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

AGENDA ITEM 2.1: ATS/AIS/SAR MATTERS

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

2.1 **ATS/AIS/SAR Matters**

2.1.1 The meeting reviewed the report of the Thirteenth Meeting of the APANPIRG Air Traffic Services/Aeronautical Information Services/Search and Rescue Sub-Group (ATS/AIS/SAR/SG/13) which was held at the ICAO Asia and Pacific Regional Office, Bangkok, Thailand from 23 to 27 June 2003, as well as working/information papers covering various ATS/AIS/SAR issues. 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 since the ATS/AIS/SAR/SG/12 Meeting (June 2002).

2.1.3 The Task Force met five times since its activities were reported to ATS/AIS/SAR/SG/12 as shown below:

Special Coordination Meeting: 29-31 July 2002, Manila, Philippines
RVSM TF/16: 23-25 September 2002, Bangkok, Thailand
RVSM Joint Coordination Meeting MID/ASIA: 9-20 Oct 2002, Abu Dhabi, United Arab Emirates
5th RVSM Seminar: 15-17 January 2003, Bangkok, Thailand
RVSM TF/17: 20-24 January 2003, Bangkok, Thailand

Western Pacific/South China Sea Implementation

2.1.4 The meeting recalled that RVSM was introduced in the Western Pacific/South China Sea area in two phases. In Phase I, which was reported to ATS/AIS/SAR/SG/12, RVSM was implemented on 21 February 2002 in the following airspace:

a) Phnom Penh, Kuala Lumpur, Kota Kinabalu, Manila, Singapore, Bangkok and Ho Chi Minh FIRs; and,

b) on N892 (within the oceanic airspace of the Sanya Area of Responsibility (AOR).

Phase II Implementation – 31 October 2002

2.1.5 Under the second phase, RVSM was implemented on 31 October 2002 in the following airspace:

a) Hong Kong, Bali, Jakarta, Ujung Pandang, Vientiane and Ha Noi FIRs; and,

b) in the rest of the oceanic airspace of the Sanya AOR.

2.1.6 In Phase II the following operational issues were completed:

a) Cambodia extended RVSM operations from FL290 to FL410 and included R468 (PNH – SAPEN) in the operational plan;

b) China implemented RVSM in the rest of the Sanya AOR (except A202) from FL290 to FL410;

c) Hong Kong China implemented RVSM in the Hong Kong FIR from FL290 to FL410;

d) Indonesia implemented RVSM on 36 routes (viz. 12 routes in Jakarta FIR and 24 routes in Ujung Pandang FIR) from FL350 to FL390;

e) Lao PDR implemented RVSM from FL290 to FL410 on routes B465, R474, A1, A202, B202, B329, B346, and B218;

f) Malaysia, Philippines, Singapore and Thailand expanded the application of RVSM in their respective FIRs from FL290 to FL410; and

g) Viet Nam implemented RVSM from FL290 to FL410 in the Ha Noi FIR and expanded the application of RVSM in the Ho Chin Minh FIR from FL290 to FL410.

Operator Readiness Assessment

2.1.7 The percentage of operations conducted by RVSM-approved operators and aircraft in the Western Pacific/South China Sea area was 91 percent.

Safety Assessments

2.1.8 The meeting recalled that a pre-requisite for RVSM implementation was the monitoring of the overall system performance to ensure that the established target level of safety (TLS) was met and maintained. In this context, States provided monthly reports on large height deviations (LHDs) to the APARMO. Details of operational errors were also provided to the airlines/operators of aircraft involved.

Publication of Documents

2.1.9 The AIP Supplements were published in October 2001 and July 2002 for Phase I and Phase II implementation respectively.

RVSM Website

2.1.10 The Task Force established the RVSM Website through the FAA at www.faa.gov/ats/ato/rvsm1.htm to provide comprehensive information on the requirements for RVSM implementation and operations to States and operators.

Review of the Main issues arising from RVSM Task Force/18

2.1.11 The RVSM TF/18 meeting provided a one year review of Phase I, implemented on 21 February 2002, and a 90 day review of Phase II, implemented on 31 October 2002, in the West Pacific and South China Sea areas.

Review of implementation in (WPAC/SCS)

2.1.12 Reports on RVSM operations in the WPAC/SCS areas following Phase I and Phase II implementation were provided. The meeting noted that RVSM was implemented smoothly and no

major problems had arisen. Overall, RVSM had enhanced efficiency of operations and flight safety. The use of the modified single alternate Flight Level Orientation Scheme (FLOS) provided a highly satisfactory arrangement for the South China Sea ATS route structure, in particular for the six parallel routes and crossing routes.

Harmonization of FLOS between WPAC/SCS and Bay of Bengal areas

2.1.13 The meeting was advised that harmonizing the FLOS between the WPAC/SCS and Bay of Bengal areas was a major concern. In this regard, the modified single alternate FLOS operating on the SCS routes, and the single alternate FLOS to be introduced in the Bay of Bengal and Beyond area and operating in adjacent FIRs, would need to be the subject of a thorough study and review before a decision could be made to change from the modified single alternate to the single alternate FLOS for the SCS area. It was noted that the single alternate FLOS was the system used in all other areas of the Asia/Pacific Region, and under the present mixed FLOS arrangement, transition procedures were required for aircraft operating from one FLOS area to the other.

2.1.14 The meeting noted the concern of States who conduct transition procedures in the FIRs involved. However, until the study and review was completed, the meeting agreed that no change should take place to the present FLOS arrangement in the SCS area, and disruption to operations at this stage should be avoided. However, transition procedures would need to be in place and training completed before implementation of RVSM in the Bay of Bengal on 27 November 2003. Special attention would need to be given by States concerned to transition issues. In this regard, a special ATS coordination meeting on transition matters had been arranged for 3-5 September in Bangkok hosted by AEROTHAI.

2.1.15 The meeting noted that IATA expressed satisfaction with the implementation of the modified single alternate FLOS over the SCS routes. There had been a dramatic drop in the number of ATC related delays to aircraft and more optimal flight levels were now available to both aircraft operating on the parallel routes as well as crossing routes. However, IATA did not object to a change in the FLOS if States so desire, provided that at least the same level of efficiency and safety can be maintained. IATA urged that a comprehensive study be conducted before a decision was made.

2.1.16 IFALPA expressed satisfaction with the SCS RVSM operation and the operational benefits derived. Further, IFALPA supported fully the continuation of the current RVSM operations over the SCS using the modified single alternate FLOS unless a better system could be found.

Reports on Large Height Deviations

2.1.17 The meeting was advised that reporting of large height deviations (LHDs) was an essential safety matter and States were required to submit monthly reports including 'NIL reports to the Regional Monitoring Agency (RMA), APARMO (MAAR). The meeting noted with concern that some States had not submitted reports, and strongly urged States concerned to submit the reports as soon as possible but not later than 31 July 2003.

2.1.18 The Task Force noted an increase in LHDs due to operational errors (e.g. ATC transfer of control coordination) in a few FIRs. Although the TLS had not been infringed, it was agreed that the States concerned should review current ATC operations and put measures in place to reduce such operational errors.

2.1.19 The meeting noted that IATA had expressed concern on the lack of complete data on LHDs and that some States had not submitted reports for a considerable time. As this was safety related, States should be urged to submit their reports on time. IFALPA agreed with IATA and

requested that ICAO follow-up to advise States of their responsibilities on this matter. The meeting was advised that ICAO had taken the appropriate action.

Updated safety assessment for RVSM implementation in WPAC/SCS area

2.1.20 The traffic sample data (TSD) between 15 November and 15 December 2001, and the LHD reports received from the related FIRs in the WPAC/SCS airspace were used to produce the risk estimates considered in the review. All of the estimates calculated satisfied the agreed TLS value.

Monitoring programme for height-keeping performance

2.1.21 There had been no information received by States on reports from operators on LHDs due to aircraft system failures or pilot error in the WPAC/SCS areas since the implementation of RVSM in February 2002. Also there were no LHDs reported due to adverse weather or typhoon effects on RVSM operations.

Review of Main Issues arising from RVSM/TF/19 (Bay of Bengal & Beyond)

2.1.22 The RVSM TF/19 meeting continued implementation planning for the Bay of Bengal and Beyond area and involved the following FIRs: Chennai, Colombo, Delhi, Dhaka, Jakarta, Karachi, Kathmandu, Kolkata, Kuala Lumpur, Lahore, Male, Mumbai, Singapore and Yangon. Also, the implementation plan calls for coordination with the Middle East Task Force for joint implementation of RVSM in the Asia and Middle East Regions on 27 November 2003.

Review of Implementation Plan

2.1.23 India, Indonesia, Malaysia, Maldives, Nepal, Pakistan, Sri Lanka, and Thailand provided updates on their implementation planning. The meeting updated the implementation status report as shown in **Appendix A** to Agenda Item 2.1.

Coordination with Myanmar

2.1.24 The meeting noted the concern expressed by the Task Force that Myanmar, who was expected to attend the Task Force meeting, was unable to do so, and up-to-date information on their readiness was not available. In this regard, the Task Force recognized that this could lead to serious consequences for the successful implementation of RVSM in the Bay of Bengal and Beyond. Therefore, the Regional Office was requested, as a matter of urgency, to arrange for an ICAO Special ATS Coordination Meeting with Myanmar, neighbouring States concerned and IATA in Yangon, Myanmar, provisionally on 28-29 July 2002 to brief Myanmar on the status of the RVSM Implementation Plan, assess their readiness, and seek ways to provide assistance to implement the RVSM plan as appropriate.

Flight level orientation scheme for the Bay of Bengal and India

2.1.25 The meeting noted that India had provided details of the flight level orientation scheme proposed for their FIRs. This took into account the requirements of international and domestic traffic flows over the Bay of Bengal and India. The FLOS for the RVSM band FL 290-410 inclusive was designed with in-built separation of crossing tracks, and for weather deviations over the Bay of Bengal, which were significant during cyclonic activity in the monsoon season. The meeting reviewed the FLOS and IATA proposed some changes. The meeting was advised that this matter would be the subject of a Special ATS Coordination Meeting to be held Kuala Lumpur hosted by the Civil Aviation Authority Malaysia on 11-13 August 2003.

Publication of AIP Supplement

2.1.26 The Task Force recognized that some States would not be able to publish the AIP Supplement for RVSM implementation until the FLOS for Indian RVSM airspace was agreed. The meeting agreed that the AIP Supplement should be published as soon as possible after the Special RVSM meeting in Kuala Lumpur mentioned above, but not later than 30 September 2003.

Issues Relating to Airworthiness and Operation of Aircraft

2.1.27 The meeting noted that more than 80 percent of international fleets were RVSM-approved. Some domestic and regional airlines were in the process of obtaining RVSM approval. The meeting was advised that this number was expected to increase to the required 90 percent of aircraft prior to the scheduled implementation date of 27 November 2003.

Continuous Airworthiness Programme and Monitoring

2.1.28 The meeting noted that the Task Force had agreed that the continuous airworthiness programme and monitoring should be included in State Authority Procedures and Airline Operations Manual, in order to assess that aircraft RVSM primary means were reliable and complied with the limits of RVSM system tolerances.

Future OPS/AIR Work Programme

2.1.29 The Task Force reviewed the RVSM phraseologies for Controller-Pilot Data Link Communication and agreed these should be standard application for all regions. The meeting requested ICAO to liaise with the FANS Interoperability Teams, with a view to include the phraseologies in the PANS-ATM (Doc. 4444).

Transition Plan for the transfer of RVSM monitoring duties and responsibilities to the Monitoring Agency for the Asia Region (MAAR)

2.1.30 The meeting noted that Thailand had all the infrastructure in place and arrangements completed for MAAR to assume full Regional Monitoring Agency (RMA) responsibilities for the Asia Region. The proposed Transition Plan included the MAAR duties and responsibilities, MAAR geographical area, adoption of the agency's name, date of transfer, and coordination principles with the APARMO before and after the proposed transition date.

2.1.31 The meeting was advised that the Task Force had reviewed and endorsed the Transition Plan and supported the transfer of duties and responsibilities from the APARMO to MAAR.

Review of safety assessment for the implementation of RVSM in Bay of Bengal

2.1.32 The Task Force reviewed the summary of the traffic sample data (TSD) and LHD reports associated with the implementation of RVSM, focusing on the airspace in the Bay of Bengal area. There was concern that some States had not submitted the reports on LHD. As the incomplete data could have an impact on the estimation of operational risk and subsequent comparison to the TLS, the Task Force strongly urged the States involved to submit the missing TSD and LHD reports to the APARMO through MAAR as soon as possible, but not later than 31 July 2003.

2.1.33 The Task Force also reminded all States to continue to provide the APARMO through MAAR with monthly reports on LHDs, including a 'NIL' occurrence report (where applicable).

2.1.34 The Task Force reviewed the preliminary assessment of the readiness of operators and aircraft types for RVSM implementation in the Bay of Bengal and Beyond, based on traffic samples collected between 15 December 2002 and 15 February 2003. In this period, 84.23 percent of operations in the Bay of Bengal area had been conducted by State-approved operators and aircraft. Also, a comprehensive profile of operators and aircraft types expected to operate in the Bay of Bengal airspace where RVSM would be applied was being developed.

2.1.35 MAAR presented a preliminary report of the safety assessment for the implementation of RVSM in the Bay of Bengal and Beyond. However, the report was not conclusive because the traffic sample data and LHD reports were incomplete. As these reports would have a significant impact on the safety assessment for RVSM operations in Bay of Bengal area, States concerned were reminded to provide the information and reports as indicated above. The APARMO and MAAR would provide an update on the safety assessment at the RVSM/TF/20 Meeting.

Harmonization of RVSM Operations with the Middle East Region

2.1.36 The meeting noted that the Task Force had reviewed the plans to harmonize RVSM operations with the Middle East Region. To this end, a second Joint Coordination Meeting with the Middle East RVSM Task Force would be held from 27-28 August 2003 in Abu Dhabi, United Arab Emirates to finalize ATC coordination procedures and Letters of Agreement.

ICAO ASIA/PAC Regional Office Mission to Myanmar

2.1.37 In follow-up to the Task Force's request (paragraph 2.1.24 above refers) for a meeting to be arranged by the Regional Office with Myanmar, a meeting was scheduled at Yangon, Myanmar, on 28 -29 July 2003 hosted by the Department of Civil Aviation (DCA), Myanmar. Unfortunately, at short notice at Myanmar's request, the meeting was cancelled.

2.1.38 Recognizing the importance to obtain up-to-date information on Myanmar's readiness to implement RVSM and to brief them on the status of the Implementation Plan, the Regional Office carried out an ICAO mission to Myanmar on 28-29 July.

2.1.39 The meeting was advised that the ICAO mission met with the Director General and ATS personnel who welcomed the mission and the opportunity to review the ICAO RVSM Implementation plan and their readiness to implement RVSM on schedule. The DGCA confirmed Myanmar's full support for the ICAO RVSM programme, and they would meet all requirements to implement RVSM on 27 November 2003. They had reservations concerning their preparations, primarily for training of ATS personnel and improvements to VHF communication facilities in the Yangon FIR.

2.1.40 An AIC A06/02 had been issued by the Myanmar on 15 June 2002 notifying their intent to operate RVSM in the Yangon FIR on 27 November 2003 and this was still valid. They also included in A06/02 and A03/02, notification with effect from 1 January 2003 that ICAO provisions on ACAS II would apply to the Yangon FIR. Further, Myanmar was prepared to issue the AIP supplement on the detailed RVSM requirements and procedures, and would do so in coordination with the RVSM/TF. The proposed FLOS by India for the Bay of Bengal, met Myanmar's requirements, and subsequent revisions arising from the Kuala Lumpur meeting would be reviewed.

2.1.41 In regard to updating LOAs, this could be progressed with the ATS authorities in coordination with ICAO. Information on large height deviation reports and traffic sample date would be made available as required by the Task Force.

2.1.42 The ICAO mission reported that Myanmar was fully aware of the RVSM requirements and should be in a position to implement and operate RVSM in accordance with the RVSM Task Force Implementation Plan. However, there was a need for priority to be given to training of ATC personnel and this would need to be carried out in a timely manner prior to implementation on 27 November 2003. Also, priority needed to given to improving VHF radio communications for the Yangon FIR. Myanmar had developed transition procedures for the Yangon/Kunming FIRs for ATS route A599 and these would be published and made available to the Task Force in due course.

2.1.43 The meeting was advised that the Civil Aviation Authority of Singapore was prepared to assist Myanmar with training for RVSM implementation, by arranging a specialized RVSM course in Singapore or Yangon, Myanmar, depending on the wishes of DGCA Myanmar. The meeting thanked Singapore for their kind gesture and ICAO advised that they would coordinate these arrangements with Myanmar.

Longitudinal Separation

Longitudinal spacing for traffic from Hong Kong and Taipei to North America

2.1.44 The meeting was advised that the airspace capacity between Hong Kong, Taipei, the airspace of Japan and beyond to North America was currently constrained by the application of 15-minute longitudinal spacing.

2.1.45 The meeting noted that Japan had a requirement whereby aircraft exiting Naha airspace and proceeding beyond Tokyo airspace to North America, were spaced at a minimum of 15-minute intervals if aircraft were flying at the same level. This requirement had now been amended whereby both aircraft entering from Taipei and proceeding beyond the Tokyo FIR can be separated by 10 minutes at the same level, or alternatively, 25NM separation can be applied if both aircraft are proceeding beyond the Tokyo FIR and diverge onto separate routes prior to entering the Pacific oceanic airspace. However Hong Kong departures are still required to be 15 minutes apart at the same level for flights proceeding to North American destinations. Notwithstanding the relaxing on this 15 minute requirement for Taipei departures, these restrictions relating to Hong Kong have been in place and remained unchanged for 20 years. During this time the following improvements have taken place:

a) the number of air routes across the North Pacific had increased;

b) procedures have been developed for the general use of a 10-minute longitudinal separation standard;

c) RVSM had been implemented; and

d) radar coverage extends uninterrupted from Hong Kong all the way to approximately 200 NM east of Tokyo.

2.1.46 IATA considered it appropriate to re-examine the need for 15 minutes spacing for departures from Hong Kong, particularly as this spacing only exists in order to address a potential need some 3 to 4 hours, depending on the route, after the commencement of flight. Procedures were currently available which would permit the use of 10 minutes spacing in this area. Given the performance of modern long haul aircraft, by the time non-radar separation was required, the aircraft concerned would have been in the air for a considerable period of time and should typically be able to accept higher levels so as to be afforded vertical separation.

2.1.47 Japan advised the meeting that the restriction was necessary for sequencing traffic joining from China, Korea and Japan bound for North America and should be able to be removed in about two years when ADS became operationally available in the airspace concerned.

RNP flight planning requirements

2.1.48 The meeting noted that, according to the list of equipment suffixes which may be included in Field 10 of the ICAO Flight Plan, the inclusion of the letter <R> (*RNP Type Certification*), indicates that an aircraft meets the RNP type prescribed for the route segment(s), route(s) and/or area concerned.

2.1.49 An example of the practical application of this would be demonstrated in the case of an operator filing a flight plan, which includes an RNP-5 segment joining an RNP-10 route and descending into destination on an RNP-0.3 standard arrival route (STAR). The inclusion of the equipment suffix <R> in Field 10 would indicate that the flight in question was approved and capable to fly the whole route comprising all the RNP types specified.

2.1.50 IATA advised the meeting that Australia was in the process of linking service provision to the specific RNP capability of each aircraft. For example, RNP-4 capable aircraft could be offered a separation service based on a 30 NM minimum while RNP-10 capable aircraft might be offered a separation service based on a 50 NM separation minimum. In order for ATC to provide this service, knowledge of the RNP capability of each aircraft would be required. Australian flight planning requirements therefore specify that aircraft with RNP-4 or RNP-10 approval must include the equipment suffix <Z> in Field 10, and include <NAV/RNP4> or <NAV/RNP10> in Field 18.

2.1.51 While supporting the service delivery initiatives of Australia, IATA expressed concern about the possible implications of such annotations in Field 18. The inclusion of, say, <NAV/RNP10> in Field 18 of the flight plan for Australian purposes, when the same flight may also continue its operations into Middle East or European RNP-5 airspace, could cause confusion with other ATC providers and it may be construed that the flight was only RNP10 capable.

2.1.52 After consideration, the meeting was of the opinion that the equipment suffix <R> no longer met the requirements of all States, and accordingly developed the following Conclusion:

Conclusion 14/1 – 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.

Development of an RNP-4 approval

2.1.53 Australia provided a brief overview of the current status of the development of an RNP 4 operational approval process for oceanic and remote airspace operations in support of 30 NM lateral and longitudinal separation minima. The meeting noted the information and the intent of both Australia and the US to issue RNP 4 operational approvals based on the process endorsed by the ICAO Separation and Airspace Safety Panel (SASP).

Revision of the *Guidance Material on CNS/ATM Operations in the Asia/Pacific Region*

2.1.54 The meeting recalled that APANPIRG/13 reviewed the results of a review by ICAO requested by the Air Navigation Commission to ensure that the *Guidance Material on CNS/ATM Operations in the Asia/Pacific Region* was in accordance with the SARPs and PANS, and in particular with the procedures contained in Amendment 1 to the *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444).

2.1.55 The review carried out by ICAO emphasized the need to identify and highlight material that was included as a result of differences between the FANS-1/A implementation and the progress of ICAO panels in developing the operational and technical requirements for ATS data link applications, for example automatic dependent surveillance (ADS) and controller pilot data link communications (CPDLC). The meeting recognized that to revise the Guidance Material would require a substantial effort and would be beyond the resources of the Regional Office, and therefore it would be necessary to form a special group to carry out this task.

2.1.56 The meeting noted that the Guidance Material primarily contained operating procedures to be used by controllers and pilots for ADS and CPDLC services using the FANS -1/A system. Further, the Secretariat was of the view that operational procedures should not be contained in ICAO guidance material but reside in a procedures document such as an operations manual, and for global application, in the PANS-ATM. It was noted that the ISPACG and the Informal Pacific ATS Coordinating Group (IPACG) had merged the North and South Pacific Operations Manuals into the Pacific Operations Manual (POM), thus providing harmonized procedures for the Pacific Region. This document was updated as required through the forums of IPACG and ISPACG. Any revisions to this document would require consequential amendment to the ICAO Regional Guidance Material, which was based on the SPOM. In this regard, it had proved to be a lengthy process to amend the Guidance Material through the ICAO process.

2.1.57 As a result of the detailed review of the Guidance Material provided by ICAO at the request of the Air Navigation Commission (ANC), it would be appropriate to harmonize the POM and the Guidance material.

2.1.58 The meeting further noted that ICAO had recognized that the FANS-1/A system was an acceptable means for ATS to provide data link services and developed the 30 and 50 NM separation minima contained in Annex 11 and the PANS-ATM based on studies carried out by SASP using the technical performance of FANS-1/A. The safety assessments that supported the application of these separation minima were contained in the ICAO *Manual on Airspace Planning Methodology for the Determination of Separation Minima* (Doc 9689). This work drew upon the experience gained by States in the South Pacific Region who first introduced ADS and CPDLC using FANS-1/A.

2.1.59 In light of the foregoing, the meeting agreed that the Guidance Material should be revised in line with the ICAO review as mentioned above. The United States advised the meeting that this work could be carried by a Task Force and they would be willing to consider hosting the Task Force meeting in Honolulu, Hawaii to coincide with the joint meeting of IPACG and ISPACG their respective FANS Inoperability Teams to be held in October 2003. The meeting noted that experts in FANS 1/A and ADS and CPDLC operations, and who had been involved with the development of the ICAO Guidance material would be attending these meeting.

2.1.60 The meeting appreciated the offer made by the U.S. and agreed that this would be an appropriate path to follow. Also, the Task Force would be able to coordinate with the States responsible for the POM at the IPACG/ISPACG joint meeting, and this would ensure that this facilitate achieving a common approach to operating ADS/CPDLC procedures throughout the Region.

The meeting recognized a need for a global approach to operating procedures for data link applications using FANS 1/A, and suggested that the Asia/Pacific Guidance Material would provide a basis for developing operational procedures in other regions for implementing and operating ADS and CPDLC services.

2.1.61 In view of the above, the meeting formulated the following Conclusion:

Conclusion 14/2 – 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.

ATS Interfacility Data Communications Review (AIDC/R) Task Force Meeting

2.1.62 The meeting was advised that, in accordance with Decision 13/9 of APANPIRG/13, the AIDC Task Force established by APANPIRG/5 was reconvened to re-examine and update the ASIA/PAC Interface Control Document (ICD) for AIDC published in June 1995 in order to allow States to implement their systems in a consistent manner.

2.1.63 The AIDC/R Task Force meeting, hosted by Airservices Australia, was held in Brisbane from 27 to 28 March 2003. The revised ICD for AIDC Version 2.0 was noted by the meeting, taking into consideration the experience gained and the lessons learned in the implementation of the AIDC by the States concerned.

2.1.64 Subsequently, the meeting endorsed the following Conclusion.

Conclusion 14/3 – ASIA/PAC Interface Control Document (ICD) for ATS Interfacility Data Communications (AIDC)

That, the updated ASIA/PAC ICD for AIDC developed by the AIDC/R Task Force, be adopted and published as Version 2.0.

2.1.65 The meeting was advised that current communication infrastructure used to support existing AIDC was based on AFTN procedures. The meeting also noted that the target date for implementation of the ground element of ATN in the ASIA/PAC Region was 2005. The meeting identified the need for supporting the current messages format and data as contained in the ICD for AIDC version 2.0.

2.1.66 The AIDC Review Task Force considered that the task assigned by APANPIRG/13 had been completed, except for additional work required for message sets to be added into the ICD to support the positional information derived from the FANS 1/A based ADS messages.

Inclusion of SIGMET in VOLMET broadcasts

2.1.67 The meeting considered amendment proposal APAC 99/9-ATS to the Asia/Pacific Air Navigation Plan (Doc 9673), which provides for a requirement to include SIGMET messages in VOLMET broadcasts in the Asia Region. The meeting recalled that the inclusion of SIGMET in VOLMET broadcasts was first raised at APANPIRG/5 (October 1994) under Conclusion 5/26:

Conclusion 5/26 — Inclusion of SIGMET in VOLMET broadcasts

Based on the results of a survey to be undertaken by IATA and IFALPA, ATS/AIS/SAR/SG consider requirements for inclusion of SIGMETs in VOLMET broadcasts in the Asia Region.

2.1.68 At APANPIRG/10 (September 1999) the meeting noted that Annex 3, Section 11 recommended that SIGMET messages should be included in scheduled VOLMET broadcast if determined by regional air navigation agreement. Following consideration of the results of a survey carried out by IATA and IFALPA, APANPIRG/10 formulated Conclusion 10/3:

Conclusion 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.

2.1.69 The meeting recalled that at APANPIRG/11 (October 2000), it was noted that following APANPIRG/10, ICAO drafted amendment proposal APAC 99/9-ATS to the Asia/Pacific ANP, which was forwarded in March 2000 to the States whose facility and services would be significantly affected for comments before it was formally circulated. Progress on the proposal was reviewed at ATS/AIS/SAR/SG/12 (June 2002) and it was noted that Australia, China and Japan had expressed concerns regarding the limited time for broadcast, though they were all in favour of the proposal in principle. In addition, New Zealand raised an objection to the proposal. They advised that States with very large FIRs would have difficulty in transmitting SIGMET in addition to other required meteorological information in the limited timeframe of 5 minutes.

2.1.70 The ATS/AIS/SAR/SG/12 meeting reviewed the proposal and recalled that several options addressed at previous meetings to deal with the technical problems of including SIGMET in the VOLMET broadcasts had not been resolved and consensus was not reached at ATS/AIS/SAR/SG/12. IATA had proposed a procedure and agreed to further study the issue with its member airlines so that a consolidated view could be presented to the Sub-Group.

2.1.71 The APANPIRG/13 meeting reviewed the ATS/AIS/SAR/SG/12 report on this subject but no progress was made on the difficulties reported. In considering the report of the CNS/MET/SG/6 meeting, APANPIRG/13 noted that CNS/MET/SG/6 emphasized that the introduction of D-VOLMET through VHF data link would be the most appropriate way to overcome the capacity problem of the voice-VOLMET. APANPIRG/13 adopted Conclusion 13/29:

Conclusion 13/29 — Inclusion of SIGMET in VOLMET

That, States be encouraged to fully implement D-VOLMET to permit suitably equipped aircraft to receive timely SIGMET information amongst other requisite meteorological information.

2.1.72 Apart from the technical limitations of the voice-VOLMET, it had been observed that the current situation with the issuance of SIGMET by the Meteorological Watch Offices (MWO) in the regions posed additional difficulty for inclusion of SIGMET in VOLMET. SIGMET messages were frequently too lengthy and wrongly formatted, which made them difficult to handle especially where computerized VOLMET systems were in use. The meeting was advised that Amendment 72 of Annex 3, which became applicable in November 2001, introduced provisions to overcome these problems. According to these provisions, SIGMET should be issued only for the most important en-

route weather phenomena, without unnecessary descriptions, and strictly following the standard structure. In addition, as a follow-up of a recommendation by the MET Divisional Meeting (Montreal, September 2002), the ICAO Regional Office had recently developed an ASIA/PAC SIGMET Guide, which provides further instructions to MWOs regarding the standardization of SIGMET. These recent developments in the MET field would facilitate the inclusion of SIGMET in VOLMET.

2.1.73 In light of the foregoing, the meeting agreed that SIGMET in VOLMET should be included in the ANP and that the amendment proposal APAC-S 99/9-ATS should be progressed to obtain regional agreement. By circulating the proposal, all parties concerned had the opportunity to reply officially and make known any difficulties they had to provide this service.

2.1.74 The meeting therefore formulated the following Conclusion:

Conclusion 14/4 – Circulation of amendment proposal APAC 99/9-ATS to the APAC ANP (Doc 9673)

That, the Asia/Pacific Regional Office circulate the amendment proposal APAC 99/9-ATS to the Asia/Pacific ANP (Doc 9673) to States and international organizations.

Implementation of ATS routes

2.1.75 The meeting was reminded that deficiencies related to ATS routes in the Asia/Pacific Region were routinely identified and included in the consolidated list of air navigation deficiencies. The majority of the ATS routes listed had previously been agreed to by the States concerned at the Third Asia/Pacific Regional Air Navigation Meeting in 1993. Generally the list contains routes that:

a) had not been implemented by States as required by the Asia/Pacific Basic Air Navigation Plan (BANP, Doc 9673);

b) had been implemented by States, but not in accordance with the established BANP requirement; and

c) had been implemented by States, although the requirement had not been established by regional air navigation agreement.

2.1.76 Significant changes to ATS route structures in the Asia/Pacific Region, in particular for the South China Sea and the EMARSSH project areas, had been implemented from 2001. Many other route changes had also taken place in the Region with much of this information not being contained in a consolidated record, and consequently Doc 9673 had not been amended to take into account all these changes. In addition, agreed operational requirements for some new routes were yet to be recognized in the Basic ANP.

2.1.77 In light of the above, the meeting agreed that there was a need to thoroughly review and update the BANP, prepare a master database of the routes that had been implemented, update the five-letter name-codes and co-ordinates that had been assigned to the significant points on the ATS routes, and undertake a study of future route requirements.

2.1.78 In view of the magnitude of the task, the meeting was of the opinion that a Task Force should be formed to carry out this work, and accordingly developed the following Conclusion:

Conclusion 14/5 – ATS Route Network Review Task Force

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

2.1.79 The meeting was of the opinion that given the large geographical area to be addressed, the Secretariat should give consideration to addressing the task through a number of sub-regional meetings. Additionally, the meeting considered that invitations to Task Force meetings should be extended to all States in the area under consideration. The efficiency of the Task Force could be further enhanced by the adoption of a "Core Team" approach in a manner similar to that of other recent large-scale projects. The meeting was also advised by the Secretariat that outputs from the Task Force (route implementations/revisions to Doc 9673, etc) should be dealt with on a progressive basis where possible. It was expected that the first series of meeting would take place in the 1st quarter of 2004.

APANPIRG Contributory Bodies, Associated Groups and related issues

2.1.80 The meeting recalled that, in order to identify all work in progress from established and disestablished constituted bodies within APANPIRG and its Sub-Groups, a tabulated list identifying the work in progress and issues for inclusion in work programmes had been developed by APANPIRG. APANPIRG/13 noted that further work was required to complete the table, and that this would be completed by the Sub-Groups and included in following APANPIRG reports.

2.1.81 In recognizing the importance of the tabulated list, APANPIRG/13 formulated the following decision:

Decision 13/42 – Inclusion of a table of APANPIRG contributory bodies and associated groups in the APANPIRG report

That, a table of APANPIRG contributory bodies and associated groups be included in the report of APANPIRG meetings and be updated periodically by the APANPIRG Sub-Groups.

2.1.82 The meeting reviewed and updated the Table of APANPIRG contributing bodies as appropriate on ATS/AIS/SAR matters, which is contained in **Appendix C** to the Report on Agenda Item 2.1.

Carriage and Operation of Pressure-Altitude Transponders and Airborne Collision Avoidance Systems II (ACAS II)

2.1.83 The meeting recalled that a survey was conducted by the Asia/Pacific Regional Office in August 2000 to obtain detailed information from States clearly differentiating between the implementation plans for the carriage and operation of pressure-altitude reporting transponders and those of ACAS II. The results were presented to APANPIRG/12 and reviewed and updated as shown in **Appendix D** to the Report on Agenda Item 2.1.

2.1.84 APANPIRG/12 considered it necessary that situations where States had not established the requirement for the carriage and operation of pressure-altitude reporting transponders specified as a Standard in Annex 6, be listed as a “Deficiency”.

2.1.85 The meeting noted that from 1 January 2003, Annex 6 requires aeroplanes that have a maximum certificated take-off mass in excess of 15000 kg or that are authorized to carry more than 30 passengers to be fitted with ACAS II. Further, with effect from 1 January 2002, Annex 10, Volume IV requires all aeroplanes to be equipped with a pressure-altitude reporting transponder

2.1.86 Advice was given to the meeting that twelve States were listed as not having implemented the Annex 6 requirements for carriage of ACAS II by 1 January 2003, and the meeting urged those States to take necessary action to implement this requirement. The meeting was reminded of incidents that occurred recently whereby potential collisions were avoided by aircraft operating their ACAS and taking avoiding action.

2.1.87 The meeting stressed that it was of critical importance that aircraft not equipped with a pressure reporting transponder should not be permitted to share airspace used by aircraft equipped with ACAS II. The performance of ACAS was totally dependant on all aircraft in the vicinity being equipped with pressure-altitude reporting transponders in order to detect conflicting traffic and for the ACAS II system to issue a Traffic Advisory (TA) or Resolution Advisory (RA).

2.1.88 The meeting on reviewing the status of ACAS II implementation recognized that TCAS Version 6.04a was not designed for an RVSM environment and it was not compatible with RVSM. However, ACAS II (TCAS Version 7.0) had improved capability and was compatible with RVSM operations.

2.1.89 In light of the above the meeting agreed that it was a matter of urgency that States implement Annex 6 requirements in regard to ACAS II and pressure-altitude reporting transponders especially in RVSM operations. The meeting formulated the following Conclusion:

Conclusion 14/6 – 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.

2.1.90 The meeting was advised that the ICAO provisions relating to the operation of ACAS II were reviewed by the Air Navigation Commission following the publication of an accident investigation report dated 12 July 2002, concerning a near mid-air collision over Japan on 31 January 2001. This accident involved two wide-bodied aircraft equipped with ACAS II and resulted in injuries to passengers and crew. Also, the meeting noted that there was an on-going accident investigation of a mid-air collision over Germany on 1 July 2002, which involved two aircraft equipped with ACAS II. In both accidents, it appeared that common factors concerned ATC issuing instructions which conflicted with an ACAS II RA, and flight crews had maneuvered their aircraft in the opposite sense to the RAs that had been issued.

2.1.91 The meeting was reminded that ACAS II provides a proven independent safety net to prevent mid-air collisions. Operational monitoring programmes had highlighted in numerous actual events the significant contribution ACAS II made to improved flight safety.

2.1.92 The meeting noted that ICAO State letter AN11/19-02/82, dated 30 August 2002, requested urgent action by States, to ensure that national aviation documentation, and that of aircraft operators under their authority, highlight the critical importance of following an ACAS RA, and of not manoeuvring opposite to the sense of an RA, even if ATC issues conflicting instructions. The importance of following the RA was based on the possibility that ATC may not be aware of an RA, and may unknowingly issue instructions that were contrary to the RA. The importance of avoiding

manoeuvres opposite to the sense of an RA was based on the fact that in an ACAS to ACAS coordinated encounter, the RAs complement each other in order to reduce the potential of a collision. Manoeuvres, or lack of manoeuvres, that result in vertical rates opposite to the sense of an RA could result in a collision with the threat aircraft.

2.1.93 After reviewing the ACAS II operating procedures in the *Procedures for Air Navigation Services – Aircraft Operations, Volume 1 – Flight Procedures* (Doc 8168, PANS OPS), the Commission agreed to consult States concerning a proposal to strengthen and clarify the operating procedures in PANS-OPS, Volume 1, by highlighting the importance of following an RA, and of not manoeuvring in a sense opposite to that of an RA. The Commission also agreed to circulate a proposal for amendment of Annex 6 – Operations of Aircraft, Part 1 – *International Commercial Aircraft Transport – Aeroplanes* to include a new Standard in Appendix 2 concerning the content of an operations manual in regard to policy, instructions, procedures and training requirements for the avoidance of collisions and the use of ACAS II. These proposals are contained in State letter AN 11/1.1.23, AN 11/19.1-02/99, and were adopted by the Council on 13 March 2003 and would become applicable on 27 November 2003.

2.1.94 The meeting was advised that ICAO was continuing to look into this matter so that consistent procedures could be adopted to ensure safety of operations when RAs were received by pilots.

EMARSSH Update

2.1.95 The meeting recalled that the Revised ATS Route Structure, Asia to the Middle East and Europe, South of the Himalayas (EMARSSH) was initiated by the ICAO Asia/Pacific Office in collaboration with the Middle East and European Offices to increase efficiencies in the provision of air traffic services on the major traffic flows in these particular areas.

2.1.96 A Core Team approach was used for this project, similar to the Y2K Contingency Planning formula. Members of the Core Team came from States, ICAO and IATA with additional States from the area being considered joining the Core Team as meetings moved to the MID and European regions. By using this strategy, the Core Team always had members which were familiar with the area being discussed.

2.1.97 The meeting noted that this project took less than two years from the first EMARSSH meeting to implementation on 28 November 2002. It had been acknowledged that, taking into consideration that EMARSSH covered three ICAO regions from Australasia to the Middle East and through European joining the ECAC routing system, it was the largest revised route structure project ever undertaken by ICAO, States concerned, IATA and their airlines.

2.1.98 Notwithstanding that substantial benefits had been realized since implementation, further improvements and enhancements in procedures and route design are required to gain the maximum benefits from the EMARSSH project. There had been several teething problems identified in the operational procedures used by States and the international airlines concerned. This had led to an eroding of the expected efficiencies, which were expected to be achieved by both the airlines and the ATS providers alike.

2.1.99 The meeting noted that several special meetings have been held since implementation to overcome the outstanding issues. Whereas some of these matters were successfully resolved, there was still further work to be accomplished to gain the maximum benefits, which this route structure was designed to provide. These included:

a) restrictions on the use of some flight levels through Afghanistan due to military activity;

b) restrictions on flight levels on ATS route L333 over India due to military considerations;

c) an important EMARSSH route joining ASOPO to Rahim Yar Khan (RK) within Indian airspace which at present is unable to be established due to military considerations. RK westwards in Pakistan airspace is available;

d) bottlenecks over Delhi, India causing significant delays for Delhi westbound departures;

e) international aircraft from Singapore and Kuala Lumpur using northern routes across the Bay of Bengal designed for departures out of Bangkok, thus causing additional delays to Bangkok departures; and

f) Mach Number Technique (MNT) procedures applied by some Bay of Bengal States is inconsistent and not in accordance with the ICAO ATS Planning Manual, causing unnecessary delays to long-haul international aircraft.

2.1.100 At the EMARSSH Post Implementation Review Meeting (PIRM) held at the end of March 2003, these matters were further discussed. As a result of these discussions, some progress was made and a list of Assigned Tasks was agreed to by States concerned to be reported back to this meeting.

2.1.101 The meeting was also advised that westbound delays could be further reduced if:

a) flights were distributed across the available routes over the Bay of Bengal;

b) one route could be set aside for flights that agree to operate at a common mach number, say M0.84; and

c) airlines spread out their scheduled departure times.

2.1.102 The meeting noted that the Civil Aviation Authority of Singapore (CAAS) actively encouraged airlines to spread out their flights using a variety of operational routings by faxing out routing details of westbound flights by 2100 local time (1300 UTC) each day to all airlines.

Reactivation of the FANS Action Team, Bay of Bengal (FAT-BOB) and the creation of a FANS Action Team, Southeast Asia (FAT-SEA) for the South China Sea route structure

2.1.103 The meeting was advised that the proposed reactivation of FAT-BOB was considered essential to alleviate the problems presently encountered over the Bay of Bengal due to poor HF air/ground communications. It was noted that all FIRs with Bay of Bengal responsibility have CNS/ATM workstations, and procedures to use this facility for Trials and Demonstrations were required to be developed to overcome the HF problem and provide an alternative method to ensure more reliable communications. It was agreed that this issue would be formally discussed at the BBACG meeting scheduled to be held in September 2003.

2.1.104 It was also decided that the creation of FAT-SEA for the South China Sea route structure would also assist this area of operation. A meeting of SEACG/11 was scheduled for early December 2003 and included the establishment of the FAT-SEA.

Pursuit of consistent application of proper Mach Number Technique (MNT)

2.1.105 The meeting noted that there had been an improvement in the application of MNT by States with responsibility for Bay of Bengal airspace in accordance with ICAO Standards and guidance material as provided in the PANS-ATM (Doc 4444) and the ATS Planning Manual (Doc 9426) for the establishment and implementation of MNT procedures. The meeting noted however that MNT was not applied on M770/L759 between Kuala Lumpur and Kolkata FIRs because the routes converge at Varansi in mainland India where procedural control was applied, even though there was radar coverage of the area. Unfortunately, Varansi did not use radar control on these routes and India was urged to review the situation at Varansi as a matter of priority.

Review the route description of L333 to include FL280

2.1.106 It was noted by the meeting that the current minimum en-route altitude (MEA) of FL 310 on ATS route L333 was very restrictive and could result in traffic at FL280 that were unable to climb due to other aircraft, being re-routed over Delhi with consequent delays and repercussions for clearance to enter Afghanistan airspace. The Indian authorities were requested to lower the MEA to FL280 at least for the period of 1730 – 0100 UTC daily to permit the efficient flow of westbound traffic during the rush period at night. India would give a further report on this item at the next BBACG meeting.

Opening the EMARSSH route linking ASOPO to Rahim Yar Khan (RK)

2.1.107 The meeting was advised that the opening of the EMARSSH route linking ASOPO with RK would alleviate the critical bottleneck of routes that converge over Delhi and create an efficient route through to Pakistan and Afghanistan airspace. The meeting was advised that this route west of RK would be available in Pakistan airspace.

2.1.108 Because the airspace on the intended route contains a number of military training areas, it was proposed that the new route should have an MEA of preferably FL 280 or FL 310 to permit continued military operations at the lower levels. If it was necessary to do so, the period of 1730 – 0100 UTC daily would be sufficient to cover the daily peak period westbound.

Pursue additional levels FL280/290 on ATS routes A466, N644 and L750 in Kabul FIR

2.1.109 The meeting was advised that ICAO Headquarters had held meetings with high-level US military authorities on this issue, but no practical progress had been forthcoming to date. The U.S. advised the meeting that they would take up this issue with the U.S. Department of Defense as a matter of priority.

2.1.110 The meeting further considered that, if it was necessary to do so, the availability of FL280 to FL390 for the period 2000 – 2400 UTC daily on ATS routes A466, N644, and L750 would be sufficient to relieve the large traffic flow wishing to transit the Kabul FIR westbound at night.

Investigate the capability of some flights climbing to FL350 before Kabul FIR

2.1.111 The meeting noted that, due to the requirement to be at FL310 or above prior to entering the Kabul FIR, international aircraft operators should be encouraged to climb from FL310 to

FL350 as soon as possible within Indian airspace, even though it may not be the optimum time to reach that level. The benefits of doing this would be to allow aircraft restricted to FL280 to climb to FL310 in order to transit the Kabul FIR. Failure to do so penalizes traffic at FL280 because they may be required to re-route around Afghanistan. IATA advised the meeting that many flights from Southeast Asia should be able to climb to FL350 at or around Delhi.

2.1.112 For aircraft electing to climb but not reaching FL350 by the India/Pakistan boundary, India was requested to coordinate and seek Pakistan's agreement to permit aircraft to cross the India/Pakistan FIR Boundary in a climbing profile where necessary.

The development of a westbound Flow Management Plan

2.1.113 The meeting looked at the possibility of developing a Flow Management Plan based on the lines of the CRAME-03 Flow Management System, however it was considered that it may be difficult to implement and manage such a system on a regular basis for the short peak period each day. It was noted that if many of the proposed improvements to the airspace and procedures were implanted, the need for a flow control system may be significantly reduced.

Follow-up implementation of BB17 and BB18 with States concerned

2.1.114 The meeting noted that these two routes were designed to assist aircraft flight planning over Afghanistan and proceeding through the Katmandu FIR however, due to constraints imposed by some States affected by these new ATS routes, there was nothing to report on this item. The issue would again be raised at the next BBACG meeting.

2.1.115 Due to the significant amount of work, which was given to this important project, The meeting strongly encouraged all parties concerned to overcome the issues presented which would allow the full benefits of the EMARSSH route structure to be achieved. Further reports on progress in these matters would continue to be addressed at other meetings concerning the Bay of Bengal States and westwards which are scheduled to be held over the coming months.

Implementation of lateral offsets

SASP developments on lateral offsets

2.1.116 The meeting considered developments and implementation of lateral offset procedures in the Asia/Pacific Region in light of the ongoing work of the Separation and Airspace Safety Panel (SASP).

2.1.117 The United States provided an update on the Strategic Lateral Offset procedures that were being developed by SASP. In light of developments, SASP was considering revising the Phade 1 guidelines to allow offsets of up to 2 NM for all aircraft that have automatic offset tracking capability.

2.1.118 Taking into account previous studies of the SASP Mathematician Sub-Group, the SASP WG of the Whole meeting concluded that offsets up to 2 NM (to the right) would not significantly increase the lateral collision risk on route systems with 50 NM spacing between the centrelines.

2.1.119 The SASP Lateral Offset Project Team made the following recommendations on lateral offsets:

a) ICAO should urge States to make use of the guidelines on the use of lateral offsets;

b) offset tracking should not be mandated (but nevertheless be strongly recommended);

c) the required TLS should be achieved on any route/route system without taking into account any offset tracking;

d) ICAO should upgrade the revised guidelines on the use of lateral offsets to allow all aircraft with automatic offset tracking capability to use right offsets of up to 2 NM;

e) the Math Sub-Group should study, whether the 0, 1, 2 right-offset would be acceptable in a route system with 30 NM spacing, also taking into account crossing track situations;

f) further information on the effects of offset tracking in advanced and automated ATC systems should be made available to the Project Team; and

g) the Project Team investigates the possibility of incorporating the Phase II Offset Guidelines in Doc 4444 PANS-ATM and whether any changes to Annexes 2 and 11 and/or any other ICAO documents (especially Doc 9689) are required/desirable.

2.1.120 The Lateral Offset Project Team intended to finalize Phase II Guidelines as soon as the 30 NM spacing study was concluded. In the meantime, based on information available so far, an update to the (revised) Phase I Guidelines was recommended to allow offsets to the right of up to 2 NM for all aircraft that have automatic offset tracking capability. It was envisaged that this revision could be relatively quickly produced by ICAO and could be used as a basis for coordinated implementation in the whole Pacific area.

Revised ICAO Guidelines on use of lateral offsets

2.1.121 The meeting recalled that APANPIRG/12 Decision 12/9 required the Sub-Group, as a matter of urgency, to develop lateral offset procedures for application in the Asia/Pacific Region, and in co-ordination with other regional planning groups and bodies concerned, develop global offset procedures.

2.1.122 ICAO guidelines on the use of lateral offsets and the effect on airspace safety were developed by the SASP and issued by ICAO State letter AN 13/11.6-00/96 dated 3 November 2000. The purpose of these guidelines was to standardize procedures to reduce the likelihood of pilots inadvertently applying procedures different from those specified for the airspace in which they were operating. The guidelines were limited in their application and provided for a 1 NM offset to the right of track. It was also necessary to ensure that application of offsets to reduce the risk of collision as a result of loss of vertical separation would not increase the lateral risk between aircraft on adjacent tracks due to the magnitude of the offset being used.

2.1.123 The SASP revised the guidelines to allow for application of offset procedures different from those specified, provided that a safety analysis for the particular airspace had shown that the proposed procedures would meet appropriate safety criteria. These revised guidelines were issued by State letter AN 13/11.6-02/21 dated 31 May 2002.

2.1.124 In line with APANPIRG/13 *Conclusion 13/4 — Survey of State planning to implement lateral offset procedures*, States had been requested to advise the Regional Office of their

plans to implement lateral offset procedures. To date there had been little information available on State planning.

2.1.125 The SASP was continuing to develop guidelines for global applicability, and was considering an amendment to Annex 2, which was intended to remove any concerns about the authority for pilots to routinely offset from track without an ATC clearance.

2.1.126 A proposed amendment, APAC-S 03/2 to the MID/ASIA and PAC SUPPs (Doc 7030) for a 1 NM lateral offset procedure based on the ICAO guidelines was circulated to States and international organizations by State letter dated 24 February 2003. Following circulation of the proposal, there were no objections but the United States stated that they would not be applying this procedures in the Pacific Region, and instead would be looking to apply a 2 NM procedure similar to the procedure used in the West Atlantic Region.

2.1.127 The meeting noted that the guidelines provided by ICAO for application of lateral offsets described above, did not provide procedures that suit all operating environments. Also, they do not apply to the use of tactical offsets by ATC, nor to the application of offsets by pilots when following published contingency procedures to avoid wake turbulence.

2.1.128 In light of the work of the SASP on a 2 NM offset described above that would apply in route structures with 30 and 50 NM route spacing, it was expected that this offset would be included in revised guidelines and approved by ICAO in the near future. In light of these developments, the meeting agreed that the 2 NM offset would provide greater safety benefit and should be implemented in all relevant airspace in the APAC Region. Accordingly, the meeting formulated the following Conclusion:

Conclusion 14/7 – 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.

U.S. Safety Management System Development

2.1.129 The meeting noted that the United States had provided information, which outlined the safety management system (SMS) under development in the U.S. in accordance with the ICAO Annex 11 requirement. In the SMS, the U.S. is committed to meeting ICAO requirements in a way that enhances the safety of a system that had been demonstrated to be among the safest in the world. The information summarized the development approach employed, the findings in comparing ICAO SMS requirements to existing FAA processes and procedures, safety risk management in the FAA and implementation and evolution of the system.

Guidance Manual for AIS in the Asia/Pacific Region

First Edition of the *Guidance Manual for AIS in the Asia/Pacific Region*

2.1.130 The meeting recalled that the AIS Automation Task Force (AATF) developed a draft Guidance Manual for AIS in the Asia/Pacific Region, which was reviewed and adopted by APANPIRG/12. When reviewing the Report of APANPIRG/12, the Air Navigation Commission noted the conclusion of APANPIRG and that the guidance manual would be published in accordance with established procedures.

2.1.131 The meeting noted that the AATF finalized a draft Chapter 3 – Operating Procedures for AIS Dynamic Data (OPADD) and Chapter 4 –Use of the Internet for Information Transfer. These were forwarded to ATS/AIS/SAR/SG/12 and APANPIRG/13 for review and adoption.

2.1.132 The Air Navigation Commission reviewed the APANPIRG Conclusion 13/3 and noted the intent of the Secretariat to develop guidelines for the operational use of the Internet by States to access and/or disseminate various categories of aeronautical information, such as WAFS products, OPMET data and AIS information. There was a question as to whether publication of Chapter 4 could be expected in the short term given that it contained generalized guidance material rather than specific technical instructions. The meeting was advised that Chapter 3 had been incorporated in the Manual, and Chapter 4 would need to be reviewed in the light of developments by ICAO to address this matter and a coordinated approach was necessary.

2.1.133 While recognizing the unavoidable difficulties experienced by the ICAO Regional Office given the absence of a dedicated AIS Officer, the meeting expressed some disappointment with the apparent lack of progress in this area and the delay in publication of the guidance manual.

Dissemination of Aeronautical Information

2.1.134 The meeting reviewed the Action Agreed list from the 10th Meeting of the South East Asia ATS Coordination Group (SEACG/10) held in Denpasar, Indonesia, 18-22 March 2002, in particular the importance of strict adherence to AIRAC dates was stressed. Action Agreed No.11 – Dissemination of Aeronautical Information was endorsed by the meeting which is as follows:

Action Agreed No. 11 (ATS) – Dissemination of Aeronautical Information
All States (LONG TERM)

That, in planning changes to the ATS and/or Airways system, States are urged to review their internal and regional processes to ensure that accurate changes to aeronautical information are disseminated in sufficient time to allow AIP data to be processed prior to the effective date of implementation.

AIS Implementation Task Force

2.1.135 The meeting noted that, in considering the future of the AIS Automation Task Force, it had been agreed that it should be reactivated and renamed the AIS Implementation Task Force (AITF) to ensure that AIS matters were continued to be progressed. However it was unlikely that the first meeting of the Task Force would be held until the second quarter of 2004 or later due to staff and resource constraints of the ICAO Regional Office. The meeting recalled that APANPIRG/2 (October 1992) Conclusion 2/31 addressed this problem and called upon ICAO to increase AIS support for the APAC Office. This item was still open and the situation had deteriorated at a time when AIS requirements have reached a critical level with a considerable number of outstanding AIS issues not being progressed consequent with rapid changes in ATS technology and practices.

2.1.136 The meeting reiterated that AIS is an essential service that had safety implications and was crucial to the provision of air traffic services. This matter should be given priority by ICAO to strengthen the AIS expertise in the Regional Office. The meeting developed draft Terms of Reference for the Task Force as shown at **Appendix E** to the Report on Agenda Item 2.1 and formed the following Decision.

Decision 14/8 – 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** to the report on Agenda Item 2.1.

AIS Seminar 2002

2.1.137 The meeting was provided information on the AIS Seminar held at the ICAO Regional Office, Bangkok from 17 to 20 December 2002. The Seminar was attended by 59 participants from 18 States, one international organization and two AIS companies

2.1.138 The meeting recalled that APANPIRG/12 placed a special emphadis on the development and conduct of the AIS Seminar and formulated the following Conclusion:

Conclusion 12/8 – Special Implementation Project for an AIS Seminar in 2002

That, ICAO urgently consider a proposal for an Asia/Pacific Special Implementation Project to be established in order to hold an AIS Seminar in 2002 with the primary objective to improve AIS in relation to AIS automation and quality assurance programme.

2.1.139 The ICAO Council subsequently considered and approved the Special Implementation Project in late March 2002.

2.1.140 The ATS/AIS/SAR Sub-Group's AIS Automation Task Force (AATF) was tasked with the development of the AIS seminar programme in line with APANPIRG/12 Conclusion 12/8. As a result of the development work undertaken by the AATF, the AIS seminar programme was prepared to provide an opportunity for technical personnel at the work level to become aware of new trends in the AIS field. It was also considered equally important to raise the awareness at the management level of the State's civil aviation authorities and/or AIS service providers.

2.1.141 The objectives of the AIS Seminar were as follows:

a) increase the level of awareness by AIS/MAP providers regarding the need for, and application of, the SARPs contained in Annex 15;

b) accelerate the application of quality systems supporting AIS/MAP across the regions;

c) provide briefings relating to international directions and advances being made in the fields of AIS/MAP;

d) provide a forum for open discussions relating to AIS matters of mutual interest between providers and users;

e) provide a forum for AIS/MAP users to articulate their specific needs and requirements; and

f) provide a forum where technological advancements and enhancements in the field of AIS/MAP can be displayed and demonstrated.

2.1.142 In discussion the Seminar highlighted the following issues:

a) need for States to complete WGS-84 surveys in accordance with SARPs;

b) implementation of quality assurance systems for AIS is an essential safety consideration;

c) development of the use of the internet to publish and update AIS information should be given high priority by ICAO;

d) higher profile should be given by ATS providers to AIS work and status of personnel;

e) priority should be given by those States who have not updated their AIPs in the Annex 15 format to complete the work and publish the document as soon as practicable;

f) greater emphasis to be placed on training AIS personnel;

g) ATS providers to implement automated systems and exchange of information as a matter of priority;

h) AIS is a key element in bringing about ATS route and airspace changes, and in major projects such as EMARRSH and the revised South China Sea route structure, timely and efficient handling of data was crucial to successful implementation, and some States had difficulties providing up-to-date data;

i) adherence to the AIRAC system is essential and is a major cause of breakdown in the timely preparation and distribution of aeronautical information;

j) for major aeronautical information changes, the Annex 15 recommendation of a publication date of at least 56 days in advance of the effective date should be adhered to; and

k) more frequent seminars and workshops should be held in the region.

2.1.143 The meeting noted that the seminar was of considerable value to participants and these should be held more frequently than in the past to raise awareness of the significant role AIS had in the provision of air traffic services. Also, it would be of considerable benefit to States to conduct workshops in view of the significant changes in technology, the use of databases and need for quality assurance in the production and management of aeronautical information.

Importance of timely and accurate AIS data

2.1.144 IATA reminded the meeting of the critical safety nature of accurate and timely AIS data and the implementation of Annex 15 provisions, particularly those relating to the AIRAC system. The meeting recalled that November 2001 marked the implementation of the revised South China Sea ATS route structure. Associated with that implementation were several critical AIS related deficiencies due to incomplete and inaccurate data being provided by some States. In hindsight, it is the opinion of IATA that the implementation should have been postponed as not all involved States met their AIS obligations in accordance with the Annex 15 SARPS.

2.1.145 Unfortunately, recent experience had shown that several States are still not complying with the AIRAC provisions and IATA had lodged a significant number of complaints during the year 2003. Implementation of major changes on dates other than the published AIRAC cycles and with insufficient lead-time to implement a change is a significant safety problem. The extent of such non-compliance is quite alarming, with a few States routinely not carrying out their obligations under Annex 15. The meeting was advised by IATA that they were of the strong opinion that:

a) Unless the need is absolutely critical, implementation should always be on an AIRAC date;

b) The general rule of thumb should be to promulgate AIS data two AIRAC cycles prior to implementation. This is especially important if the procedure is mandatory and replaces an existing procedure;

c) If a new airway or procedure is not mandatory and does not replace a procedure that is already in use, then promulgation of AIS data one AIRAC cycle prior to implementation is acceptable.

2.1.146 Considering the comments from IATA and those from the AIS Seminar, the meeting developed the following Conclusion:

Conclusion 14/9 – 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.

South China Sea (SCS) ATS Route Structure Implementation Task Force – Post Implementation Update

2.1.147 The meeting was advised that the South China Sea ATS Route Structure Implementation Task Force/8, held in Bangkok from 2 to 3 December 2002 reviewed the past year's experience since implementation including areas for improvement, in particular to realign routes and to improve the efficiency of air traffic and flight operations.

China

2.1.148 The meeting noted that, in order to accommodate increasing air traffic, further facility construction and staff training had been undertaken in Sanya. A plan for construction of a new ACC facility in Sanya AOR was underway, which included a new building, relevant ATC automation, communication and meteorological facilities. In addition, two new radars were being installed in the Sanya AOR to provide continuous and stable radar coverage for the whole area. Also, plans were in hand to transfer Zhanjiang's radar signal to Sanya ACC. With the radar signals of Guangzhou, Shenzhen, Zhuhai and Haikou, which had already been transferred to Sanya ACC, ATS route A202 route would be covered by more reliable radar signals and with necessary redundancy. On completion of these improvements, controllers would be able to monitor the whole traffic situation in Sanya AOR.

Lao PDR

2.1.149 On the 1 November 2001 when ATS route 202 was implemented, the Vientiane Area Control Centre was successfully established. The provision of radar/procedural control to air traffic operating within Vientiane FIR had reached a satisfactory level due to improvements and upgrade of ATC personnel and communication equipment/facilities.

2.1.150 Planning was underway to increase the reliability of ground/air communications within the entire FIR especially for the Southern part by installing back-up link via VSAT, as well as increasing the number of ATC personnel.

Malaysia

2.1.151 Since implementation, the traffic flow was more organized and there were less ATC delays. Also, the route capacity had improved thus accommodating more traffic at any given time. Revised ATS coordination procedures incorporate provisions for Mach Number Technique and No Pre Departure Coordination. Requested flight levels were more readily available. These revised procedures had significantly reduced the need for coordination with adjacent ACCs, and reduced controller workload and ground delays.

Singapore

2.1.152 In general, aircraft routing on the revised route structure were able to operate at optimum or close to optimum flight levels. ATC coordination with adjacent ACCs was minimized resulting in the reduction of controller's workload as well as ground delay to aircraft.

2.1.153 The meeting expressed its appreciation to the Civil Aviation Authority of Singapore (CAAS) for undertaking the monitoring of navigation errors by aircraft operating over the South China Sea area. Also, it was encouraging to note the good navigation performance being achieved by airline operators.

Viet Nam

2.1.154 The opening of ATS route A202 and the transition to the new ATS route structure within Ha Noi and Ho Chi Minh FIRs had been implemented smoothly and safely. Also, the transfer of ATS responsibility for the upper airspace portion in the South-West of Ho Chi Minh FIR from Bangkok ACC to Ho Chi Minh ACC was accomplished. It was noted that flight times between cities pairs decreased significantly, except on a few routes where it slightly increased. Flight safety had been considerably enhanced. Co-ordination procedures between relevant ACCs proved to be satisfactory, and relations between the ATS providers of adjacent States improved. ATC units are providing a more effective air traffic services to meet the requirements of the operators, eliminate ground delays and reduce controller workload.

Proposed changes to the SCS route structure and associated procedures

2.1.155 The meeting noted that weather deviation procedures introduced by Hong Kong, that were designed for the SCS route structure where large weather deviations are routinely encountered had proved to be effective. It was decided to monitor these procedures and if necessary further enhancements could be made if deemed necessary.

Hong Kong to Jakarta city pair

2.1.156 The meeting noted that the Hong Kong to Jakarta city pair had suffered significantly with one airline alone stating an additional 4.6 million USD annual increase to their one flight a day operation. The Brunei routings to the Middle East (or the taking away of efficient routings between Kota Kinabalu/Brunei and Phuket) also carried a significant post implementation penalty to these operations. These deficiencies are being further discussed and a solution is pending.

Re-alignment of N892 and L625

2.1.157 The meeting was advised that a proposal had been put forward to allow the straightening of both N892 and L625. There had been ongoing concern at previous meetings regarding the management of large scale weather deviations on the closely spaced parallel tracks. By moving both these routes eastwards, this would allow more flexibility between the parallel routes when these weather conditions occurred.

Routing between Danang and Hong Kong on ATS routes A1 and P901 in relationship to China's Danger Areas

2.1.158 The meeting was advised that, due to four Danger Areas located close to Hainan Island, there was a significant impact on services by non-RNP10 compliant international airlines on the route system between Danang in Viet Nam and Hong Kong compared to pre 1 November 2001 implementation of the revised SCS route structure.

2.1.159 A possible solution was to re-align both routes so that P901 would pass between the Danger Areas with A1 on the same routing with an upper level of FL 280. Additional solutions would be to realign the Danger Areas or changing their times of activation so that all aircraft could fly from Danang to Hong Kong H24.

2.1.160 China noted the problem and was working with other Chinese administrations to come to a favorable solution.

Bangkok - A202 - Hong Kong

2.1.161 The meeting noted that the introduction of ATS route A202 had promoted a new level of efficiency for aircraft operating between Bangkok and Hong Kong.

2.1.162 With regard to aircraft wishing to use this route for flights beyond Hong Kong such as to Taipei, Japanese airports and the Pearl River Delta destinations, both China and Hong Kong China were continuing to study this matter and would report to the next meeting of SEACG.

2.1.163 Noting that A202 was presently a conventional route with no RVSM procedures, the efficiency of operations would be further enhanced with the introduction of radar separation rather than the time separation standard of 10 minutes. China advised that they were working towards this change to radar separation and would report there work to the next meeting of SEACG.

Contingency Routing Scheme for Asia/Middle East/Europe-2003 (CRAME-03, Version II)

2.1.164 The meeting was advised that, as a result of heightened tensions in the Middle East, it was decided by ICAO Headquarters, in collaboration with ICAO Regional Offices concerned, to develop a Contingency Routing Scheme for Asia/Middle East/Europe.

2.1.165 The Contingency Routing Scheme for Asia/Middle East/Europe – 2003 (CRAME-03) had the objectives of ensuring continued safety of air navigation within FIRs affected by airspace closures and minimizing effects on international civil air transportation in the event of military action occurring in the Middle East area.

2.1.166 The meeting noted that it was not possible to predict with certainty what airspace would remain open or closed to civil aviation and for what period of time. Experience from operating similar contingency plans under similar conditions showed that a flexible approach to airspace management was required. Frequent changes in military objectives and concentrations of military activities would affect the airspace available for civil operations. In this regard, the contingency routing scheme took into account that States may need to modify the extent to which they can support the contingency arrangements. Accordingly, this contingency scheme was designed to contain a variety of options, which could be used for varying scenarios.

2.1.167 It was recognized that operators may incur economic penalties during application of the contingency scenarios. Therefore, if necessary, air traffic flow control measures were to be implemented as required. It was pleasing to note that, due to experience gained from previous military actions in and around this area including the previous Gulf War and the military operations in Afghanistan, the military planners took the needs of the international civil aviation users and providers into consideration, which resulted in minimum disruptions to the civil operations who were required to transit close to the war zone.

2.1.168 The meeting would recall that the coordinated efforts of States concerned as well as ICAO and IATA together with their member airlines, ensured that, from an overall perspective, civil aircraft were able to continue to operate. Nevertheless, the Contingency Scheme covered all scenarios from least case to worst case and extensive coordination with States concerned established a mechanism, which would keep aircraft operating, albeit in some cases, greatly increasing their flight time from departure to destination.

Management of Waypoint Name Allocation

2.1.169 The meeting was advised that Australia had provided information on the issue of waypoint allocation, in particular waypoint duplication and suggested courses of action in order to rectify the problem.

2.1.170 The meeting was informed by ICAO that action had been taken by the Bangkok Regional Office to address the problem of automated waypoint allocation of five-letter name-codes. A global database had been developed by the ICAO Paris Office in cooperation with EUROCONTROL, and had been used in Europe successfully for several years. The Bangkok Office was coordinating with the Paris Office with the intention of adopting their system.

Altitude Reservations

2.1.171 The United States presented information to the meeting on the Department of Defense and the U.S. Air Force responsibilities pertaining to Military operations that need coordination as described in the PANS-ATM (Doc 4444). In line with this responsibility, due to increased civil operations in the oceanic and international areas, the Department of Defense would like to put into place agreements and communications with States and ATS Providers to allow movements of groups of aircraft and with altitude reservations when necessary. This would help to increase safety in the en-route operations.

2.1.172 The contact for States is the Pacific Military Altitude Reservation Function (PACMARF). States are encouraged to take into consideration the development of a Memorandum of

Understanding (MOU) as a formal process to receive, approve and operate Altitude Reservations ALTRVs within their appropriate FIRs.

Lost Communications Procedures

2.1.173 The United States presented information to the meeting on a proposed amendment to the ICAO Pacific Regional Supplementary Procedure (Doc 7030) for region-specific lost communication procedures (**Appendix F** to the report on Agenda Item 2.1 refers).

2.1.174 The meeting was advised that in view of the congestion of flights operating in today's Pacific route systems, along with the availability of multiple methods for communications using CPDLC, satellite communication (SATCOM), HF and VHF air-to-air radio communications, etc., the current ICAO lost communication procedures were no longer considered to be appropriate for the current Pacific operating environment. In this regard, the meeting noted that existing ICAO lost communication procedures do not ensure that ATC would be able to provide standard separation from surrounding flights in the event of a loss of communications with an aircraft. While ATC may be able to monitor the actions expected from flights in a "lost communication " situation and attempt to resolve conflicts, ATC may not be able to contact surrounding flights in order to move them out of the way depending on the type of communications failure, e.g. due to HF propagation, data link/SATCOM outages or any combinations thereto.

2.1.175 The meeting recognized that the proposed amendment provided the following benefits:

a) flights could and may opt to remain within their last assigned ATC clearance and be provided separation from surrounding flights;

b) long-haul flights that must proceed in accordance with their flight plan profile may do so and ATC would ensure surrounding flights were provided information regarding the possible execution of the procedure;

c) on the occasion when a flight's filed flight plan altitude was lower than that currently assigned, the flight would not be required to, or expected to descend and may stay on course and at altitude until a higher altitude was required, then follow the offset contingency procedure; and

d) provided lost communication alerts for ADS equipped aircraft.

2.1.176 In addition to the proposed amendment to the PAC SUPPs, the meeting agreed that all of the current contingency procedures (e.g., wake turbulence offset, weather deviation, emergency offset for climb/descent, etc.) should be re-evaluated and updated as necessary. This would ensure that the procedures were still appropriate for today's oceanic environment and allow for possible changes to provide consistency in the actions required by each procedure. In this regard, the meeting was advised that ICAO recognized the need to harmonize regional procedures and would be reviewing the SUPPs, taking into account the need to revise the PANS-ATM to include regional procedures that had global application.

2.1.177 The meeting agreed to the proposed amendment as shown in Appendix xx to the Report on Agenda Item 2.1, and requested the Regional Office to progress the proposal in accordance with standard practice for the amendment of the SUPPs. Further, ICAO was requested to review the special procedures for in-flight procedures to ensure they met the current operating environment and were harmonized with other regions. The meeting also considered that where regional procedures

were common to all regions, then ICAO should include such procedures in the PANS-ATM for global application.

Contingency Planning

2.1.178 The FAA presented information to the meeting on a proposed amendment of procedures for consideration in the event of a partial or complete shutdown of the United States National Airspace System (NAS), which includes international airspace delegated to the United States for the Provision of air traffic services.

2.1.179 The events of 11 September 2001 closed the entire NAS, including international airspace delegated to the United States for the provision of air traffic services. This prompted concerns from the IATA at ATS/AIS/SAR/SG/12 as to the importance of accessible oceanic airspace over the high seas and the appropriateness of the contingency procedures to ensure this access.

2.1.180 Subsequently, the United States had proposed a revision to their contingency checklist that would consider the restrictions to transit of U.S. controlled international airspace outside the 12 NM territorial limit and ensure to the greatest extent possible the continuous access to airspace for international civil flights over the high seas.

2.1.181 The meeting noted the information and progress to revise the contingency procedures.

Advanced Technologies and Operational Procedures (ATOP)

2.1.182 The FAA presented information on the current status of the FAAs Advanced Technologies and Operational Procedures (ATOP) programme. ATOP would be deployed at New York, Oakland and Anchorage Air Route Traffic Control Centers (ARTCCs). This system would increase airspace capacity, reduce delays and reduce restrictions by allowing controllers to move away from manual air traffic management techniques and by taking advantage of both the latest satellite-based communications and surveillance technology and the FANS-1/A avionics capabilities. System hardware had been installed at the FAA Technical Center and Oakland ARTCC. Installation of the hardware at New York ARTCC was nearing completion and preparation had begun at Anchorage ARTCC.

2.1.183 The meeting noted that the FAA requirements had been stable since contract award, however significant amounts of unanticipated new software development and modification were discovered which resulted in a longer than anticipated time to complete software integration and Factory Acceptance Test activities. Once these problems were resolved, the FAA would conduct a series of system tests for all personnel. Upon completion of these tests, Site Acceptance Testing, government acceptance and field familiarization/shakedown activities would be conducted at Oakland ARTCC.

2.1.184 Based on the remaining test activities, the FAA was optimistically projecting Initial Operational Capability (IOC) at Oakland ARTCC by the 4th quarter of 2003 with recognition that IOC at Oakland ARTCC may not occur until early 2004 depending on how quickly the remaining test activities could be executed.

Sanya AOR and other significant issues

2.1.185 China advised the meeting that in view of their upgraded facilities they were confident that they could upgrade the Sanya AOR to the Sanya FIR. ICAO remarked that after the operational trial period for the Sanya AOR, a review of the arrangements in place would be necessary with all parties concerned.

2.1.186 Viet Nam advised that information provided by China regarding the upgrade of Sanya AOR to Sanya FIR should be considered very carefully by all States and parties concerned to ensure safety of all civil aviation activities and other related matters in the South China Sea area.

2.1.187 China further advised the meeting that in co-ordination with ICAO, China had actively participated in the contingency arrangements associated with the outbreak of war in Iraq and had made preparations for additional flights to operate within the airspace of China including arrangements for expeditious handling of flight plan approval requests. More than 100 additional scheduled flights had taken advantage of the opportunity to fly routes within the territory of China.

2.1.188 Regarding operations along the Polar routes, China stated that Provisional Management Rules of Polar Route Operations have been published by China. These provisions state the extent of flexible choice of entry/exit points in Chinese airspace and the associated procedures to be used by operators. Additionally, data had been published on the newly established entry/exit point of POLHO together with two new route segments linking POLHO, with an effective date of 0001 UTC on 30 June 2003.

2.1.189 IATA thanked China for their work in supporting Polar route operations, particularly with respect to the implementation of flexible entry/exit points. IATA understood that China would be continuing work on this issue with a view to expanding its application as soon as possible.

Large-scale weather deviations

2.1.190 The meeting was advised that the successful implementation of ATM contingency procedure due to large-scale weather deviations (LSWD) could be better facilitated if ACCs concerned receive prior warning or advice from a meteorological (MET) office regarding the expected occurrence of weather conditions that lead to LSWD. This would allow the smooth transition from normal to contingency arrangements avoiding peak workload and stress, which were typical for cases when the adverse weather conditions occur suddenly without any warning.

2.1.191 The meeting was advised of the possible MET products that could be supplied to the ATS units to support their decision-making in planning and implementing LSWD contingency procedures. At present, the Meteorological Weather Offices (MWOs) were responsible for provision of SIGMET information to their associated ATS units, but it had been recognized that the SIGMET service had yet to be improved. In addition to SIGMET, the MWOs could provide other meteorological products of operational value for the air traffic management before and during the adverse weather situations. Such products were the volcanic ash and tropical cyclone advisories issued by the specialized Volcanic Ash Advisory Centres (VAAC) and Tropical Cyclone Advisory Centres (TCAC). In the future, graphical SIGMET and advisories, and other tailor-made graphical products based on the forecasts provided by the World Area Forecast System (WAFS) could be supplied to the ATS units.

2.1.192 The meeting agreed that MET products aimed at supporting ATM decisions, could be very useful for the ATS units. It was felt in this regard that the Annex 3 provisions concerning the MET information to be provided to the ATS units should be reviewed and amended to include additional MET products and services, related to the information provided for weather phenomena that cause significant changes in the ATC procedures, such as LSWD contingency procedures. Based on the above discussion, the meeting formulated the following Conclusion:

Conclusion 14/10 – MET support to ATM large-scale weather deviations contingency procedures

That,

a) States should strengthen the coordination between the ATS units and their associated MWOs in regard to the provision of SIGMET information, in particular for weather phenomena that cause significant changes in the ATC procedures, such as LSWD contingency procedures; and,

b) ICAO is invited to develop provisions for additional meteorological service to the ATS units in regard to the weather phenomena that cause significant changes in the ATC procedures, such as LSWD contingency procedures. This service should include, as a minimum, supply of the ATS units with volcanic ash and tropical cyclone advisories.

Revision of the Title of the ATS/AIS/SAR Sub-Group

2.1.193 This meeting considered a proposal by the Secretariat to change the title of the ATS/AIS/SAR Sub-Group to the ATM/AIS/SAR Sub-Group. In this regard, the meeting noted that the work of the ATS/AIS/SAR/SG had expanded to address airspace management (ASM), air traffic flow management (ATFM) issues, ATM enhancement measures including data link systems such as ADS and CPDLC. Also, airspace safety management systems were an important consideration especially since this was included in Amendment 41 to Annex 11 effective on 28 November 2002.

2.1.194 It was recalled that as defined in Annex 11, ATS was a generic term meaning variously, flight information service, alerting service, air traffic advisory service, and air traffic control service (area control service, approach control service and aerodrome control services). All of these functions along with ASM and ATFM were elements within the ATM system as described in the *Global Air Navigation Plan for CNS/ATM Systems* (Doc 9750) and the ATM Operational Concept Document. In this regard, it would be appropriate to use the term ATM as the title for the Sub-Group.

2.1.195 In regard to AIS, the major objective of AIS was to ensure the flow of information necessary for the safety, regularity and efficiency of international civil aviation. It provides essential support to the ATM system, which was dependent upon AIS to function. In view of the important role of AIS and its impact on the safety of the ATM system and flight operations, the meeting agreed that AIS should be retained as a separate entity.

2.1.196 In regard to SAR, this was not included as an element of ATM in the Global Plan or the ATM Concept Document, therefore, should be kept separate from ATM, although it was closely related to ATM activities. Accordingly, the meeting agreed that it was appropriate to continue to use SAR in the title of the Sub-Group and address SAR matters in the ATM/AIS/SAR Sub-Group.

2.1.197 In light of the foregoing, the meeting considered it was appropriate and timely to revise the title of the ATS/AIS/SAR Sub-Group to the ATM/AIS/SAR Sub-Group. In doing so, the meeting stressed that it was important to highlight the importance of AIS to the ATM system and States should not lose sight of the need to address AIS issues with equal priority as other ATM matters, and to provide appropriate experts at ATM/AIS/SAR Sub-Group meetings. The meeting formulated the following Decision:

Decision 14/11 – Revision to the Title of 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.

Japan/Russian Federation Interface Issues

2.1.198 Japan advised the meeting of the successful conclusion of a long-standing issue relating to the implementation of a new route from the Russian Far East into the airspace of Japan. The alignment of this route, known during the planning phade as Kamchatka Four, and the associated transfer-of-control point had been agreed by Japan and the Russian Federation.

2.1.199 An ICAO route identifier (B932) had been allocated to the route and demonstration flights are scheduled to take place during the period 7 August - 27 November 2003. The purpose of the demonstration flights was to assess communications capabilities and verify operational procedures.

2.1.200 Both Japan and the Russian Federation had published an AIC, dated 12 June 2003, containing full details regarding the alignment of B932, timeframe for operation, altitude assignments, lost communication procedures and points of contact for users wishing to participate in the demonstration programme.

2.1.201 Additionally, Japan advised the meeting that the alignment of the FIR boundary between Sapporo and Yuzhno-Sakhalinsk was revised on 31 October 2002.

2.1.202 IATA expressed appreciation to both Japan and the Russian Federation for their efforts in bringing this difficult issue to a successful conclusion.

Navigation Error Monitoring for the South China Sea

2.1.203 Singapore advised the meeting of the results of their analysis of 12-months of navigation error monitoring reports received for designated areas of the revised South China Sea ATS Route structure. Reports had been supplied on a monthly basis by Hong Kong, Philippines and Singapore, with Singapore undertaking the analysis of the data and comparison to the Target Level of Safety for the airspace concerned. Of the 46,323 movements across the area analysed, there were no reported navigational errors.

2.1.204 The meeting noted with satisfaction the demonstrated high standard of navigation accuracy on the revised South China Sea ATS route structure and the consequent positive impact with respect to the regionally agreed Target Level of Safety. Additionally the meeting expressed its appreciation to Singapore for accepting this important analytical task on an on-going basis.

Search and Rescue Matters

Analysis of SAR Capability of ICAO States in the Asia/Pac Region

2.1.205 The meeting reviewed the SAR Matrix Table which provides a comprehensive listing of the SAR capability of ICAO States in the Asia/Pacific Region. This Table was developed by APANPIRG/7 in response to APANPIRG Conclusion 7/3 – "*that States provide information to ICAO by 30 April of each year to permit periodic update."* The Matrix Table was updated by the meeting and is shown at **Appendix G** to the Report on Agenda Item 2.1.

Provision of SAR and SAR Agreements

2.1.206 The meeting reviewed the ICAO register of SAR agreements and noted that no changes had occurred since ATS/AIS/SAR/12. Australia, Malaysia and the U.S. informed the meeting of the SAR agreements that it had completed with countries with which had aviation and/or maritime boundaries.

2.1.207 The meeting emphasized the importance of States establishing SAR agreements with neighbouring States, which would also served to provide arrangements for rapid access to the territory of another State in the event of a request for SAR assistance. Other States which have concluded such SAR agreements are encouraged to send them to the ICAO Regional office for inclusion in the ICAO register.

2.1.208 The meeting reviewed and updated the list of SAR agreements as shown in **Appendix H** to the Report on Agenda Item 2.1.

SAR Exercises

2.1.209 The meeting noted that the ICAO SAREX and Seminar planned to be carried out for the Bay of Bengal area under the ICAO Special Implementation Project (SIP) approved by the Council of ICAO following APANPIRG/12 Conclusion 12/10, was deferred to 2004 due to constraints of the Regional Office. This was exacerbated by the outbreak of SARS in late March 2003 which led to a disruption to the Regional Office meeting schedule.

2.1.210 The Regional Office in consultation with the Civil Aviation Department of Hong Kong, China arranged for a two-day ICAO Seminar to be held in conjunction with the Hong Kong annual SAREX scheduled in late November 2003.

2.1.211 The United States provided an outline of a plan for a 3-year calendar of major SAR exercises. These would provide for involvement of other States in planning, conducting and observing the exercises. Lessons learned and “best practices” determined from the exercises would be available to the participants and to ICAO.

2.1.212 The meeting expressed its grateful appreciation to the United States for its offer to States to participate at its SAR exercises, and also expressed the same appreciation to Hong Kong, China for their generosity in inviting States to observe their annual SAREX.

2.1.213 Viet Nam informed the meeting that it had a plan to conduct SAREX-2003 in a mountainous area in the Viet Namese Highlands in November 2003 and details would be made available shortly.

2.1.214 APANPIRG/12 endorsed a Conclusion to request a Special Implementation Project for an International Seminar and SAREX in the Bay of Bengal as follows:

Conclusion 12/10 – 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***.**

2.1.215 In regard to the above, this event was deferred due to other pressing matters and was due to be held in September 2003. Unfortunately, with the outbreak of the SARS in the Asia Region in late March 2003, significant disruption was caused to the Asia/Pacific Regional Office meeting programme with meetings being postponed or rescheduled to later in the year. Consequently, it was not possible to hold the Seminar/SAREX in 2003 and this was again deferred to 2004.

Update the list of ATS/AIS/SAR Subject/Tasks together with priorities

2.1.216 The meeting reviewed and updated the List of Tasks allocated to the Sub-Group by APANPIRG/13. A copy of this list is contained in **Appendix I** to the Report on Agenda Item 2.1.

ASIA/PACIFIC REGION RVSM IMPLEMENTATION PLANS STATUS REPORT

Note: Star indicates RVSM implementation complete

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	Phased implementation
Bangkok	21 Feb 2002	Phased implementation
Beijing		
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
Chennai	27 Nov 2003	
Colombo	27 Nov 2003	
Delhi	27 Nov 2003	
Dhaka	27 Nov 2003	
Guangzhou		
*Hanoi	31 Oct 2002	Phased Implementation
*Ho Chi Minh	21 Feb 2002	Phased Implementation
*Hong Kong	31 Oct 2002	
*Honiara	24 Feb 2000	
Incheon	TBD	
Jakarta	31 Oct 2002	Phased Implementation
Karachi	27 Nov 2003	
Kathmandu	27 Nov 2003	
Kolkata	27 Nov 2003	
Kota Kinabalu	21 Feb 2002	
Kuala Lumpur	21 Feb 2002	Phased Implementation – Bay of Bengal - 27 Nov 2003

FIR/AOR	RVSM Implementation Date	Comments
Kunming		
Lahore	27 Nov 2003	
Lanzhou		
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
*Nauru	24 Feb 2000	
*New Zealand	13 July 2000	Non-exclusive
*Oakland Oceanic	24 Feb 2000	
*Phnom Penh	21 Feb 2002	
*Port Moresby	13 Apr 2000	
Pyongyang		
Sanya AOR	31 Oct 2002	N892 within the oceanic airspace of Sanya AOR on 21 February 2002
Shanghai		
Shenyang		
*Singapore	21 Feb 2002	
*Tahiti	24 Feb 2000	Non-exclusive RVSM airspace
Taibei	21 Feb 2002	
Tokyo	24 Feb 2000	Oceanic
Ujung Pandang	31 Oct 2002	Phased Implementation
Ulaan Baatar		
Urumqi		
*Vientiane	31 Oct 2002	
Wuhan		
Yangon	27 Nov 2003	

— END —

TERMS OF REFERENCE FOR ATS ROUTE NETWORK REVIEW TASK FORCE (ARNR/TF)

The Task Force shall:

a) review the ATS route network of the ASIA/PAC Regions as described in Doc 9673 (1st Edition of the Basic Air Navigation Plan dated 2001) and subsequent changes;

b) determine the required ATS route network;

c) revise Doc 9673 to the extent necessary after considering whether the requirements for routes still exists or if the requirements need to be modified in order to ensure that an up-to-date basis is provided for taking into account;

   i) an orderly flow of air traffic and the need for a well balanced cost/benefit relationship for both users and providers of services;

   ii) an ATS route system based on area navigation (RNAV) and CNS/ATM, providing for optimal routing where possible and offering possibilities to aircraft to operate on routes not provided with station reference aids;

   iii) the current pattern of aircraft operations and the need for fuel conservation and economy of operations;

   iv) the opportunity for long haul flights to operate along, or as near as possible to preferred routes from the point of departure to destination in accordance with the principles contained in the Global CNS/ATM Plan and further developed by the ATM Concepts Panel (ATMCP). Particular emphasis should be focussed on a flexible use of airspace approach wherever possible.

The Task Force will report to ATS/AIS/SAR/SG/14.

CONTRIBUTORY BODIES OF APANPIRG and ASSOCIATED GROUPS

Title	SG Responsible	Decision	ToR	Report Date
ADS-B Study and Implementation Task Force	APANPIRG	CNSMET DC6/9	Appendix K	
AFS Management Task Force	CNS/MET			Dissolved
AIDC Review Task Force	APANPIRG	D5/1	To be reconvened by CNSMET DD6/24	ATS/AIS/SAR SG/13
AIS Automation TF	ATS/AIS/SAR SG	D12/x	Suspended until when needed for further work	Suspended
ANP/FASID Review Working Group	CNSMET 5	D5/24 D6/23		CNSMET 6 dissolved
AOP Study/Sub Group??	ICAO	DGCA R3.17.6		
APANPIRG 7 Training Task Force	APANPIRG 7			
ASIA/PAC OPMET Exchange Task Force (OPMET/E TF)	CNSMET	DD6/17	Appendix R	
ASIA/PAC Volcanic Ash Task Force (VA TF)	CNSMET	DD6/20	Appendix S	
ASIA/PAC WAFS Transition Task Force	CNSMET5	D5/16 DD6/16	Appendix Q	
ASIA/PACIFIC Area Traffic Forecasting Group ATA TFG	?			
Asia/Pacific Safety Management TF (Asia Pacific Regional System Performance Monitoring Organisation TF)	APANPIRG 12	D12/44	APANPIRG 12 Appendix 3B	APANPIRG 13
ATN Transition Task Force	CNSMET		CNSMET 5 Appendix K CNSMET 6 Appendix H	
Bay of Bengal Task Force	ATS/AIS/SAR SG	D7/10	Report 4.1.2 (D7/11)	
Business Case TF	APANPIRG 12		Report 3.82	

CONTRIBUTORY BODIES OF APANPIRG and ASSOCIATED GROUPS

Title	SG Responsible	Decision	ToR	Report Date
Chairmen's Meeting			Last meeting was December 2001	
CNS/ATM Guidance Material TF	ATS/AIS/SAR	APANPIRG D7/1	Report 2.1.3.5	APANPIRG/8 (1997)
CNS/ATM Implementation Team			APANPIRG 12	
CNS/ATM Training and Human Resource Development Task Force	APANPIRG 9	D9/39	Report	
Cooperative Development of Operational Safety and Continuing Airworthiness Programme – South East Asia (COSCAP)				
Cooperative Development of Operational Safety and Continuing Airworthiness Programme – South Pacific (COSCAP)				
Cooperative Development of Operational Safety and Continuing Airworthiness Programme – North East Asia (COSCAP)				
EMARSSH TF	ATS/AIS/SAR	APANPIRG C11/10		APANPIRG/13 (2002)
Environmental Issues Task Force	APANPIRG		ALLPIRG/4 IC SG to action	
Forum of Aviation Officials				
GNSS Task Force	CNSMET			Completed
Informal Trans-Asia/Trans-Siberia/Cross-Polar Routes High level Steering Group (ITASPS)				
IPACG				
ISPACG				
LTMP WG Long Term Monitoring	ATS/AIS/SAR SG	3.1.32		

CONTRIBUTORY BODIES OF APANPIRG and ASSOCIATED GROUPS

Title	SG Responsible	Decision	ToR	Report Date
Performance Working Group	RVSM TF			
MET Working Group on the CNS/ATM	CNSMET5	D5/29		Dissolved
METATM Task Force on CNS/ATM Plan	CNSMET5	D5/30	CNSMET 5 p40 and Appendix 1G	CNSMET6
NAV/SUR TF	CNS/MET			Finished
Operations Manual				Dissolved APANPIRG 8??
OPMET Working Group	CNS/MET	?	See ASIA/PAC OPMET Exchange Task Force (OPMET/E TF)	overtaken
Pacific Aviation Safety Office (PASC)				
RACGAT				
RVSM Implementation Task Force	ATS/AIS/SAR SG	APANPIRG/9 D9/4	Report 2.1.31	On-going
Safety Regulation and Oversight Office				
SCS Task Force	ATS/AIS/SAR SG	ATS/AIS/SG/5 D5/5	Report 5.5.15	APANPIRG/12 (2001) Work transferred to SEACG
Shortcomings and Deficiencies TF or Sub-Group	ICAO	DGCA R3.18.2		
SSR Code Assignment Working Group	ATS/AIS/SAR			
SSR Code Management TF	ATS/AIS/SAR	D11/3		Suspended
Working Group on Volcanic Ash	CNS/MET			

ISSUES

Airports
- Surface movement and runway incursions
- RESA Runway end safety areas

CNS/MET
CNS/ATM IC
- APEC GNSS Implementation Team
- Asia Pacific SBAS test-bed

Environment
- Chapter 3 noise
- Emissions

Accident Rates
- COSCAPs functions
- CFIT and ALAR (approach landing accident reduction)

SAR
- biennial SAR meeting in place of continuation in the ATS/AIS/SAR SG

Technical Panels and Study Group
- update and feedback to be presented at each subgroup

ASIA/PACIFIC Groups
- established consolidated list of task forces and working groups
- list to include establishment , Terms of Reference, membership, meeting schedules and reporting arrangements

ATS/AIS/SAR
- review of RVSM guidance material phraseology particularly Chapter 6

2nd Survey on Carriage and Operation of ACAS and Pressure-Altitude Reporting Transponders

(AP-ATM0551 dated 17 August 2000)

Editorial note: Changes are arranged to show "deleted text" using strikeout (~~text to be deleted~~), and "new text" in bold Italics (***new text to be inserted***).

Pressure-Altitude Reporting Transponders

State/Territory	Effective date (dd/mm/yy)	Applicable airspace	Applicable to			Aeronautical Publication
			aeroplanes engaged in international air transport operations	aeroplanes engaged in international general aviation operations	helicopters engaged in international commercial air transport or international general aviation operations	
Australia	Early 1990's	Controlled airspace inside radar coverage	YES	YES	YES	AIP
Bangladesh						
Bhutan						
Brunei Darussalam	1-Jul-01	Brunei terminal control area	YES	YES	YES	
			* State aircraft as well			
Cambodia	1-Jan-03	All airspace within FIR				
China	1-Jan-02	All airspace within FIR	YES	YES	YES	Published ***as AIC 05/2001***
Hong Kong,China	1980	Controlled airspace within Hong Kong FIR	YES	YES	YES	AIP Hong Kong GEN 1.5-2
Macau, China	2-Jan-97	Controlled airspace within Macau ATZ	All aircraft flying within Macau ATZ			AIP Macau GEN 1.5-1 dated 2 Jan 1997
Cook Islands						
DPR Korea						
Fiji						
France (French Polynesia)	23-Jan-03	All airspace within FIR	YES	YES (All aircraft in general aviation)	YES	AIP
(New Caledonia)						
India	07-Sep-99	All airspace within FIRs	YES	YES	YES	Civil Aviation Requirements Section2, Series "R", PART IV
Indonesia						
Japan	10-Oct-75	Airspace defined by Minister of Transportation	YES	YES	YES	AIP dated 1 Oct 1975

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Pressure-Altitude Reporting Transponders

State/Territory	Effective date (dd/mm/yy)	Applicable airspace	Applicable to			Aeronautical Publication
			aeroplanes engaged in international air transport operations	aeroplanes engaged in international general aviation operations	helicopters engaged in international commercial air transport or international general aviation operations	
Kiribati						
Lao PDR						
Malaysia	1-Jan-03	All airspace within FIRs	YES	YES	YES	AIC 6/2000 dated 10 Mar 2000
Maldives	2002	Defined portion	YES	YES	YES	
Marshal Islands						
Micronesia, Federated States of						
Mongolia	1-Jan-02	International routes	YES	NO	NO	To be published in Dec 2001
Myanmar	1-Jan-00	All airspace within FIR	YES	YES	YES	Notice to owner T/41 dated 20 Jan 1999
Nauru						
Nepal	Not specified	Not specified	YES	YES	YES	Flight Operations Requirements, Amendment Number 2 dated 18 Feb 2000
New Zealand	1-Apr-97	Transponder Mandatory Airspace prescribed in NZ Air Navigation Register				Civil Aviation Rules Part 91
Pakistan	1-Jul-01	All airspace within FIR	YES			AIP
Palau						
Papua New Guinea						
Philippines	31-Jan-01	Airspace defined by Air Transport Office (ATO)	20%			
	31-Jan-02		50%			
	31-Jan-04		ALL			
Republic of Korea	30-Nov-94	All airspace within FIR	YES	YES	NO	Aviation Law

2nd Survey on Carriage and Operation of ACAS and Pressure-Altitude Reporting Transponders

(AP-ATM0551 dated 17 August 2000)

Pressure-Altitude Reporting Transponders

State/Territory	Effective date (dd/mm/yy)	Applicable airspace	Applicable to			Aeronautical Publication
			aeroplanes engaged in international air transport operations	aeroplanes engaged in international general aviation operations	helicopters engaged in international commercial air transport or international general aviation operations	
Samoa	2000	All airspace within FIR	YES	NO	NO	NOTAM will be issued on 30 Sep 2000
Singapore	Jul-81	All airspace within FIR	YES	YES	YES	AIP in 1981
Solomon Islands						
Sri Lanka	**1-Jan-03**	**All airspace within Colombo FIR**	**YES**	**YES**	**YES**	**Aviation Safety Notice issued. AIC will be issued**
Thailand	26-Feb-99	*All airspace within FIR:all comercial transport aeroplanes and international operation helicopters *Defined portion:all general aviation and helicopters	YES	YES	YES	
Tonga						
U.S.A.		Defined portion	The requirements are based on the location of aircraft operation, not the weight, engine configuration or type of operation of aircraft			FAR, Part 91
Vanuatu	1-Jan-00	All airspace within FIR	YES	N/A	N/A	
Viet Nam	**1994**	All airspace within FIR	**YES**	**YES**	**N/A**	**Included in AIP**

Note: Blank indicates that no information has been provided.

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(AP-ATM0551 dated 17 August 2000)

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Airborne Collision Avoidance System (ACAS)

State/Territory	Effective date (dd/mm/yy)	Required TCAS types	Applicable airspace	Applicable to		Aeronautical Publication
				turbine-engined aeroplanes of a maximum certified take-off mass in excess of 15000kg or authorized to carry more than 30 passengers engaged in international air transport operations	turbine-engined aeroplanes of a maximum certified take-off mass in excess of 5 700kg or authorized to carry more than 19 passengers engaged in international air transport operations	
Australia	1-Jan-00	Version 6.04 or greater until 1 Jan 2003, thereafter Version 7	All airspace within FIRs	YES	No plan	Civil Aviation Regulation and AIP
Bangladesh	1-Jan-03	Version 7				AIP will be published 09/2003
Bhutan						
Brunei Darussalam	1-Jul-01	Version 7	Brunei terminal control area	YES		
Cambodia	1-Jan-03	Version 7	All airspace within FIR	YES		AIP will be published
China	11-Jul-02	Version 7	At the specified 10 airports, and along ATS routes A461, A593 and A599	YES	YES (On 31 Dec 2003)	AIC 06/2001 and AIC 08/2001
	1-Jan-03	Version 7	All airspace within FIR	YES	YES (On 31 Dec 2003)	To be published

2nd Survey on Carriage and Operation of ACAS and Pressure-Altitude Reporting Transponders

(AP-ATM0551 dated 17 August 2000)

Airborne Collision Avoidance System (ACAS)

State/Territory	Effective date (dd/mm/yy)	Required TCAS types	Applicable airspace	Applicable to		Aeronautical Publication
				turbine-engined aeroplanes of a maximum certified take-off mass in excess of 15000kg or authorized to carry more than 30 passengers engaged in international air transport operations	turbine-engined aeroplanes of a maximum certified take-off mass in excess of 5 700kg or authorized to carry more than 19 passengers engaged in international air transport operations	
Hong Kong,China	1-Jan-00	Version 6.04 until 1 Jan 2003	All airspace within FIR	YES		AIP Hong Kong GEN 1.5-2
	1-Jan-03	Version 7	All airspace within FIR	YES	YES (on 1 Jan 2005)	AIC 02/01 dated 1 Feb 2001
Macau, China	1-Jan-00	Version 7	Controlled airspace within Macau ATZ	All fixed wing aircraft registered in Macau greater than 5700 kg or certified for more than 9 passengers seats.		AIC 07/99 dated 1 Dec 1999
Cook Islands						
DPR Korea						
Fiji						
France (French Polynesia)	23-Jan-03	Version 7	All airspace within FIR	YES	YES (on 1 Jan 2005)	AIP & AIC 010/00 dated 3 Aug 2000
(New Caledonia)	23-Jan-03	Version 7	All airspace within FIR	YES	YES (on 1 Jan 2005)	AIP & AIC 010/00 dated 3 Aug 2000
India	31-Dec-98	Any Version	All airspace within FIRs	Aeroplane having a maximum certified passenger seating configuration of more than 30 or maximum payload capacity of more than 3 tonnes		
	1-Jan-03	Version 7	All airspace within FIRs	Aeroplane having a maximum certified passenger seating configuration of more than 30 or maximum payload capacity of more than 3 tonnes	YES (on 1 Jan 2005)	Civil Aviation Requuirements, Section2, Series 'I', PART VIII, Revision2 dated 4 Dec 2000

2nd Survey on Carriage and Operation of ACAS and Pressure-Altitude Reporting Transponders

(AP-ATM0551 dated 17 August 2000)

Airborne Collision Avoidance System (ACAS)

State/Territory	Effective date (dd/mm/yy)	Required TCAS types	Applicable airspace	Applicable to		Aeronautical Publication
				turbine-engined aeroplanes of a maximum certified take-off mass in excess of 15000kg or authorized to carry more than 30 passengers engaged in international air transport operations	turbine-engined aeroplanes of a maximum certified take-off mass in excess of 5 700kg or authorized to carry more than 19 passengers engaged in international air transport operations	
Indonesia						
Japan	4-Jan-01	Version 6.04 or greater *upgrading to Version 7 before 2003 is under consideration	Domestic airspace	YES	YES (on 1 Jan 2005)	AIP dated 4 Jan 1996
Kiribati						
Lao PDR	**1-Jan-03**	**ACAS II**	**All airspace within FIRs**	**YES**		**Notice to owner/operator No. 0401/DCA dated 15 May 2002**
Malaysia	1-Jan-03	Version 7	All airspace within FIRs	YES	YES	AIC 6/2000 dated 10 Mar 2000
Maldives	Jan-00	Version 7	All airspace within FIR	YES	YES (in Jan 2005)	Published on 14 Sep 1997
Marshal Islands						
Micronesia, Federated States of						
Mongolia	1-Jan-02		International routes	YES	No	To be issued in Dec 2000
Myanmar	1-Jan-03	Version 7	International routes	YES	No	Notice to owner T/42 dated 1 Sep 2000
Nauru						
Nepal	1-Jan-03	Version 7	Not specified	YES	YES (on 1 Jan 2005)	Flight Operations Requirements, Amendment Number 2 dated 18 Feb 2000

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(AP-ATM0551 dated 17 August 2000)

Airborne Collision Avoidance System (ACAS)

State/Territory	Effective date (dd/mm/yy)	Required TCAS types	Applicable airspace	Applicable to		Aeronautical Publication
				turbine-engined aeroplanes of a maximum certified take-off mass in excess of 15000kg or authorized to carry more than 30 passengers engaged in international air transport operations	turbine-engined aeroplanes of a maximum certified take-off mass in excess of 5 700kg or authorized to carry more than 19 passengers engaged in international air transport operations	
New Zealand						Civil Aviation Rules regulating the carriage of ACAS in FIRs will be included in Civil Aviaiton Rules Programme for the fiscal year 2000/2001.
Pakistan	1-Jul-01	Version 6.04 or greater	All airspace within FIR	YES		AIP
Palau						
Papua New Guinea						
Philippines	31-Jan-01	Airspace defined by Air Transport Office (ATO)	20%			
	31-Jan-02		50%			
	31-Jan-04		ALL			
Republic of Korea	1-Jan-00	Version 6.04 or greater & Version 7 after Jan 2003	All airspace within FIR	YES	N/A	Aviation Law
Samoa	2000	Version 6.04 or greater & Version 7 for new installation after Jan 2002	All airspace within FIR	YES	YES (on 1 Jan 2005)	NOTAM will be issued
Singapore	1-Jan-02	Version 7	All airspace within FIR	YES	YES (on 1 Jan 2005)	AIC will be issued
Solomon Islands						
Sri Lanka	**1-Jan-02**	**Version 7**	**All airspace within Colombo FIR**	**YES**		**Aviation Safety Notice issued 2002. AIC will be issued**
Thailand	1-Jan-03	Version 7	All airspace within FIR	YES	YES (on 1 Jan 2005)	

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Airborne Collision Avoidance System (ACAS)

State/Territory	Effective date (dd/mm/yy)	Required TCAS types	Applicable airspace	Applicable to		Aeronautical Publication
				turbine-engined aeroplanes of a maximum certified take-off mass in excess of 15000kg or authorized to carry more than 30 passengers engaged in international air transport operations	turbine-engined aeroplanes of a maximum certified take-off mass in excess of 5 700kg or authorized to carry more than 19 passengers engaged in international air transport operations	
Tonga						
U.S.A.	31-Dec-95	Version 6.04 or greater	Within the territorial limit of 12 miles from the US coast	A passenger or combination cargo/passenger (combi) airplane that has a passenger seat configuration, excluding any pilot seat, of more than 10 seats		FAR, Part 121
Vanuatu	1-Jan-00	Version 6.04 or greater	All airspace within FIR	YES	N/A	Australia CAA Act 1998, Sbusection 9 (1)
Viet Nam	**Jun-03**	**Version 7**	**All airspace within FIR**	**YES**	**YES**	**NOTAM to be issued September 2003**

Note: Blank indicates that no information has been provided.

TERMS OF REFERENCE FOR THE AIS IMPLEMENTATION TASK FORCE

Terms of Reference of the AIS Implementation Task Force (AITF)

The objectives of the Task Force are to:

a) study means of aeronautical data management by civil aviation authorities and/or ATS providers in other regions including the aeronautical information exchange model (AIXM) and the electronic AIP (eAIP), and consider the feasibility in making use of these methods/models in the Asia/Pacific Region;

b) examine the means of aeronautical data exchange used in other regions and application in the Asia/Pacific Region;

c) based on 1), develop guidance material for operation of data management systems;

d) assist States to implement Quality Systems for aeronautical information in an expeditious manner;

e) develop training material and conduct workshops on the *Guidance Manual for AIS in the Asia/Pacific Region;*

a) develop guidance material for Static Data Procedures and the AIS Automation Plan

f) review and update the Guidance Manual taking into account amendments to ICAO SARPs, guidance material; and

g) monitor and review technical and operating developments in the AIS field especially in the area of automation and database management.

To achieve the above objectives, the Task Force shall consider:

a) results of the ICAO Aeronautical Data Model Study Group (ADMSG);

b) results of the AIS/MAP Study Group;

c) amendments to Annex 4, Annex 5, the AIS Manual (Doc 8126), and the Aeronautical Chart Manual (Doc 8697);

d) revisions to the EUROCONTROL *Operating Procedures for AIS Dynamic Data* (OPADD);

……

Proposal for Amendment of
Regional Supplementary Procedures - Doc 7030/4
MID/ASIA/PAC RAC/1

a) **Regional Supplementary Procedures, Doc 7030/4:**	PAC/RAC
b) **Proposing State(s):**	United States
c) **Proposed Amendment:**	On page PAC/RAC-9, dated 17/9/96, *Add* the following additional paragraphs and re-number the subsequent paragraphs.

4.0 COMMON PROCEDURES FOR RADIO COMMUNICATIONS FAILURE OF AIRCRAFT OPERATING IN OR INTENDING TO OPERATE IN THE PAC REGION

4.1 In the event of total loss of communication, an aircraft shall:

a) Try to re-establish communication with by all other means.

b) If all attempts to re-establish communication with ATC are unsuccessful:

1. Squawk 7600.

2. Broadcast in the blind at suitable intervals: flight identification, flight level, aircraft position (including the ATS route designator or the track code) and intentions on the frequency in use, as well as on frequency 121.5 MHz (or, as a back-up, the VHF inter-pilot air-to-air frequency 123.45).

3. Watch for conflicting traffic both visually and by reference to airborne collision avoidance systems or traffic displays (if equipped), and

4. Turn on all aircraft exterior lights (commensurate with appropriate operating limitations), and

5. Offset *10NM right* of last assigned track.

Note: if the flight is using ADS for position reporting the offset would trigger an out-of-conformance situation to ATC. ATC would then attempt to contact the flight, which should be unsuccessful, thereby alerting them to the situation.

6. If aircraft performance allows, maintain the last assigned speed and level.

7. If a change in level is required, after a period of *60 minutes* following either the failure to report over a compulsory reporting point (non-ADS), or from the time the aircraft was established on the offset (ADS), adjust speed and altitude in accordance with the filed flight plan, and

   i) Continue the *10NM* offset until communications are re-established and a new clearance is received.

   ii) *If cleared on other than filed flight plan route:* adjust speed and altitude (utilizing the abeam points where altitude changes were noted) in accordance with the filed flight plan.

8. Upon exiting oceanic airspace, the pilot shall conform to the relevant State procedures and regulations.

4.4.2 In the event of lost communication, ATC shall:

a) Continue to protect the aircraft's last assigned route and level, and

b) Issue essential traffic information as prescribed in ICAO Doc 4444, section 5-10 to all flights that could be affected by an aircraft executing this procedure based on flight plan information.

d) **Proposer's' reasons for amendment:**

a) With the congestion of flights operating in today's Pacific route systems, along with the availability of multiple methods for communication using controller-pilot data link communication (CPDLC), satellite communication (SATCOM), high frequency (HF), very high frequency (VHF) air-to-air, etc., the current ICAO lost communication procedures need to be updated to account for the current Pacific operating environment. The existing ICAO lost communication procedures do not ensure that ATC will be able to provide standard separation from surrounding flights. While ATC may be able to monitor the actions expected from flights in a "lost comm." situation and attempt to resolve conflicts, ATC may not be able to contact surrounding flights in order to move them out of the way depending on the type of communications failure (HF propagation, data link/SATCOM outages or any combinations thereto).

b) This draft amendment proposal provides the following benefits

1. Flights can and may opt to remain within their last assigned ATC clearance and be provided separation from surrounding flights
2. Long-haul flights that must proceed in accordance with their flight plan profile may do so and ATC will ensure surrounding flights are provided information regarding the possible execution of the procedure. However, as this is a contingency procedure, the assumptions in paragraph a) above remain.

c) On the occasion when a flight's filed flight plan altitude is lower than that currently assigned, the flight would not be required to, or

	expected to descend and may stay on course and at altitude until a higher altitude is required, then follow the offset contingency procedure. .
e) **Proposed implementation date of the amendment:**	Upon approval of the Council
f) **Proposal circulated to the following Sates and International Organizations:**	
g) **Secretariat comments:**	

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	E
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 29 June 2001

Categorisations:	
A = Not implemented	D = Meets Annex 12 requirements in most areas
B = Initial implementation	E = Fully meets Annex 12 requirements
C = Meets Annex 12 requirements in some areas	Blank = No response

STATE SAR AGREEMENTS

ID No.	Date	States	Remark
1	June 1982	Indonesia / Singapore	
2	August 1984	Malaysia / Singapore	
3	November 1990	Australia / Indonesia	
4	July 1996	Viet Nam / Singapore	
5	July 1996	Singapore / Thailand	
6	July 1996	Philippines / Singapore	
7	1998	Lao PDR / Viet Nam	
8	1998	Brunei Darussalam / Malaysia	
9	February 1999	Cambodia / Viet Nam	
10	December 2000	Malaysia / Singapore Malaysia / Philippines Malaysia / Thailand Malaysia / Indonesia Malaysia / Brunei Darussalam	
11	February 2001	Australia / Papua New Guinea	
12	September 2002	New Caledonia / New Zealand	
13	November 2002	United States / Republic of Palau	
14		New Zealand/Australia	
15		New Zealand/Cook Islands/ Fiji/Samoa/Tonga/French Polynesia	Under development

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SUBJECT/TASKS IN THE ATS/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	ATS/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~~		 ~~EMARSSH/TF~~	 Onging ~~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~~	AA/TF ATS/AIS/SAR/SG ATS/AIS/SAR/SG	On-going ~~Completed~~

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~~ ATS/AIS/SAR/SG	On-going On-going ~~Dec. 2002~~
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 ATS/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	ATS/AIS/SAR/SG States ICAO ATS/AIS/SAR/SG ATS/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.		~~a)~~ ATS routes identified as not implemented ~~are considered by ATS/AIS/SAR/SG~~ b) ~~ATS/AIS/SAR/SG~~ Monitor progress c) Identify deficiencies	ATS/AIS/SAR/SG ATS/AIS/SAR/SG ATS/AIS/SAR/SG	2004 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.		a) The SAR Matrix is reviewed by States at all ATS/AIS/SAR/SG Meetings b) States to update the Matrix by providing information to ICAO by 30 April each year	ATS/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	ICAO States	On-going 2003
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 ATS/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
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~~	ATS/AIS/SAR/SG States ~~ATS/AIS/SA+R/SG~~ ~~States~~	2003 ~~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	ATS/AIS/SAR/SG ICAO ICAO ATS/AIS/SAR/SG ICAO ATS/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~~	ATS/AIS/SAR/SG	On-going
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.		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