International Civil Aviation Organization

MID ATS Message Management Center Steering Group

Third Meeting (MIDAMC STG/3)
(Cairo, Egypt 26 - 28 January 2016)

Agenda Item 4:   **Enhancement of the MID AFS Network Services**

PROPOSAL FOR AMENDMENT OF ANNEX 10
AND ITS IMPLEMENTATIN IN MID REGION

(Presented by Secretariat)

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SUMMARY

This paper presents the Proposals for the Amendment of Annex 10, Volume II relating to the Aeronautical Fixed Telecommunication Network (AFTN) and new message types. It also highlights the requirement for the introduction of the SITA PRMD.

Action by the meeting is at paragraph 3.

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REFERENCES

-   State Letter AN 7/1.3.104-15/31

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1.   INTRODUCTION

1.1   The ICAO Air Navigation Commission, at the Sixth meeting of its 198th Session held on 3 March 2015, considered proposals developed by the Secretariat with the assistance of the Communications Panel to amend the Standards and Recommended Practices (SARPs) in Annex 10 — Aeronautical Telecommunications, Volume II — Communication Procedures including those with PANS Status and authorized their transmission to Contracting States and appropriate international organizations for comments.

2.   DISCUSSION

2.1   The Proposals for Amendment of Annex 10, Volume II relating to the Aeronautical Fixed Telecommunication Network (AFTN), contain new provisions which address limitations to the current AFTN system in terms of message line length, overall message length and the limited character set.

2.2   ICAO issued SL AN 7/1.3.104-15/31 dated 24 April 2015, at **Appendix A**, highlighting the proposal being issues as consequential to new operational requirements called for in: Amendment 76 to Annex 3, Amendment 37 to Annex 15, Amendment 1 to the *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444) and the proposed Amendment 77 to Annex 3.

2.3   ICAO requested that any comments on the Amendment Proposal to be made not later than 24 July 2015, and applicability on 10 November 2016.

2.4   The ICAO MID Regional Office was informed by the EUR/NAT Office, about the migration of SITA AFTN connectivity to AMHS and the introduction of the AMHS PRMD SITA on the Aeronautical Fixed Service (AFS), and the agreement by the EANPG Aeronautical Fixed Service Group - Operations Group (EANPG AFSG/OG) that the introduction of the SITA PRMD and related routings will be coordinated out by the ATS Messaging Management Centre (AMC).

2.5   In order to ensure that such a Global activity has the correct level of engagement, Regional coordination will be required. Accordingly, each State/COM Centre is affected and shall take actions, regardless of whether the COM Centre currently supports an AFTN to SITA connection. Every COM Centre will be required to route SITA AMHS messages to their Regional SITA AMHS gateway and validate the User Addresses in the AMC for their State.

3.   ACTION BY THE MEETING

3.1   The meeting is invited to :

   a. take actions as appropriate (develop plan etc.) for assisting MID States that cannot meet the proposed amendment date;

   b. urge COM Centres route SITA AMHS messages to their Regional SITA AMHS gateway; and

   c. task MIDAMC to follow-up the SITA Migration activity and provide report by June 2016.

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Tel.:   +1 514-954-8219 ext. 6710

Ref.:   AN 7/1.3.104-15/31   24 April 2015

Subject: Proposals for the amendment of Annex 10,
Volume II relating to the aeronautical fixed
telecommunication network (AFTN) and
new message types

Action required: Comments to reach Montréal
by 24 July 2015

Sir/Madam,

1.   I have the honour to inform you that the Air Navigation Commission, at the sixth meeting
of its 198th Session held on 3 March 2015, considered proposals developed by the Secretariat with the
assistance of the Communications Panel to amend the Standards and Recommended Practices (SARPs) in
Annex 10 — *Aeronautical Telecommunications*, Volume II — *Communication Procedures including
those with PANS Status* and authorized their transmission to Contracting States and appropriate
international organizations for comments.

2.   The amendment proposals to Annex 10, Volume II contain new provisions which address
limitations to the current aeronautical fixed telecommunication network (AFTN) system in terms of
message line length, overall message length and the limited character set.

3.   This proposal was consequential to new operational requirements called for in:

a) Amendment 76 to Annex 3 — *Meteorological Service for International Air
    Navigation* allowing use of extensible markup language (XML) for operational
    meteorological (OPMET) messages on bilateral basis;

b) Amendment 37 to Annex 15 — *Aeronautical Information Services* to allow use of
    XML for aeronautical information management (AIM);

c) Amendment 1 to the *Procedures for Air Navigation Services — Air Traffic
    Management* (PANS-ATM, Doc 4444) supporting filed flight plan (FPL) 2012; and

d) the proposed Amendment 77 to Annex 3 requiring the use of XML for OPMET for all States as a Recommended Practice from 2016 and the expected Amendment 78 to Annex 3 requiring the use of XML for OPMET for all States as a Standard from 2018.

4.   The Communications Panel developed the amendment proposals based on paragraphs 3 a) to c) above. As a result of paragraph 3 d), the Secretariat amended the original proposals to ensure that the proposals would be consistent with Amendment 77 to Annex 3.

5.   In addition to the above, changes have been made to ensure consistency between Annex 10, Volume II and other ICAO documents. Specifically, references to the *Manual of Technical Provisions for the Aeronautical Telecommunication Network (ATN)* (Doc 9705) have been replaced with references to its successor, the *Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols* (Doc 9880). In addition to this, references to the Common ICAO Data Interchange Network/ATS Message Handling Service (CIDIN/AMHS) Gateways have been deleted.

6.   The proposed amendment to Annex 10, Volume II is contained in Attachment A. A rationale box providing more information has been included immediately following each proposal.

7.   In examining the proposed amendment, you should not feel obliged to comment on editorial aspects as such matters will be addressed by the Air Navigation Commission during its final review of the draft amendment.

8.   May I request that any comments you wish to make on the amendment proposal be dispatched to reach me not later than 24 July 2015. The Air Navigation Commission has asked me to specifically indicate that comments received after the due date may not be considered by the Commission and the Council. In this connection, should you anticipate a delay in the transmission of your reply, please let me know in advance of the due date.

9.   For your information, the proposed amendment to Annex 10, Volume II is envisaged for applicability on 10 November 2016. Any comments you may have thereon would be appreciated.

10.   The subsequent work of the Air Navigation Commission and the Council would be greatly facilitated by specific statements on the acceptability or otherwise of the proposals. Please note that for the review of your comments by the Air Navigation Commission and the Council, replies are normally classified as "agreement with or without comments", "disagreement with or without comments" or "no indication of position". If in your reply the expressions "no objections" or "no comments" are used, they will be taken to mean "agreement without comment" and "no indication of position", respectively. In order to facilitate proper classification of your response, a form has been included in Attachment B which may be completed and returned together with your comments, if any, on the proposals in Attachment A.

       Accept, Sir/Madam, the assurances of my highest consideration.

Raymond Benjamin
Secretary General

Enclosures:
    A – Proposed amendment to Annex 10, Volume II
    B – Response form

PROPOSED AMENDMENT TO ANNEX 10, VOLUME II

NOTES ON THE PRESENTATION OF THE PROPOSED AMENDMENT

The text of the amendment is arranged to show deleted text with a line through it and new text highlighted with grey shading, as shown below:

~~Text to be deleted is shown with a line through it~~.	text to be deleted
New text to be inserted is highlighted with grey shading.	new text to be inserted
~~Text to be deleted is shown with a line through it~~ followed by the replacement text which is highlighted with grey shading.	new text to replace existing text

**INTERNATIONAL STANDARDS
AND RECOMMENDED PRACTICES**

AERONAUTICAL TELECOMMUNICATIONS

**ANNEX 10
TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION**

**VOLUME II
(COMMUNICATION PROCEDURES INCLUDING THOSE WITH PANS STATUS)**

INITIAL PROPOSAL 1

CHAPTER 4.   AERONAUTICAL FIXED SERVICE (AFS)

…

4.4.15 Message format – International
Alphabet No. 5 (IA-5)

…

4.4.15.3.11   When messages are transmitted only on low-speed circuits, Tthe text of messages entered by the AFTN origin station shall not exceed 1800 characters in length. AFTN messages exceeding 1800 characters shall be entered by the AFTN origin station in the form of separate messages. ~~Guidance material for forming separate messages from a single long message is given in Attachment C to Volume II. When messages or data are transmitted only on medium or high speed circuits the text may be increased to a length that exceeds 1800 characters as long as performance characteristics of the network or link are not diminished and subject to agreement between the Administrations concerned.~~

Note 1.— Low-speed circuits operate at 300 bits per second or less.

Note 2.— Guidance material for forming separate messages from a single long message is given in Attachment C to Volume II.

Note 3.— The character count includes all printing and non-printing characters in the message from, but not including, the start-of-text signal to, but not including, the first alignment function of the ending.

4.4.15.3.11.1   **Recommendation.—** *Medium- or high-speed circuits should accommodate text lengths in excess of 1 800 characters without diminishing the performance characteristics of the network or link.*

Note.— Medium-speed circuits operate at speeds in excess of 300 bits per second.

…

4.4.15.3.12.1.3 When messages are transmitted only on low-speed circuits, ~~M~~messages entered by the AFTN origin station shall not exceed 2 100 characters in length.

Note 1.— Low-speed circuits operate at 300 bits per second or less.

Note 2.— The character count includes all printing and non-printing characters in the message from and including the start-of-heading character (SOH) to and including the end-of-text character.

4.4.15.3.12.1.4 **Recommendation.—** *Medium- or high-speed circuits should accommodate message lengths in excess of 2 100 characters due to the increase in text length as provided in 4.4.15.3.11.*

Note.— Medium-speed circuits operate at speeds in excess of 300 bits per second.

4.4.15.4 Except as provided in 4.4.15.5 to 4.4.15.6 and 4.4.16, the procedures of 4.4.8 and 4.4.9 to 4.4.13 shall be used for messages using IA-5 code.

Note.— When message texts do not require conversion to the ITA-2 code and format, a single line may contain more than a total of 69 characters and/or spaces.

Origin:	*Rationale*:
Communications Panel with amendments by the Secretariat	The amendments given above increase the allowable message size to accommodate the new flight plan format and the use of XML.

INITIAL PROPOSAL 2

…

4.6 ATS Message Handling
Services (ATSMHS)

The ATS message service of the ATS (air traffic services) message handling service (ATSMHS) application shall be used to exchange ATS messages between users over the aeronautical telecommunication network (ATN) internet.

Note 1.— The ATS message service comprised in the ATS message handling service application aims at providing generic message services over the ATN internet communication service (ICS). It may, in turn, be used as a communication system by user-applications communicating over the ATN. This may be achieved, for example, by means of application programme interfaces to the ATS message service.

Note 2.— The detailed specification of the ATS message handling service application is included in the Manual ~~of~~on Detailed Technical ~~Provisions~~ Specifications *for the Aeronautical Telecommunication Network (ATN)* using ISO/OSI Standards and Protocols ~~*(Doc 9705), Sub-volume III.*~~*(Doc 9880), Part II.*

Note 3.— The ATS message service is provided by the implementation over the ATN internet communication service of the message handling systems specified in ISO/IEC (International Organization for Standardization/International Electrotechnical Commission) 10021 and ITU-T (International Telecommunication Union — Telecommunication Standardization Sector) X.400 and complemented by the additional requirements specified in the Manual ~~of~~on Detailed Technical ~~Provisions~~ Specifications *for the Aeronautical Telecommunication Network (ATN)* using ISO/OSI Standards and Protocols ~~*(Doc 9705)*~~*(Doc 9880), Part II. The two sets of documents, the ISO/IEC MOTIS (Message-Oriented Text Interchange System) International Standards and the ITU-T X.400 Series of Recommendations (1988 or later) are, in principle, aligned with each other. However, there are a small number of differences. In the above-mentioned document, reference is made to the relevant ISO International Standards and International Standardized Profiles (ISP), where applicable. Where necessary, e.g. for reasons of interworking or to point out differences, reference is also made to the relevant X.400 Recommendations.*

Note 4.— The following types of ATN end systems performing ATS message handling services are defined in the Manual ~~of~~on Detailed Technical ~~Provisions~~ Specifications *for the Aeronautical Telecommunication Network (ATN)* using ISO/OSI Standards and Protocols ~~*(Doc 9705), Sub-volume III*~~ *(Doc 9880), Part II.*

1) an ATS message server;

2) an ATS message user agent; and

3) an AFTN/AMHS gateway (aeronautical fixed telecommunication network/ATS message handling system)~~; and~~.

~~*4) a CIDIN/AMHS gateway (common ICAO data interchange network/ATS message handling system).*~~

Connections may be established over the internet communications service between any pair constituted of these ATN end systems (see Table 4-1).

Table 4-1. Communications between ATN end systems implementing ATS message handling services

ATN End System 1	ATN End System 2
ATS Message Server	ATS Message Server
ATS Message Server	AFTN/AMHS Gateway
~~ATS Message Server~~	~~CIDIN/AMHS Gateway~~
ATS Message Server	ATS Message User Agent
AFTN/AMHS Gateway	AFTN/AMHS Gateway
~~CIDIN/AMHS Gateway~~	~~CIDIN/AMHS Gateway~~
~~CIDIN/AMHS Gateway~~	~~AFTN/AMHS Gateway~~

4.7 Inter-Centre Communications (ICC)

The inter-centre communications (ICC) applications set shall be used to exchange ATS messages between air traffic service users over the ATN internet.

Note 1.— The ICC applications set enables the exchange of information in support of the following operational services:

a) *flight notification;*

b) *flight coordination;*

c) *transfer of control and communications;*

d) *flight planning;*

e) *airspace management; and*

f) *air traffic flow management.*

Note 2.— The first of the applications developed for the ICC set is the ATS interfacility data communications (AIDC).

Note 3.— The AIDC application exchanges information between ATS units (ATSUs) for support of critical aircraft control (ATC) functions such as notification of flights approaching a flight information region (FIR) boundary, coordination of boundary conditions and transfer of control and communications authority.

Note 4.— The detailed specification of the AIDC application is included in the Manual of Technical Provisions for the Aeronautical Telecommunication Network (ATN) *(Doc 9705), Sub-volume III.*

Note 5.— The AIDC application is strictly an ATC application for exchanging tactical control information between ATS units. It does not support the exchange of information with other offices or facilities.

Note 6.— The AIDC application supports the following operational services:

a) *flight notification;*

b) *flight coordination;*

c) *transfer of executive control;*

d) *transfer of communications; and*

e) *transfer of general information (flight-related data or free text messages, i.e. unstructured).*

Origin:	Rationale:
Communications Panel	The above updates the document references to make them current. Specifically, Document 9705 has been replaced by Document 9880; Document 9880 does not make reference to CIDIN/AMHS Gateways as these are only regional implementations and are not covered by ICAO SARPs and details on AIDC are considered redundant as this information is given in other ICAO documents.

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**RESPONSE FORM TO BE COMPLETED AND RETURNED TO ICAO TOGETHER
WITH ANY COMMENTS YOU MAY HAVE ON THE PROPOSED AMENDMENTS**

To: The Secretary General
        International Civil Aviation Organization
        999 Robert-Bourassa Boulevard
        Montréal, Quebec
        Canada, H3C 5H7

(State) _____

Please make a checkmark (✓) against one option for each amendment. If you choose options "agreement
with comments" or "disagreement with comments", **please provide your comments on separate sheets**.

	Agreement without comments	*Agreement with comments**	*Disagreement without comments*	*Disagreement with comments*	*No position*
Amendment to **Annex 10** — *Aeronautical* Telecommunications, Volume II — *Communication Procedures including those with PANS Status.* (Attachment A refers)					

*"Agreement with comments" indicates that your State or organization agrees with the intent and overall
thrust of the amendment proposal; the comments themselves may include, as necessary, your reservations
concerning certain parts of the proposal and/or offer an alternative proposal in this regard.

Signature: _____   Date: _____

— END —