



*International Civil Aviation Organization*

**THE FIFTH MEETING OF AERONAUTICAL  
TELECOMMUNICATION NETWORK (ATN)  
IMPLEMENTATION CO-ORDINATION GROUP  
OF APANPIRG (ATNICG/5)**



Kuala Lumpur, Malaysia, 31 May – 4 June 2010

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**Agenda Item 4: Report on ATNICG Working Group 7 activities**

**REPORT ON REGIONAL ATN/AMHS RELATED ACTIVITIES**

(Presented by the Secretariat)

**SUMMARY**

Two Working Group meetings, AMC and an AMHS Implementation Workshop were organized since the last ATNICG meeting to progress the tasks assigned to the Coordination Group by APANPIRG. This paper discusses in detail the outcome of these activities.

**1. Introduction**

1.1 In order to progress the tasks assigned by APANPIRG, related to the implementation of ATN/AMHS in the region, two ATNICG Working Group meetings, an AMC Training and an AMHS Implementation Workshop were organized during the period since last ATNICG meeting. ATNICG WG/6 meeting held from 22 to 25 September, 2009 was hosted by Aerothai in Hua Hin, Thailand and the ATNICG WG/7 meeting, also hosted by Aerothai was held on 29 January 2010 at ICAO APAC Office in Bangkok, Thailand.

1.2 Training on ATS Messaging Management Centre (AMC) was conducted by EUROCONTROL on 25 and 26 January 2010. The training was hosted by Aerothai in their Headquarters complex in Bangkok.

1.3 An AMHS Implementation Workshop was conducted on 27 and 28 January 2010, wherein information on issues related to the implementation of ATN/AMHS in the region was exchanged. The workshop was also hosted by Aerothai in ICAO APAC Office.

## 2. Discussion

### 2.1 ATNICG WG/6 Meeting

Sixth Working Group Meeting of Aeronautical Telecommunication Network (ATN) Implementation Coordination Group (ATNICG WG/6), hosted by Aerothai was held in Hua Hin, Prachuab Khri Khan from 22 to 25 September 2009. 41 Participants from 12 States and one industry partner participated in the deliberations. Complete report of the meeting is placed on ICAO Asia/Pacific Regional Website and can be accessed on the URL:

[http://www.icao.or.th/meetings/2009/atnicg\\_wg6/index.html](http://www.icao.or.th/meetings/2009/atnicg_wg6/index.html).

2.1.1 Meeting while reviewing the progress of ATN/AMHS implementation in the region, agreed that *a comprehensive report on implementation in a tabular form will be presented to CNS/MET SG/14 and APANPIRG/21 meetings (Action Item 1)*. It was agreed that format developed by Hong Kong China for the purpose will be used.

2.1.2 Meeting was reminded about the requirement of amending the documents on the basis of PDRs and it was agreed that same PDR format as is being used at the ACP level will be used for the purpose of reporting all types of problems faced in the region. Subsequently, it has been learnt that ACP is also considering a mechanism by which all the States will be able to raise PDRs. *It was decided that a member State, which is actively participating in the ACP activities will track the PDRs raised and arrangements will be made in reflecting these PDRs through amendment to the guidance documents (Action Item 2)*.

2.1.3 Meeting was of the view that *all the issues like justification of ATN implementation, security of the network etc. should be adequately reflected in the strategy (Action Item 3)*.

2.1.4 While discussing implementation of PENS in Europe, it was clarified that EUROCONTROL had assured to provide the AMC services till 2014. Requirement of additional test for any to any connectivity was raised in the meeting. *USA offered to provide initial draft for additional tests recommended for transiting from point to point connectivity to logical connectivity by the first quarter of 2010 to Singapore. Singapore will then arrange to incorporate these tests in the AMHS manual (Action Item 4)*.

2.1.5 Based on the presentation made by Japan recommending adoption of IPv6, the meeting recommended that *APANPIRG should acquire a regional address prefix of a certain length and incase it does not become possible to acquire the address prefix, then region should self-designate a prefix which unlikely to be allocated by IANA in near future (Action Item 5)*.

2.1.6 An adhoc group, with Singapore in lead developed a strategy document in three sections, the first section of the document contained Consideration for Strategy, second section contained Description of the General Strategy and third section was on State Requirements to Implement the Strategy. It was agreed that *a companion paper should be developed to provide a more detailed description of each item in the strategy with examples and the rationale for the items when appropriate (Action Item 6)*.

2.1.7 Meeting adopted AMHS Implementation Roadmap and AMHS Implementation Planner. *States were requested to provide the implementation schedule to Mr. P.K. Kapoor of India within two months of the meeting, so that the planner could be prepared (Action Item 7)*. This action item should be read along with Action Item 1. Subsequently since Mr. Kapoor could not attend the ATNICG WG/7 meeting, the planner was presented by Hong Kong China.

2.1.8 While reviewing CAR/SAM region ATN Implementation Plan and the global IPv4 addressing scheme developed by them, meeting concluded that *Asia/Pacific ATN AMHS will adopt the IPv4 address assignment proposed by the CAR/SAM region, if the States want to use IPv4 network (Action Item 8). This action item should be read with Action 5, where in Japan had proposed acquiring an address prefix in IPv6.* Meeting also proposed that *CAR/SAM region and Asia Pacific regional networks should be combined (Action Item 9).*

2.1.9 Issues related to TCP/IP – ATN/OSI interface were discussed and it was felt that these issues will come up when inter regional MTA implementation is initiated. *USA assured to present a paper on this issue when it completes the MTA interface with UK in 2010 using RFC 1006 over TCP/IP network (Action Item 10).*

2.1.10 Meeting while reviewing the Terms of Reference assigned to the Group by APANPIRG, noted that it has become important to deliberate some of the operational issues in addition to the implementation issues. *It was agreed that inclusion of operational issues in the Terms of Reference will be taken up for consideration in the next Working Group meeting (Action Item 11).*

2.1.11 Meeting was informed that documentation tree was last updated in 2005 and it was considered necessary to review the currency of the documents and update them wherever required. Requirement of guidance on subjects like IPS Transition Plan, AMC, ICD (as taken up by Japan in ATNICG/4) etc. were identified. It was concluded that *the Task Leads will inform Mr. V. Patel (FAA) about the status of relevant documents, so that the currency of these could be ensured (Action Item 12).*

2.1.12 The meeting ended with thanks to Aeronautical Radio of Thailand for hosting the meeting and specially thanked ACM Somchai Thean-anant, President AEROTHAI for his gracious presence.

## 2.2 AMC Training

2.2.1 Training on Aeronautical Messaging Management Center (AMC) operations was organized in Bangkok on 25 and 26 January. The training was attended by 56 participants from 16 States.

2.2.2 Main objectives of the training included explanation on how the AMHS address management procedures promulgated by ICAO State letter dated 14 April be performed using AMC and informing the participants about AMC application to enable participants to become efficient AMC users. AMC has been developed by EUROCONTROL to deliver off-line Network Management Services in support of the ATS messaging part of the AFS, support the States in AMHS operation, support the States in their implementation of AMHS and provide the service to a single focal point with a priority for address management.

## 2.3 AMHS Implementation Workshop

2.3.1 AMHS Implementation Workshop, hosted by Aerothai was organized in ICAO APAC Office on 27 and 28 January 2010. 73 participants from 20 States and 6 industry partners participated in the workshop. Demonstration on the working AMHS system was also organized during the workshop. Mr. Hoang Tran, AMHS Programme Manager, FAA USA in his opening address as Facilitator for the Workshop, started with a presentation tracing history of AFS and challenging the requirement of AMHS itself. The issue excited a discussion amongst the participants and it was agreed there is a need to start developing applications for AMHS now.

2.3.2 Reports on regional activities in Asia/Pacific and CAR/SAM regions, presented by the Secretariat and FAA respectively covered the implementation status and strategic options adopted in both the regions. Thailand presenting a brief on AMC informed the workshop about the objectives of EUROCONTROL AMC and described in detail the time schedule required to be followed for incorporating any major/minor change in the AMC data.

2.3.3 Report on ATNICG activities presented by the Chairman of the group included a comprehensive description of activities in the group and its future workplans.

2.3.4 Progress made on various tasks assigned to ATNICG by APANPIRG in the Subject/Tasks list was presented by the Task Leads. Implementation matrix, presented by Hong Kong China providing information on implementation schedule was very much appreciated by the workshop. USA brought out the operational complexities of AMHS and issues related to security of communication, traceability, trouble reporting, options of help-desk etc. Singapore presented the developments that have taken place in the task of Certification and Validation. Service Enhancements were discussed in the presentation made by Thailand and information on the messaging requirements for Amendment 1 to Annex 15 and PANS ATM (Doc 4444) was provided to the workshop.

2.3.5 Presentations by the industry partners informed the workshop about the technical significant features of their products. Various technical options available were discussed in detail. Singapore presented the updated Asia/Pacific ATN Implementation Strategy and informed the workshop about the need to review it from time to time to accommodate the changing operating environment.

2.3.6 Australia, Hong Kong China, Singapore, India, Thailand, USA, Sri Lanka, Pakistan, Bangladesh, Indonesia, Malaysia, Mongolia, Myanmar and Philippines presented the implementation status of ATN/AMHS in their administration. Whereas Cambodia did not have any immediate plans for the implementation of AMHS, Vietnam estimated that their system will be operational in 2012. Hong Kong China informed the workshop about commissioning of its AMHS link with Macao China on 29 December 2009.

2.3.7 The workshop ended with a detailed presentation on System Wide Communication Management (SWIM) by FAA (USA). Role of SWIM in the exchange of information exchange and its application for the provision of different types of services were explained in detail.

## 2.4 ATNICG WG/7

2.4.1 Seventh Working Group Meeting of Aeronautical Telecommunication Network (ATN) Implementation Coordination Group (ATNICG WG/7), hosted by Aerothai in ICAO APAC Office, Bangkok was held on 29 January 2010. The meeting was attended by 57 participants from 19 States (Australia, Bangladesh, Cambodia, Hong Kong China, Macao China, India, Indonesia, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand, USA and Vietnam).

2.4.2 After discussing the draft Asia/Pacific regional ATN/AMHS Strategy presented by Singapore, the Working Group was of the view that connectivity between the hubs should be left for the bilateral arrangements and should generally be based on X.25 or IP sub-network. The Strategy should ensure that there is no single point of failure. *It was agreed that a comprehensive amendment proposal will be presented to the ATNICG/5 for its review (Action Item 13).*

2.4.3 USA proposed a common addressing plan for the APAC and the NAM regions. Hong Kong China, through their working paper reminded the meeting about commissioning of AMHS connectivity with Macao China. Hong Kong China also proposed changes to the regional routing structure and *it was decided that concerned States, USA, Hong Kong China, Australia, Fiji etc. should consider Hong Kong China proposal and it should be reviewed in the next ATNICG meeting (Action Item 14).*

2.4.4 Discussing the revised route structure consequent to the inclusion of Afghanistan in the region, it was decided that *a consolidated FASID Table CNS 1B and 1C will be presented to the next ATNICG meeting (Action Item 15).*

2.4.5 Meeting was reminded that the region is heading from X.25 to IP sub-networking environment and hence there is a threat of address collision. Working Paper presented by USA proposed a common addressing plan to avoid this problem. In IPv4 environment, it is required to be decided, whether the aviation community should use privately available address slots, such slots are not available in the IPv6 addressing schemes. The meeting decided that this issue should be raised in ACP.

2.4.6 Meeting agreed to continue its support for the APANPIRG Conclusion which required that States should enter their AMC data through Aerothai. Participants, including some from those States, which had sent their request to AMC directly agreed to support the procedure.

2.4.7 Meeting ended with thank to Aeronautical Radio of Thailand for hosting the meeting.

### **3. Action by the Meeting**

3.1 The meeting is invited to:

- a) Note the outcome of the two Working Group meetings, the AMC Training and the AMHS Implementation Workshop; and
- b) Consider the Action Items identified in the two Working Group meetings.

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