this year. IATA intended to complement ICAO's programme with additional perspective in areas of high concern to the airspace user. IATA would continue to offer its full support to the ICAO Deficiency Programme.

4.27 The meeting noted IATA's development of a systematic approach to users reporting shortcomings and deficiencies according to IATA's definition. ICAO recognized that IATA, along with IFALPA and IFATCA, were primary sources of information on operational and related occurrences that impacted on safety and welcomed this development that would compliment ICAO's programme. The meeting encouraged States' to fully cooperate with the user groups to take prompt action on reported occurrences in the interest of enhancing the safety of the air navigation system.

ASIA/PACIFIC SUPPLEMENT

TO THE

UNIFORM METHODOLOGY FOR THE IDENTIFICATION, ASSESSMENT AND REPORTING OF AIR NAVIGATION DEFICIENCIES

1. INTRODUCTION

1.1. Considerable attention is being given by ICAO to eradicate deficiencies in the air navigation field. At the thirteenth meeting of the Asia/Pacific Air Navigation Planning and Implementation Group (APANPIRG/13) held on September 2002, it was decided to establish a Deficiency Review Task Force to prepare an Asia/Pacific Supplement to the *Uniform Methodology for the Identification, Assessment and Reporting of Air Navigation Deficiencies* (hereinafter referred to as "Uniform Methodology") approved by the Council of ICAO on 30 November 2001. The Uniform Methodology was developed by ICAO for the efficient identification, assessment and clear reporting of air navigation deficiencies. The Asia/Pacific Supplement provides more detailed procedures and a management tool to assist the APANPIRG in applying the Uniform Methodology (a copy of the Uniform Methodology contained in the APANPIRG Procedural Handbook is available on the ICAO website: www.icao.int/apac under the heading "E-documents) .

1.2. The ICAO Council in 2001 approved the following unified definition of a deficiency within the context of the Uniform Methodology, which replaces the previous term "shortcomings and deficiencies:"

> A deficiency is a situation where a facility, service or procedure does not comply with a regional air navigation plan approved by the Council, or with related ICAO Standards and Recommended Practices (SARPs), and which situation has a negative impact on safety, regularity and/or efficiency of international civil aviation.

1.3. The Asia/Pacific Air Navigation Plan (ASIA/PAC ANP, Doc 9763) has been revised in the new ICAO format for regional plans, which is in two documents: the Basic Air Navigation Plan (Basic ANP) and the Facilities and Services Implementation Document (FASID). The first edition (2001) of the revised ASIA/PAC ANP is expected to be published by 2005 (an electronic copy is available on the ICAO secured website: www.icao.int/icaonet)

1.4. It should be noted that in certain areas, there may be deficiencies related to the organization, management and institutional aspects which affect the operation of civil aviation organizations. This has could have a direct impact on the provision of air navigation facilities, services and procedures, which are elements listed in the ICAO Regional Plans.

2.0 BACKGROUND

2.1 States, in recognition of their responsibilities under Article 28 of the Convention on International Civil Aviation for the provision of safe air navigation services, undertake to increase their efforts in the rectification and elimination of air navigation deficiencies identified by the various Users.

2.2 As required by APANPIRG, the ICAO Asia/Pacific Regional Office maintains a list of deficiencies that exist in the Asia/Pacific region and adopts the necessary procedures for the collection of information in order to identify, evaluate and classify deficiencies and priorities in accordance with the Uniform Methodology.

2.3 The purpose of this list of deficiencies is to assist States to define their implementation priorities and to indicate remedial action required. This information is provided to APANPIRG meetings for review under its terms of reference, *inter alia*, make detailed assessment of the safety impact of the deficiencies as listed and propose remedial action required by States for subsequent review by the Air Navigation Commission and Council.

2.4 The format of reporting of resolution of deficiencies by provider States is in accordance with the Uniform Methodology. Under the Corrective Action column, States are required to provide to the Regional Office, in a timely manner, an action plan comprising a detailed description of the actions taken for the expeditious rectification of the listed deficiencies.

2.5 The Regional Office submits the updated information to APANPIRG for further actions as deemed necessary, and coordinates with the provider States concerned on decisions taken by APANPIRG, the Council and Air Navigation Commission on the deficiencies.

2.6 APANPIRG and its respective Sub-Groups, as part of their TORs and Subject Tasks Lists, are intensifying their efforts in dealing with deficiencies with a higher focus on prioritization and monitoring of corrective action taken by States and other responsible bodies.

3.0 OBJECTIVE

3.1 The main objective of this Supplement to the Uniform Methodology is to provide for a systematic approach to the management of deficiencies in the Asia/Pacific region by detailing the procedures to be followed by the Users, States and the Asia/Pacific Regional Office in implementing the Uniform Methodology.

3.2 It is also the objective of this Supplement to provide clear definition of the responsibilities and obligations of the parties involved in the management of the deficiencies.

4.0 REGIONAL PROCEDURES

4.1 It has been recognized that the process of dealing with deficiencies involves a number of stages as follows:

- Identification
- Assessment, prioritization and verification against ICAO documents
- States' validation of deficiencies reported
- Development of action plans for rectification and elimination
- Monitoring of follow-up actions
- Rectification of deficiency and removal from list

4.2 The purpose of this section is to outline the procedures to be followed by the parties involved at each of the above stages to deal with the deficiencies. These procedures are presented in the form of a structured flow chart attached to this Supplement aimed at facilitating the actions required to eliminate the deficiencies.

Identification

4.3 In Appendix M to Assembly Resolution A33-14, Users of air navigation facilities and services are urged to report any serious problems encountered due to lack of implementation or unsatisfactory operation of air navigation facilities or services required by the air navigation plans. States should act on such reports to resolve the problem and when remedial action is not taken, Users should inform ICAO, through the medium of an international organization where appropriate.

Notification/Sources

- Users
- States
- Regional Office (information from missions, meetings, accident/incident reports)

4.4 The deficiencies identified shall follow the SMART concept where the description of a deficiency will be:

- Specific – clear task on what needs to be done
- Measurable – precise requirements
- Achievable – task sensible in scope
- Realistic – task has deadlines and completion requirements
- Time-bounded – sensible guide for completion and imposes a schedule

Assessment, Prioritization and Verification against ICAO documents

4.5 An assessment is made by the Regional Office to determine whether the reported deficiency is non-compliant with the ASIA/PAC ANP or SARPs. If a deficiency exits, it is evaluated as to its effect on safety, efficiency and regularity, and under the Uniform Methodology, prioritized as follows:

U - Urgent requirements having a direct impact on safety and requiring immediate corrective actions

A - Top priority requirements necessary for air navigation safety

B - Intermediate requirements necessary for air navigation regularity and efficiency

4.6 To facilitate the prioritization process, the Regional Office is guided by the principal that a deficiency with respect to an ICAO Standard is accorded a “U” status, to a Recommended Practice an “A” and to PANS as “B”.

Validation by States

4.7 The Regional Office, on determining that a reported deficiency exists and after assessment and prioritization, will inform the State involved of the full details of the report and results of the assessment. The State involved will be requested to acknowledge and validate the deficiency, and be informed that the deficiency will be recorded in the APANPIRG List of Deficiencies. States will be requested to develop an Action Plan with timelines based on the prioritization of the deficiency determined by the Regional Office.

4.8 In the event of serious cases of deficiencies, the Regional Office will notify the Air Navigation Commission as a matter of priority.

Development of action plans

4.9 States are required to develop action plans to rectify deficiencies in consultation with appropriate bodies with defined target dates based on the prioritization determined by the Regional Office. The following factors should be taken into account:

- deficiencies with "U" priority must be dealt with on a high priority basis
- in developing the action plan, advice may be sought from the Regional Office
- on completion, the action plan to be submitted to the Regional Office for review and recording
- APANPIRG to be informed of the action plans which will be reviewed by the contributing bodies to APANPIRG

Monitoring of follow-up actions

4.10 States should keep the Regional Office informed on progress with action taken to rectify deficiencies. The Regional Office may request updates as necessary to keep APANPIRG and its contributory bodies informed. Periodic annual updates should be made to the Regional Office no later than April each year.

4.11 The Regional Office will maintain regular contact with States and before the holding of APANPIRG and Sub-Group meetings, updates will be requested. An agenda item on deficiencies will be included on the Agenda of APANPIRG Sub-Groups and afforded a high priority by the meetings.

4.12 Users who reported deficiencies will be kept in formed of progress and contacted before APANPIRG and Sub-Group meetings to seek their views on the status of deficiencies and any changes in circumstances.

Rectification of Deficiency & Removal from List

4.13 States, on reporting that a deficiency recorded on the APANPIRG List of Deficiency has been rectified, will submit in writing an official report to the Regional Office providing full details of the action taken. On receipt of a report, the Regional Office will validate the action taken with the User who made the report. In the event that the User does not agree with the action taken, the deficiency will remain open until confirmation has been gained by all concerned. Once confirmation is made, APANPIRG will be informed, the status of the deficiency reviewed and removed from the List.

5.0 RESPONSIBILITIES

Regional Office

5.1 The Regional Office, as a primary party in the management of deficiencies, will keep under review and record the implementation by States of the requirements ASIA/PAC Basic ANP and FASID. This information will also be used to identify possible non-compliance that should be further assessed against the definition of deficiency. Records will also be kept on the differences to SARPs filed by States and follow-up actions taken as appropriate.

5.2 All mission reports should include a section on identification of new deficiencies, actions taken on and status of existing deficiencies.

5.3 One of the primary functions of the Regional Office is to assist States to which it is accredited to comply with SARPs and implement the requirements of the ASIA/PAC ANP. Where deficiencies exist, all possible assistance should be provided to States to assist them to take remedial actions to correct air navigation deficiencies. In this regard Regional Office will, to the extent practicable, establish regular correspondences with and perform regular visits/missions to States to assist in the implementation of action plans for the rectification of deficiencies. These visits/missions would be results-oriented, and also used to identify other deficiencies.

States

5.4 Once deficiencies have been identified, evaluated and prioritized, the Regional Office will commence coordination with States in order to allow States to establish an action plan for resolving the deficiency

5.5 Sufficient notification will be provided to States regarding the deficiencies as a first step towards establishing the corresponding coordinated action plan. This will be achieved primarily through such mechanisms as correspondences, review by APANPIRG sub-groups, working groups, task forces and other regional and sub-regional meetings.

5.6 States, upon receipt of the list of deficiencies, will review, validate and comment on, and where actions have already been taken, and provide the necessary details on the list of identified deficiencies, assessed and prioritized by the Regional Office for further action.

5.7 States are required to review and maintain their respective list of deficiencies and identify those that have not been resolved, formulate and forward an action plan to ICAO for review and allocate sufficient resources as required for elimination.

5.8 States are required to respond promptly to the list of deficiencies identified so that the necessary details can be provided to APANPIRG and its sub-groups, working groups and task forces for review and consideration of the necessary actions to be taken by States to eliminate the deficiencies. The final list of deficiencies will be presented as core material to every APANPIRG meeting in accordance with the Terms of Reference of APANPIRG.

5.9 Monitoring and reporting of corrective actions and progress towards the elimination of deficiencies forms an important part of the management of deficiencies. In this regard, it is vital that a reliable monitoring system exists to ensure a true reflection of those deficiencies that have been resolved.

5.10 States' action plans should include the corrective measures to be taken by the State and a date by which it is anticipated that the identified deficiencies will be eliminated. The information provided through this formal coordination process will include:

- a description of the deficiency
- risk assessment
- possible solutions
- time-lines
- responsible party including contact details of designated person/position
- financing source
- agreed action to be taken,
- report on actions already taken.

5.11 In accordance with the 11th Air Navigation Conference Recommendation 4/8, States are urged to identify areas of air navigation facilities and services where the establishment of multinational agreements or informal coordination groups may contribute to the resolution of

deficiencies. This may be especially applicable to deficiencies which are region wide in nature and affecting a group of States thus lending themselves to general resolution at a regional or wider level.

Users

5.12 Appropriate international organizations, in their capacity as Users of air navigation facilities, should provide and update a list of deficiencies on a regular basis to the Regional Office for validation and action in accordance with Assembly Resolution A33-14 Appendix M. In addition to this, the Users should notify the Regional Office as soon as a new deficiency is identified.

5.13 International Organizations, as one of the user sources in highlighting deficiencies, should provide assistance in the independent verification of remedial actions taken by State(s). The 11th Air Navigation Conference Recommendation 4/8 encouraged Users of air navigation facilities and services to report to the Regional Office once they note that the remedial action on the deficiency they had reported has been taken.

APANPIRG

5.14 APANPIRG, as the only coordinating body in the Asia/Pacific Region for all activities conducted within ICAO concerning the air navigation systems, meets at regular intervals. Its terms of reference includes *inter alia*, to identify specific problems in the air navigation field and propose in appropriate form, actions aimed at solving these problems. The List of Deficiencies in the air navigation field form part of the core material reviewed by APANPIRG meetings and recommendations for remedial actions are developed.

5.15 In order to ensure that a support mechanism is in place to deal with deficiencies, States must be fully committed to taking follow-up actions on the outcome of APANPIRG meetings. A person or position should be nominated to with sufficient decision-making authority to coordinate and oversee the States'action plan for the elimination of deficiencies.

6 OTHER MECHANISMS

6.1 The Regional Office, in coordination with States, will utilize other mechanisms for establishing measures for the resolution of deficiencies.

6.2 The various APANPIRG sub-groups, working groups, task forces and other regional and sub-regional meetings and special implementation projects (SIPs) will be utilized to discuss the implementation of ICAO SARPs and the requirements of the ASIA/PAC ANP in order to eliminate deficiencies.

6.3 The Annual Conference of Directors General of Civil Aviation, are attended by State representatives in civil aviation at the highest level. Every opportunity should be taken at these conferences to address the need for political will to instill awareness and allocate appropriate and sufficient resources through effective plans of action that will eliminate deficiencies in a timely manner.

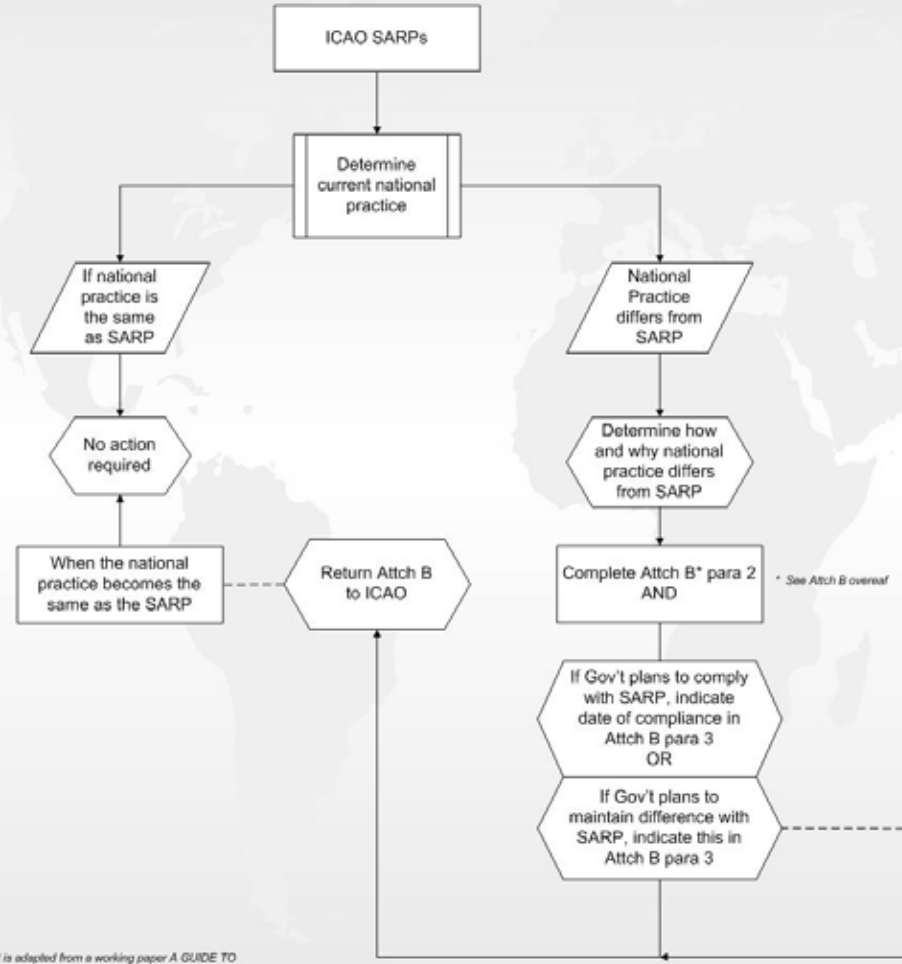
6.4 The International Financial Facility for Aviation Safety (IFFAS) has recently been established by the ICAO Council to assist States in financing aviation safety-related projects identified primarily through the ICAO Universal Safety Oversight Audit Programme (USOAP). The purpose of IFFAS is to provide financial assistance to States that need to apply corrective measures flowing from the USOAP audits but are unable to obtain the necessary funding through traditional means of financing. IFFAS will be operated in complete independence from ICAO's programme budget and is to be funded through voluntary contributions. The IFFAS mechanism will complement existing ICAO fund-raising mechanisms.

6.5 Other ICAO tools that may be used to address deficiencies include ICAO technical cooperation programmes, special implementation projects, seminars, workshops and training programmes.

6.6 Deficiencies identified during the USOAP audits will be dealt with under a separate programme in accordance with the Memorandum of Understanding between the Contracting State and ICAO. Until such time an appropriate mechanism is developed for the management of such deficiencies by the planning body, they shall not be included in this procedure.

--- END --

A GUIDE TO SUBMITTING DIFFERENCES TO ANNEXES



(This chart is adapted from a working paper A GUIDE TO SUBMITTING DIFFERENCES TO ANNEX 9 presented to the 12th Session of the ICAO Facilitation Division)

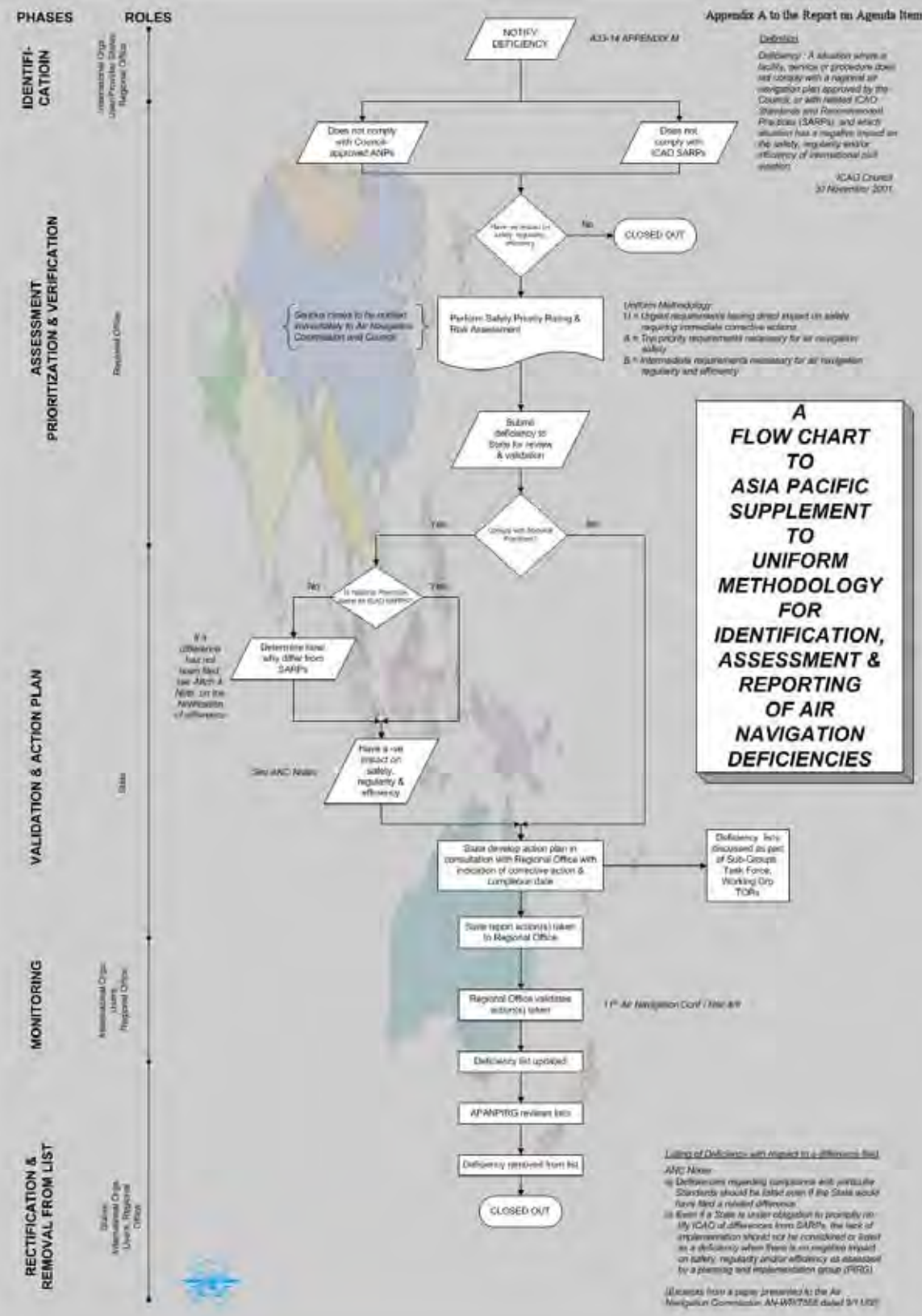
Note on the Notification of Differences

- This note is issued to facilitate the determination and reporting of such differences and state the primary purpose of such reporting.
- The primary purpose of reporting of differences is to promote safety and efficiency in air navigation by ensuring that governmental and other agencies, including operators, concerned with international civil aviation are made aware of all national rules and practices in so far as they differ from those prescribed in the ICAO Standards.
- Contracting States are therefore requested to give particular attention to the notification of differences with respect to Standardards in the various Annexes. The Council has also invited Contracting States to extend the above consideration to Recommended Practices when the knowledge of such differences is important for the safety of air navigation.
- Guidance to Contracting States in reporting of differences can only be given in very general terms. Where national regulations of States call for compliance with procedures that are not identical but essentially the same as those contained in the Annexes, no difference should be reported since the details of the procedures existing are the subject of notification through the medium of aeronautical information publications.
- Broadly, the determination should be based on, *inter alia*, the following criteria in so far as they are applicable:

  When the facilities or services provided by a State for international air navigation:

  1) impose any obligations or requirements for safety additional to any that may be imposed by the corresponding ICAO Standard;
  2) while not imposing an additional obligation, differ in principle, type or system from the corresponding ICAO Standard;
  3) are less protective than the corresponding ICAO Standard
- Differences may have been notified because the associated Standards were:

  a) Not applicable in the circumstances of the State concerned;
  b) Not implemented;
  c) Subject to partial implementation, where a lower level of requirement has been provided
  d) Subject to an alternative means of achieving the same intent and level of safety; or
  e) Exceeded by the introduction of more stringent State rules than the requirements contained in an ICAO Standard. This is of particular importance where a State required a higher standard and sought to govern operators from other States.
- The notification of a difference does not necessarily indicate operation to a lesser level of safety. A difference may indicate inapplicability of the particular Standard, an equivalent level of safety achieved by alternative means, or that the level of safety implied by the Standard is exceeded.


PHASES
ROLES
IDENTIFI-CATION
ASSESSMENT PRIORITIZATION & VERIFICATION
VALIDATION & ACTION PLAN
MONITORING
RECTIFICATION & REMOVAL FROM LIST
International Org. User/Provider States Regional Office
Regional Office
State
International Org. Users Regional Office
State International Org. Users, Regional Office
NOTIFY DEFICIENCY
A33-14 APPENDIX A
Definition
Deficiency : A situation where a facility, service or procedure does not comply with a regional air navigation plan approved by the Council, or with related ICAO Standards and Recommended Practices (SARPs), and which situation has a negative impact on the safety, regularity and/or efficiency of international civil aviation.
ICAO Council 30 November 2001
Does not comply with Council-approved ANPs
Does not comply with ICAO SARPs
No
CLOSED OUT
Yes
Serious issues to be notified immediately to Air Navigation Commission and Council
Perform Safety Priority Rating & Risk Assessment
Uniform Methodology:
U = Urgent requirements having direct impact on safety requiring immediate corrective actions
A = Top priority requirements necessary for air navigation safety
B = Intermediate requirements necessary for air navigation regularity and efficiency
Submit deficiency to State for review & validation
Yes
No
No
Yes
Determine how/ why differ from SARPs
If a difference has not been filed see Attch A Note on the Notification of difference
See ANC Notes
Have a net impact on safety, regularity & efficiency
State develop action plan in consultation with Regional Office with indication of corrective action & completion date
Deficiency to be discussed as part of Sub-Groups Task Force, Working Grp TORs
State report action(s) taken to Regional Office
Regional Office validates action(s) taken
1st Air Navigation Conf / Year a/r
Deficiency list updated
APANPIRG reviews list
Deficiency removed from list
CLOSED OUT
A FLOW CHART TO ASIA PACIFIC SUPPLEMENT TO UNIFORM METHODOLOGY FOR IDENTIFICATION, ASSESSMENT & REPORTING OF AIR NAVIGATION DEFICIENCIES
Listing of Deficiency with respect to a difference filed
ANC Notes
a) Deficiencies regarding compliance with particular Standards should be listed even if the State would have filed a related difference.
b) Even if a State is under obligation to promptly notify ICAO of differences from SARPs, the lack of implementation should not be considered or listed as a deficiency when there is no negative impact on safety, regularity and/or efficiency as assessed by a planning and implementation group (PIRG).
(Excerpts from a paper presented to the Air Navigation Commission AN-WP/7568 dated 9/1 1/01)

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****
Requirements								
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	Japan - co-ordinate Hong Kong, China	Hong Kong, China/ Japan	HongKong-Bangkok segment 1/11/2001; Hong Kong-Chitose segment TBD Review by ARNR/TF	B
	China/Hong Kong, China	A203 - Not implemented	24/11/93	China advises no international flight requirements.	China requested deletion and amendment to ANP	China/Hong Kong, China	Subject to ANP 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 segement ICAO- coordinate the implementation with Indonesia	Indonesia ICAO	29/11/2001 (by Malaysia) TBD by Indonesia Review by ARNR/TF	B

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.	China requested deletion and amendment to ANP	China/Russian Federation ICAO	Subject to ANP amendment Review by ARNR/TF	B
	Japan	A223 - Not implemented	24/11/93	Japan has advised that a domestic route network covers the route.	Japan - consider implementation as a conditional route	Japan	TBD Review by ARNR/TF	B
	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 ***has*** proposed its deletion from ANP. China reported to APANPIRG/14 the portion between HOHHOH - TUMURTAI was implemented.	China, Mongolia - propose ANP amendment	China/Mongolia	Deletion of A335 notified 9 Oct 01 Subject to ANP amendment	B

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	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 Syrabaya-Kota Kinabalu segment.	Indonesia/Malaysia - consider full implementation	Indonesia/Malaysia	12/2001 Review by ARNR/TF	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.	Indonesia/United States - consider full implementation	Indonesia/United States	TBD Review by ARNR/TF	B
	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.	Viet Nam - propose deletion of the requirement as A469 ICAO process ANP amendment	Viet Nam ICAO	Subject to ANP amendment	B
	India/Nepal	A473 - Not implemented	16/3/99	~~India and Nepal have advised that realignment is being co-ordinated and the route is to be implemented.~~ A new proposal was submitted in mid 2003 by Nepal. This is being coordinated by AAI with defense authorities.	India/Nepal- implement the route	India/Nepal	~~Sep 2003~~ TBD Review by ARNR/TF	B

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****
	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.	Thailand - implement accordingly.	Thailand	11/2002 Review by ARNR/TF	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.	ICAO - process an amendment in co-ordiantion with United States	United States ICAO	Subject to ANP amendment	B
	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.	Fiji/New Zealand - propose an amendment to delete the requirement in ANP	Fiji/New Zealand ICAO	Subject to ANP amendment	B
	Maldives	B204 - The requirements for this route are not detailed in ANP	24/1/96		Maldives - propose an amendment to ANP to add the route	Maldives ICAO	Subject to ANP amendment	B
	Japan/Rep of Korea	B212 - Not implemen	24/11/93	Japan is considering implementation as a conditional route and will coordinate with Rep of Korea	Japan/Rep of Korea - consider implementation	Japan/Rep of Korea	12/2005 Review by ARNR/TF	B
	~~China~~	~~B213 - Not implemented~~	~~24/11/93~~	~~CAAC advises no international flight requirements - route H12 is available.~~	~~China - propose deletion and amendment to ANP~~	~~China, ICAO~~	~~Subject to ANP amendment~~	~~B~~

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****
	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.	Papua New Guinea - propose an amendment to ANP. ICAO-process ANP amendment.	Papua New Guinea ICAO	Subject to ANP amendment	B
	China	B591 - Partially implemented	22/7/97	Co-ordination is in progress among States and ICAO	ICAO - continue on-going implementation co-ordination related to the Revised South China Sea route structure with States	China	TBD Review by ARNR/TF	B
	~~Malaysia~~	~~G211 - Not implemen~~	~~24/11/93~~	~~ICAO has requested Malaysia to implement G221. Malaysia has advised that G211 would be replaced with EMARSSH routes; thus would propose the deletion of the requirement when an ANP amendment relating to EMARSSH is prepared.~~	~~Malaysia - propose deletion ICAO- process ANP amendment~~ deleted by APAC 04/3	~~Malaysia~~ ~~ICAO~~	~~28/11/2002~~ ~~Subject to ANP amendment~~	~~B~~
	Indonesia	G461 - Implemented with different route specification	24/11/93	ICAO co-ordinated with Indonesia to amend ANP requirement. APAC00/1-ATS was approved on 15 January 2001.	Indonesia-implement the requirement accordingly.	Indonesia	TBD Review by ARNR/TF	B
	Cambodia /Philippines Thailand/Viet Nam	G473 - Partially implemented	24/11/93	Co-ordination is in progress among States and ICAO	ICAO - continue ongoing implementation co-ordination related to the Revised South China Sea route structure with States	Cambodia /Philippines Thailand/Viet Nam	TBD Review by ARNR/TF	B
	DPR Korea/ Rep of Korea	G589 - Not implemented	24/11/93		B467 established instead of G589 April 1998	DPR Korea/ Rep of Korea	April 1998 Completed Review requirement for G589 by ARNR/TF	B

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/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 ANP (14 Apr 03)	CAAC proposed deletion	China/Kazakhstan ICAO	Subject to ANP amendment Review by ARNR/TF	B
	~~Russian Federation~~	~~R221 - implemented on 19 April 2001 in Malaysia in accordance with the requirement in ASIA/PAC ANP. The same route designator in use in Russian Federation~~	~~24/11/93~~	~~ICAO has requested Russian Federation to delete R221 and promulgate the route as R466 in AIP. Input from Russia is being awaited.~~	~~ICAO - co-ordinate with Russian Federation to redesignate the route as R466 as already assigned as a matter of priority~~	~~Russian Federation~~	~~TBD~~	~~A~~
	China	R333 - Not implemented	24/11/93	China is considering future implementation	China co-ordinating with Hong Kong CAA	China	TBD Review by ARNR/TF	B
	China/Hong Kong, China	R335 - Not implemented	24/11/93	CAAC advises no international flight requirements and requests deletion from ANP (14 Apr 03)	China proposed deletion and amendment to ANP	China/Hong Kong, China ICAO	Subject to ANP 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.	ICAO - continue ongoing implementation co-ordination related to the Revised South China Sea route structure with States Camodia- coordinate the deletion with IATA as well as Lao PDR and Thailand	Cambodia/Lao PDR/ Thailand	TBD Review by ARNR/TF	B

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~~	~~R455 - Partially imple~~	~~24/11/93~~	~~ICAO has requested Malaysia to co-ordinate the implementation of R455 with States concerned. Malaysia has advised that R455 was implemented within Malaysia on 29 November 2001.~~	~~Indoensia - implement the requirement~~	~~Indonesia~~	~~29/11/2001 (by Malaysia) TBD by Indoensia~~	~~B~~
	Indonesia	R459 - Implemented as W51 and W36	24/11/93	ICAO has requested Indonesia to implement as R459	Indonesia - consider promulgation of the route with designator R459 in AIP	Indonesia	TBD Review by ARNR/TF	B
	Russian Federation	R466 - Implemented as ~~R221~~ 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.	~~ICAO - co-ordinate with Russian Federation to redesignate the route as R466 as already assigned as a matter of priority~~	Russian Federation ICAO	~~TBD~~ Coordination with the Paris Office to amend ANP	A
	Indonesia/Malaysia	R579 - Not implemen	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.	Indonesia/Malaysia - consider implementation	Indonesia/Malaysia	12/2001 Review by ARNR/TF	B

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****
	India/Oman	R593 - Not implemen	24/11/93	India advised ATM/AIS/SAR/SG/14 that-India and Oman had agreed to delete.	~~India Oman are of the view that the proposed route isnot considered as a requirments in vew of availability of new ATS routes under EMARSSH project which provide connectivity from Mumbai and Oman. India and Oman suggested deletion of this item.~~ India proposed deletion and amendment to ANP	India/Oman ~~(SWACG) ICAO~~	Subject to ANP amendment	B
WGS-84								
Requirements of Paragraph 3.6.4 of Annex	Bhutan	WGS-84 - Not implemented	2/7/1999	Data conversion completed, but not published		Bhutan	TBD	A
	Cambodia	WGS-84 - Partially implemeted	28/6/2001	~~Cambodia has previously informed ICAO that their WGS-84 conversion had been completed. Cambodia has now informed ICAO of flaws in their conversion and their intention to start all over again.~~ Cambodia reported ICAO on 22 June 2004 that the WGS-84 coordinates has been implemented in international airports, airspace and international routing.		Cambodia	TBD	A

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	WGS-84 - Not implemented * implemented in the Sanya AOR as of 1 Nov 2001	2/7/1999	Differences to Annex 15 - *Aeronautical Information Services* are notified		China		A
	DPR Korea	WGS-84 - Not implemented				DPR Korea	~~TBD~~ 2004	A
	~~French Polynesia~~	~~WGS-84 - Implemented at main airports~~		~~in progress~~		~~French Polynesia~~	~~2003~~	~~A~~
	Kiribati	WGS-84 - Not implemented				Kiribati	TBD	A
	~~Lao PDR~~	~~WGS-84 - Partially implemented~~		Notified by letter No.650 dated 29 June 2004		~~Lao PDR~~	~~TBD~~	~~A~~
	Malaysia	WGS-84 - Partially implemented		In progress. Updated information received. Confirmation of completion date required.		Malaysia	December 2002	A
	Nauru	WGS-84 - Not implemented		Conferring with consultant		Nauru	TBD	A
	Philippines	WGS-84 - Implemented at main airports		on-going		Philippines	~~2003~~ 2004	A
	Solomon Islands	WGS-84 - Not implemented				Solomon Islands	1999	A
	Vanuatu	WGS-84 - Implemented at main airports	2/7/1999			Vanuatu	1999	A
Type of ATS								

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****
Requirements of Part II, Table ATS 3D of the air navigation plan	India	Some ATS route segments in part of Mumbai FIR are subject to Advisory Services	24/11/93	Co-ordination in progress through BBACG. HF radio being modernized and datalink being installed ~~by December 2003~~.	India - implement Area Control Services	India	Modernization of HF radio by the end of 2004 CPDLC by the end of 2005	A
Airspace Classification								
Requirements of Paragraph 2.6 of Annex 11	China	Airspace Classification - Not implemented	7/7/99		Difference to Annex 11 is published in AIP, China.	China		A
	Cook Islands	Airspace Classification - Not implemented	7/7/99			Cook Islands	TBD	A
	DPR Korea	Airspace Classification - Not implemented	7/7/99			DPR Korea	~~TBD~~ 2005	A
	Japan	Airspace Classification - ~~Not~~ Partially implemented	~~7/7/1999~~ 19/02/04		Implementation in oceanic airspace in progress, domestic airspace complete	Japan	~~2003~~ TBD ~~Official confirmation pending~~	A
	Kiribati	Airspace Classifcation - Not implemented	7/7/99			Kiribati	TBD	A
	~~Lao PDR~~	~~Airspace Classication - Not implemented~~	~~7/7/99~~		~~Area, Approach and Tower control services est. 1 Nov 2001~~	~~Lao PDR~~	~~Completed~~ Official confirmation required	~~A~~
	Nauru	Airspace Classification - Not implemented	7/7/99			Nauru	TBD	A
	Papua New Guinea	Airspace Classification - Not implemented	7/7/99			Papua New Guinea	mid 2001 Offical confirmation pending	A
	Samoa	Airspace Classification - Not implemented	7/7/99		CTR C and D Samoa Sector Class G	Samoa	Completed Official confirmation required	A

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****
	Solomon Islands	Airspace Classification - Not implemented	7/7/99			Solomon Islands	TBD	A
	~~Tonga~~	~~Airspace Classification - Not implemented~~	~~7/7/99~~	Notified by letter dated 9 July 2004		~~Tonga~~	~~Completed, Official confirmation required.~~	~~A~~
	Viet Nam	Airspace Classificatio - Not implemented	7/7/99			Viet Nam	2003/2004	A
AIP Format								
Requirements of Chapter 4 of	Cook Islands	AIP Format - Not implemented	7/7/99			Cook Islands	TBD	A
	~~Fiji~~	~~AIP Format - Not implemented~~	~~7/7/99~~	~~New Zealand is preparing AIP~~	~~Civil Aviation Authority of the Fiji Islands (CAAFI) authorised compliant AIP dated 10 June 2004~~	~~Fiji~~	~~Sep 2002 (to be confirmed) 2004~~	~~A~~
	Kiribati	AIP Format - Not implemented	7/7/99			Kiribati		A
	Lao PDR	AIP Format - Not implemented	7/7/99			Lao PDR	Sep 2003+H6	A
	Myanmar	AIP Format - Not implemented	7/7/99			Myanmar	Completed 2003 (To be published)	A
	Nauru	AIP Format - Not implemented	7/7/99			Nauru	TBD	A
	~~New Zealand~~	~~AIP Format - Not implemented~~	~~7/7/99~~	~~Differences to Annex 15 - Aeronautical Information Services are notified~~		~~New Zealand~~	~~Revised format being prepared in line with ICAO requirements effective 4 Sep 03~~	~~A~~
	Papua New Guinea	AIP Format - Not implemented	7/7/99	under development		Papua New Guinea	TBA	A
	Samoa	AIP Format - Not implemented	7/7/99			Samoa	5/15/2003 (to be confirmed)	A

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****
	Tonga	AIP Format - Not implemented	7/7/99		Under preparation	Tonga	2004	A
SAR capability								
Requirements of Annex 12	Cambodia	Annex 12 requirements not implemented. No agreements with adjacent States.	20/2/97		Cambodia - implement Annex 12 requirements and co-ordinate LOA with adjacent States ICAO - assist to develop SAR capability and to co-ordinate with adjacent States	Cambodia	TBD	U
	Cook Islands	Annex 12 requirements not implemented. No agreements with adjacent States.	31/1/95	SAR agreement with New Zealand under development	Cook Islands - implement Annex 12 requirements and co-ordinate LOA with adjacent States ICAO - assist to develop SAR capability and to co-ordinate with adjacent States	Cook Islands	2004	U
	Maldives	Annex 12 requirements not implemented. No agreements with adjacent States.	24/4/1997	SAR services and facilites provided (details to be confirmed). SAR agreements with neighbouring States under development	Maldives - implement Annex 12 requirements and co-ordinate LOA with adjacent States ICAO - assist to develop SAR capability and to co-ordinate with adjacent States	Maldives	2004	U

Appendix C to the Report on Agenda Item 4

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	**State/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of completion**	**Priority for action**
	India							
~~**Annex 14 Vol. I *§ 5.3.21.1***~~	~~Delhi~~	~~Apron lighting inadequate.~~	~~2002~~	~~Improve apron lighting system.~~	~~All the apron at Delhi airport have been provided with lighting systems in accordance with ICAO specifications.~~	~~AAI~~	~~Completed~~	~~Completed~~
~~**Annex 14 Vol. I § 5.3.5**~~	Madras/ Chennai	~~Problem in distinguishing the colours for PAPIS on RWY 25.~~	~~2003~~	~~Flight check and ground inspections shall be performed regularly.~~	~~New PAPI for RWY 07/25 provided. Ground inspection carried out regularly. Pilots' report indicates PAPI RWY 07/25 working satisfactorily.~~	~~AAI~~	~~Completed~~	~~Completed~~
Annex 14 Vol. I § 5.3.1.1		Runway 25, potential hazard as runway lighting blends with existing road lights and is difficult to differentiate.	2003	Action has been reported to disconnect electric supply to markings along highway NOTAM action required.	The matter is sub-judice, being taken up separately.	AAI	On-going	"U"

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REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		**Deficiencies**			**Corrective Action**			
Requirements	**State/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of completion**	**Priority for action**
~~**Annex 14 Vol. I *Table 3-1***~~		~~Taxiway Bravo is unusable for aircraft with a wing span exceeding 36 metres.~~	~~2003~~	~~TWY clearance should be provided to permit safe movement of aircraft. This information needs to be promulgated in the AIP and Jeppesen Manuals.~~	~~Taxiway 'B' available for aircraft having wingspan 65m or less.~~	~~AAI~~	~~Effective 1st Aug. 04. (Chennai NOTAM A1047/04~~	~~Completed~~
Annex 14 Vol. I § 3.1.22	**Myanmar** Yangon/ Mingaladon	New runway surface slippery when wet.	2003	Surface of a paved runway shall be so constructed as to provide good friction characteristics when runway is wet.				"A"
Annex 14 Vol. I Amendment 6 ***§ 10.1 § 10.2***				A maintenance programme should be established to maintain facilities in a condition which does not impair safety of air navigation.				"A"
Annex 14 Vol. I **§** 5.3.4		No approach Lighting RWY 03	1994	PAPI installed in 2002. Approach lights to be installed when funds available.				"A"

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Requirements	**State/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of completion**	**Priority for action**
	Nepal							
~~**Annex 14 Vol. I § 5.2.7.1**~~	~~Kathmandu~~	~~No side stripe markings~~.	~~2002~~	~~Side stripe marking shall be provided between the thresholds of a paved RWY where there is a lack of contrast between RWY edge and the shoulders or surrounding terrain~~.	~~Side Stripe marking has already been provided as required~~.	~~CAAN~~	~~Completed~~	~~Completed~~
~~**Annex 14 Vol. I Amendment 6 *§ 10.1***~~				~~A maintenance programme should be established to maintain facilities in a condition that does not impair safety of air navigation~~.	~~A maintenance programme for the stripe marking as required above is already in place for two years and programme for other facilities is in progress~~.	~~CAAN~~	~~Completed~~	~~Completed~~
Annex 14 Vol. I § 4.2		High ground in the vicinity of aerodrome.	2003	Airspace around aerodromes to be free from obstacles as defined by the obstacle limitation surfaces for safe aircraft operation.	The manoeuvring area is faraway from the obstacles (a small hillock) and a temple being there which is bit sentimental. However, verbal negotiations with the stake holders for dismantling the temple subject to replacement to other place has been made.	CAAN	Apr. 2005	"U"

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Identification		Deficiencies			Corrective Action			
Requirements	**State/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of completion**	**Priority for action**
	New Zealand							
Annex 14 Vol. I § 3.4	Wellington	Runway-end safety areas RWY 16/34 inadequate.	2000	RESA shall be provided and shall extend from the end of a runway strip for a distance of at least 90 m.	On 2 July 2004 New Zealand issued a Notice of Proposed Rule Making (NPRM 04-03) to implement the ICAO Annex 14 standards and recommended practices for RESA at New Zealand aerodromes where:- (a) there are regular air transport services operating internationally; or (b) there are runway development proposals including- • new runways • upgrading a runway to instrument approach status • significant extensions to an existing runway	Civil Aviation Authority	February 2005	"U"

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Requirements	**State/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of completion**	**Priority for action**
					• a runway is being re-commissioned • an aerodrome is first certificated after the date the proposals are implemented. The proposal also establishes requirements for New Zealand air operators conducting regular air transport services internationally to introduce limitations on aircraft performance calculations where, at offshore aerodromes, RESA are shorter than the ICAO standard length. Included with the requirements for aircraft operators are requirements to ensure that where there are regular air transport services operated internationally, foreign operators operating in New Zealand, and operators of smaller aircraft operating			

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Identification		Deficiencies			Corrective Action			
Requirements	**State/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of completion**	**Priority for action**
					internationally, meet the same requirements as New Zealand Part 121 operators, or in the case of foreign Part 129 operators, the aerodromes they operate from have, for RESA, the physical characteristics and requirements of Part 139. This will give foreign and smaller high performance aircraft operators the same level of risk reduction in undershoot and overrun incidents when operating in New Zealand as that achieved by New Zealand Part 121 operators. The proposal will prescribe requirements and physical characteristics for RESA, and will require a similar level of risk mitigation against takeoff and landing overrun, in both the aerodrome operating and flight operations Rules.			

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Identification		Deficiencies			Corrective Action			
Requirements	**State/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of completion**	**Priority for action**
	Pakistan							
RAN/3 Rec. 4/10	Karachi	Runway and Taxiway markings inadequate and are not clearly visible at night.	2003	All markings on paved areas should be inspected and a schedule of painting be establish.	Runway & Taxiway markings schedule has been developed for the period July 04 to June 05. A programme has been forwarded to the Regional Office.	CAA Pakistan	On-going	"A"
Annex 14 Vol. I ***§ 5.2.1.7***				Pavement markings should be made with reflective materials designed to enhance visibility of markings at night.	Next painting shall be carried out as scheduled.	CAA Pakistan	On-going	"A"
~~**Annex 14 Vol. I Amendment 6** ***§ 10.1***~~				~~A maintenance programme should be established to maintain facilities in a condition that does not impair safety of air navigation.~~	~~A Maintenance programme has been provided to the Regional Office.~~	~~CAA Pakistan~~	~~2004~~	~~Completed~~

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REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	**State/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of completion**	**Priority for action**
	~~**Philippines**~~							
~~**Annex 14 Vol. 1 Amendment 6 *§ 9.10.1* *§ 9.10.2***~~	~~Manila~~	~~Airport security lax, allowing livestock to stray on to active runways.~~	~~2004~~	~~Improved airport perimeter fencing and general security within the perimeter of the airport required.~~	~~ICAO security survey in Feb 2004 indicated meeting the requirements of ICAO Doc 8973 6th Edition checklist.~~	~~ATO~~	~~Completed~~	~~Completed~~
	Viet Nam							
Annex 14 Vol. I § 3.1.21	Hanoi/Noibai	RWY surface is rough.	2003	Surface of runway shall be constructed without irregularities that would result in friction loss or adversely affect take-off and landing.	New main runway 11R/29L (RWY 1B) is planned to be put into operation in IV Quarter 2004. After that, the existing RWY will be closed for upgrading.	Northern Airport Authority	IV Quarter 2004	"U"
Annex 14 Vol. I Amendment 6 *§ 9.10.1* *§ 9.10.2*		Apron congested. Poor security with no proper perimeter fencing.	2003	Improved airport perimeter fencing and general security within the perimeter of the airport required.	Currently the apron is able to hold 17-19 aircraft. The re-design for aircraft stands is being carried out. Perimeter fence was set up: a permanent fence in the East area and a temporary fence in the West area of		First Quarter of 2005	"A"

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Identification		Deficiencies			Corrective Action			
Requirements	**State/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of completion**	**Priority for action**
					airport. This will be replaced by permanent fence as runway 11R/29L on operation. Safeguard is carried out on 24/24h basis. The security is maintained in good conditions.			
Annex 14 Vol. I § 3.1.22	Ho Chi Minh/ Tan Son Nhat	RWY 25L Slippery when wet.	2003	~~Runway surface to provide good friction characteristics when wet.~~	~~Upgraded runway 25L 07R has been put into operation from 29 August 2003.~~	Southern Airport Authority	~~August 2003~~	~~Completed~~
Annex 14 Vol. I Amendment 6 ***§ 10.1*** ***§ 10.2***				A maintenance programme shall be established to maintain facilities in a condition that does not impair safety of air navigation.				"A"
RAN/3 Rec. 4/10		Taxiway markings not clear. Bay markings also not clear.	2003	All markings on paved areas should be inspected and a schedule of painting be established.	Taxiway and bay markings have been repainted by schedule.		On-going	"A"

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REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		**Deficiencies**			**Corrective Action**			
Requirements	**State/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of completion**	**Priority for action**
Annex 14 Vol. I Amendment 6 ***§ 10.1.1***				A maintenance programme should be established to maintain facilities in a condition that does not impair safety of air navigation.				"A"
~~**Annex 14 Vol. I Amendment 6** ***§ 9.10.1*** ***§ 9.10.2***~~		~~Security is poor near the main taxiway where access to the whole airport poses a risk.~~	~~2003~~	~~Improved airport perimeter fencing and general security within the perimeter of the airport required.~~	~~Safeguard is 24/24h. The security is maintained in good conditions.~~		~~2004~~	~~Completed~~

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE CNS FIELD 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****
VHF coverage to be provided in the Southern Part of Dhaka FIR and withdrawal of HF	Bangladesh	No requirement for HF except for smaller portion of FIR.~~HF used for ground-to-ground COM due to lack of ER-VHF and reliable ATS DSCs.~~	1992	Relevant sector of ATS routes has been delegated to adjacent ACC.	An action item was developed by a COM coordination meeting held in June 03 to expedite implementation of RCAGs included in a Project. An interim arrangement has been made for implementation of one RCAG site in the southern part of Dhaka FIR.	Civil Aviation Authority of Bangladesh	Target date is set by end of ~~2003.~~ 2006 for implementation of RCAG. There is neither operational problem nor any impact on flight safety as ATS is provided in the delegated airspace by adjacent ACC. This arrangement will continue until full VHF coverage is provided by Bangladesh.	~~A~~ Upon receipt of an official notification of the current arrangement this deficiency will be deleted from the list.
~~Reliable AFS communications between Kolkata and Dhaka FIRs.~~	~~Bangladesh and India~~	~~HF RTT AFTN circuit had been operating far below the required reliability of 97%. ATS DSC not implemented. IDD service used for ATS coordination not meeting operational requirement. Agartala/Dhaka and Dhaka/Guwahati. ATS DSCS not implemented.~~	~~ATS DSC 1993 AFTN 1995~~	~~HF RTT circuit was required to be to be upgraded to LTT. Corrective action required to improve performance of the IDD services initially. A dedicated circuit should be established between Kolkata and Dhaka. IDD service to be provided for Agartala/Dhaka and Dhaka/Guwahati ATS DSC.~~	~~HF RTT circuit was withdrawn. Alternate routing was established via Bangkok/Mumbai/ Kolkata for AFTN traffic between Dhaka and Kolkata. In accordance with action agreed at a COM coordination meeting held in June 03 implementation of A 64 Kbps data circuit was implemented to support AFTN and a hotline IDD implemented for ATS DSC. Agartala/Dhaka, Dhaka/Guwahati and Dhaka/Kolkata ATS DSCs. implemented on IDD hotlines.~~	~~CAA Bangladesh and Airports Authority of India~~	~~November 2003 for upgrading AFTN circuit; and December 2003 for establishment of DSC between Dhaka/Kolkata The 64 Kbps link was used to re-established Dhaka/Kolkata AFTN circuit effective 2 January 2004. A hotline IDD is used for ATS direct speech circuit. The deficiencies have been corrected.~~	~~A Official notification of Implementation received and verified through performance report.~~

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE CNS FIELD 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****
Adequate and reliable VHF COM	Myanmar	Quality and reliability of RCAG VHF inadequate and unavailability of required coverage	1998	Improvements in the quality of link to RCAG stations and power supply system are required.	Action should be taken to provide reliable links between the RCAG stations and Yangon ACC. Power supply to the RCAG sites needs improvement. High-level ICAO mission was conducted. An action plan was developed to upgrade equipment at RCAG stations, provide VSAT link at all RCAG stations, to improve power supply system and to shift ACC to the new location.	DCA Myanmar	Revised target date is end of ~~2003~~ 2004	A

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD 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 ***
Meteorological observations and reports. (Annex 3, Chapter 4)	Solomon I.	Weather information is inadequate and not provided on a regular basis	1996	Reported by airlines operating to Solomon I.	Equipment to be upgraded and arrangements to be made for regular observations	Ministry of Transport, Works and Aviation, Solomon I. *Note: OPMET/M TF to carry out survey*	TBD	A
Meteorological observations and reports. (Annex 3, Chapter 4)	Kiribati	METAR from Kiribati not available on regular basis.	1998	Reported by airlines	State's MET authority to consider urgent action to be taken for providing regular observations and reports	Directorate of Civil Aviation, Kiribati. *Note: OPMET/M TF to carry out survey*	TBD	A
Reporting of information on volcanic eruptions to civil aviation units. (Annex 3 p. 4.14 (recom.))	Indonesia	Information on volcanic activity not provided regularly to ATS units and MWOs.	1995 ICAO SIP mission Dec 2003	a) Observed by States concerned. b) Reported at the WMO/ICAO Workshop on Volcanic Ash Hazards (Darwin, 1995)	Three-party LOA to be signed between the MGA, DGCA and DVGHM	DGCA, MGA Indonesia *Note: ICAO Regional Office to monitor*	2004	A
	~~Philippines~~		~~1995~~ ~~ICAO SIP mission May 2003~~		~~Three-party LOA to be signed between the ATO, PAGASA and PHIVOLCS~~	~~PAGASA, ATO~~ ~~Philippines~~ ~~*Note: ICAO Regional Office to monitor*~~		

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD 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 ***
	Papua New Guinea		1995 ICAO SIP mission Dec 2003		Procedures to be set up for exchange of data between NWS, ATS and Rabaul Observatory and a LOA to be signed	NWS, ATS Papua New Guinea *Note: ICAO Regional Office to monitor*		
Provision of SIGMET information including SIGMETs for volcanic ash (Annex 3, Chapter 7; ASIA/PAC FASID Table MET 1B)	Indonesia Philippines Papua New Guinea	Requirements for issuance and proper dissemination of SIGMET, including SIGMET for volcanic ash, have not been fully implemented	2000	a) Reported by airlines b) Noted by Volcanic Ash Advisory Centres	a) ICAO to carry out a Special Implementation Project (SIP) with the primary objective to improve implementation of SIGMET procedures, especially for VA. b) State to take urgent actions to implement the SIGMET procedures.	a) State's Met authorities b) ICAO to implement the SIP. c) ICAO Regional Office to co-ordinate and monitor. *Note: ICAO SIP carried out in 2003; progress in issuance of SIGMET for VA is noted; the outstanding problems to be resolved within 1-year time*	2005	U

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD 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 ***
a) Service for operators and flight crew members. (Annex 3, Chapter 9). b) WAFS products for flight documentation. (ASIA/PAC FASID Table MET 1A).	Cambodia Myanmar	Briefing and flight documentation not provided as required. WAFS products not available	1999	Airlines do not receive the required flight documentation including WAFS forecasts.	States consider urgent action to be taken for installation of SADIS VSAT for receiving WAFS products and OPMET information. Action plan proposed by ICAO MET mission 2003	State's MET authorities	TBD	A
a) TAF for VDPP (ASIA/PAC FASID Table MET 1A) b) MWO for Phnom Penh FIR and SIGMET (Annex 3, Chapter 7; ASIA/PAC FASID Table MET 1B)	Cambodia	TAF not issued for VDPP Requirements for meteorological watch office (MWO) to be established at Phnom-Penh international airport have not been met.	1992 ICAO MET mission 2003	Lack of trained forecasters for regular TAF service. Serious problems for all airlines flying to VDPP MWO not established due to lack of trained personnel and technical facilities. No SIGMET service for Phnom Penh FIR – serious safety issue.	Action plan proposed by ICAO MET mission 2003 Training of forecasters for issuing TAF urgently required Establishment of MWO currently not feasible. Urgent need for bi-lateral agreement for SIGMET service by a neighboring State.	SSCA, Cambodia *Note: Initial 2-week training for two forecasters from SSCA carried out at the Thai MET Department in coordination with the ICAO regional Office*	TBD	U

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD 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 ***
Provision of SIGMET information (Annex 3, Chapter 7; ASIA/PAC FASID Table MET 1B)	~~Bangladesh~~ India Lao PDR Myanmar Nepal	Requirements for issuance and proper dissemination of SIGMET have not been fully implemented.	2000	SIGMET frequently not available Reported by airlines	State's MET authority to take urgent actions to implement the SIGMET procedures. ICAO issued new version of ASIA/PAC Regional SIGMET Guide in September 2003	State's MET authorities *Note: ICAO Regional Office to enquire action plans with fixed target dates from the listed States*	2005	U
~~a) Annex 3 provisions for Tropical Cyclone Advisory Centres (TCAC) and for the format of tropical cyclone advisories for aviation~~ ~~b) ASIA/PAC Basic ANP (p.6.2) and FASID Table MET 3A~~	~~India~~	~~TCAC New Delhi does not issue tropical cyclone advisories for aviation~~	~~2003~~	~~Reported by airlines and identified during ICAO attendance to ESCAP/WMO Panel on Tropical Cyclones, 2002 and 2003~~	~~The Authority concerned to take urgent actions to meet requirements of Annex 3 and ASIA/PAC BANP and FASID for provision of tropical cyclone advisory for aviation.~~	~~India Directorate General of Civil Aviation; India Meteorological Department~~ ~~*Note: TC Advisory Service has been implemented by IMD since the beginning of 2004*~~	~~2004~~	~~A~~

AGENDA ITEM 5: REVIEW OF THE OUTSTANDING CONCLUSIONS AND DECISIONS OF APANPIRG

Agenda Item 5: Review of Outstanding Conclusions and Decisions of APANPIRG

5.1 The meeting reviewed the progress made on the outstanding conclusions and decisions of APANPIRG including the conclusions and decisions of its thirteenth meeting.

5.2 The actions taken by States and the Secretariat on the above mentioned conclusions and decisions were reviewed and the updated list is provided in **Appendices A and B** to the Report on Agenda Item 5.

5.3 The meeting noted that many of the outstanding conclusions in the ATM/AIS/SAR fields were long standing, not specific enough in their intent or time-bounded and in many cases had been overtaken by events. In light of these considerations, the meeting agreed to close many of the outstanding conclusions. The meeting noted that if replacement was required, APANPIRG would formulate new and relevant conclusions as necessary.

5.3. After a thorough review of the list of outstanding conclusions/decisions presented to the APANPIRG/15, which contained 46 items, the meeting identified that 38 items were completed or closed, which was 83% of the total number. The completion status in the respective fields is as follows:

- in the ATM/AIS/SAR fields 28 of the 32 outstanding conclusions/decisions were completed or closed, which was nearly 88% completion;

- in the CNS field there were 4 outstanding conclusion identified and the action on 3 conclusions was completed or closed resulting in 75% completion of the task;

- in the MET field 7 out of 10 outstanding conclusions were completed or closed resulting in 70% completion.

STATUS OF OUTSTANDING CONCLUSIONS/DECISIONS OF APANPIRG IN ATM/AIS/SAR FIELDS

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C 2/28~~		~~**Implementation of Area Control Service**~~ ~~That in view of recent improvements in the point to point communications and imminent improvement in HF air-ground communication, States concerned be urged to take urgent action to upgrade advisory and flight information services to area control service in the area over the Bay of Bengal by early 1993 along major ATS routes in their respective FIRs to enhance the safety of the rapidly increasing air traffic movement.~~	~~a) Some routes in the Arabian Sea within the Mumbai FIR are still classified Class F with Advisory Services~~ ~~b) States to update the Regional Office on the current status~~	~~On-going~~ ~~On-going~~ ~~Closed – Superseded by C10/4~~
~~C 3/24~~		~~**Implementation of RVSM & RNP in the Pacific Region**~~ ~~That, Australia, New Zealand and United States requested to prepare proposals for the implementation of RVSM and RNP in the Pacific Region based on the work done by the ISPACG.~~	~~a) RNP 4 implementation being considered (30/30 NM separation implementation in Auckland and Brisbane FIRs planned for November 2004)~~ ~~Note: RVSM was implemented in the Pacific Region on 24 February 2000. This action on RVSM was completed.~~ ~~(ATM/AIS/SAR/SC/14 noted that this Conclusion dates from APANPIRG/3, RVSM has been implemented in the Pacific Region. RNP 10 has been extensively implemented in the Pacific Region and the focus is now on RNP 4. Consider replacing this Conclusion with more up to date one)~~	~~On-going~~ ~~Closed – overtaken by events.~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C 4/2~~		~~**States in the Asia Region to review their SAR system**~~ ~~That,~~ ~~a) States in the Asia Region review their SAR system in the context of the matters which require urgent addressing in the PAC Region and detailed in Appendix B, and advise the ICAO Regional Office.~~ ~~Noted the Conclusion.~~	~~a) Review of Asian States SAR is continuing. The ICAO Regional Office is actively fostering the enhancement of SAR throughout the Region as part of the normal work programme. Deficiencies will be listed as they become apparent.~~ ~~b) States to update the Regional Office by 30 April each year~~	On-going ~~Closed- superseded, part of normal work programme of RO~~
~~C 8/9~~	~~ANC~~	~~**Co-ordinated Activity – SAR**~~ ~~That, ICAO undertakes co-ordinated activity on a regional basis to improve the level of SAR response throughout the Asia/Pacific Region.~~ ~~Noted the conclusion and requested the Secretary General to take appropriate action.~~	~~a) A SAREX and associated SAR seminar focused on the Bay of Bengal area is programmed to take place in 2004~~ 2005~~; and~~ ~~b) A similar project will be organized for the South China Sea and Pacific islands area.~~ ~~Note: ICAO seminar being planned in conjunction with the Hong Kong, China annual SAREX in November 2003)~~ ~~Note: An ICAO seminar was held in conjunction with the Hong Kong China SAREX in November 2003~~ ~~States to advise the Regional Office of their annual SAREX programmes and consider including an ICAO seminar.~~	~~2004~~ ~~On-going~~ ~~On-going~~ ~~Closed- superseded, part of normal work programme of RO~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C 8/39~~	~~C~~	~~**CNS/ATM Training Workshops and Seminars**~~ ~~That, the ICAO Regional Office continue to arrange CNS/ATM training workshops and seminars with the assistance of CNS/ATM Stakeholders and partners as necessary.~~ ~~Noted the conclusion~~	~~Several CNS/ATM workshops and seminars were held in the year 2000. Further workshops and seminar will be programmed to be held in 2004/05 considered in 2005.~~	~~2004~~ ~~On-going~~ ~~Closed-superseded, part of normal work programme of RO~~
~~C 9/2~~		~~**Transition to WGS-84 in the ASIA/PAC Region**~~ ~~That, in order to achieve uniformity in aeronautical data publication across the Regions, those States which have not yet determined and published WGS-84 data, urgently undertake to complete the task in the shortest possible time frame.~~	~~States are reminded that CNS/ATM relies on WGS84 as the only datum that can be loaded into the FMS database and is fundamental to the implementation of RNP, GNSS, and ADS. ICAO Regional Office continues to undertake follow-up action with States concerned. The non implementation of WGS-84 is listed as a Deficiency.~~	~~On-going~~ ~~Closed, managed by Deficiences list~~
~~C 9/8~~		~~**ATS Route Amendments**~~ ~~It is reiterated that, States should provide information regarding implemented, re-aligned or deleted ATS routes to ICAO by 30 April of each year in order to permit the periodic update of the Document of ATS Route Network.~~	~~Some information has been received. States were reminded of this Conclusion at ATS/AIS/SAR/SG/12. The Document of ATS Route Network has been revised and updated. Any changes to the RANP should be notified by States through an Amendment Proposal.~~ ~~An ATS Route Network Review Task Force has been established by APANPIRG/14 and scheduled to meet in the 1st 3rd quarter of 2004 in September 2004.~~	~~On-going~~ ~~Closed, will be undertaken by ATS Route Network Review Task Force~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C 9/9~~		~~**Human Factor in the Provision of ATS**~~ ~~That,~~ ~~a) ICAO consider holding Human Factors seminars in the Asia/Pacific Region which are focused directly on Human Factors associated with the provision of ATS, and;~~ ~~b) States be urged to make regular presentations to Sub Group meetings regarding "lessons learned" relating to Human Factors associated with the implementation of the new CNS/ATM Systems.~~	~~a) The first ATS Human Factors Seminar was conducted in 2000.~~ ~~b) States are urged to provide information to ICAO on lessons learned.~~	~~On-going~~ ~~On-going~~ ~~Closed, being managed by HQ~~
	~~ANC~~	~~Noted the conclusion~~		
~~D 9/39~~		~~**CNS/ATM Training and Human Resource Development Task Force**~~ ~~That, a CNS/ATM Training and Human Resource Development Task Force be established with the following Terms of Reference:~~ ~~a) Recommend a strategy for a regional approach towards planning the development and implementation of CNS/ATM training;~~ ~~b) Recommend a co-ordination mechanism for the establishment of regional training capabilities in CNS/ATM systems;~~ ~~c) Recommend a framework for regional training plans and consider the applicability of including this material in the Regional Air Navigation Plan;~~ ~~d) Take into consideration the work of ICAO TRAINAIR, the ICAO Regional Human Resources Planning and Training Needs Study Group and the APANPIRG/7 Training Task Force and recommend mechanisms for regional integration of the outputs from these groups.~~	~~The Task Force held its first meeting in July 1999. A Regional CNS/ATM Training & Human Resource Development Strategy was developed. Further work may be progressed when the outputs of the ICAO Human Resource Planning and Training Needs Study Group become available.~~	~~On-going~~ ~~Completed.~~ Sub Groups to review Human Factors Manual to be published late 2004 and raise WP for consideration by APANPIRG/16

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C 9/51~~		~~**Strengthening the Regional Office Resources**~~ ~~That, the ASIA/PAC Regional Office resources be strengthened to permit the proper maintenance of the ASIA/PAC FASID and implementation of uniform methodology for the identification of shortcomings, the first step being the filling of the vacant AIS/MAP post.~~ ~~Noted the conclusion and requested the Secretary General to take appropriate action thereon~~	~~Secretary General has been requested to take appropriate action.~~	~~On-going~~ ~~Closed, superseded by C14/53~~
~~C 10/2~~		~~**Uniform Promulgation of FIR Boundary Way-points**~~ ~~That, States review their aeronautical materials and that of their adjacent States and, through co-ordination with adjacent States, ensure uniform promulgation of FIR boundary way points using WGS-84 as the basis of the Datum.~~	~~ICAO continues to monitor situation and will co-ordinate with individual States where the uniform promulgation of FIR Boundary way-points has not been achieved.~~	~~On-going~~ ~~Closed, managed by Deficiencies list~~
~~C 10/3~~		~~**ANP Amendment Proposal to include SIGMET in VOLMET Broadcasts (ASIA)**~~ ~~That, the ASIA/PAC Air Navigation Plan (Doc 9673) be amended to add a requirement for inclusion of SIGMET in VOLMET broadcasts for the Asia Region.~~	~~Amendment proposal APAC 99/9 ATS has been drafted and will be circulated to States and Organizations concerned. Superseded by Conclusion 14/4~~	~~On-going~~ ~~Completed (Close proposal circulated)~~
C 10/4		**Implementation of Area Control Service and 10-Minute Longitudinal Separation using Mach Number Technique in the Bay of Bengal area** 1) That, States in the Bay of Bengal area a) Complete the upgrade of airspace from advisory and flight information services to area control service along ATS routes, as appropriate;	1) a) ~~implemented~~ Some routes in the Mumbai FIR remain under advisory service due to inadequate communications which is being	Supercedes C2/28 On-going

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
			remedied	
		~~b) complete the implementation of 10-minute longitudinal separation minima using Mach Number Technique; and~~	~~b) Implemented; and~~ Note: LOAs of some States require updating. The Regional Office to coordinate	~~On-going~~ Completed
		c) identify ATS routes where 10-minute longitudinal separation minima for RNAV equipped aircraft without using MNT could be applied and implement such minima.	c) Implementation subject to provisions of ICAO separation standards.	On-going
		2) That, Sub-regional ATS Co-ordination Groups concerned place a high priority on items 1) a), b) and c) above.	2) Implementation continues to be co-ordinated through the Bay of Bengal ATS Co-ordination Group (BBACG).	On-going
~~C 11/1~~		~~**RVSM Minimum Monitoring Requirements**~~ ~~That, ICAO be requested to develop globally applicable short and long term RVSM minimum monitoring requirements for aircraft.~~	~~The ICAO Separation and Airspace Safety Panel (SASP) is studying the short and long term objectives for RVSM monitoring.~~	~~On going~~
	~~ANC~~	~~Noted the conclusion and that SASP is studying the short and long term objectives for RVSM monitoring.~~	~~RMAs, RASMAG and parties concerned to review and harmonize adoption of the RVSM minimum monitoring requirements for the Asia/Pacific Region~~	~~Closed, managed by RASMAG~~
~~C 11/6~~		~~**Mandatory Carriage and Operation of Pressure Altitude Reporting Transponders**~~ ~~That, States take immediate steps to mandate the carriage and operation of pressure altitude reporting transponders within all FIRs in the Asia/Pacific Region.~~	~~Two surveys have been conducted in conjunction with the survey relating to the carriage of ACAS II for the purpose of monitoring the implementation status in the Region.~~ ~~States, as a matter of urgency, to update the Regional Office on the status of implementation.~~	~~On going (Closed superseded by Conclusion 14/6)~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C 11/9~~		~~**Search and Rescue Agreements between States and Establishment of a Search and Rescue Register**~~ ~~That, States are to complete their SAR agreements with their neighbouring States and forward such agreements to the ICAO office to be included in a register on SAR Agreements.~~ ~~Noted the conclusion and requested the Secretary General to urge States to complete SAR agreements with their neighbouring States and forward such agreements to ICAO.~~	~~States have been urged to complete their SAR agreements with their neighboring States. Information has been received from some ASEAN States on signed agreements with their neighbours.~~ ~~A registry of SAR agreements is maintained by the Regional Office and updated at the ATM/AIS/SAR/SG.~~	~~On-going~~ ~~Closed, managed by Deficiencies List~~
	~~C~~			
~~C 12/1~~		~~**Observation of non-compliance of RVSM operational approval procedures**~~ ~~That, States are urged to co-operate with APARMO to investigate RVSM approval status of operators and aircraft with the aim of resolving problems of RVSM non-compliant operations.~~	~~States were urged to co-operate with APARMO in this regard.~~ ~~Letter to States issued by Regional Office (2003) re update of approval status~~ ~~Note: The Monitoring Agency for the Asia Region (MAAR) commenced operating in September 2003 and took over responsibilities for the Asia Region from APARMO (renamed PARMO) and takes follow up action on non-compliant operators. This is also kept under review by RASMAG.~~	~~On-going~~ ~~Completed~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C 12/3~~		~~**Implementation of RVSM in the Bay of Bengal area and beyond in conjunction with the planned implementation in the Middle East Region**~~ ~~That, States are urged to implement RVSM in the Bay of Bengal area and beyond in conjunction with the planned implementation in the Middle East Region on 27 November 2003 in order to realize the end-to-end seamless RVSM operation between Asia/Middle East/Europe south of the Himalayas.~~	~~RVSM Task Force defined the airspace in which RVSM will be implemented on 27 November 2003, which includes Bangkok, Calcutta, Chennai, Colombo, Delhi, Dhaka, Jakarta, Karachi, Katmandu, Kuala Lumpur, Lahore, Male, Mumbai and Yangon FIRs. All States concerned have agreed to the implementation date of 27 November 2003. RVSM Task Force has been progressing its tasks towards the planned implementation in the Bay of Bengal and beyond.~~	~~On-going~~ ~~Completed~~
	~~ANC~~	~~Noted the conclusion and requested the Secretary General to urge the States concerned to implement RVSM to provide an end-to-end Asia/Europe RVSM environment.~~		
~~C 12/4~~		~~**Inter-regional co-ordination between the Asia and Middle East Regions in relation to RVSM implementation**~~ ~~That, ICAO facilitate inter-regional co-ordination between the Asia and Middle East Regions involving States concerned with the aim of joint harmonized implementation of RVSM.~~	~~The 1st Joint Interface Meeting of RVSM Task Forces between the Asia/Pacific and Middle East Regions involving India, Maldives and Pakistan from the Asia Region and Afghanistan, Islamic Republic of Iran, Oman, the United Arab Emirates (UAE) and Yemen from the Middle East Region, as well as IATA and IFALPA, was held was held in Abu Dhabi, UAE, from 19 to 20 October 2002.~~ ~~A final JCM meeting before implementation on 27 November 2003 is scheduled in Abu Dhabi on 27-28 August 2003.~~ ~~Note: Implementation on 27 November 2003 and on-going coordination being undertaken by RASMAG~~	~~On-going~~ ~~Completed~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
C 12/6		**Regional Contingency Planning Survey** That, ICAO survey States in the Asia/Pacific Region to determine the status of contingency planning and the extent to which contingency plans are exchanged between neighbouring States.	A survey from States on the status of their National Contingency Plan arrangements has not been completed. Nevertheless, a framework for National Contingency Plans was presented to States at ATS/AIS/SAR/SG/12. States were encouraged to use this framework in developing their Plans in coordination with their neighbouring States. States had agreed under C10/37 to revise their Contingency Plans by 2003 and to update the Regional Office During APANPIRG/15 the Regional Office undertook to complete a survey and report to APANPIRG/16	On-going
C 12/10	C	**Special implementation project – International seminar and SAREX** That, ICAO urgently consider a proposal for an Asia/Pacific Special Implementation Project to be established with the primary objective to improve search and rescue services, co-ordination and cooperation between States. Noted the conclusion and that such a project would be put forward for the Council's approval through established procedures.	~~Due to other priorities in the ATM field, it was decided to defer the Special Implementation Project on the International Seminar and SAREX to 2002. States will be approached regarding the hosting of this SAREX/Seminar. When this decision has been finalized, other States of the Bay of Bengal area will be invited to contribute to the conduct and organizational aspects of making this event a success.~~ Note: The SIP was established but was unable to be actioned. SIP approval has expired. An ICAO Seminar and SAREX for the Bay of Bengal hosted by India is planned for March 2005. The ATM/AIS/SAR/SG to keep under review and identify other candidates for SIPs.	On-going

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
C 12/38		**Revision and Publication of Guidance Material on CNS/ATM Operations in the Asia/Pacific Region** That, a) the *Guidance Material on CNS/ATM Operations in the Asia/Pacific Region*, Chapter 4, paragraph 6 on the application of separation using ADS be revised in line with the views of the Air Navigation Commission (157-2) on reviewing the report of APANPIRG/11 as follows: **6. Application of procedural horizontal separation using ADS** Aircraft position information obtained by ADS may be used for the application of procedural horizontal separation minima contained in the PANS-RAC (Doc 4444), Part III. Area Control Service where aircraft position reports are necessary to apply the appropriate separation minimum. *Note: - ICAO is processing amendments to the PANS-RAC to include procedures for the provision of ADS services for air traffic control with an applicability date in November 2002.* b) the revised *Guidance Material on CNS/ATM Operations in the Asia/Pacific Region* be published by ICAO as soon as practicable	A Task Force was established by APANPIRG/14 to revise the APAC Guidance Material Guidance and coordinate with IPACG and ISPACG with a view to harmonize the Pacific Operations Manual. A Task Force meeting is scheduled 2-3 October 2003 in Honolulu to coincide with the IPACG/ISPACG/FIT meeting. Note: This Task is on the work programme of the ATS/AIS/SAR/SG and will be progressed with priority.	On-going (Close, superseded by Conclusion 14/2)
D 12/39		**Development of guidance material on the use of ADS for the application of separation** That, the CNS/ATM/IC/SG review the provisions in the PANS-ATM, Part XII (Doc 4444) on ADS services, and develop guidance material on the use of ADS for the application of separation to be included in the *Guidance Material on CNS/ATM Operations in the Asia/Pacific Region* as appropriate.	In light of Amendment 1 to PANS-ATM and the review by ANB of the *Guidance Material on CNS/ATM Operations in the Asia/Pacific Region*, work on this item has not been progressed and needs to be taken into account in the overall review of this Guidance Material.	On-going (Close, superseded by Conclusion 14/2)

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~D 12/47~~		~~**Follow-up actions on the Conclusions of ALLPIRG/4 Meeting**~~ ~~That, the following conclusions of ALLPIRG/4 meeting be addressed by the relevant sub-groups as part of their work programme and report its outcome.~~ ~~Conclusions 4/1, 4/2, 4/8 and 4/13- CNS/ATM IC SG~~ ~~Conclusions 4/3 and 4/7- ATS/AIS/SAR SG~~ ~~Conclusions 4/3 - CNS/MET SG~~ ~~Conclusions 4/10 and 4/11- All Sub-Groups~~ ~~Conclusion 4/3 - Increased emphasis on addressing interregional issues and missing elements~~ ~~That, with a view to facilitating interregional planning and the harmonization of air navigation systems, ICAO and the CNS/ATM partners put more emphasis on the addressing of interregional issues and the missing elements as outlined in Appendix C to the report on Agenda Item 2.~~ ~~Conclusion 4/11 - Single definition~~ ~~That ICAO be invited to refine the following single definition of a shortcoming/deficiency with a view to its incorporation into the uniform methodology for the identification and reporting of air navigation shortcomings and deficiencies:~~ ~~"A *deficiency* is a situation where a facility, service or a procedure is not provided in accordance with ICAO Standards and Recommended Practices which has a negative impact on the safety, regularity and/or efficiency of international civil aviation".~~	~~Both CNS/ATM/IC/SG and ATM/AIS/SAR/SG noted the results of ALLPIRG/4 Conclusions. Action already in hand as part of the work programme of the Sub-Groups. Further follow-up action will be taken as appropriate.~~	~~On Going~~ ~~On-going~~ ~~Completed~~ ~~Close superseded by recommendations to PIRGs from AN_Conf 11~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C 13/2~~		~~**Development of procedures relating to multi-part NOTAM and NOTAM Checks by NOTAM**~~ ~~That, ICAO consider developing procedures relating to multi-part NOTAM and NOTAM Checks by NOTAM based on the procedures contained in the draft Chapter 3 of the *Guidance Manual for AIS in the Asia/Pacific Region* at Appendix C to the Report on Agenda Item 2.1, for global application, and including them in the *Aeronautical Information Services Manual* (Doc 8126).~~	~~ICAO to include guidance material covering NOTAM Check Lists in update to Aeronautical Information Services Manual (Doc 8126)~~	~~On-going (Closed, action being taken by ICAO Headquarters)~~
	~~ANC~~	~~Noted the conclusion and requested the Secretary General to take this into account when updating the *Aeronautical Information Services Manual* (Doc 8126).~~		
~~C 13/3~~		~~**Guidance Materials concerning the operating procedures for AIS dynamic data (OPADD) and the use of the Internet for information transfer as Chapters 3 and 4 respectively of the Guidance Manual for AIS in the Asia/Pacific Region**~~ ~~That, the guidance materials concerning the operating procedures for AIS dynamic data (OPADD) (at Appendix C to the Report on Agenda Item 2.1) and the use of the Internet for information transfer (at Appendix D) be published as Chapters 3 and 4 respectively of the *Guidance Manual for AIS in the Asia/Pacific Region* be published in accordance with the established procedures.~~	~~Chapter 3 (OPADD) already included in regional Guidance Manual – Chapter 4 (Internet) being developed by ICAO Headquarters.~~	~~On-going (Closed, action being taken by ICAO Headquarters)~~
	~~ANC~~	~~Noted the conclusion and that the Secretariat was developing a proposal for the development of guidelines for the operational use of the Internet by States to access and/or disseminate various categories of aeronautical information.~~		

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C 13/5~~		~~**Development of lateral offset procedures for application in the Asia/Pacific Region**~~ ~~That, as a matter of urgency, the ATS/AIS/SAR Sub-Group develop lateral offset procedures for application in the Asia/Pacific Region in coordination with other regional planning groups and bodies concerned.~~	~~Further development of the use of lateral offsets to be considered by the Bay of Bengal ATS Coordination Group (BBACG) and the South-East Asia ATS Co-ordination Group.~~ ~~Note: This task is overtaken by events and the provision of new guidelines for 2 NM offset is under development by SASP.~~	~~On-going (Closed, overtaken by events 2 NM offset procedures being issued by ICAO.~~
~~C 13/6~~		~~**Amendment to the Regional Supplementary Procedures**~~ ~~That, the MID/ASIA and PAC *Regional Supplementary Procedures*, ICAO Doc 7030 be amended in accordance with the proposed amendment in Appendix F to the Report on Agenda Item 2.1.~~	~~The proposed amendment to the SUPPs in relation to the application of 55.5 km (30 NM) using ADS and 93 km (50 NM) lateral and longitudinal separation minima within the Asia/Pacific Regions is being circulated to States and international organizations.~~	~~On-going (Completed)~~
~~D 13/10~~		~~**ATS/AIS/SAR Subject/Task List**~~ ~~That, the ATS/AIS/SAR Subject/task List as contained in Appendix L to the report on Agenda Item 2.1 be adopted as the current work assignment for the AIS/AIS/SAR/ Sub-Group replace the current Subject/task List as assigned by APANPIRG/12/~~		~~On-going (Close routine task of APANPIRG)~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
C 13/34		**Strengthening the Civil/Military Coordination Programme** That, due to an increase in military activity within and adjacent to the Asia Pacific Region, 1. States are urged to: a) remain vigilant with regard to military activity within or near their area of responsibility; b) continue effective civil/military coordination with military authorities concerned; and, c) advise and coordinate with adjacent States and ICAO of any significant increase in military activity which may have an affect on international aircraft operations. 2. ICAO to arrange an Asia/Pacific Regional Seminar on Civil/Military Coordination and, if considered necessary, to follow-up with sub-regional Civil/Military Co-ordination Workshops in areas as deemed appropriate.	A Seminar had been planned for 2003, but postponed due to disrupted meeting schedule, and to be re-scheduled for 2004. States are encouraged to strengthen activities in this area States are encouraged to strengthen activities in this area States are encouraged to strengthen activities in this area Regional Office has scheduled a Seminar for December 2004.	On-going
~~C 13/44~~		~~**Support for States to establish Safety Management Systems to meet the obligation of Annex 11**~~ ~~That, ICAO and States with safety management expertise support the implementation of Annex 11 safety management system requirements through holding seminars, workshops and the provision of guidance material.~~	~~This subject has been addressed by the APASM TF which endorses the need for assistance to States to establish Safety Management Systems, supported by the following:~~ ~~a) Hold SMS Seminar in the first quarter of 2004;~~	~~On-going (Closed - subject under RASMAG)~~ ~~Completed~~

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
			b) Consideration be given to development of regional guidance material; and c) Encourage States with appropriate expertise to assist other States with the development of their SMS. Note: APANPIRG/14 established the RASMAG which under its terms of reference assists States to achieve established levels of safety for international airspace within the Asia/Pacific Region and facilitates the distribution of safety related information to States. A SMS seminar was held in Singapore in December 2003 and another seminar is planned in Beijing in November 2005.	(Being addressed by RASMAG) (Being addressed by RASMAG)
C 13/47 (Corrig. No.1)		**Key Priorities for CNS/ATM Implementation** That, in order to facilitate the implementation of the Key Priorities for CNS/ATM in the Asia/Pacific Region, ICAO is requested to: a) re-convene the FANS Action Team for the Bay of Bengal (FAT-BOB), and form a similar group for the Western Pacific/South China Sea; and, b) adopt the broad terms of reference for these groups as follows: i. identify elements of the key CNS/ATM priorities which have not been implemented on a coordinated basis; ii. consider the implementation of these elements, on a prioritized basis, taking into account user operational requirements, cost-benefit and environmental concerns; and,	a) A meeting of the BBACG and FAT-BOB is scheduled on 8-12 September 2003. b) A meeting of the SEACG and FAT-SEA is scheduled on 8-12 December 2003. Note: BBACG/13 & FIT-BOB/2 (FAT-BOB renamed) was held in September 2003. SEACG/11 and FIT-SEA/1 was held in May 2004. The work plans of these groups addresses the matters raised.	On going (Completed)

Report Reference ---------- Conc/Dec No	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
		~~iii. develop action plans for CNS/ATM implementation as appropriate on a collaborative basis.~~		
	ANC	~~Noted the conclusion and that the FANS action team has been reconvened to develop an action plan so as to identify and implement the elements of the key CNS/ATM priorities which have not been implemented on a coordinated basis~~.		

STATUS OF OUTSTANDING CONCLUSIONS/DECISIONS OF APANPIRG IN THE CNS/MET FIELDS

Report Reference ---------- Conc/Dec No.	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
C 5/19	*C*	Need for technical assistance to support WAFS implementation in the ASIA/PAC Regions That, ICAO initiate action to provide technical assistance in terms of equipment and training of personnel under the Technical Co-operation Programme to those States that are in need of assistance to receive WAFS products by satellite broadcast. *Noted the conclusion and requested the Secretary General to take action as appropriate.*	The use of SADIS and ISCS/2 by ASIA/PAC States has continued to grow and further expansion is expected. Implementation of the SADIS and ISCS/2 is being monitored to define the extent of the assistance required. UK provided GRIB/BUFR training for SADIS User States in ASIA/PAC region in November 2002. Second GRIB/BUFR training for ISCS and SADIS Users is planned for late 2004 (update: training dates fixed for 25 – 27 January 2005)	On-going 2005
~~C 9/18~~		~~**Operational efficacy of OPMET messages**~~ ~~That,~~ ~~ICAO carry out a survey on the operational efficacy of the ISCS/2; and~~ ~~Results of the survey be made available to the ISCS/2 provider Stat and reported to the COM/MET/NAV/SUR SG/3 Meeting.~~	~~Proposal to carry out a survey on the operational efficacy of the ISCS/2 was forwarded to the ISCS Provider State for review and consideration.~~ ~~The United States was invited to review the proposed survey form and to provide comments.~~	Closed (superseded by APANPIRG Conclusion 15/xx)
~~C 10/23~~		~~**Revision of the ROBEX Scheme**~~ ~~That, in order to facilitate distribution of the ASIA/PAC OPMET information to the WAFC London and Washington for uplink to the satellite broadcasts, the ROBEX Scheme be revised as shown in Appendix J to this Report on Agenda Item 2.2.~~	~~The revised ROBEX Scheme is being implemented. The collection areas of some ROBEX Centres have been extended.~~ ~~Task to be carried out by OPMET/E TF.~~ ~~OPMET/E TF developed an action list in regard to the further optimization of ROBEX Scheme.~~	~~Completed~~
~~C 11/33~~		~~**SIGMET Special Implementation Project**~~ ~~That, ICAO urgently consider a proposal for the ASIA/PAC Special Implementation Project be established~~	~~The SIP Project Proposal will be put forward for Council approval in 2001.~~ ~~The SIP Proposal is being revised in order to reduce the~~	~~Completed~~

Report Reference ---------- Conc/Dec No.	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
		~~with the primary objective to improve implementation of SIGMET procedures.~~	~~cost and will be put forward for Council approval in 2002.~~	
	~~C~~	~~Noted the conclusion and that such project would be put forward for Council approval through established procedures.~~	~~The revised SIP was approved by the Council for implementation in 2003. Mission to Japan and Philippines completed by May 2003.~~ ~~SIP was conducted in 2003~~	
C 12/25		**Application of EUR OPMET update procedure in the ASIA/PAC Regions** That, the procedure similar to the EUR OPMET update procedure be developed and introduced in the ASIA/PAC Regions.	The procedure is to be developed by the OPMET Exchange Task Force. OPMET/M Task Force is working on developing appropriate update procedure for ASIA/PAC Region	On-going
~~C 12/26~~		~~**Tropical cyclone advisories with the data designator "FK"**~~ ~~That, the TCACs Honolulu, Miami, New Delhi, Darwin, Nadi and Tokyo, designated to provide the service in the ASIA/PAC Regions, issue the advisories using the data designator "FK" and ensure the routing of these bulletins to aviation users and London Centre for uplink to the SADIS broadcast.~~ ~~Note: Requirement for Honolulu TCAC in the ASIA/PAC Regions is covered by Conclusion 12/33 formulated by the meeting.~~	~~Implemented by Japan and USA. Other TCACs have been notified through WMO Tropical Cyclone regional bodies.~~ ~~The TC advisories with data designator "FK" and standard format awarding to Annex 3 have been implemented by all TCACs in ASIA/PAC except New Delhi.~~ ~~TCAC New Delhi introduced "FK" advisories in January 2004~~	~~Completed~~

Report Reference ---------- Conc/Dec No.	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
~~C 12/32~~	~~*ANC*~~	~~**Volcanic Ash Advisory and SIGMET in graphical format**~~ ~~That, ICAO give consideration to further improvement of the format in which the graphical advisory should be issued by VAACs and development of proposals for the format of a graphical SIGMET for volcanic ash, including the necessary guidance regarding procedures for dissemination of information.~~ ~~*Noted the conclusion and requested the Secretary General to consider further improving the format of graphical advisories to be issued by VAACs and develop proposals for the graphical format of SIGMET messages for volcanic ash, including the necessary guidance regarding procedures for dissemination of information.*~~	~~The recommendation for BUFR coded graphical volcanic ash advisories to be included in the Amendment proposal 73 to Annex 3.~~ ~~The task is undertaken by the IAVWOPSG~~	~~Closed~~
~~C 13/12~~		~~**Need to monitor AFTN circuit performance**~~ ~~That, States concerned closely monitor performance of the following AFTN circuits and coordinate upgrading the circuits capacity, in accordance with the AFTN plan.~~ ~~1. Colombo/Male 5. Kuala Lumpur/Chennai~~ ~~2. Colombo/Singapore 6. Tokyo/Singapore~~ ~~3. Mumbai/Colombo 7. Tokyo/Moscow~~ ~~4. Mumbai/Nairobi~~	~~States concerned were requested to monitor loading condition and upgrade circuit capacity as specified in Table CNS 1A AFTN Plan. Consequently,~~ ~~- Colombo/Male upgrading planned for 12/04~~ ~~- Colombo/Singapore upgraded to 9600bps 12May03~~ ~~- Mumbai/Colombo upgraded to 64 kbps 19Mar.03~~ ~~- Mumbai/Nairobi India is ready to upgrade. International coordination is being under taken.~~ ~~- Kuala Lumpur/Chennai upgraded to 9600 bps in April 03.~~ ~~- Tokyo/Singapore – upgraded to 9600bps 15Jan03;~~ ~~- Tokyo/Moscow States closely monitoring circuit loading. Coordination being carried out between States concerned for upgrading the circuit.~~ ~~Colombo/Male, Mumbai/Nairobi and Tokyo/Moscow are~~	Closed (Superseded by amendment to FASID Table CNS 1A)

Report Reference ---------- Conc/Dec No.	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
			being monitored.	
~~C 13/14~~		**~~Conclusion: 13/14 – ATN Documentation Tree~~** ~~That,~~ ~~the ATN Planning Document be published in a loose-leaf form to include future amendments to the Document; and~~ ~~the ATN Documentation Tree provided in Appendix B to the report on Agenda Item 2.2 be adopted and included in the ATN Planning Document.~~	~~Documentation tree was further updated by the Fifth ATN Transition Task Force meeting held in June 2003. It will be included in the ATN Planning Document in accordance with Conclusion 14/13 of APANPIRG/14~~ ~~Documentation tree further updated by the Sixth ATN Transition Task Force meeting held in April 2004 and posted on the ICAO APAC web site as a part of the ATN planning document.~~	~~Completed~~
C 13/23		**Process of Review and Notification of Differences** That, States establish a procedure with assistance of a database for review of SARPs and notification of differences to Annexes in a timely and comprehensive manner.	A possibility of conducting a special implementation programme (SIP) is being explored. SIP on the subject approved by the Council and will be conducted by the end of 2004	On-going
~~C 13/30~~		**~~Regional survey on the current status and future plans of~~** **~~States to process the MET component of ADS Reports~~** ~~That, ICAO carry out a regional survey to assess the current status and future plans of the States in the ASIA/PAC Regions to process the MET component of the ADS message and forward the data to the WAFCs and to assess if the data is quality controlled.~~	~~The Survey is to be carried out by the end of 2003.~~ ~~The survey was conducted in May and June 2004~~	~~Completed~~

Report Reference ---------- Conc/Dec No.	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
C 13/32	*C*	**QA MET seminar for ASIA/PAC Region** That, ICAO, in coordination with WMO, organizes a seminar on the quality assurance in the provision of meteorological services to aviation in the ASIA/PAC Region during 2003. *Noted the conclusion and recognizing that in accordance with the Working Arrangements between the International Civil Aviation Organization and the World Meteorological Organization (WMO) (Doc 7475) this conclusion should be addressed to WMO, requesting the Secretary General of WMO to arrange, in coordination with ICAO, training on quality assurance for provision of meteorological services to aviation in the ASIA/PAC Region after 2003.*	Action taken by the HQs. WMO has been invited to organize the seminar in coordination with ICAO. Hong Kong, China, proposed to host the seminar, subject to confirmation by WMO. WMO was invited to organize the QA seminar. Currently planned for October 2004 at Hong Kong Observatory. Update: WMO advised that the seminar should be postponed for the second half of 2005	On-going
~~C 13/35~~	~~*ANC*~~	~~**Amendment to the Statement of BORPC**~~ ~~That, ICAO is invited to consider amendment to the MET part of the Statement of BORPC, as shown in Appendix A to the Report on Agenda Item 2.4.~~	~~The task of revising the BORPC will be initiated immediately after the 11th Air Navigation Conference in October 2003 during which the ATM operational concept will be considered.~~ ~~Task is being carried out by the ICAO HQs~~	~~Closed~~
~~C 13/40~~		~~**Selection of GPS receiver standard for GNSS implementation**~~ ~~That~~ ~~a) States, should give consideration for future GNSS operational approvals and associated operational implementation based on the TSO 145/146 receiver standard; and~~	~~The Conclusion was brought to the attention of States.~~ ~~States notified~~	~~Completed~~

Report Reference ---------- Conc/Dec No.	Noted by ANC/ Council	Decision/Conclusion ANC/Council Action, if any	Action by States/ICAO	Status
		~~b) use of TSO C129 remains a valid standard but should not be considered as the basis for future implementation of GNSS.~~		

AGENDA ITEM 6: DEVELOP FUTURE WORK PROGRAMME

Agenda Item 6: Develop Future Work Programme

Report of coordination meeting between Chairmen of Sub-groups

Task Forces and other contributory bodies

6.1 The meeting noted that an informal meeting of the Chairpersons of the Sub-groups was held with a view to coordinate activities. A list of contributory bodies to APANPIRG and other groups was presented for review with a view to dissolving those contributory bodies that were not able to usefully continue or had completed their tasks.

6.2 Since it was not practical for the meeting to review the list presented, it was decided that the Regional Office would review the list and the Secretariat would coordinate with Sub-groups and finalize the list. In view of the foregoing the meeting agreed that a coordinated list should be presented to the APANPIRG/16 meeting in 2005 for consideration.

Participation by suitable experts at multidisciplinary Task Forces

6.3 The meeting noted that appropriate experts should be nominated to attend the ICAO meetings particularly the multidisciplinary Task Force meetings. It was agreed that the need to nominate suitable experts would be emphasized in the letter of invitation to such Task Force meetings.

Schedule of future meetings

6.4 The meeting, in noting that the 42nd Conference of the Directors General of Civil Aviation will be held in September 2005, agreed that the tentative schedule of meetings for 2005 and 2006 should be as follows:

2005		
2nd Training on GRID/BUFR Coded WAFS products	25-27 Jan 2005	Bangkok
RPG for WRC 2007	28 Feb - 1 Mar 2005	Bangkok
ARNR/TF/2	28 Feb - 4 Mar 2005	Bangkok
2nd Meeting WAFS Operations Group (WAFSOPSG/2)	1 - 4 Mar 2005	Bangkok
RVSM/TF/25	7 - 11 Mar 2005	Bangkok
3rd Meeting OPMET Management TF	7 - 10 Mar 2005	Bangkok
SAREX and SAR Seminar	7 - 11 Mar 2005	India
ADS-B Seminar & TF	21 - 25 Mar 2005	Bangkok
RASMAG/3	21 - 25 Mar 2005	Bangkok
ATN Transition Task Force	18-22 Apr 2005	Shanghai
SEACG/12 & FITSEA/2	25-29 Apr 2005	Bangkok
RVSM/TF/26	9-13 May 2005	Bangkok
Seminar on New Larger Aircraft	June 2005	TBD
BBACG/16 & FITBOB/5	6 - 10 Jun 2005	Bangkok
ATM/AIS/SAR SG/15	27 Jun-1 Jul 2005	Bangkok
CNS/MET SG/9	11 - 15 Jul 2005	Bangkok
APANPIRG/16	22 – 26 Aug 2005	Bangkok
RVSM/TF/27	7 – 9 Sep 2005	Bangkok
RASMAG/4	10 – 14 Oct 2005	Bangkok
AIS Implementation Task Force - AIS/TF/2	Nov 2005	Bangkok

ARNR/TF/3	21-25 Nov 2005	Bangkok
2006		
ADS-B Task Force	Mar 2006	TBD
ATN Transition Task Force	Apr 2006	TBD
ARNR/TF/4	Jun 2006	Bangkok
RVSM/TF/28	Jun 2006	Bangkok
ATM/AIS/SAR SG/16	Jul 2006	Bangkok
CNS/MET SG/10	Jul 2006	Bangkok
APANPIRG/17	Aug 2006	Bangkok
RASMAG/5	Sep 2006	Bangkok
AIS/TF/3	Nov 2006	Bangkok

6.5 The meeting decided on the following provisional agenda for the next meeting:

Provisional agenda for APANPIRG/16

Item 1: Review of Council and ANC actions on APANPIRG/15 Report

Item 2: ASIA/PAC Air Navigation System and Related Activities

2.1 ATM/AIS/SAR Matters
2.2 CNS/MET Matters
2.3 ATS Co-ordination Groups' Activities
2.4 Other Related Matters

Item 3: CNS/ATM Implementation and Related Activities

Item 4: Deficiencies in the Air Navigation fields

Item 5: Review of Outstanding Conclusions and Decisions of APANPIRG

Item 6: Develop Future Work Programme

Item 7: Any other business

AGENDA ITEM 7: ANY OTHER BUSINESS

Agenda Item 7: Any Other Business

Enhancing the efficiency of APANPIRG meetings

7.1 The meeting was informed that in accordance with Assembly Resolution A33-24: Information and Communication Technology (ICT) Fund, which considered that improvements to information and communication systems of the Organization were important means to improve the efficiency and effectiveness of the Organization as set forth in Assembly Resolutions A32-2 and A32-1, APANPIRG/15, had commenced an initial step towards a paperless meeting.

7.2 In order to improve efficiency of the Regional Office and contain further costs, the volume of printing for APANPIRG/15 meeting documents was reduced. Only one (1) hard copy of all meeting papers including all attachments, appendices, guidance materials was provided to each State and International Organization. All other participants were provided with the meeting papers but without the voluminous attachments. These were instead provided in the form of a CD-ROM and for this purpose participants were encouraged to bring along with them to the meeting a laptop computer for their personal use. Every seat in the Conference Hall of the new Kotaite Wing is equipped with a 240V power supply for the use of personal laptops.

7.3 However, a State felt that a choice should be given to delegates as to whether they wish to receive the documentations in hard or electronic copy. Another State requested that, at the very least, one set of the complete meeting papers should be available in hard copy format, as was the practice for APANPIRG/15.

7.4 Nevertheless, the meeting in general appreciated very much and commended the efforts of the regional office and were in full support of this initiative. The meeting took note of the future works of the regional office towards establishing a meeting with minimum paper including the use of the building LAN system and proposed wireless hotspots around the building.

ATTACHMENTS TO THE REPORT

Attachment 1

Fifteenth Meeting of the ASIA/PACIFIC Air Navigation Planning and Implementation Regional Group (APANPIRG/15)
Bangkok, Thailand, 23 to 27 August 2004

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No. of Participants : 90 Participants
No. of States : 21 (15 Member + 6 Non-Member)
No. of Intl Organizations: 4

International Civil Aviation Organization

FIFTEENTH MEETING OF THE
ASIA/PACIFIC AIR NAVIGATION PLANNING AND
IMPLEMENTATION REGIONAL GROUP (APANPIRG/15)
Bangkok, 23 to 27 August 2004

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