



INTERNATIONAL CIVIL AVIATION ORGANIZATION
Western and Central African Office
AFI Planning and Implementation Regional Group (APIRG)
Communications, Navigation and Surveillance Sub-Group
Fourth Meeting (CNS/SG/4)

(Dakar, Senegal, 25-29 July 2011)

(Presented by the Secretariat)

Agenda Item 4: Aeronautical Fixed Service (AFS)

Review of the report of the first meeting of the AFI AMHS
 Implementation Task Force

(Presented by the Secretariat)

SUMMARY
<p>This working paper presents the report on the first meeting of the AFI ATS Message Handling System (AMHS) Implementation Task Force (AFI/AMHS/I/TF/1) and outlines the future tasks to be undertaken.</p>
<p>Action by the meeting is at paragraph 3.</p>
<p>References :</p> <p>Reports on APIRG/9, 14,15,16 & 17 Meetings</p> <p>Reports on COM/SG/4 & 5 Meetings</p> <p>Report on the second meeting of the AFI Aeronautical Telecommunication (ATN) Implementation Task Force</p> <p>Report on the first meeting of the AFI AMHS Implementation Task Force</p> <p>Report on the first meeting of the AFI Regional AMHS Workshop</p> <p>ICAO Annex 10 —Volume II -Communication Procedures & III -Communication systems Part I-<i>Digital communication system</i></p> <p>ICAO Doc 9880 — Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols –<i>Part II Ground-Ground Applications-AMHS</i>;</p> <p><i>Note: AFI References can be downloaded from www.icao.int/wacaf.</i></p>
<p>Related ICAO Strategic Objective A: <i>Safety</i> and C: <i>Environmental Protection and Sustainable Development of Air Transport</i>.</p>

1. INTRODUCTION

1.1 The First Meeting of the AFI ATS Message Handling System Implementation Task Force (**AFI AMHS /I/ TF/1**) was held at the ICAO Eastern and Southern Regional office, United Nations Office, Nairobi, Gigiri, Kenya from, 19 to 20 May 2011. The meeting was attended by Thirty four (**34**) participants from Fourteen (**14**) Contracting States, two (**02**) Air Navigation Service Providers (ASECNA acting on behalf AFI **17** Contracting States & ATNS) and an AMHS facilities manufacturer, namely AVITECH from Germany.

1.2 The meeting nominated Mrs **Lindi-Lee KIRKMAN** from ATNS, South Africa as Chairperson and Rapporteur of the AFI/AMHS/I/TF.

2. DISCUSSION

2.1 The First Meeting of the AFI ATS Message Handling System Implementation Task Force was preceded by a Regional Workshop on ATS Message Handling System which took place from 17 to 18 May 2011. The meeting considered the Terms of Reference of AFI AMHS/I/TF as defined by APIRG 17 Meeting (17/18 refers) and the relevant activities of ICAO Aeronautical Communication Panel.

The meeting reviewed the Status of implementation and the performances of AFTN circuits within AFI region, discussed on ATN and AMHS technical specifications, AMHS planning and implementation activities by AFI States and by other regions/States, analyzed the report on the Second Meeting of the AFI ATN Planning Task Force and reviewed the EUR AMHS Manual (Version 6.0) in order to seek relevant material for the development of an AMHS Manual for the AFI Region.

2.2 The meeting also endorsed the report on the AFI first regional Workshop on AMHS and drafted 06 Conclusions and 03 decisions as summarized in **Appendix A**; the entire report can be downloaded from WACAF and ESAF Websites.

2.3 Based on this, the meeting accordingly updated the Future work programme of the Task Force and tasked States/Organizations with specific items to be addressed:

- Survey of the status of implementation of AMHS within AFI through a questionnaire as presented in **Appendix B**;
- Review of ICAO SARPs and Guidance Material;
- Draft AFI AMHS Implementation Strategy;
- Draft AFI AMHS Implementation Plan;
- Draft AFI AMHS Manual;

2.4 The Terms of Reference Composition and Future Workprogramme of the AFI AMHS Implementation Task Force are presented in **Appendix C**.

3. ACTION TO BE TAKEN BY THE MEETING

The meeting is invited to:

- a) - Take note of the above information.
- b) - Comment and amend (as necessary) Appendixes **A, B & C**
- c) – Set a deadline for the completion of the survey in order to finalize the AFI Aeronautical AMHS Strategy for submission to APIRG/18.

APPENDIX A

Summary of Conclusions and Decisions of the first Meeting of the AFI AMHS Implementation Task Force

Number	Title
Agenda Item 1	Election of the Chairperson and Vice-Chairperson of the AMHS Implementation Task Force
	NIL
Agenda Item 2	Review of the AMHS Implementation Task Force Terms of Reference and Work Programme
	NIL
Agenda Item 3	Review of AFTN Performance
Draft Conclusion 1/01	<p>VSAT Networks Performance and capacity</p> <p>That, according to the specifications provided by ICAO Doc 9880 Part II, and considering the critical role of the satellite VSAT based networks to support ATN components in particular AMHS within AFI, States/Organizations ensure that the VSAT networks (AFISNET, CAFSAT, NAFISAT, and SADC/2) meet the established performance and capacity requirements.</p>
Agenda Item 4	Overview of ATN and AMHS
	NIL
Agenda Item 5	AMHS Planning and Implementation
Draft Decision 1/02	<p>Survey of the status of implementation ATS AMHS in AFI</p> <p>That, in accordance with the AMHS implementation Task Force Terms of Reference Composition and Work Programme, a survey should be conducted in order to analyze data on AMHS implementation status in the AFI region through a data collection format to be finalized by the secretariat.</p>
Draft Conclusion 1/03	<p>Bilateral and Multilateral Agreements for AMHS implementation</p> <p>That bilateral and multilateral agreement should be concluded between AFI States based on the model provided at Appendix B in order to ensure, through trials, the compatibility /interoperability between their AMHS systems.</p>
Draft Decision 1/04	<p>Technical guidance material</p> <p>That, the development of technical guidance material should be included in the Work Programme of the AFI AMHS Implementation Task Force in order to assist States in the implementation process.</p>

Number	Title
Draft Conclusion 1/05	<p>Human Resource and training needs</p> <p>That ,</p> <p>a) States/Organizations should:</p> <ol style="list-style-type: none"> 1. ensure that sufficient Human Resources are made available for AMHS engineering, operations and maintenance and; 2. develop comprehensive training programmes for AMHS personnel in partnership with industry; <p>b) ICAO should pursue its efforts in supporting the AFI States through training Regional Workshops and Seminars on AMHS concept, facilities and applications.</p>
Draft Conclusion 1/06	<p>AMHS Capability for upgraded AFS systems</p> <p>That States/Organizations, when upgrading /modernizing their current AFS (AFTN) systems should take into account the existing AMHS capabilities in the region and the experience gained by their neighbors in order to develop and conduct a harmonized AMHS implementation process in AFI region and ensure AMHS systems compatibility with neighboring region.</p>
Agenda Item 6	Procedures for Global Coordination of AMHS Address Information
Draft conclusion 1/07	<p>AMC Registration</p> <p>That, based on ICAO State Letter AN 7/49.1-09/34 14/04/09, States/Organizations should:</p> <ol style="list-style-type: none"> a) designate representatives to register as AMC users; b) ensure that the designated AMC users are duly trained on AMC Web based training platform before they are actually allowed to enter data in the AMC http://www.eurocontrol.int/amc ; and c) Communicate to the relevant ICAO Regional Office the details of the designated AMC users to facilitate their accreditation enabling them to access the ATS Messaging Management Centre (AMC).
Agenda Item 7	Work Programme and Composition of the AMHS Implementation Task Force, and Assignment of Responsibilities and Timelines for identified Activities
Draft Conclusion 1/08	<p>Draft Terms of Reference, Composition and Work Programme of AFI/AMHS/I/TF</p> <p>That, the Terms of Reference, Composition and Work Programme of AFI/AMHS/I/TF be adopted as presented in Appendix C</p>
Agenda Item 8	Any other Business

Number	Title
Draft Decision 1/09	Review of the outcome of the AFI regional Workshop on AMHS (17-18 May 2011) That, the Task Force endorse the recommendations of the AFI regional Workshop on AMHS held in Nairobi from 17 to 18 May 2011 as provided in Appendix D , for consideration in addressing its Work Programme

APPENDIX B

**Country/Organization's input for the
Regional questionnaire for AMHS implementation**

1. Current designation in VSAT network

Is your state currently designated as one of the main centres for the VSAT communication backbone?

(a) ☐ *Yes*

(b) ☐ *No*

2. Current platform

Is your state operating on the AFTN or AMHS platform?

(a) ☐ *AFTN*

(b) ☐ *AMHS*

(If your state has already implemented AMHS proceed to page 2)

3. Current AFTN deployment

What is the current level of AFTN deployment in your state?

(a) ☐ *Main international airport only*

(b) ☐ *Some of the international airports only*

(c) ☐ *All international airports and some of the domestic airports*

(d) ☐ *All state airports*

(e) ☐ *All state airports and some of the private operators*

4. Support for the new FPL format

Is the supplier of your AFTN system able to provide support for the new FPL format before the transition period?

(a) ☐ *Yes*

(b) ☐ *No commitment as yet*

(c) ☐ *Not at all*

5. Reliability of AFTN system

How reliable is your entire AFTN equipment in terms of failures?

(a) ☐ *Still reliable*

(b) ☐ *Less frequent failures*

(c) ☐ *More frequent failures*

6. AMHS considerations

Is there a budgetary commitment from your administration to migrate to an AMHS platform as yet?

(a) ☐ *Yes, tender process already in progress*

- (b) ☐ *Yes, in 2012*
 (c) ☐ *No budgetary commitment as yet*

NB. States that have already implemented AMHS to proceed to the next page

7. AMHS implementation date

When did your state implement AMHS?

- (a) ☐ *More than 2 years ago*
 (b) ☐ *Within the past 2 years*
 (c) ☐ *Implementation is in progress*

8. Supplier of AMHS equipment

Who is the supplier of your AMHS equipment?

- (a) ☐ *Comsoft*
 (b) ☐ *Avitech*
 (c) ☐ *Thales*
 (d) ☐ *Radiocom*
 (e) ☐ *Intelcan*
 (f) ☐ *Other: (name) _____*

9. Type of AMHS

What is the security model of the AMHS platform that you have implemented?

- (a) ☐ *Basic AMHS (procedural means of security only)*
 (b) ☐ *Extended AMHS (user agent to user agent security policy)*

10. Implemented AMHS services

What services have been implemented on your AMHS?

- (a) ☐ *Message server only (MTA and MS)*
 (b) ☐ *Gateway (MTA and MTCU)*
 (c) ☐ *Combination of (a) and (b)*

11. AMHS WAN technologies

What kind of WAN technologies were used to implement AMHS in your state?

- (a) ☐ *Point to point (leased lines, VSAT)*
 (b) ☐ *Web based (public Internet)*

12. Level of system integration

What other ATM packages were integrated with you AMHS installation?

- (a) ☐ *NOTAM database*
 (b) ☐ *FDH*
 (c) ☐ *AIM*

13. Training of personnel

What level of AMHS personnel training was conducted?

- (a) ☐ *Basic operator's training*
- (b) ☐ *System configuration and operational administration*
- (c) ☐ *Technical maintenance (LRU and system upgrades)*

14. Level of support

What kind of support contract do you have for your AMHS equipment?

- (a) ☐ *Still on full warranty*
- (b) ☐ *Full maintenance contract with supplier*
- (c) ☐ *Just remote access intervention*

APPENDIX C

TERMS OF REFERENCE, WORK PROGRAMME AND COMPOSITION OF THE AFI ATS MESSAGE HANDLING SYSTEM IMPLEMENTATION TASK FORCE (AFI AMHS/I/TF)

1-TERMS OF REFERENCE

- 1) Conduct a comprehensive review of ICAO Standards and Recommended Practices (SARPs) pertaining to the Air Traffic Services Message Handling Service (ATSMHS) application as specified in Annex 10 – *Aeronautical Telecommunications* - Volume II and Volume III, and guidance material contained in ICAO *Manual on detailed specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI standards and protocols* (Doc.9880), *Global Air Navigation Plan* (Doc 9750) and other relevant provisions ;
- 2) Collect and analyze information on the status of AFI ANSPs ATS Message Handling Systems plans, including ongoing upgrades to existing systems;
- 3) On the basis of the above, develop a coordinated AFI transition strategy and plan with associated timelines to enable the streamlined coordinated implementation of AMHS.

Considerations

In addressing its terms of reference, the Task Force should consider, *inter alia*, the following aspects:

- 1) AFI AMHS systems should be:
 - a. implemented in accordance with ICAO SARPs and technical specifications, and
 - b. interoperable with systems implemented by other ICAO Regions;
- 2) Personnel training for operational migration from AFTN to AMHS;
- 3) AFS network backbone capabilities;
- 4) Systems that transition early will need to be capable of handling both AMHS and AFTN messages.
- 5) Establishment of an Information Management system to track implementation timelines; and
- 6) Impacts to users (compliance to new flight plan format, availability of qualified personnel, etc).

2-WORK PROGRAMME

Task No.	Global Plan Initiative	Subject	Target date
1	GPI-22	Review of ICAO SARPs and Guidance Material <i>Team Leader: Secretariat</i> <i>Team members: All Task Force Core members</i> <i>References:</i> <ul style="list-style-type: none"> • ICAO Annex 10 (Vol. 2 and Vol.3) • ICAO Doc 9880 	CNS/SG/4 Deliverable: 30/06/2011
2	GPI-22	Conduct of a Regional Survey on: <ol style="list-style-type: none"> 1. AFS circuits specifications (circuit type, modulation rate, protocol, ITU code, VSAT network) 2. AMHS implementation status (implementations, plans, levels of service, protocols, implementation challenges, level of knowledge on AMHS and ATN, etc.) <i>Team Leader: Secretariat</i> <i>Team members: All Task Force Core members</i> <i>References:</i> <ul style="list-style-type: none"> • APIRG/15 Report • ICAO Annex 10 (Vol. 2 and Vol.3) • ICAO Doc 9880 	CNS/SG/4 Deliverable: 30/06/ 2011
3	GPI-22	Draft AFI AMHS Implementation Strategy <i>Team Leader: ASECNA</i> <i>Team members: Botswana, Burkina Faso, Madagascar, South Africa (ATNS), Tanzania and ASECNA</i> <i>References:</i> <ul style="list-style-type: none"> • CAR/SAM AMHS Implementation Strategy 	CNS/SG/4 Deliverable: 30/06/ 2011
4	GPI-22	Draft AFI AMHS Implementation Plan <ol style="list-style-type: none"> 1. Draft AFI ATN Architecture 2. Draft AFI ATN Network Service Access Point Addressing Plan 3. Draft AFI AMHS Implementation Plan <ol style="list-style-type: none"> a. AFI FASID CNS1B Table b. AFI FASID CNS1C Table <i>Team Leader: Rwanda</i> <i>Team members: Angola, Ethiopia, Kenya, Mozambique, Rwanda, Sudan, Zimbabwe and ASECNA</i> <i>References:</i> <ul style="list-style-type: none"> • Report of the Second Meeting of AFI ATN Planning Task Force 	CNS/SG/4 Deliverables: 30/06/ 2011

		<ul style="list-style-type: none"> • <i>AFI Air Navigation Plan, FASID (CNS)</i> • <i>ICAO Annex 10 (Vol. 2 and Vol.3)</i> 	
5	GPI-22	<p>Draft AFI AMHS Manual</p> <ol style="list-style-type: none"> 1. Introduction 2. AFI AMHS Requirements 3. AFI ATS Messaging Service Profile 4. System implementation - Guidelines for system requirements 5. AMHS management 6. Tests and validation of systems 7. Operational procedures and recommendations 8. Miscellaneous 9. Appendices <p><u>Team Leader: South Africa (ATNS)</u> Team members: Somalia (CACAS), South Africa, Tanzania, Uganda and ASECNA</p> <p>References:</p> <ul style="list-style-type: none"> • <i>ICAO EUR AMHS Manual (Doc 020)</i> • <i>ICAO Annex 10 (Vol. 2 and Vol.3)</i> • <i>ICAO Doc 9880</i> 	CNS/SG/4 Deliverables: 30/06/ 2011

3-COMPOSITION

Core members: *Algeria, Angola, Botswana, Egypt, Ethiopia, Ghana, Kenya, Malawi, Niger, Nigeria, Rwanda, Senegal, South Africa (ATNS), Sudan, Tanzania, Tunisia, Uganda, Zimbabwe, ASECNA, IFATSEA and Roberts FIR.*

Other members: *All AFI States and Air Navigation Service Providers (ANSPs) with implemented and planned AMHS systems.*

Note: *Members should nominate suitable experts involved in aeronautical telecommunications operations and systems engineering.*

Working arrangements: TBD.

-END-