

REPORT OF SAIOCG SMALL WORKING GROUP - COMMUNICATIONS

1. INTRODUCTION

SWG - Communications Report

1.1 The SAIOCG Small Working Group – Communications (SWG – Comms) was led by Mr. Indra Gunawan of DGCA Indonesia and supported by the ICAO Regional Office Secretariat. The group was established to examine communications capabilities and plans impacting upon seamless ATM implementation among SAIOCG participant States and therefore the wider South Asia – Indian Ocean area. The objectives were to determine current CNS/ATM System communications capability and gaps, implementation plans and impediments to successful implementation, and to make recommendations for improvement, in the following communications fields:

- a) VHF Air-Ground
- b) HF-Air-Ground
- c) CPDLC
- d) AIDC
- e) AFTN/ATN
- f) Ground – ground coordination facilities

1.2 The SWG - Comms consisted of representatives from 7 States and one industry organization (Boeing Company).

1.3 The SWG meeting was very productive due to the cooperation of representatives present in discussions on this subject. The information provided showed that the States were trying to give accurate status information on communications facilities and plans for their enhancement. It was understood by the participants that attaining the goal of a seamless ATM required the identification of service ‘gaps’ on communications such as Controller Pilot Data-link Communications (CPDLC), Very High Frequency (VHF) communications and AIDC as well as the coordination facilities and procedures with adjacent states.

1.4 Some of the States involved in SAIOCG/2 were unable to attend the SWG - Comms meeting due the lack of sufficient representatives. Some updated information was provided after the SWG - Comms meeting.

1.5 This report summarizes the information provided so far, which is recorded in the spreadsheet at Appendix 3B to SAIOCG/3 and SEACG/20 Working Paper 03.

1.6 The data elements in the spreadsheet at Appendix 3B were initially determined at SAIOCG/2, and then further refined by the SWG Lead and ICAO Secretariat.

1.7 Several States are participants in both SAIOCG and SEACG, and therefore feature in the SWG – Communications reports of both groups.

2. DISCUSSION

2.1 At SAIOCG/2 the SWG - Comms participants provided information that was known or available to them, but due to the number and type of communications facilities and installations and the differing nature of traffic in particular States' FIRs, not all representatives were able to give full, detailed information regarding communications facilities. Some further information was provided via electronic communications, but more detail is needed to develop full information on the current status, planning for enhancement and barriers to implementation. This will permit SWG – Comm participants to make more sound recommendations for solutions to support SAIOACG implementation of seamless ATM.

VHF Air-Ground

2.2 While some states provided clear information on gaps in coverage, further information is needed from other States. However, the information on VHF coverage supporting radar and ADS-B Surveillance gathered by the SWG – Surveillance provides some detail.

2.3 Recommendation:

That, recommendations for enhancement of VHF coverage, reliability and availability are determined by the requirement to provide direct controller – pilot voice communications to support of current and proposed Radar and ADS-B surveillance coverage, as proposed by SWG – Surveillance.

HF Air-Ground

2.4 Several States did not provide information on whether HF was in use, and no information was provided on any limitations, reliability or coverage issues.

2.5 Recommendation:

That, SAIOCG participants provide updated information on HF communications capability, including network identification (MWARA or RDARA), any frequency or equipment limitations, and reliability or coverage issues, including any limitation on HF availability to support application of ATC separation standards.

CPDLC

2.6 Several States indicated having CPDLC capability, but none have indicated whether that capability is integrated with the ATM Automation System air situation display, thus providing direct controller – pilot communications (DCPC) between the aircraft and the controller responsible for its separation. Without DCPC improved RNP separations outside radar or ADS-B surveillance and/or direct voice communications coverage cannot be achieved.

2.7 Recommendation:

That,

- i) SAIOCG participants provide information on the current status of CPDLC integration in ATM Automation Systems; and*
- ii) SAIOCG States ensure that CPDLC systems are integrated with ATM Systems to provide DCPC at the ATC workstation controlling the aircraft concerned.*

AIDC

2.8 The SWG – Comms meeting noted that the parallel SWG of SEACG/19 had revealed a significant number of SEACG administrations were either not planning to use ATS Inter-facility Data-link Communications (AIDC) or did not have this capability planned in the near future. This was in spite of the previous APANPIRG Conclusion urging States to implement AIDC due to its effectiveness in reducing human transfer errors.

2.9 Only very limited implementation of AIDC has also occurred among SAIOCG States. Current operational implementation is limited to internal messaging between the FIRs of only one State. Trials were planned by two other States. Technical limiting factors reported include ATM automation system capability and configuration, AIDC version compatibility¹ and AFTN/ATN reliability.

2.10 No information was provided on the selection of AIDC messages included in either operational or trial implementations.

2.11 Recommendation:

That,

- i) States without AIDC-capable ATM systems continue or resume their efforts to replace and upgrade their ATM Systems accordingly;*
- ii) All AIDC capable States engage as soon as possible in AIDC trials to develop knowledge, and to identify and address any related ATM or Communications System issues, and plan inter-State operational AIDC messaging as a matter of priority in support of improved safety and seamless ATM; and*
- iii) SAIOCG, in cooperation with SEACG, formulates a minimum list of AIDC message types to be included in ATM plans.*

AFTN/ATN

2.12 Three States indicated AMHS systems implementation, two of them under trial. Further information is needed on current fixed communications status and plans to determine States' capability to support safety and capacity improvements, particularly AIDC messaging.

Ground – Ground Communications

2.13 Most SAIOCG participant States reported having direct speech communications links with all neighbouring FIRs, in most cases supported by telephone facilities as a back-up. Two States reported only limited direct speech facilities, with HF ground-ground circuits also used. One State reported only using HF for ground – ground communications.

¹ The first meeting of a EUR – Asia/PAC pan-Regional AIDC ICD Task Force was held in Paris in January 2013. The second meeting will be held in Bangkok in November 2013. The expected output of this Task Force is a standardized AIDC ICD for global use.

2.14 Recommendation:

That, States with limited or no direct speech coordination circuits prioritize their implementation to support safety and capacity improvements.

Barriers to Implementation

2.15 There was some discussion of barriers to implementation at the SWG - Comms meeting conducted during SAIOCG/2. General discussion was centered on budgetary constraints, limited project management resources, lack of exposure to modern ATM and CNS systems, and the difficulty involved in communicating to organizational management and executives at policy-making levels the urgency of the need for commitment to system improvement.

2.16 Other barriers identified included compatibility issues between neighbouring ATM/CNS systems, particularly in the version control of AIDC messaging, which is often implemented by ATM replacement or upgrade projects without consideration of version standardization between the systems of neighbouring States.

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