



*International Civil Aviation Organization*

**The Twenty-First Meeting of the APANPIRG ATM/AIS/SAR Sub-Group  
(ATM/AIS/SAR/SG/21)**

Bangkok, Thailand, 27 June – 01 July 2011

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**Agenda Item 6: Provision of ATM/AIS/SAR in the Asia/Pacific Region, including associated CNS matters**

**REGIONAL CNS UPDATE**

(Presented by the Secretariat)

**SUMMARY**

This paper presents brief information on some related CNS developments.

This paper relates to –

**Strategic Objectives:**

A: *Safety – Enhance global civil aviation safety*

C: *Environmental Protection and Sustainable Development of Air Transport – Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

**Global Plan Initiatives:**

GPI-1 Flexible use of airspace

GPI-5 RNAV and RNP (Performance-based navigation)

GPI-7 Dynamic and flexible ATS route management

GPI-9 Situational awareness

GPI-12 Functional integration of ground systems with airborne systems

GPI-17 Data link applications

GPI-21 Navigation systems

GPI-22 Communication infrastructure

GPI-23 Aeronautical radio spectrum

**1. INTRODUCTION**

1.1 Since APANPIRG/21, ATN Implementation Coordination Group and its working group had several meetings, a SIP AIDC Seminar was held in October 2010 and a workshop on Ionospheric data collection and study is also conducted in May 2011. A brief summary of the outcome of these activities related to the ATM/AIS/SAR Sub-Group are highlighted in Section 2.

1.2 The SOCM/2 Meeting is scheduled to be held in November 2011. Letter of invitation was issued. The meeting is expected to review the current operational status of SATCOM data link service and development of SATCOM Voice. A seminar associated with the meeting is also planned in conjunction with the meeting.

## 2. DISCUSSION

### ATN/AMHS Development

2.1 In accordance with the strategy for implementation of ATN in the Asia and Pacific Region adopted by APANPIRG/21 in September 2011, the backbone States in the Asia/Pacific region have already implemented, or are in the process of procuring and implementing, AMHS (ATS Message Handling System) based ATN/OSI (Aeronautical Telecommunication Network/International Standards Organisation) and/or ATN over IPS (Internet Protocol Suite). In addition to circuit implemented between Macao China and Hong Kong China last year, ATS MHS between Mumbai and Singapore has become operational since March 2011 and ATS MHS service is also operational between Beijing and Seoul in June 2011.

### Support of XML based traffic

2.2 The Sixth Meeting of the Aeronautical Telecommunication Network (ATN) Implementation Co-ordination Group (ATNICG/6) of APANPIRG was held at the Hotel Riviera, Seoul, Republic of Korea, from 16 to 20 May 2011. The meeting discussed support of XML (Extensible Markup Language) based data. It was anticipated that the AFS (Aeronautical Fixed Service) was expected to initially support NOTAM using XML (planned in 2012 – 2016) and XML based OPMET (Operational Meteorological data for aviation) planned for 2012/2013.

2.3 States were requested to coordinate within their Administrations for collection of information necessary for implementation of XML, such as file size, target timeline and interface needed. Understanding of the requirements would assist in planning implementation of XML based applications supported by AMHS. States capable of doing so were also encouraged to conduct trials for transmitting XML based application over AMHS. The result of such trials conducted should be shared at meetings of ATN implementation Coordination Group and its working group meetings.

2.4 Based on discussions, the following draft Conclusion was recommended for consideration by APANPIRG.

#### ***Draft Conclusion /xx - Trials on XML over AMHS***

*That, the States be urged to confirm the requirements for transmission of OPMET and AIM data over XML and conduct trials on XML over AMHS to promote early provision of a communication medium for transmission of MET and AIM data in XML format over AMHS.*

### SIP AIDC Seminar

2.5 Noting with concern the coordination errors across FIR boundaries that are the most crucial aspect of APAC regional RVSM operations, APANPIRG adopted several Conclusions urging States to expedite implementation of AIDC between neighboring ATS facilities. In this connection, a Special Implementation Project (SIP) Seminar on ATS Inter-Facility Data Communication (AIDC) was held at ICAO Regional Office, Bangkok, Thailand from 12 to 13 October 2010. The objective of the Seminar was to assist the States in the APAC Region in implementing AIDC. The Seminar was attended by 40 participants from Australia, China, Hong Kong China, India, Indonesia, Germany (DFS), Japan, Malaysia, New Zealand, the Philippines, Singapore, Thailand and Viet Nam.

2.6 Australia, China, Hong Kong China, Indonesia, Japan, New Zealand and Thailand provided information on the planning and implementation status to the Seminar. A representative from Thales also presented its input from an ATM system vendor's perspective.

2.7 It was recognized that complexities of implementation of AIDC requires common efforts of a team consisting of members with both technical and operational background. It was also noted with interest that flexibility of implementation exists in the form of a dedicated standalone AIDC server or a processor installed separately interconnecting with other ATCC (ATC Centres) via the AFTN (Aeronautical Fixed Telecommunications Network), fetching the Flight Plan information from the ATM system. A sample of this kind of implementation was presented to the Seminar by Hong Kong China.

2.8 The Seminar developed the following recommendations:

- States were urged to implement AIDC in accordance with the regional air navigation plan and ICD for AIDC;
- The Seminar identified a number of items that should be considered for inclusion as new material in the Pan Regional ICD for AIDC. In following up this recommendation, the Secretariat has forwarded to USA, the coordinator for the development of a global Interface Control Document (ICD) for AIDC (Ms. Karen Chiodini e-mail: [Karen.L.Chiodini@faa.gov](mailto:Karen.L.Chiodini@faa.gov)).
- An AIDC implementation planner proposed by Hong Kong China was endorsed by the Seminar. The seminar recommended it to be adopted by APANPIRG as a planning tool for AIDC implementation. It was also recommended to make this tool available on the website for the States to update the information on-line.

#### **Workshop on Ionospheric Data Collection, Analysis and Sharing**

2.9 A two-day APAC Workshop on Ionospheric Data Collection, Analysis and sharing in Support of GNSS Implementation was organized in Bangkok with the following objectives:

- a) To enhance the understanding of ionospheric issues in GNSS operations;
- b) To exchange information and experience gained on GNSS and ionosphere related activities by each administration;
- c) To understand the need to carry out ionospheric studies;
- d) To discuss a common procedure for collecting ionospheric data by Administrations;
- e) Ultimate outcome is a standard ionospheric model for GNSS operations applicable throughout the Region; and
- f) The final goal is to facilitate GNSS implementation in Asia and Pacific Regions by mitigating ionospheric issues.

2.9 After discussion on ionospheric effects on GNSS performance and information/experience exchanged on the related subjects, the workshop developed the following recommendations:

- a) States are urged to coordinate with their relevant national organizations for sharing available GNSS data collected to facilitate characterization of ionosphere to support the implementation of GNSS applications for aviation; and
- b) A Task Force needs to be established with an objective to identify the need for Regional Ionospheric Threat Model for GBAS and SBAS and create them if required.

**Satellite Data-link Communication’ Seminar and Second Satellite Data Link Operational Continuity Meeting (SOCM/2)**

2.11 A Satellite Data-link Communication Seminar and the Second Satellite Data Link Operational Continuity Meeting (SOCM/2) is scheduled for 15 to 18 November 2011 at ICAO Regional Office, Bangkok Thailand. The Seminar will provide information on the developments that are taking place related to the implementation of Satellite Data-link Communication and the objective of the meeting is to review the status of satellite communications (SATCOM) data link performance, collaborate on planning and implementation programs and contribute to the development of a global strategy for use of SATCOM services.

2.12 SOCM/2 will address related issues that need to be addressed at the global level while at the same time ensure satellite communication services meet current and future needs for air traffic management in the Asia and Pacific Regions. In this context, the meeting may recall the discussions that took place at the Twenty-First Meetings of the Asia-Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG), in September 2010 regarding the outcome of the SOCM/1 held in Bangkok from 26 to 28 August 2009. It was agreed that SOCM/2 should be convened after the Future Air Navigation System (FANS) SATCOM Improvement Team (FSIT) provides updates on consolidated improvement plans.

2.13 APANPIRG/21 noted that SOCM/2 had been postponed due to the reason that FSIT had not reconvened its meeting as planned. However, a number of improvements had been made, which included the “Release 15” upgrade to all four ground earth stations (GESs), and an additional 60 aircraft from four airlines that had started using MTSAT through SITA AIRCOM service. While recognizing these improvements, APANPIRG concluded that further improvements were still needed and, if the FSIT meeting was not conducted in a reasonable period of time, the SOCM/2 meeting should be conducted in 2011 to coordinate further efforts among all the stakeholders and strategic planners.

2.14 A letter of invitation is being distributed to States and stakeholders. States are invited to nominate technical and operational experts to participate the meeting.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to note the information provided in this paper.

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