



*International Civil Aviation Organization*

**The Fifth Meeting of ICAO AIS-AIM Implementation Task Force  
(AAITF/5)**

Beijing, China, 25 – 26 June 2010

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**Agenda Item 4: Review of APANPIRG/20**

**REVIEW OF THE REPORT OF APANPIRG 20 AND FOLLOW-UP ON DECISIONS AND  
CONCLUSIONS RELEVANT TO THE AIS FIELD**

(Presented by the Secretariat)

**SUMMARY**

This paper highlights the discussion at the 20<sup>th</sup> Meeting of the APANPIRG & 19<sup>th</sup> Meeting of APANPIRG ATM/AIS/SAR SG with regard to AIS issues.

Action by AITF/5 is at paragraph 3.

**1. INTRODUCTION**

1.1 The 20<sup>th</sup> Meeting of the APANPIRG was held in September 2009 and the 18<sup>th</sup> Meeting of ATS/AIS/SAR SG was held in June 2009; both meetings in Bangkok. Full details of both meetings are available on the ICAO Regional Office web site.

**2. ITEMS DISCUSSED**

2.1 Annex one tabulates the most significant items relevant to discussions related to AIS-AIM domain.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to note the deliberations of the parent ATS/AIS/SAR/SG and APANPIRG.

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## Annex

## APANPIRG Item 1 – Review of AAITF

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3.2.62 APANPIRG/18 agreed to adopt the Chapter 3 amendment. The First Edition with the Second Amendment is now available from the ICAO Asia/Pacific web site (<http://www.bangkok.icao.int/>) under the menu “APAC e-Documents”.

**Aeronautical Information Services****Fourth Meeting of the AIS-AIM Implementation Task Force (AAITF/4)**

3.2.63 The meeting noted that the fourth meeting of the AIS-AIM Implementation Task Force (AAITF/4, February 2009) was held in Narita, Japan. The Task Force had reviewed the AIS-AIM transition issues, roadmap and Annex changes and noted that the Electronic Terrain and Obstacle Data (eTOD) applicability date for Areas 2 and 3 would be extended from 2010 to 15 November 2012 (proposed Annex 15 – *Aeronautical Information Services*, paragraph 10.6.1.2 refers). Additionally, as the Aerodrome Terrain and Obstacle Chart — ICAO (Electronic) is based on Annex 15 specifications for the Areas 2 and 3 eTOD, a consequential amendment had been proposed to Annex 4, paragraph 5.2.1.

**AIS Automation/Electronic Terrain and Obstacle Data Seminar/Workshop**

3.2.64 The ICAO AIS Automation/eTOD Seminar/Workshop (February 2009), graciously hosted by JCAB of the Ministry of Land, Infrastructure, Transport and Tourism was held in Narita, Japan in conjunction with AAITF/4. Based on the recommendations from the Seminar/Workshop, the meeting formulated the following Conclusion:

**Conclusion 20/16 – Assistance to States to Implement Electronic Terrain and Obstacle Data (eTOD)**

That, in light of the fact that:

- a) within the Asia and Pacific region, there is a varying degree of implementation status and readiness for the existing Annex 15, Chapter 10 eTOD Standards and Recommended Practices (SARPs);
- b) significant cost and institutional issues prevail as impediments to global eTOD implementation; and

ICAO consider providing short- and long-term assistance to States in order to build their capacity to provide eTOD in a sustainable and cost efficient manner.

*Note: An appropriate form of providing assistance could include establishment of an ICAO Technical Cooperation Project with funding sought from donor agencies.*

**Study of Application of AIRAC Date/Time in Asia Pacific Region**

3.2.65 The meeting was informed about discussions during the ATM/AIS/SAR/SG/19 meeting on the difference in interpretation and application of AIRAC time in Asia/Pacific region. Because of the many different time zones across the region and general displacement from the Greenwich meridian, the AIRAC times corresponded with high traffic periods in some areas that were not appropriate to commence complex implementations. In the most extreme example, the situation results in two neighbouring States implementing AIRAC changes 24 hours apart. While a single AIRAC date/time for the region would be the ideal solution, this was not considered achievable.

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## APANPIRG Item 1 – Review of AAITF (cont)

APANPIRG/20  
Report on Agenda Item 3.2

3.2-13

3.2.66 The United States noted that this was a flight safety issue and urged affected parties to quickly find a solution. The States involved in the 24 hour difference engaged in discussions during the meeting and agreed to conduct further coordination with a view to swiftly addressing this particular situation.

USA - ICAO SARPS Amendment for Additional NOTAM Field for Cross-Reference of Digital Aeronautical Information and Legacy Text NOTAM

3.2.67 The United States presented a proposal to ATM/AIS/SAR/SG/19 for the addition of a “Y Field” to the ICAO NOTAM, SNOWTAM and ASHTAM formats. The “Y Field” provides a mechanism to transition from legacy text-based notices to digital aeronautical information and the digital NOTAM. The “Y Field” contains a resource link that can be used to cross-reference to digital aeronautical information supporting the published ICAO compliant NOTAM.

3.2.68 Acknowledging that there was insufficient technical representation at the meeting to be able to make an informed decision on the United States proposal and that it was intended that the “Y field” proposal would be reviewed at the Global AIM Conference in South Africa and the AIS-AIMSG in Montreal, updated information would be available in due course. The meeting requested the United States to continue the coordination efforts on this matter with a focus on any potential impacts in operational areas and provide updated information to appropriate forums including the Asia/Pacific AAITF as it became available.

India – Update on AIS/AIM Implementation

3.2.69 India informed the meeting that the provision of Aeronautical Information of sufficient quality, accuracy and timeliness was a recognized key enabler of the present and future ATM systems. ICAO Annex 15 Standard and Recommended Practices (SARPS) therefore require implementation of automation in AIS to achieve desired data accuracy and integrity in line with this objective. India had commenced automation in AIS as early in the year 2000 at its International NOTAM offices of Delhi, Mumbai, Kolkata and Chennai. An Integrated AIS/AIM Automation System is currently being implemented to bring in quality checks on the production processes of AIP products through harmonization of data chain management from origination to publication stages.

3.2.70 The new system will be an integrated computer network, based on AICM/AIXM concepts, to assist and support the workflow of AIS office using a common database of aeronautical information, from which the data can be exploited, to produce automated document outputs such as AIP and its amendments, aeronautical charts, Instrument flight procedure Design etc. The client workstations connected to the Central Database will foresee the functional requirements of different airport units with appropriate application tools. Major features of these application tools are given below:

- **Aeronautical Data Management**

This tool allows management of aeronautical data through customized database records/tables schemes to support data insertion/extraction/updating of information and aeronautical spatial features (with their attributes).

- **Aerospace/Procedure Design Management**

Through a group of tools in this module the flight procedure designers can create, visualize, check and modify 3-D flight procedures and 3-D airspace elements.

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## APANPIRG Item 1 – Review of AAITF (cont)

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- **AIP production/publication Management**

A tool that extracts information from a central database and automatically generates ICAO aeronautical publication products such as an AIP, AIP Amendment or AIP Supplement. Charts and other graphic objects are also automatically treated. The module is capable of producing HTML or XML output to obtain a web-based AIP or an eAIP version.

- **Aeronautical Chart Maintenance**

This tool provides automatic extraction and charts symbolization according to the release cycles by retrieving aeronautical data stored in the central database using the CAD/GIS engines.

- **Navigation Aids Performance Assessment related to designed Instrument Flight Procedures**

An analysis tool devoted to inspecting the radio electrical features of installed navaids and model the real propagation phenomena found in airport scenario where signals (VOR, DME, ILS, ATC radar) interfere with artificial or natural obstructions.

Japan - Activities towards AIM

3.2.71 Japan advised their AIS Center (AISC) had reached decisions to provide electronic AIP (eAIP) on the AIS JAPAN website and DVD versions from 27 August 2009. The eAIP is generated from static data (SD), which is based on aeronautical information exchange model (AIXM) 4.5 and managed in the new database. The eAIP is available in the form of HTML and PDF.

Multiple Series NOTAMS – Implementation in United States

3.2.72 The United States presented information providing an outline of what the Federal Aviation Administration (FAA) is planning regarding the implementation of multiple series usage for international NOTAMs issued by the United States. This change was necessary as an interim step towards the United States NOTAM System (USNS) becoming ICAO-compliant and meeting the future needs of digital aeronautical information exchange.

3.2.73 The current NOTAM system that is in use in the United States typically has 11,000 to 16,000 active NOTAMs and exceeded the maximum NOTAM number, 9999, on many occasions. A first phase transition to Series A and K NOTAMs will be followed by transition to a complete ICAO formatted NOTAM according to Annex 15 with the addition of multiple (up to 18) series to cover appropriate topics.

**Search and Rescue**SAR Agreements and SAR Matrix

3.2.74 The meeting reviewed and updated the APANPIRG list of SAR Agreements and the SAR Capability Matrix Table. Details of the June 2009 Arrangement for Coordination of SAR services between New Zealand and Chile were included in the List of SAR Agreements. Viet Nam also provided information about their agreements with Cambodia and Lao PDR which took effect from March 2009. It was noted that the SAR Matrix had been updated as required by APANPIRG

## APANPIRG Item 2 – ANC Program for Transition to AIM

APANPIRG/20  
Report on Agenda Item 2

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**Agenda Item 2: Global and Inter Regional Activities****2.1 Transition to Aeronautical Information Management**

2.1.1 The meeting was apprised that the Air Navigation Commission reviewed a work programme to enable the global transition from aeronautical information services (AIS) to aeronautical information management (AIM). A number of issues relating to Annex 15 — *Aeronautical Information Services*, Annex 4 — *Aeronautical Charts* and associated guidance material were identified including the need for a global strategy/roadmap for the transition from AIS to AIM.

2.1.2 In terms of quality management system (QMS), the proposal for the amendment to Annex 15 clarifies the scope of the QMS to encompass all organizations involved in the data processing chain, from the point of origin/survey, through to the AIS and distribution of the data to the intended user and upgrades the provision of automated pre-flight information systems to a Standard. In order to foster the implementation of QMS, a manual on QMS is under development by the Secretariat with the assistance of the AIS-AIMSG. The proposal to upgrade Annex 15, paragraph 3.6.5 to a Standard requiring that States introduce automation enabling digital data exchange, in a progressive manner, has the objective of improving the speed, quality, efficiency and cost-effectiveness of AIS. The proposal will be supported by guidance material on an aeronautical conceptual and data exchange model for the development of databases and the establishment of data exchange services.

2.1.3 The proposal to amend Annex 15 also includes a recommendation to allow for the provision of an electronic aeronautical information publication (eAIP). The proposal specifies that when the eAIP is provided, the eAIP product remain equivalent and synchronized with the paper AIP product. The meeting recalled that the Amendment 33 to Annex 15 introduced requirements for States to provide electronic terrain and obstacle data (eTOD) over four areas. It became applicable in 2008 as far as the “entire territory of a State” and “Category II and III operations area” (i.e. Area 1 and Area 4, respectively) are concerned and would become applicable in 2010 as far as the “terminal control area” and “aerodrome/heliport area” (i.e. Area 2 and Area 3, respectively) are concerned. States have indicated that the requirements related to the “terminal control area” (Area 2) would be difficult and costly to implement and could therefore lead to a widespread non-compliance. To address this issue, the PIRGs including APANPIRG requested a review of SARPs and guidance material related to eTOD, Area 2 to determine if refinement of SARPs or development of additional guidance material was necessary. Due to expected implementation issues, it was agreed that the applicability date for Areas 2 and 3 be extended to 15 November 2012 (proposed Annex 15, paragraph 10.6.1.2 refers). As the Aerodrome Terrain and Obstacle Chart — ICAO (Electronic) is based on Annex 15 specifications for Area 2 and 3 electronic terrain and obstacle data, a consequential amendment is proposed to Annex 4, paragraph 5.2.1.

**APANPIRG** Item 2 – ANC Program for Transition to AIM (cont)

2.1.4 The meeting noted that the Commission deliberated on cost implication for these amendment proposals. The meeting was informed that a global strategy/roadmap for the transition from AIS to AIM has been developed, which is intended as a high-level document to provide a framework for States and PIRGs in their evolution towards AIM, and to clarify the purpose and scope of the transition. The roadmap identifies the major milestones towards a uniform global evolution to AIM and indicates specific steps and timelines for implementation. The editorial review of the "Roadmap for the transition from AIS to AIM" has been finalized and that the first edition of the document is presented at <http://www.icao.int/anb/AIM/>.

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Report on Agenda Item 2

2.1.5 Concluding discussions on the amendments proposed by ANC to Annex 15, the meeting noted that subsequent to the replies to be received from States, the Air Navigation Commission will undertake a final review of the amendment proposal in its session in October – November 2009. Furthermore, the meeting called upon States to take into account these recent developments in the planning and implementation of AIM systems.

## APANPIRG Item 3 – Regional Performance Framework

APANPIRG/20  
Appendix A to the Report on Agenda Item 3.0

**ASIA/PACIFIC REGION**

**PERFORMANCE FRAMEWORK FORM  
(REGIONAL)**

*(amended 11 September 2009)*

<b>REGIONAL PERFORMANCE OBJECTIVE: <u>APAC Objective 6</u></b>				
<b>ENHANCED PROVISION OF AIS/AIM</b>				
<b>Benefits</b>				
<b>Efficiency</b>	<ul style="list-style-type: none"> <li>• enhanced collaboration between flight crew and the ATM system,</li> <li>• improved collaborative decision making,</li> <li>• improved predictability, and</li> <li>• reduction of workload for aircrew and ATC.</li> </ul>			
<i>Strategy</i> <b>Short to Medium term (2009 – 2012)</b>				
<b>ATM OC COMPONENTS</b>	<b>TASKS</b>	<b>TIME FRAME</b>	<b>RESPONSIBILITY</b>	<b>STATUS</b>
<b>SDM</b> <i>(ATM Service Delivery Management)</i>	<ul style="list-style-type: none"> <li>• Implement the enhanced provisions for AIM becoming available through the work of the Aeronautical Information Services-Aeronautical Information Management Study Group (AIS-AIMSG);</li> <li>• Monitor implementation progress</li> </ul>	2009-2016	AAITF	In progress
<b>GPIs</b>	GPI/18: Aeronautical Information			
<b>References</b>	<ul style="list-style-type: none"> <li>• <i>Annex 4 – Aeronautical Charts</i></li> <li>• <i>Annex 15 – Aeronautical Information Services</i></li> <li>• <i>AIS Manual (Doc 8126)</i></li> <li>• <i>Aeronautical Chart Manual (Doc 8697)</i></li> <li>• <i>EUROCONTROL Operating Procedures for AIS Dynamic Data (OPADD)</i></li> <li>• <i>APANPIRG Conclusion 20/16</i></li> </ul>			

## ATS/AIS/SAR SG Item 1 – List of Decisions and Conclusions

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 History of the Meeting
 

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- c) **Decisions of ATS/AIS/SAR Sub-Group** relate solely to matters dealing with the internal working arrangements of the ATS/AIS/SAR Sub-Group.

**6.2 List of Decisions of ATM/AIS/SAR/SG/19**

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

**6.3 List of Draft Conclusions**

- Draft Conclusion SG19/2 – Data Collection for Regional Metrics
- Draft Conclusion SG19/3 – APAC Regional Metrics
- Draft Conclusion SG19/5 – Adopt Interim Strategy for Implementation of New Flight Plan Format
- Draft Conclusion SG19/6 – Notification of State Transition Date to New Flight Plan Format
- Draft Conclusion SG19/7 – Assistance to States to Implement eTOD
- Draft Conclusion SG19/8 – SAR Guidance on 121.5 MHz Search Planning
- Draft Conclusion SG19/9 – Provide SAR 121.5 MHz Guidance to ICAO/TMO JWG
- Draft Conclusion SG19/10 – SSR Code Coordination with ORCAM Secretariat
- Draft Conclusion SG19/11 – ATFM Compliance-Advice to Airlines and Airports
- Draft Conclusion SG19/12 – ATFM Steering Group and Concept of Operations
- Draft Conclusion SG19/13 – Adopt ATFM Communications Manual
- Draft Conclusion SG19/14 – Conduct ATFM Survey
- Draft Conclusion SG19/15 – Support for Global ICD for ATFN AIDC
- Draft Conclusion SG19/16 – Survey of RNP 4 Equipage and Approvals

**6.4 List of Draft Decisions**

- Draft Decision SG19/1 – Asia Pacific Regional Performance Objectives
- Draft Decision SG19/4 – Dissolution of Western Pacific/South China Sea RVSM Scrutiny Working Group
- Draft Decision SG19/17 – ATM/AIS/SAR Task List
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## ATS/AIS/SAR SG Item 2 – Regional Performance Framework

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 AITF/AIS/SAR/SG19  
 Report on Agenda Item 3
 

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**Agenda Item 3: Regional Performance Framework and Metrics****Performance Based Planning**

3.1 The meeting was informed that the ICAO planning objective is to achieve a performance based global air traffic management (ATM) system through the implementation of air navigation systems and procedures in a progressive, cost-effective and cooperative manner.

3.2 The performance-based approach to planning stems from requirements associated with the results based environment that ICAO, industry and States have been steadily moving toward. The ICAO *Global ATM Operational Concept* (Doc 9854) provides a clear statement of the expectations of the Air Traffic Management (ATM) Community. Eleven of these expectations, also referred to as key performance areas (KPA's), have been identified in the operational concept. To support this approach, the *Manual on Global Performance of the Air Navigation System* (Doc 9883) was developed. Doc 9883 provides a step by step approach to performance-based planning on the basis of the KPA's identified in the operational concept. The performance-based approach is structured upon the following principles:

- a) strong focus on desired/required results through adoption of performance objectives and targets;
- b) informed decision making, driven by the desired/required results; and
- c) reliance on facts and data for decision making.

3.3 The advantages of a performance-based approach include:

- a) results oriented, transparency and promoting accountability;
- b) shift from prescribing solutions to specifying desired performance;
- c) employs quantitative and qualitative methods;
- d) avoids a technology driven approach;
- e) helps decision makers to set priorities;
- f) makes the most appropriate trade-offs; and
- g) allows optimum resource allocation.

3.4 APANPIRG/19, recognising the benefits to be gained through the performance based planning process including alignment of the work programmes of the States, regions and ICAO Headquarters, adopted the following Conclusion:

***Conclusion 19/1 — Regional performance framework***

*That, a regional performance framework be adopted on the basis of ICAO guidance material and aligned with the Global Air Navigation Plan and the Global ATM Operational Concept. The performance framework should include identification of regional performance objectives taking into consideration user expectations (to be mapped against current work) and completion of regional performance framework forms based on the sample shown in Appendix A to the report on Agenda Item 3.*

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## ATS/AIS/SAR SG Item 2 – Regional Performance Framework (cont)

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ATM/AIS/SAR/SG/19  
Report on Agenda Item 3**Regional Performance Framework**

3.5 One of the key aspects of the performance based approach is the development of regional performance objectives with measurable outcomes and associated metrics. This will facilitate regional and global management and, in terms of regional performance planning, the outcome of this process would result in an output and management form that has been designated as a "Performance Framework Form (PFF)".

3.6 In developing appropriate regional performance objectives, the meeting recognised the need to take into account:

- a) existing APANPIRG Key Priorities;
- b) the work programme of the Sub-Group as shown in the Task List; and
- c) user expectations.

**Review APANPIRG Key Priorities**

3.7 In this context, the meeting reviewed the *List of Key Priorities for the CNS/ATM Implementation in the Asia/Pacific Region* endorsed by the APANPIRG/19 meeting and agreed that relevant matters from the List should be incorporated into the regional performance objectives. This would ensure that their relative priority was highlighted but would also mean that there was no need to duplicate them on the List of Key Priorities, suggesting that the role currently played by the Key Priorities List could be entirely included in the performance objectives and the List be discontinued. A copy of the Key Priorities List has been included as **Appendix A** to the Report on Agenda Item 3.

**Review Sub-Group Task List**

3.8 A review of the ATM/AIS/SAR Task List, as adopted under Decision 19/13, was undertaken. The meeting recalled that the Task List had been comprehensively reviewed and updated by the last two Sub-Group meetings and represented the current work programme of the Sub-Group. Accordingly, the matters on the Task List were appropriate for consideration in the preparation of regional performance objectives.

**Comparison of User Expectations with Regional Work Programme**

3.9 The meeting reviewed a comparative analysis (**Appendix B** to the Report on Agenda Item 3 refers) that had been completed by the Secretariat and which sought to compare the IATA user expectations 2008-2015 against the existing work programmes throughout the region. The Secretariat highlighted that due to the size and complexity of the Asia/Pacific region and relative lack of resources at the Regional Office, in some cases the work programmes undertaken by the 'informal' ATS Coordination Groups (i.e. ISPACG, IPACG, ASIOACG, EATMCG) had been included in the analysis as they supplemented the items in work through the ICAO groups.

3.10 Although there was room for improvement in some areas, the comparative analysis demonstrated that, with one exception, current work underway either by ICAO working groups or informal State working groups addresses the elements of the IATA ATM user expectations for 2008-15. The exception identified by the analysis was that no programme had been established that included an overall review of the Southeast Asia/Northeast Asia route structure, as had been raised in the IATA user expectations.

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 ATS/AIS/SAR SG Item 2 – Regional Performance Framework (cont)
 

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ATM/AIS/SAR/SG/19  
Report on Agenda Item 3

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**Identification of Regional Performance Objectives**

3.11 The meeting noted that the Regional Airspace Safety Monitoring Advisory Group (RASMAG) had recently drafted a regional safety performance objective termed *APAC ATM 1 - Airspace Safety monitoring to achieve regional TLS*, which was supported by draft Conclusion RASMAG 11/4 adopting the safety objective.

3.12 Based on the review of APANPIRG Key Priorities, Sub-Group Task List and comparative analysis with IATA user expectations, the meeting prepared PFFs for the ATM, AIS and SAR regional performance objectives listed below:

**APAC ATM 1 (RASMAG)** – Airspace Safety Monitoring to achieve regional TLS.

**APAC ATM 2** – Optimise Traffic Flow

**APAC ATM 3** – Optimise Route Structure in En-route Airspace

**APAC ATM 4** – Optimise Route Structure in Terminal Airspace

**APAC ATM 5** – Implementation of New ICAO Flight Plan Provisions

**APAC AIS 1** – Enhanced Provision of AIS/ADM

**APAC SAR 1** – Enhanced Search and Rescue Capability

3.13 The PFFs describing the Regional Performance Objectives above and generic explanatory notes on the PFF composition have been included as **Appendices C and D**, respectively, to the Report on Agenda Item 3. In comparing the PFFs against the Key Priorities List, the meeting considered that the ATM related aspects of Key Priorities 1 and 2 had been adequately included in APAC ATM 3 and APAC ATM 4, Key Priority 7 had been included in APAC ATM 4, Key Priority 9 had been included in APAC ATM 1 and Key Priority 10 had been included in APAC ATM 2. Accordingly, the meeting considered that any ATM-related aspects of the Key Priorities List had been sufficiently incorporated into the PFFs and could be removed from the Key Priorities List. The Secretariat would draw this outcome to the attention of the 13<sup>th</sup> meeting of the CNS/MET Sub-group (CNS/MET/SG/13) meeting in late July, along with the suggestions that the CNS and MET Priorities also be considered for inclusion in the relevant PFF and the Key Priorities List be discontinued.

3.14 The meeting endorsed the following draft Decision, which incorporates draft Conclusion RASMAG 11/4 in terms of APAC ATM 1, for consideration by APANPIRG/20:

**Draft Decision SG19/1 – Asia Pacific Regional Performance Objectives**

That, the Asia Pacific Regional Performance Objectives and associated performance framework forms as contained in Appendix B to the ATM/AIS/SAR/SG/19 Report on Agenda Item 3 be adopted in the current work programme for APANPIRG and Sub-Groups.

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## ATS/AIS/SAR SG Item 2 – Regional Performance Framework (cont)

ATM/AIS/SAR/SG/19  
Appendix C to the Report on Agenda Item 3

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**ASIA/PACIFIC REGION**  
**PERFORMANCE FRAMEWORK FORM**  
(REGIONAL)

<b>REGIONAL PERFORMANCE OBJECTIVE: AIS - 1</b>				
<b>ENHANCED PROVISION OF AIS/AIM</b>				
<b>Benefits</b>				
<b>Efficiency</b>	<ul style="list-style-type: none"> <li>• enhanced collaboration between flight crew and the ATM system,</li> <li>• improved collaborative decision making,</li> <li>• improved predictability, and</li> <li>• reduction of workload for aircrew and ATC.</li> </ul>			
<i>Strategy</i> Short to Medium term (2009 – 2012)				
ATM OC COMPONENTS	TASKS	TIME FRAME	RESPONSIBILITY	STATUS
<b>SDM</b> <i>(ATM Service Delivery Management)</i>	<ul style="list-style-type: none"> <li>• Implement the enhanced provisions for AIM becoming available through the work of the Aeronautical Information Services-Aeronautical Information Management Study Group (AIS-AIMSG);</li> <li>• Monitor implementation progress</li> </ul>	2009-2016	AAITF	In progress
<b>GPIs</b>	GPI18: Aeronautical Information			
<b>References</b>	<ul style="list-style-type: none"> <li>• <i>Annex 4 – Aeronautical Charts</i></li> <li>• <i>Annex 15 – Aeronautical Information Services</i></li> <li>• <i>AIS Manual (Doc 8126)</i></li> <li>• <i>Aeronautical Chart Manual (Doc 8697)</i></li> <li>• <i>EUROCONTROL Operating Procedures for AIS Dynamic Data (OPADD)</i></li> </ul>			

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## ATS/AIS/SAR SG Item 2 – Regional Performance Framework (cont)

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ATM/AIS/SAR/SG/19  
Appendix D to the Report on Agenda Item 3

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**PERFORMANCE FRAMEWORK FORM - EXPLANATORY NOTES**

1. **Performance framework form:** This form is an output and management form which is applicable to both regional and national planning and includes references to the Global Plan. Other formats may be appropriate but should contain as a minimum the elements described below.
  2. **Performance objective:** Regional /national performance objectives should be developed using a performance based approach that best reflects the necessary activities needed to support regional/national ATM systems. During their life cycle, performance objectives may change depending on the ATM system's evolution; therefore, throughout the implementation process, these should be coordinated with and be available to all interested parties within the ATM Community. The establishment of collaborative decision making processes ensures that all stakeholders are involved in and concur with the requirements, tasks and timelines.
  3. **Regional performance objective:** Regional performance objectives are the improvements required to the air navigation system in support of the global performance objectives, and are related to the operating environments and priorities applicable at the regional level.
  4. **National performance objective:** National performance objectives are the improvements required to the air navigation system in support of the regional performance objectives, and are related to the operating environments and priorities applicable at the State level.
  5. **Benefits:** The regional/national performance objectives should meet the expectations of the ATM community as described in the operational concept and should lead to benefits for stakeholders and be achieved through operational and technical activities aligned with each performance objective.
  6. **Strategy:** ATM evolution requires a clearly defined progressive strategy including tasks and activities which best represent the national and regional planning processes in accordance with the global planning framework. The goal is to achieve a harmonized implementation process evolving toward a seamless global ATM system. For this reason, it is necessary to develop short (1 to 5 years) and medium term (6 to 10 years) work programmes, focusing on improvements to the system indicating a clear work commitment for the parties involved.
  7. **ATM operational concept components;** Each strategy or set of tasks should be linked with associated components of the ATM operational concept. The designators for ATM components are as follows:
    - AOM – Airspace organization and management
    - DCB – Demand and capacity management
    - AO – Aerodrome operations
    - TS – Traffic synchronization
    - CM – Conflict management
    - AUO – Airspace user operations
    - ATM SDM – ATM service delivery management
  8. **Tasks:** The regional/ national work programmes, using this PFF template, should define tasks in order to achieve the said performance objective and at the same time maintain a direct relation with ATM system components. The following principles should be considered when developing work programme:
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## ATS/AIS/SAR SG Item 2 – Regional Performance Framework (cont)

ATM/AIS/SAR/SG/19  
Appendix D to the Report on Agenda Item 3

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- The work should be organized using project management techniques and performance-based objectives in alignment with the strategic objectives of ICAO.
  - All tasks involved in meeting the performance objectives should be developed using strategies, concepts, action plans and roadmaps which can be shared among parties with the fundamental objective of achieving seamlessness through interoperability and harmonization.
  - The planning of tasks should include optimizing human resources as well as encouraging dynamic use of electronic communication between parties such as the Internet, videoconferences, teleconferences, e-mail, telephone and facsimile. Additionally, resources should be efficiently used, avoiding any duplication or unnecessary work.
  - The work process and methods should ensure that performance objectives can be measured against timelines and the national and regional progress achieved can be easily reported to PIRGs and ICAO Headquarters respectively.
9. **Timeframe:** Indicates start and end time period of that particular task(s).
10. **Responsibility:** Indicates the organization/entity/person accountable for the execution or management of the related tasks.
11. **Status:** The status is mainly focused on monitoring the progress of the implementation of that task(s) as it progresses toward the completion date.
12. **Linkage to global plan initiatives (GPIs):** The 23 GPIs, as described in the Global Plan, provide a global strategic framework for planning for air navigation systems and are designed to contribute to achieving the regional/national performance objectives. Each performance objective should be mapped to the corresponding GPIs. The goal is to ensure that the evolutionary work process at the State and regional levels will be integrated into the global planning framework.
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4.38 The meeting was provided with a copy of the present internal working draft of the GOLD (Version 0.4.3, comprising about 290 pages) for review following the meeting and was invited to support the GOLD Points of Contact in compiling comments for final distribution of the GOLD. Feedback in relation to the GOLD was requested to be provided to the Regional Office for compilation and relay to the Working Group before 14 August 2009.

#### **Aeronautical Information Service (AIS) Matters**

##### **First Meeting of ICAO AIS-AIM Study Group (AIS-AIMSG/1)**

4.39 The meeting noted that the first meeting of ICAO AIS-AIM Study Group (AIS-AIMSG/1, December 2008) was held at ICAO Headquarters in Montréal, Canada.

##### **AIS to AIM Transition**

4.40 AIS-AIMSG/1 developed a draft roadmap for the transition from AIS to AIM. It was noted that the transition roadmap approved by the ANC had been published on the ICAO public website in English. Aerodrome Mapping Data Base (AMDB) provisions are to be related to electronic Terrain and Obstacle Data (eTOD) with consequent changes to Annexes 4, 14 and 15.

4.41 Aerodrome Mapping Data Base (AMDB) provisions are to be related to the electronic Terrain and Obstacle Data (eTOD) provisions with consequent changes to Annexes 4 *Aeronautical Charts*, 14 – *Aerodromes* and 15 – *Aeronautical Information Services*. The requirement (Amendment 33 to Annex 15) for States to provide terrain and obstacle data is causing some difficulties and may cause delays to the introduction of eTOD with considerable financial implications. Other proposed Annex amendments were noted.

4.42 It was noted that guidance material was in preparation for aeronautical information exchange model (AIXM), electronic Aeronautical Information Publication (eAIP) and AIS quality. The inclusion of the World Meteorological Organization (WMO) to ensure a harmonized and consistent development of key mutual components of AIS and MET data models was welcomed.

##### **Fourth Meeting of the AIS-AIM Implementation Task Force (AAITF/4, February 2009)**

4.43 The meeting noted that the fourth meeting of the AIS-AIM Implementation Task Force (AAITF/4, February 2009) was held in Narita, Japan. It was noted that the Task Force reviewed the AIS-AIM transition issues, roadmap and annex changes. Terrain and Obstacle Data applicability date for Areas 2 and 3 would be extended to 15 November 2012 (proposed Annex 15, paragraph 10.6.1.2 refers). Additionally, as the Aerodrome Terrain and Obstacle Chart — ICAO (Electronic) is based on Annex 15 specifications for the Areas 2 and 3 eTOD, a consequential amendment is proposed to Annex 4, paragraph 5.2.1.

4.44 The meeting understood that Eurocontrol issued a report on the 2008 NOTAM trial in December 2008. The report contains an overview of the trial, some technical and statistical information and concluding remarks. The full report, together with other presentations, is available to all registered on the Eurocontrol website.

4.45 While the need for the harmonization in the application of AIRAC effective date and time was understood, it was recorded that the AAITF/4 meeting was unable to agree to a rigid specific time to suit States concerned.

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4.46 IFATCA asked whether the extended period planned for the transition from AIS to AIM could cause problems. The Secretariat responded that the issues in AIS-AIM were very complex and could not be concluded early. Having said that, it was conceded that Australia or Japan would convey the hope that the final transition period should not be overlong.

**AIS Automation/Electronic Terrain and Obstacle Data Seminar/Workshop**

4.47 The meeting noted that the second meeting of the AIS Implementation Task Force (AITF/2, February 2007) undertook a thorough review of the comprehensive AIS survey that had been conducted as a result of APANPIRG Conclusion 17/16, noting that many States in the Region had not implemented AIS system improvements as required by ICAO, especially in the field of computerization and automation. APANPIRG 18 (September 2007) considered ways to assist these States to improve their AIS capability and formulated *Conclusion 18/12 – Assistance to States to improve AIS capability*. APANPIRG/18 (September 2007) also recognized that there were difficulties in implementing electronic Terrain and Obstacle (eTOD) from November 2008 as required by Annex 15 – *Aeronautical Information Services*. Based on the review of the information, the meeting adopted *Conclusion 18/15 – Strategies to implement eTOD*.

4.48 ICAO AIS Automation/eTOD Seminar/Workshop, graciously hosted by Japan Civil Aviation Bureau (JCAB), Ministry of Land, Infrastructure, Transport and Tourism was held in Narita, Japan on 23 and 24 February 2009 in conjunction with the fourth meeting of AIS-AIM Implementation Task Force (AAITF/4). The AIS Automation/eTOD Seminar/Workshop was attended as many as by 160 participants from Australia, Bangladesh, China, Hong Kong China, Fiji, Indonesia, Japan, Malaysia, Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand, United States, Viet Nam, Eurocontrol, IFALPA and Jeppesen.

4.49 The AIS Seminar/Workshop recommended that both short- and long-term assistance be provided to States, and the seminar/workshop concluded as follows:

- a) Within the Asia and Pacific Region, there is a varying degree of implementation status and readiness for the existing Annex 15, Chapter 10 eTOD Standards and Recommended Practices (SARPs).
- b) Significant cost and institutional issues prevail as impediments to global eTOD implementation.
- c) Asia and Pacific Region is reliant upon greater clarification being provided by ICAO revision of Annex 15 currently being considered by ICAO AIS-AIM Study Group together with the associated guidance documents.

4.50 In considering the next steps for eTOD in the Asia/Pacific Region, the meeting supported the three conclusions of the Seminar/Workshop. Subsequent to detailed discussions, the meeting formulated the following Conclusion:

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**Draft Conclusion SG19/7 – Assistance to States to implement eTOD**

That, in light of the fact that:

- a) within the Asia and Pacific Region, there is a varying degree of implementation status and readiness for the existing Annex 15, Chapter 10 eTOD Standards and Recommended Practices (SARPs);
- b) significant cost and institutional issues prevail as impediments to global eTOD implementation; and
- c) Asia and Pacific Region is reliant upon greater clarification being provided by ICAO revision of Annex 15 currently being considered by ICAO AIS-AIM Study Group together with the associated guidance documents,

ICAO consider providing short- and long-term assistance to States in order to build their capacity to provide eTOD in a sustainable and cost efficient manner.

*Note: An appropriate form of providing assistance could include establishment of an ICAO technical cooperation project with funding sought from donor agencies.*

**Study of Application of AIRAC Date/Time in Asia Pacific Region**

4.51 The meeting discussed a paper presented by Australia on the difference in interpretation and application of AIRAC time in Asia/Pacific Region. In the most extreme example, it results in two neighbouring States implementing AIRAC changes 24 hours apart. While a single AIRAC Date/Time for the region would be the ideal solution this was not achievable.

4.52 In discussion on the paper, IATA asked what effect there would be on FMS databases if the proposed solution was adopted. It was pointed out that the problem already exists and that up to 24 hours difference between adjacent States was the current situation. The proposal would reduce this difference and would be helpful to operators. Japan supported this and recommended the proposal.

4.53 The meeting recognized that changing the AIS Manual would not change the reality of different AIRAC date/times, this problem would be ongoing. New Zealand stated that in their view the most important element of the proposal was the publishing of the routine State AIRAC date/time in AIP GEN. After significant discussion, the meeting could not support the suggested amendment and urged the States involved to continue consultation to seek a solution.

**Activities towards AIM in Japan**

4.54 Japan informed the meeting that their AIS Center (AISC), which was established in April 2007 as the sole integrated AIS unit in Japan, started its operation on 1 July 2007. AISC provides all of AIS related products under quality management system following ISO 9001:2008 and advances the project step by step to achieve AIM.

4.55 By using a new AIS database system, the AISC started provision of Graphic NOTAM on 27 August 2008, which can provide graphic information about the closure or the restrictions on runways, taxiways and spots in 18 major airports in Japan. Graphic NOTAM is described in Scalable Vector Graphic (SVG), and available on AIS JAPAN website (<https://aisjapan.mlit.go.jp>) with SVG viewer. At the same time NOTAM is provided in the form of XML to JCAB internal systems.

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4.56 AISC determined to provide electronic AIP (eAIP) on AIS JAPAN website and DVD from 27 August 2009. The eAIP is generated from static data (SD), which is based on AIXM4.5 and managed in the new database. This eAIP is available in the form of HTML and PDF.

4.57 In addition, AISC is planning to provide SD in the form of AIXM-XML and exchange with European AIS database (EAD) within 2009 FY. At first, SD exchange will be carried out by uploading and downloading the data through the Internet file system between EAD and CNS/ATM (AIS) database. However, it is recognized that Eurocontrol and JCAB continue to cooperate and find out the best interface of online connection to enable timely exchange with each other.

4.58 As the next step, AISC has started system design to upgrade the database to AIXM5 in order to provide electronic terrain and obstacle data (eTOD) and electronic charts from 2011. At this stage, eAIP will be fully available in the form of XML to users, when their system connects to the database directly. All of the charts will be created in Geographic Mark up Language (GML) using Geographic Information System (GIS) technology and provided in the form of XML, though the current charts are in PDF form.

4.59 In parallel with AIXM upgrading, JCAB plans to make a research for xNOTAM (digital NOTAM) in 2009 with regard to its details and system requirements necessary for implementation.

#### **Multiple Series NOTAMS – Implementation in United States**

4.60 The United States presented information providing an outline of what the Federal Aviation Administration is planning regarding the implementation of multiple series usage for United States issued International NOTAMs. This change is necessary as an interim step towards the United States NOTAM System (USNS) becoming ICAO-compliant and meeting the future needs of digital aeronautical information exchange.

4.61 The current NOTAM system that is in use in the United States typically has 11,000 to 16,000 active NOTAMs, exceeded the maximum NOTAM number, 9999, on many occasions. A first phase transition to Series A and K NOTAMs will be followed by a complete ICAO formatted NOTAM according to Annex 15 with the addition of multiple (up to 18) series to cover appropriate topics.

4.62 The overall objective is to assist the United States to achieve digital NOTAM implementation and ICAO formatted NOTAMs. The foundations of this effort are based on AIXM Version 5, industry requirements from RTCA/EUROCAE Sub-Group 206, digital NOTAM trials both in EUROCONTROL and the FAA, and policy based on AIM Operating Procedures and ICAO Annex 15.

#### **Search and Rescue (SAR) Matters**

##### **SAR Agreements and SAR Matrix**

4.63 The meeting reviewed and updated the APANPIRG list of SAR Agreements and the SAR Capability Matrix Table as presented in **Appendices D and E** to the Report on Agenda Item 4, respectively. It was noted that the SAR Matrix had been updated as required by APANPIRG 19/11 and included detailed guidance on completion of the Matrix. The meeting thanked the United States for their work in this regard.

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## ATS/AIS/SAR SG Item 3 – Digital NOTAM

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benefits are observed. As part of the analysis of the benefits of this procedure, a business case was conducted to assess benefits for both the service provider and the user. The results of the business case indicated that all parties would benefit through economic and environmental benefits.

8.14 The Sub-Group supported the ADS-C in-trail initiative and requested that the regional ATM groups be kept fully informed of the progress of the trial and any further developments.

**ICAO SARPS Amendment for additional Notice to Airman (NOTAM) Field for Cross-Reference of Digital Aeronautical Information and Legacy text NOTAM**

8.15 The United States presented proposal for the addition of a “Y Field” to the ICAO NOTAM, SNOWTAM and ASHTAM formats. The “Y Field” provides a mechanism to transition from legacy text-based notices to digital aeronautical information and the digital NOTAM. The “Y Field” contains a resource link that can be used to cross-reference to digital aeronautical information supporting the published ICAO compliant NOTAM.

8.16 The meeting assessed the value of the “Y field” as a means to transition textual NOTAM information to the digital environment, and considered the impact of a “Y field” on traditional NOTAM processing. In response to query from Japan, the United States confirmed that the “Y field” would be filled out with tens characters of free text.

8.17 The meeting recognized the necessity for transition arrangements that support the transition from the existing NOTAM arrangements to the digital formats being implemented under AIXM, and gave full support to the concept that such transition arrangements should be standardized and harmonized over as many States as possible.

8.18 However, acknowledging that there was insufficient technical representation at the meeting to be able to make an informed decision on the United States proposal and that it was intended that the “Y field” proposal would be reviewed at the pending Global Conference in South Africa and the AIS-AIMSG in Montreal, the meeting would await updated information in due course. The Sub-Group requested the United States to continue the coordination efforts on this matter with a focus on any potential impacts in operational areas and provide updated information to appropriate forums including the Asia/Pacific AAITF as it became available.

**Data Link Operations and numbers of RNP 4 Aircraft in Fukuoka FIR**

8.19 Japan presented updated information on the operational trial of the 30 NM longitudinal separation in the Fukuoka FIR, and the current rate of RNP 4 approved aircraft in the Fukuoka FIR.

8.20 Prior to the introduction of the 30 NM separation, JCAB demonstrated the safety assessment in accordance with the provision of the *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM, Doc. 4444). From the result of this evaluation, as a result of traffic congestion JCAB committed to using a 10 minutes periodic interval for the ADS report from aircraft equipped with the RNP 4 capability in the Fukuoka FIR, rather than the 14 minutes promulgated by ICAO.

8.21 The separation minimum is applied only between aircraft with RNP 4 approval. Between RNP 4 approved aircraft and RNP 4 non-approved aircraft, and between RNP 4 non-approved aircraft, the 50 NM, 10 minute with Mach number technique (MNT) or 15 minute longitudinal separation shall be applied. This separation reduction will provide aircraft with more

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## ATS/AIS/SAR SG Item 3 – Deficiencies

Requirements	State/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action**
<b>WGS-84</b>								
Requirements of Paragraph 3.6.4 of Annex 15	Bhutan	WGS-84 - Not implemented	2/7/1999	Data conversion completed, but not published		Bhutan	TBD	A
	Cambodia	WGS-84 - Partially implemented	28/6/2001	Cambodia reported to ATM/AIS/SAR/SG/18 on 26 June 2008 that WGS-84 coordinates had been implemented at international airports, airspace and international routing. Domestic airports and routes have not been implemented with WGS-84.		Cambodia	2009/2010	A
	China	WGS-84 - Partially implemented * implemented in the Sierra FIR as of 1 Nov 2001	2/7/1999	Differences to Annex 15 - Aeronautical Information Services are notified		China	China advised APAN/PRG/19 that WGS 84 implementation is in progress and planned to be completed in 2010 for all existing airports. All new airports will use WGS84 immediately.	A
	DPR Korea	WGS-84 - Not implemented				DPR Korea	DPRK advised ATM/AIS/SAR/SG/18 verbally that WGS 84 implementation was completed. The Regional Office is waiting for a formal report.	A
	Kiribati	WGS-84 - Not implemented				Kiribati	TBD	A

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## AIR NAVIGATION DEFICIENCIES IN THE ATM/AIS/SAR FIELDS IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	State/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action**
	Nauru	WGS-84 - Not implemented		Conferring with consultant		Nauru	TBD	A
	Solomon Islands	WGS-84 - Not implemented				Solomon Islands	1999	A
	Vanuatu	WGS-84 - Implemented at main airports	2/7/1999			Vanuatu	1999	A

## ATS/AIS/SAR SG Item 3 – Deficiencies (cont)

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## AIR NAVIGATION DEFICIENCIES IN THE ATM/AIS/SAR FIELDS IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/territories	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action**
<b>AIP Format</b>								
Requirements of Chapter 4 of Annex 15	Cook Islands	AIP Format - Not implemented	7/1999			Cook Islands	ATMAIS/SAR/16 (June 2006) updated - AIP COOK ISLANDS in new format in progress with assistance of New Zealand, effective date by the end of 2008	A
	Kiribati	AIP Format - Not implemented	7/1999			Kiribati	ATMAIS/SAR/SQ/18 (June 2009) was advised AIP in draft stage	A
	Nauru	AIP Format - Not implemented	7/1999			Nauru	ATMAIS/SAR/SQ/18 (June 2008) was advised work soon to start	A
	Papua New Guinea	AIP Format - Not implemented	7/1999			Papua New Guinea	TBA	A

## ATS/AIS/SAR SG Item 4 – Task List

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Appendix A to the Report on Agenda Item 10

ACTION ITEM & PRIORITY	GLOBAL PLAN INITIATIVE	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
18/6 Priority B	GPI-18 Aeronautical information	<p><b>Implement AIS enhancements</b></p> <p>a) Develop AIS implementations plans for introduction of AIS quality systems and AIS databases and consider issues arising from the use of public internet for AIS;</p> <p>b) Study means of aeronautical data management by civil aviation authorities and/or ATS providers in other regions including the aeronautical information exchange model (ADXM) and the electronic AIP (eAIP), and consider the feasibility in making use of these methods/models in the Asia/Pacific Region;</p> <p>c) Develop Regional AIS Automation Plan, training material and conduct workshops on the Guidance Manual for AIS in the Asia/Pacific Region</p>	2012	States, Users, Regional Office  <b>Functional Responsibility: AAITF</b>	OPEN	AIS/ADM Implementation Task Force (AAITF) active since March 2006
18/9 Priority B	None applicable	<p><b>SAR Matters</b></p> <p>Assist appropriate provision of SAR facilities, services and procedures within the Asia Pacific Region by:</p> <p>a) Periodic review of SAR facilities, services and procedures in the region,</p> <p>b) Encourage States to delegate or negotiate SAR services,</p> <p>c) Asia/Pacific "SAR Capability Matrix" be kept up to date and distributed to States for information and action.,</p> <p>d) Asia/Pacific "Register of SAR Agreements" be kept up to date and distributed to States for information and action</p>	ONGOING	States, Regional Office, ATM/AIS/SAR/SG APANPIRG	OPEN	States to update the ATM/AIS/SAR/SG each year to permit the periodic update of the SAR Capability Matrix and Register of SAR Agreements.