International Civil Aviation Organization

Sixth Meeting of the Asia/Pacific Air Traffic Management Automation System Task Force (APAC ATMAS TF/6)

Bangkok, Thailand 2-4 June 2025

Agenda Item 8: ATS Inter-Facility Data - Link Communication (AIDC) Implementation

OUTCOMES FROM AIDC IMPLEMENTATION AND OPERATIONS GUIDANCE DOCUMENT (IGD) AD-HOC REVIEW GROUP

(Presented by Singapore, on behalf of AIDC IGD Ad-Hoc Review Group)

SUMMARY

This paper presents the recommendation by the AIDC Implementation and Operations Guidance Document (IGD) Ad-Hoc Review Group to remove the ABI message whilst adding CDN and REJ messages to the list of core messages in the AIDC IGD.

1. INTRODUCTION

1.1 During ATMAS TF/5, Singapore presented working paper WP/08 that proposed a review of core AIDC messages in the IGD to address implementation challenges faced by APAC members while ensuring continued relevance.

1.2 ATMAS TF/5 agreed to establish an ad-hoc review group with members from China, Hong Kong China, Malaysia, Pakistan, the Philippines and Singapore. The group conducted its review through correspondence and concluded with a virtual meeting on 17 April 2025, where Indonesia joined and contributed to the discussions and outcomes.

2. DISCUSSION

Review of Current Core AIDC Messages

2.1 The AIDC IGD (Chapter 4 Para 4.4.1) currently lists five core messages (ABI, EST, ACP, TOC and AOC) for initial implementation by States. These messages were identified as part of the ASBU B0 recommendations pertaining to AIDC implementation.

2.2 The group assessed that EST-ACP and TOC-AOC message pairs should be retained as recommended core messages, given their significant operational benefits and relative ease of implementation. The high success rates of these message pairs demonstrate their effectiveness. The group recommends that for EST-ACP messages, further improvements should focus on emphasising to aircraft operators the importance of maintaining up-to-date flight plans. For TOC-AOC messages, States need to consider the implications when ‘accepting’ (AOC) a flight in ATM automation systems prior to TOC receipt.

Removal of ABI Message

2.3 The ABI message is used to synchronise flight plan information between ATS units. However, with the high success rates of EST-ACP exchanges, the group assessed that ABI messages provides minimal value add to further synchronise flight plan information.

2.4 Furthermore, there are significant challenges to implement ABI as it requires the mandatory exchange of Field 15 (Route). The processing of route information depends on the variation of syntax and semantic checks for different ATM automation systems. There are also complexities to cater for localised workflows, such as automatic allocation of SID/STARs, which would result in route changes. As such, the group proposes the removal of ABI from the recommended core messages.

Addition of CDN and REJ Messages

2.5 The group identified CDN and REJ messages as valuable additions to the recommended set. CDN messages have demonstrated substantial operational benefits when implemented with a focused scope. The group noted that limiting CDN implementation to changes in the estimate data in Field 14 provides immediate operational value while avoiding the complexities associated with Field 15 processing that were observed with ABI messages. This targeted approach allows States to implement useful coordination capabilities without encountering the challenges of route syntax validation and automatic processing of route changes.

2.6 The inclusion of REJ messages is essential as they provide a clear mechanism to close CDN coordination dialogues. This prevents coordination ambiguity and reduces the need for voice coordination when proposed changes cannot be accepted. This is particularly important in cases where the CDN message contains multiple proposed changes, as REJ allows for unambiguous rejection when partial acceptance is not possible or appropriate.

2.7 The group noted that REJ message inclusion naturally complements CDN messages, like how EST-ACP works as a message pair. Adding REJ to the core messages alongside CDN would provide a complete package for coordination dialogue management.

Conclusion

2.8 The group proposes the following changes to the core AIDC messages recommended for initial implementation:

a) Retain EST, ACP, TOC and AOC messages;
b) Remove ABI message; and
c) Add CDN and REJ messages.

2.9 The proposed amendments to Chapter 4.4 of the AIDC IGD are presented in **Appendix A** to this paper. These amendments are intended to streamline recommendations towards low effort, high value AIDC implementations. States shall retain full discretion to implement and exchange AIDC messages beyond the recommended message set where operationally beneficial, provided such implementation adheres to the published Interface Control Document (ICD).

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper;

b) discuss or share experiences in the exchange of CDN;

c) review and endorse the proposed amendments to the AIDC IGD as shown in

Appendix A; and

d) discuss any relevant matter as appropriate

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APPENDIX A

NOTES ON THE PRESENTATION OF THE PROPOSED AMENDMENT

The text of the amendment is arranged to show deleted text with a line through it and new text highlighted with grey shading, as shown below:

~~Text to be deleted is shown with a line through it.~~	Text to be deleted
New text to be inserted in highlighted with grey shading.	New text to be inserted
~~Text to be deleted is shown with a line through it~~ followed by the replacement text which is highlighted with grey shading.	New text to replace existing text

PROPOSED AMENDMENT TO AIDC IGD

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4.4 Core AIDC Messages

4.4.1 This section lists down the basic core AIDC messages for the initial implementation phase (~~ABI,~~ EST, ACP, CDN, REJ, ~~AOC~~ TOC and ~~TOC~~ AOC) that are recommended to be adopted. These messages are also identified ~~are~~ as part of the ASBU B0 recommendations pertaining to AIDC implementation.

Note.— Notwithstanding the capability of CDN messages to support amendments to multiple fields, the recommended initial implementation scope encompasses only amendments to Field 14 (a, b, c) within Field 22.

4.4.2 The complete list of AIDC messages, their purpose, message format and examples can be found in the relevant "AIDC Messages" chapter of the various versions of AIDC ICD.

Table 4-11: Core AIDC Messages

AIDC Message	Purpose	Message format
~~ABI~~	• ~~An ABI message is transmitted to provide information on a flight to the receiving ATSU. The purpose of the ABI is to synchronize the flight plan information held between two ATS Units.~~ • ~~The transmission of the initial ABI will normally be triggered at an agreed time or position prior to the common boundary or ACI, or possibly by a change in flight state. Before coordination occurs, amendments to information contained in a previously transmitted ABI should be notified by the transmission of another ABI.~~	~~ICD documents can be referred to for the required message format and examples~~
EST	• An EST message is used to initiate coordination for a flight. • The transmission of the EST message is used in conjunction with (and generally following) an ABI	Respective ICD documents can be referred to for the required message format and examples

	message and is triggered at an agreed time or position prior to the common boundary or ACI, or possibly by a change in flight state. • The only valid response to an EST message is an ACP message, which closes the coordination dialogue.	
ACP	• An ACP message is used to confirm that the coordination proposed in a received CPL, CDN, EST or PAC message is acceptable and to close the coordination dialogue. The agreed coordination conditions are updated in accordance with the proposed coordination. • An ACP message is linked to the original AIDC message using message identifier and reference identifier information described in the PAN ICD AIDC Version 1.0, section 3.2 Message Headers, Timers and ATSU Indicators.	Respective ICD documents can be referred to for the required message format and examples
CDN	• A CDN message is used to propose amendments to previously agreed coordination conditions or coordination proposed in a CPL message or a CDN message. • An initial coordination dialogue following a CPL message is always terminated by an ACP message; otherwise an ATSU receiving a CDN message can indicate that the proposed revision is not acceptable (by replying with an REJ message) or propose an amendment to the proposed coordination by replying with a CDN message. • If sent in response to another AIDC message, the CDN message is linked to the original AIDC message using message identifier and reference identifier information described in the PAN ICD AIDC Version 1.0, section 3.2 Message Headers, Timers and ATSU Indicators.	Respective ICD documents can be referred to for the required message format and examples
REJ	• A REJ message is used to reject the coordination proposed in a received CDN message and to close the coordination dialogue. The previously agreed coordination conditions remain unchanged. • An REJ message may not be used to close an initial coordination dialogue. • An REJ message is linked to the original CDN message using message identifier and reference identifier information described in the PAN ICD AIDC Version 1.0, section 3.2 Message Headers, Timers and ATSU Indicators.	Respective ICD documents can be referred to for the required message format and examples
TOC	• The TOC message is sent to propose executive control of a flight to the receiving ATSU.	Respective ICD documents can be referred to for the required message format and examples
AOC	• The AOC message is transmitted in response to a received TOC message to indicate acceptance of executive control of a flight.	Respective ICD documents can be referred to for the

		required message format and examples

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5.5 HMI Considerations

ATSUs should consider the following recommendations for configuration of the ATM automation systems for AIDC HMI presentation:

i. AIDC HMI should allow some flexibility to initiate or respond to AIDC messages (if required).

ii. The ATM automation system should allow to define the mode of ~~Message~~ message exchange off-line for AIDC i.e. fully automatic or manual. For example, automatic/manual responses for the messages like EST, CPL, PAC, CDN, etc.

iii. The ATM automation system should allow users to specify which optional amendment fields of an AIDC message are to be exchanged.

iv. Dedicated AIDC message exchange window to display readily the current status and actual content of messages exchanged should be considered. In addition, AIDC message exchange status may preferably be considered to be displayed via the data block of individual aircraft on the Air Situation Display.

v. ATM automation system should allow the creation of flight data record on receipt of an ABI message, if a flight data record is not available to minimize the possibility of LRM messages in case flight plan is not available in the receiving ATSU.

vi. The use of colour to distinguish the various states of AIDC process may be considered.

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