



International Civil Aviation Organization

**SPECIAL IMPLEMENTATION PROJECT (SIP) ON ATS
INTER-FACILITY DATA COMMUNICATION
IMPLEMENTATION SEMINAR**

Bangkok, Thailand, 12-13 October 2010

Agenda Item 3: Review version 3 of the Asia/Pacific ICD for AIDC

**REVIEW OF DEVELOPMENT OF ASIA/PACIFIC REGIONAL
INTERFACE CONTROL DOCUMENT FOR ATS INTER-FACILITY
DATA COMMUNICATION (AIDC)**

(Presented by the Secretariat)

SUMMARY

This paper recalls history of the ICD for AIDC development and highlights activities on the development of Pan-regional AIDC ICD.

1. INTRODUCTION

1.1 The meeting may wish to note the history of the APANPIRG AIDC Task Force and background information of Asia/Pacific Regional Interface Control Document for AIDC.

1.2 The Fifth Meeting of APANPIRG (APANPIRG/5) held in Bangkok from 24 to 28 October 1994 decided to establish an AIDC Task Force under the terms of its Decision 5/1. The AIDC Task Force was composed of technical and operational experts from Australia, Hong Kong, France, Japan, Malaysia, New Zealand, Pakistan, Singapore, Thailand, United States and IATA with Rapporteur from Australia. The Asia/Pacific Regional Interface Control Document (ICD) for ATS Inter-facility Data Communications (AIDC) Version 1.0 developed by the Task Force was issued in 1 June 1995.

1.3 APANPIRG/13 held in September 2002 noted that several States had attempted to use AIDC to implement automatic communication between ATC automation systems. Difficulties were experienced as adjacent FIRs had connected their systems together resulting in ad-hoc agreements. Several lessons have been learned and several deficiencies in the ICD for AIDC exposed. It was considered necessary that **the deficiencies and ambiguities in the existing document be corrected** so that States may implement new systems with consistency, confidence and certainty. The APANPIRG/13 meeting, therefore decided to reconvene the Task Force (Decision 13/9 refers) to re-examine and update the ASIA/PAC ICD for AIDC published in June 1995 so as to allow States implement their new systems with confidence and certainty and in a consistent and harmonized manner.

2. Discussion

2.1 The AIDC Review Task Force Meeting reconvened and was held in March 2003 in Brisbane, Australia. The regional ICD for AIDC updated by the meeting was adopted by APANPIRG/14 under its Conclusion 14/3 as Version 2 of the ICD.

2.2 The major changes made in 2003 for the ICD for AIDC including the following:

- Additional clarification of certain message types;
- Improved consistency of the terminology used in the document;
- Incorporation of recent changes proposed changes to PANS-ATM Doc 4444 and Doc 9694 regarding additional optional sub-fields in ICAO Field 14; and
- Proposed additional message types, namely the Application Status Monitor (ASM), the FANS Application Notification (FAN) and the FANS Completion Notification (FCN).

2.3 It was considered that the task assigned by APANPIRG/13 had been completed by the reconvened Task Force except for additional work required for FANS messages to be further discussed and finalized into the ICD for AIDC.

2.4 APANPIRG/17 meeting held in August 2006 considered a request raised by ISPACG/20 (January 2006) and supported by the ATM/AIS/SAR/SG/16 meeting to reconvene the Asia/Pacific AIDC Review Task Force for the purpose of completing an outstanding task within the current Asia/Pacific ICD for ATS Inter-facility Data Communications.

2.5 It had become evident that as States have commenced software enhancements in order to implement AIDC V2.0 functionality, several areas requiring either clarification or further work have been identified in the ICD for AIDC. Accordingly, APANPIRG/17 formulated the following Decision to reconvene the AIDC Review Task Force:

Decision 17/13 - Reconvening of the AIDC Task Force

That, the AIDC Task Force be reconvened for a single meeting to complete the outstanding task of defining the format of the FAN message and addressing other outstanding issues identified in the Asia/Pacific Regional Interface Control Document for ATS Inter-Facility Ground/Ground Data Communications Version 2.0.

2.6 In making the decision to reconvene the AIDC Task Force, APANPIRG/17 noted the following matters:

- a) lack of specific error messages in Appendix B, Table B-1 associated with V2.0 functionality (e.g. an invalid off-track deviation direction);
- b) the small possibility of differing interpretations of the required layout of some of the optional formats, despite the guidance provided by the message examples;
- c) the format of the FANS message needs to be finalized (it was left marked “to be determined”);
- d) it would be desirable to amend the FCN message currently defined in the ICD to provide even greater flexibility for the use of this message; and
- e) the need for the AIDC “ADS” message needs to be discussed.

2.7 The AIDC Task Force reconvened in 2007 developed an updated version of the Asia/Pacific ICD for AIDC - Version 3 which was adopted by the Eighteenth Meeting of APANPIRG in September 2007 under Conclusion 18/8.

2.8 The main outcomes of the AIDC/TF meeting in 2007 were as follows:

- a) exchanged experience gained and lessons learned in the implementation of AIDC;
- b) updated the Regional Office records on the status of regional implementation of AIDC;
- c) updated the Asia/Pacific ICD for AIDC (Version 3);
- d) endorsed a sample Template for bilateral letter of agreement on AIDC for inclusion in the AIDC ICD; and
- e) updated the draft FASID Table CNS 1E on AIDC and the AIDC related information in the CNS/ATM Implementation and Planning Matrix.

2.9 The major changes made in 2007 for the AIDC ICD including amendments to the definition and description of the following AIDC messages:

- ABI (Advance Boundary Information message);
- ADS (Surveillance ADS message);
- CDN (Coordination message);
- FAN (FANS Application message);
- FCN (FANS Completion Notification message) ;
- LRM (Logical Rejection message);
- MAC (Coordination Cancellation message); and
- TRU (Surveillance General message)

2.10 In addition to a number of general text amendments, the Task Force also discussed and adopted a variety of other amendments to the ICD document, including:

- the addition of extra error categories to the to the list of error codes at Appendix B;
- insertion of explanatory flight threads for FAN and FCM messages;
- clarification of Units of Measurement and Acronyms;
- clarifications to speed and flight level information; and
- clarifications to coordination and further route of flight

Develop Template for bilateral letter of agreement on AIDC

2.11 The AIDC Task Force recognized that at an organisational level, the implementation of AIDC to enable data transfers between automated ATM systems is accomplished under the authority and strict operational terms of a bilateral Letter of Agreement (LOA) or Memorandum of Understanding (MOU) on AIDC arrangements that must be established between the two ATSUs involved.

2.12 The AIDC Task Force meeting 2007 noted agreements between Auckland Oceanic and all neighbouring ACCs. These agreements had evolved through a number of iterations over the more than 10 years that Auckland Oceanic had been engaged in AIDC messaging activities and therefore incorporated the significant experience and many lessons learnt over this period. As a result, a generic LOA template derived from the Auckland Oceanic AIDC agreements with surrounding States and other two example AIDC agreements were agreed for inclusion as the Appendix G to the ICD for AIDC Version 3.

2.13 The latest ICD for AIDC including Appendix G can be accessed at the following ICAO APAC website: http://www.bangkok.icao.int/edocs/icd_aidc_ver3.pdf

2.14 With the completion of Version 3 of ICD for AIDC, outstanding matters with respect to ATN/AMHS Transition support as indicated in the section 3.2 of Part II of the AIDC ICD which need to be further addressed can be included in the work programme of the ATN Implementation Coordination Group and CNS/MET Sub-group of APANPIRG. In view of the foregoing, APANPIRG/18 meeting adopted Decision 18/9 dissolve the AIDC REVIEW Task Force.

Development of Pan-regional ICD for AIDC

2.15 Recognizing the benefits to be gained from globally harmonized interface arrangements for AIDC, APANPIRG/20 adopted a decision to support for global ICD for AFTN based AIDC. USA provided updates to ATM/AIS/SAR SG/20 meeting in July 2010 on the activities carried out for the development of the global document. With respect to the approval procedure of the document, it was informed that the same procedure undergone for approval of the *Global Operational Data Link Documents* (GOLD) would be also applicable for the Global ICD for AIDC. The document, however, was expected to be completed for consideration by APANPIRG in 2011.

2.16 The CNS/MET SG/14 meeting held in July 2010 noted that NAT SPG has agreed to the development of Pan-regional ICAO guidance material for oceanic AIDC ICD based on the current AIDC ICD (version 3) adopted by APANPIRG and the latest AIDC ICD used in the NAT Region. The NAT SPG further agreed that the task of harmonising the NAT and APAC AIDC ICDs should be advanced in accordance with the following principles:

- a) The United States should continue their effort by drafting a consolidated ICD with a thorough bi-directional tracking of content;
- b) Since the ICD would apply to oceanic regions only title of the future document should be “Pan-regional ICD for Oceanic AIDC”;
- c) The content of the initial consolidated ICD should be confined to the existing substance of the NAT and APAC ICDs. Otherwise review would become unnecessarily complicated;
- d) The above should be accomplished as quickly as practicable, and the NAT and APAC ICDs should be frozen in the interim; and
- e) Once the NAT and APAC PIRGs have endorsed the resulting ICD, a new round of drafting and review could begin to incorporate any desired new substance, as part of the ongoing inter-regional maintenance of the document.

2.17 The NAT SPG also agreed that this work would be progressed in the framework of the NAT IMG and that a group of experts would be identified to review the draft consolidated NAT/APAC AIDC ICD. The Rapporteur of the NAT CNSG would coordinate this activity with the APAC Region. The work would be conducted via electronic means of communication as far as possible. A progress report would be provided to the next meeting of the NAT IMG where a decision would be taken regarding further steps.

2.18 Within the Asia Pacific Region, the APAC AIDC ICD applies to ATS units and ATM systems serving oceanic, continental and regional airspace. Therefore the assumption that the ICD would only apply to oceanic regions is at complete variance with the implementation and use of the APAC AIDC ICD. In view of the foregoing the APANPIRG/21 meeting adopted following Conclusion:

Conclusion 21/26 – Pan-Regional ICD for AIDC

That, ICAO Regional Office inform the NATSPG that the proposed title “Pan-regional ICD for Oceanic AIDC” is unacceptable as the ICD for AIDC is applicable for use by all ATS and ATM facilities in both oceanic, and continental areas within the Asia Pacific Region; and that the document should be titled as “Pan-Regional ICD for AIDC.

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to note the information provided in this paper.
