



International Civil Aviation Organization

**The Second Meeting of the APANPIRG ATM Sub-Group
(ATM /SG/2)**

Hong Kong, China, 04-08 August 2014

Agenda Item 4: ATM Systems (Modernisation, Seamless ATM, CNS, ATFM)

STATUS OF AIDC IMPLEMENTATION

(Presented by India)

SUMMARY

This paper summarizes the present status of AIDC implementation in India and between India and willing adjacent ATSUs in the Region and calls for the States involved to plan activities in a coordinated manner to achieve harmonized and early ATS Inter-facility Data-link Communications (AIDC) implementation in the region.

1. INTRODUCTION

1.1 ICAO had recognized ATS Inter-facility Data Communications (AIDC) as an effective tool to reduce manual intervention and ground-ground coordination errors between adjacent ATS Units.

1.2 India had successfully implemented AIDC among suitably equipped ATC Centres in India and tested AIDC successfully with willing adjacent ATS Units of its neighbouring States in the region.

2. DISCUSSION

2.1 India had installed state-of-the art automation systems at most of its ATS Centres. The systems were using APAC AIDC ICD version 3 for AIDC implementation. Presently, automation systems in use by India were:

- Raytheon AutoTrac3 ATS Automation system at Mumbai and Delhi;
- Raytheon AutoTrac3 + ATS Automation system at Chennai;
- Selex ATS Automation system at Bangalore and Hyderabad; and
- Indra AIRCON 2100 ATS Automation systems at 38 other ATC Centres including major ATC Centres like Trivandrum, Guwahati, Ahmadabad, Nagpur, Varanasi, Mangalore, Cochin and Amritsar airports.

2.2 Extensive trials were being carried out between various automation systems with considerable success. Many of the ATC Centres were already exchanging AIDC messages. During trials, several interoperability and operational issues were encountered between different ATS Automation Systems, which had mostly been resolved. Some of the pending operational and technical issues were being examined and would be resolved shortly.

2.3 The information exchanges in support of critical ATC functions within Automated ATS systems were being achieved via AFTN/AMHS networks. The trials had established that the existing AFTN/AMHS facilities in India were capable of handling/relaying AIDC messages.

2.4 Some of the communication links may require augmentation in terms of speed/additional circuit to cater for increased data load due to AIDC messages.

2.5 India was one of the countries having boundaries with adjacent ATSUs of MID and AFI Region states. India had plans to establish AIDC with adjacent ATS units of different States (Bangladesh, Myanmar, Pakistan, Nepal, Seychelles, Malaysia, Indonesia, Sri Lanka, Kenya, Oman and Maldives) and trials were being conducted between Chennai and Kuala Lumpur, as well as between Ahmadabad and Karachi towards an early and successful AIDC implementation in the region.

2.6 As has emerged during BOBASIO meetings and consistent with ICAO guidelines for implementing AIDC between adjacent States, AIDC functionality testing between Chennai and Kuala Lumpur had been taken up by both States. During initial testing, it was observed that ABI messages sent from Chennai were rejected by Kuala Lumpur system, citing CRC errors. Chennai ATCC after detailed analysis determined that the rejection was due to incorrect calculation of 'checksum' by the Kuala Lumpur system. The Kuala Lumpur Automation system was replacing the alignment characters with space characters prior to CRC calculation leading to discrepancy in the CRC checksum. After sorting out the CRC errors by Kuala Lumpur, the AIDC testing between both the countries has been successful. Both the States were working together to operationalize AIDC at the earliest, soon after addressing a few minor issues.

2.7 AIDC trial operations between Ahmedabad and Karachi commenced from 05 June 2014. During the initial phase of testing, it was observed that messages were rejected due to route errors and mismatch in the coordination timing. Coordination protocol dialogue time out was observed. After synchronizing Karachi AMSS/AFTN system time with India's AMSS/ AFTN system time, the AIDC messages could be successfully exchanged between the two systems. Further trials of AIDC for limited hours were in progress between Karachi and Ahmedabad.

2.8 The successful conduct of above trials clearly justifies the need for close bilateral cooperation between the concerned States for expeditious and successful implementation of AIDC.

2.9 Compatibility with existing Automation system using OLDI, replacement of OLDI with PAN Regional ICD or co-existence of OLDI and AIDC applications are key issues that may be addressed in some of the Regions for harmonized AIDC implementation.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) take cognisance of the coordination effected by India with adjacent International ATSUs to effectively resolve AIDC implementation issues, for similar action by other States;
- c) urge States to share their plan and coordinate with concerned States for an expeditious AIDC implementation in a time bound manner; and
- d) discuss any relevant matters as appropriate.

.....