



International Civil Aviation Organization

**Aeronautical Telecommunication Network
Implementation Coordination Group – Seventh
Working Group Meeting (ATNICG WG/7)**



29 December 2010, Bangkok, Thailand

Agenda Item: Review implementation status and activities

**REPORT ON THE OUTCOME OF WORKING GROUP M – MAINTENANCE OF
AERONAUTICAL COMMUNICATION PANEL MEETING**

(Presented by the Secretariat)

SUMMARY

Working Group M of Aeronautical Communication Panel met in Montreal, Canada from 16 to 18 November 2009 to discuss issues related to aeronautical communication. This paper presents a brief report on the outcomes of the meeting relevant for ground – ground and air – ground communication. Paper also lists some of the recommendations developed by the meeting

1. INTRODUCTION

1.1 Working Group “M” – Maintenance of Aeronautical Communications Panel (ACP) met for its 15th Meeting in Montreal, Canada from 16 to 18 November 2009. The meeting was chaired by Mr. Brent Phillips, Rapporteur of the group.

1.2 Eleven Working Papers and three Information Papers were presented to the meeting by the experts from France, Japan, Saudi Arabia, United Kingdom, United States and EUROCONTROL. These presentations covered subjects ranging from Aeronautical Fixed and Mobile Services to communication systems planned for future.

2. DISCUSSION

2.1 In addition to discussing items related to Air – Ground communications and Airport Surface Communications, the meeting also deliberated following items related to ground – ground communication.

- a) ATN/OSI Document 9880 update status
- b) ATN/IPS Status

ATN/OSI Document 9880 update status – AMHS and Directory Updates

2.2 USA presented Working Papers on Telecommunication Evolutions and AMHS Implementation Issues. Each paper raised a number of issues with respect to the implementation of AMHS. These typically resulted in the issuance of PDRs, which in some cases led to the issues of backward compatibility. After discussing the issues raised in the presentations and the procedures followed in the following up of these issues, the meeting decided to adopt following action item:

***Action Item:** Secretary to explore the possibility of using the Regional Offices to act as a conduit for information on implementation issues, thus allowing the Secretariat to then decide on the necessary action.*

2.3 It was decided that the Secretary should act as the recipient for the PDRs, prior to tabling them at a meeting. The secretariat will provide PDR format and act as the POC to regional offices, to convey the procedure for filing new PDRs.

Some other provisions were also proposed:

1. Where vendors raise PDRs that cover multiple regions, PDRs may be sent directly to ICAO HQ, however in such cases the affected ICAO Regional Offices, should also be sent a copy of the PDR.
2. Upon receipt of a PDR, the responsible person at ICAO HQ shall distribute these to the members of WG-M.

It may be added that the issue of handling of PDRs and amending the regional documents, where required was also taken up for discussion in the ATNICG WG/6 meeting.

2.4 Meeting also discussed issues related to “attached files” under extended AMHS. Meeting discussed the issue and decided to assess the requirement of attaching files through following action item:

***Action Item:** Secretary to coordinate with ICAO Regional Offices to explore the need to keep “attached files” file transfer body parts in AMHS extended services. If there is no need for such files, its reference to be deleted in Doc 9880.*

2.5 During the discussion on the subject of AIDC application over ATN, it was pointed out that OPLINK Panel will make a recommendation on the required message set. The participant from Saudi Arabia mentioned that AIDC in their state does not use AMHS due to high priority accorded to the transfer of control of aircraft between FIRs. It was decided to keep the option of ATN/AIDC open in Doc 9880 pending outcome of discussion between Asia – Pacific and European Region on the subject.

2.6 On the subject of Directory Services, it was agreed that these shall be specified in Doc 9880. The discussion then dealt with the choice of protocol to support DR. It was agreed that given the implementation lead-time for DR, IPv6 was the preferred choice. However interim implementations could select network protocols based on existing infrastructure and agreements. To reflect this agreement, the secretary assured to take an action to amend Doc 9880:

Action Item: Secretary to amend Doc 9880 to reflect the near and far term implementation of Directory Services.

On the subject of AMC, it was agreed that some guidance can be provided in Doc 9880 in the same section which deals with the material on DR – Part 2(b)

Action Item: Secretary to provide guidance material on the use of the AMC in Part 2 (b) of Doc 9880.

Different network protocols and applications being implemented in different parts of the world have resulted in the creation of “informal” inter-regional connections that has not as yet been documented in ACP documentation. It was agreed that the ACP should develop a Transition Guidance Material document to address this issue. It was suggested that Regional – ANPs would be the correct vehicles for this. The secretary opted to take an action to explore this further. It was proposed that once this scheme is implemented a reference to Regional – ANP should appear in Doc 9880.

Action Item: Secretary to explore the use of Regional Air Navigation Plans to capture information related to inter-regional AMHS connections.

Regarding AMHS addressing schemes and the choice of XF vs. CAAS addressing schemes, the meeting **was made aware that conversion between the two schemes was not possible**. The meeting was also advised that guidance material on this subject for inclusion in Doc 9880 was under preparation. It was suggested that all AMHS MTA implementations must therefore support both addressing schemes

Ongoing Data Communication Program – FAA DATACOM

2.7 FAA Data Communications Program involves implementation of VDL Mode-2 over ATN in the US. The evolution of Data Communications in the operational environment will be based upon the incremental implementation of advanced communication capabilities. Data Communications represents the first phase of the transition from the current analog voice system to an ICAO compliant system in which digital communications become an alternative and eventually the predominant mode of communication.

On going Data Communication Programs – EUROCONTROL Link 2000+

2.8 The regulatory context to the data communication is defined by EC Single European Sky Implementing Rule 29/2009 on Data Link Services and the EASA provision for Airworthiness and OPS approval. It was informed that A380 comes standard equipped with FANS/A+ and from 2014 there will be an option to have it delivered with the dual stack FANS A/B product. From a regulatory aspect this means that all A380s delivered from now and until 2014 will be exempt for the lifetime of the airframe since they have FANS on board. Airframes delivered from 2014 onwards must be equipped with ATN/VDL 2 (FANS/B)

Status of on-going data communication programs – surface wireless communications (FAA)

2.9 Newly assigned title to this system is Aeronautical Mobile Airport Communications System (AeroMACS), which will use C-Band system based on the existing IEEE 802.16e standard. A decision taken in the 2007 World Radiocommunication Conference has enabled the operation of AMRS services in the 5 091 – 5 150 MHz band. This decision now enables ICAO to develop international standards for airport mobile surface wireless communications. FAA is moving forward

under a research and development project which is supported under the NextGen Implementation Plan. UK rep was of the view that this allocation should only support aircraft applications because of the reference to “mobile” applications. Current interpretation in the US would allow this system to support fixed applications supporting safety and regularity of flight information.

ATN/IPS Status – IPS Implementation Activities

2.10 The Pan-European Network Service (PENS), a managed internet protocol (IP) based regional communications backbone service over IP was launched on 28 October 2009. EUROCONTROL signed a contract with SITA for service provision over five years with potential expansion. PENS will support current needs for inter-ANSP information exchange, the future needs of System Wide Information Management (SWIM) initiative as defined by SESAR and ANSPs migration from X.25 to IP in order to comply with the Single European Sky regulation (FMTP implementing rule). PENS will also replace the individual IP network services that have been used for services in EUROCONTROL’s Central Flow Management Unit (CFMU) and the European Aeronautical Information Service Database (EAD). The contract is managed by EUROCONTROL and the project is overseen by a board containing representatives from participating ANSPs. EUROCONTROL will host the PENS Management Unit, which will take care of the day-to-day management of the service and pay costs for the first two years. After this period, PENS users will pay for their own management services.

2.11 ATN/IPS is considered under the following SESAR work packages: Project 15.2.10 – Terrestrial communication infrastructure – SWIM backbone and Project 15.2.6: Future Mobile Satellite Communication as an input into the definition of their project initiation reports. PENS applications integrate CFMU, EAD, EMTP initially followed by RADAR data multicast and voice communications in a latter stage and future SWIM applications as required by SESAR. The backbone will be provided over IPv6 in line with the ATN/IPS. No VSAT links are part of PENS.

2.12 Honeywell presented “ATN/OSI Security Validation Activity”, which described the plan and approach for validating ATN/OSI security requirements transferred from Doc 9705 Edition 3 Sub-Volume VIII to Doc 9880 Part IV-B. ATN/OSI security validation activity is being performed by Aerospace Advanced Technology organization of Honeywell International under contract from FAA and in support of FAA DataComm Program Office. Honeywell plans to perform the validation using its Secure ACARS implementation, which is compliant with ARINC Specification 823 based on ATN/OSI Security provisions specified in Sub-Volume VIII of ICAO Doc 9705, Edition 3 and includes security enhancements recommended for incorporation into Doc 9880 Part IV-B.

2.13 Meeting agreed to hold the next meeting from 17 to 19 May 2010. The meeting would be followed by the next (and possibly final) meeting of WG-I. The venue of the meeting is yet to be decided.

3. ACTION RECOMMENDED

3.1 The meeting is invited to note the outcomes of the ACP WG-M meeting, particularly the Action Items concerning raising of PDRs.
