



International Civil Aviation Organization

**SIXTEENTH MEETING OF THE
COMMUNICATIONS/NAVIGATION/SURVEILLANCE AND
METEOROLOGY SUB-GROUP OF APANPIRG (CNS/MET SG/16)**

Bangkok, Thailand, 23 – 27 July 2012

Agenda Item 3: Aeronautical Fixed Service (AFS)

3) discuss AIDC ICD other AFS related issues

COM CO-ORDINATION MEETINGS

(Presented by the Secretariat)

SUMMARY

This paper presents the outcome of COM coordination meetings held in Shanghai, China from 18 to 20 October 2011 and from 20 to 22 held in Karachi Pakistan. The meeting developed several action items for AFS improvements by States concerned. The importance of AIDC implementation was also highlighted.

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-22 Communication network infrastructure

1. Introduction

1.1 A COM Coordination Meeting attended by China, Mongolia and the Russian Federation was held in Shanghai, China from 18 to 20 October 2011. The meeting, hosted by the Air Traffic Management Bureau, CAAC was attended by 18 participants from three administrations.

1.2 Another COM Coordination Meeting between Afghanistan and Pakistan, hosted by Pakistan Civil Aviation Authority (PCAA) was held in Karachi, Pakistan from 20 to 22 June 2012. 13 participants attended the meeting.

1.3 The objectives of the meetings were to review status of implementation of the required Aeronautical Fixed Service including AFTN/ATS direct speech circuits and to develop coordinated Action Plans for implementing and improving the performance of some concerned circuits to satisfy the established operational requirements.

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2. Discussions**Outcome of Shanghai COM Coordination meeting****2.1 Review of AFS requirements**

2.2.1 The meeting noted that the requirement for AFS circuit performance should achieve and maintain 97% or higher circuit reliability. The meeting also noted the following two categories of performance requirements are specified in the planning table for ATS direct speech circuits:

Type A - indicates ATS requirement for the establishment of voice communication within 15 seconds.

Type D - indicates requirements for instantaneous communications.

2.2.2 The meeting also noted the role and importance of AIDC for ATS coordination identified by the regional air navigation planning bodies. Introduction of AIDC between ATS facilities would significantly reduce the coordination errors observed in controller to controller verbal communication across FIR boundaries. States were urged to work together towards implementation of compatible AIDC capabilities between neighboring ATS facilities as early as possible.

2.2.3 The meeting further noted that target date for implementation of AIDC between Fukuoka and Taipei is 2012 as specified in the planning Table CNS 1E. Noting the requirement for direct speech circuit between Shanghai and Fukuoka ACCs, China considered essential to implement AIDC between two ACCs and the requirement needs to be established through further coordination between Administrations concerned.

2.2.4 The meeting encouraged China and Mongolia to review the operational requirement for establishment of AIDC circuit between Beijing and Ulaanbaatar ACCs.

2.2.5 The meeting discussed the requirements and related issues for AFTN routing directory changes which resulted from closure the inter-regional AFTN circuit between Khabarovsk and Fukuoka on 7 April 2011.

2.2.6 The meeting recalled that at the fifth meeting of Aeronautical Telecommunication Network Implementation Coordination Group (ATNICG/5) in June 2010, Japan presented a proposal for AFTN Routing Change between Japan and Russia in view of the developments that had taken place. It was agreed that ICAO Regional Office should coordinate with Europe Region for updating the AFTN routing directory. A proposal for the closure of the circuit between Fukuoka and Khabarovsk after implementation and satisfactory operation of the 64 kbps land line AFTN circuit between Fukuoka and Moscow was noted by the CNS/MET Sub-group/14 meeting. APANPIRG/21 meeting adopted Conclusion 21/25 asking ICAO regional office to coordinate with the concerned.

2.3 Noting that performance and reliability of the Khabarovsk/Beijing VSAT link require improvement and/or upgrading, Russian Federation proposed to establish a 64 Kbps landline data circuit to support both data traffic and ATS voice communication requirements. It was recommended to use 9.6 Kbps sub-channel for the AFTN Messages which is considered good enough to accommodate the data traffic between Khabarovsk and Beijing as well as for alternate traffic in case of failure of the Moscow and Fukuoka circuit.

2.4 A proposal from by China highlighted the requirement for the alternate AFTN routing and related proposal for technical solution. The paper reviewed the current status and performance of relevant AFTN circuits. The paper also discussed the necessary conditions for the proposed alternate routing arrangements as follows:

- to upgrade signal speed for the VSAT TES link between Beijing and Khabarovsk from 2400 bps to 64 Kbps
- to establish a new landline circuit between China and Russia to improve the performance reliability;
- to employ synchronous link control with X.25 communication protocol for the new Beijing/Khabarovsk circuit; and
- SVC (Selective Virtual Circuit) would be established for Khabarovsk/Beijing AFTN messages transmission

2.5 The meeting discussed both proposals made by China and Russian Federation as mentioned above and formulated following action plan.

**ACTION AGREED NO. 1 – MID TERM, CHINA AND RUSSIAN
FEDERATION**

That, to improve the performance of AFS data circuit, China and Russian Federation agreed to establish a LDD/d landline circuit between Beijing and Khabarovsk by the end of September 2012 and take following actions:

- nominated focal contact points (POC) for the establishment of the circuit which is provided in **Appendix B** to this Report;
- initiate discussions on technical specifications, communication protocol (including determination on transmission mode used for AFTN circuit either Asynchronous (preferred by Russia) and Synchronous mode (preferred by China), make and model of multiplex and routers to be employed etc. through exchange of e-mails;
- sign LOA on establishment of the circuit including testing procedure for planning purpose and implementation requirement;
- take phased approach to implement ATS direct speech circuits between ATS units of two countries over the landline circuit; and
- Keep VSAT link as backup and coordinate for upgrading to 64 Kbps.

2.6 The meeting also agreed that as temporary arrangement, alternate routing for AFTN traffic on the Moscow/Fukuoka circuit will be via Beijing/Khabarovsk circuit or Beijing/Ulaanbaatar/Irkutsk circuit subject to upgrading of the signalling speed and code currently used between Ulaanbaatar/Irkutsk in January 2012.

**ATS Direct Speech Circuits and AFTN between China and Japan including
alternate arrangement**

2.7 China made a presentation on the critical requirement for the ATS direct speech circuit between Shanghai and Fukuoka. It was informed that there were 13 cases of interruptions were reported since 2009, duration of 6 occurrences were more than one hour. These interruptions seriously impacted air traffic separation between Fukuoka and Shanghai ACCs.

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2.8 The meeting discussed the issue and potential reason for the interruption. Considering encouragement and guidelines developed by APANPIRG on implementation of AIDC, China was requested to coordinate with Japan for establishment AIDC between Fukuoka and Shanghai. As result of discussion the meeting developed following action item:

ACTION AGREED NO. 2 - LONG TERM, CHINA AND JAPAN

That, China coordinate with Japan for implementation of AIDC between Shanghai and Fukuoka ACCs with a target date of implementation in 2013. Japan be requested to consider using IDD hotline for backup means by integrating it with VCCS associated with ATM Automation system.

2.9 The meeting also developed following action item on AMHS implementation between Beijing and Ulaanbaatar.

ACTION AGREED NO. 3 – MID TERM, CHINA AND MOGOLIA

That, China and Mongolia coordinate for implementation of AMHS between Beijing and Ulaanbaatar with a target date of implementation in October 2012. Two administrations will determine type of ATN Router to be used and commence technical trial by June 2012.

Outcome of Karachi COM Coordination meeting

2.10 The meeting reviewed the AFS communication requirements between Afghanistan and Pakistan and current circuit performance and operational status. The meeting noted that the VSAT communications links supporting direct AFS communication between two States had been out of service since 31 August 2011 which resulted in an air navigation deficiency and became an issue of concerns in the Asia/Pacific Region.

2.11 The meeting recognized that the AFS communication is vital for the normal operation of air traffic to/from Afghanistan. Karachi-Kabul AFTN Circuit plays very important role for flight information exchange.

2.12 As result of discussions, the meeting developed an action plan as follows:

Action Item 1: Near-Term: VPN Solution - Afghanistan and Pakistan

That, Afghanistan and Pakistan fully utilize the VPN circuit put into operation since January 2012 for exchange of FPL and operational ATS Messages. The basic procedure of message acknowledgement and channel checks should be followed. Necessary training to the operators at Kabul side is required. In order to monitor the daily operation of the circuit and/or to develop alternate VPN solutions, a list of contact points at different level was developed during the meeting and provided in Appendix D to this report.

**Action Item 2: Mid-Term: Restoration of VSAT Communications –
Afghanistan and Pakistan**

That, Afghanistan and Pakistan work with relevant service providers to harmonize VSAT terminal equipment to be used and identify common network service provider for the Satellite Radio Spectrum with target date of circuits restoration by March 2013.

**Action Item 3: Long-Term: Dedicated landline cable connection between
COM centres and ACCs - Afghanistan and Pakistan**

That, Afghanistan and Pakistan establish dedicated 2 MB landline cable circuit between two States to support both data communication and speech circuits' requirements with multiplexers with target date of implementation by June 2014. The VSAT circuits will be used as backup once the landline circuits are established.

3. Action by the meeting

3.1 The meeting is invited to note the information provided in this paper and provide updates on the follow-up actions taken by States.
