



ICAO

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Communication Implementation Task Force (APA TF/6) Of
APANPIRG**

Web-Conference, 14 – 16 July 2020

Agenda Item 3: Status of implementation plan focusing those connections identified with priorities**AIDC IMPLEMENTATION IN SINGAPORE**

(Presented by Singapore)

SUMMARY

This paper aims to update the progress of the ATS Inter-facility Data-link Communication (AIDC) implementation in Singapore.

1. INTRODUCTION

1.1. Under the Aviation System Block Upgrades (ASBU) block 0 upgrades, ATS Inter-facility Data-link Communication (AIDC) was identified as a Flight and Flow Information for the Collaborative Environment (FF-ICE) component that would bring about increased interoperability, efficiency and capacity through ground-ground integration. With the successful implementation of AIDC with Ho Chi Minh ACC (Viet Nam) in July 2014, Singapore sought to extend the AIDC implementation with the rest of the adjacent ACCs to improve operational efficiency. After conducting numerous technical tests and technical trials with Malaysia and Philippines, operationalization of AIDC with Kuala Lumpur and Manila had commenced from 1st November 2019.

2. IMPLEMENTATION PLANHo Chi Minh ACC and Singapore ACC

2.1. Singapore had implemented AIDC with Viet Nam (Ho Chi Minh ACC) in July 2014 after operational trials were conducted successfully. The benefits reaped were improvement to the coordination process and reducing errors that may occur with normal voice coordination. The following ATS routes were utilized for the AIDC trial; L625, L642, L644, M753, M768, M771 and N892 which constituted about 21% of the total traffic operating in Singapore FIR.

2.2. The following AIDC messages were implemented in the first phase: EST, ACP, LAM and LRM. The sampled statistics for EST messages exchanged between the 2 ATS units from January to May 2020 are as follows:

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	EST messages	Successful EST with ACP/REJ	Unsuccessful EST	Remarks
Total	32,111	28,409 (88.20%)	3,802 (11.80%)	Please refer to Section 3 for implementation issues
Incoming	16,995	13,838 (81.42%)	3,157 (18.58%)	
Outgoing	15,216	14,571 (95.76%)	645 (4.24%)	

2.3. Singapore conducted the technical trial with Ho Chi Minh ACC on AOC and TOC messages.

Kota Kinabalu ATCC, Kuching ATCC and Kuala Lumpur ATCC with Singapore ACC

2.4. Singapore had implemented AIDC with Kuala Lumpur ATCC in November 2019 after successfully conducted AIDC operational trials. The following AIDC messages were implemented in the first phase: EST, ACP, LAM and LRM. The sampled statistics for EST messages exchanged between the 2 ATS units from January to May 2020 are as follows:

	EST messages	Successful EST with ACP/REJ	Unsuccessful EST	Remarks
Total	39,592	37,669 (95.14%)	1,923 (4.86%)	Please refer to Section 3 for implementation issues
Incoming	20,865	19,826 (95.02%)	1,039 (4.98%)	
Outgoing	18,727	17,843 (95.28%)	884 (4.72%)	

2.5. Kuala Lumpur ATCC conducted technical test with Singapore ACC from December 2019 to February 2020 for ABI and CDN messages. Kota Kinabalu ATCC and Kuching ATCC conducted technical tests with Singapore ACC from November 2019 to January 2020. The following messages were tested: EST, ACP, LAM, LRM, ABI and TOC. Singapore ACC planned to commence the operational trials with Kuching ATCC in July 2020.

Manila ACC and Singapore ACC

2.6. Singapore had implemented AIDC with Manila ACC since 1st November 2019 after successfully completed operational trials. The following AIDC messages were implemented during first phase: EST, ACP, AOC, TOC, LAM and LRM. The sampled statistics for EST messages exchanged between the 2 ATS units in from January to May 2020 are as follows:

	EST messages	Successful EST with ACP/REJ	Unsuccessful EST	Remarks
Total	7,041	6,715 (95.37%)	326 (4.63%)	Please refer to Section 3 for implementation issues
Incoming	4,287	4,076 (95.08%)	211 (4.92%)	
Outgoing	2,754	6,715 (95.37%)	326 (4.63%)	

Summary table

2.7. In summary, the various activities that has been conducted or planned for AIDC implementation with adjacent FIRs are summarized in the table below:

State/ATC unit	Technical test commencement	Implementation date	AIDC messages	Remarks
Vietnam/Ho Chi Minh ACC	December 2013	24 th July 2014	Phase 1 (24 th July 2014): EST, ACP, LAM, LRM Phase 2 (TBA): ABI, TOC, AOC	Phase 2 operational trials deferred until further notice.
Malaysia/ Kuala Lumpur, Kota Kinabalu and Kuching ATCCs	December 2014	Kuala Lumpur ATCC: 1 st November 2019 Kuching ATCC: 4Q 2020 Kota Kinabalu ATCC: 2Q 2021	EST, ACP, LAM, LRM	Operational trials between Kuching ATCC and Singapore ACC to commence on 20 th July 2020. Operational trials between Kota Kinabalu ATCC and Singapore is planned for 4Q 2020/.
Philippines/ Manila ACC	December 2014	1 st November 2019	EST, ACP, LAM, LRM, TOC, AOC	Phase 2 operational trials discussions to be initiated in 3Q2020.
Indonesia/Jakarta ATSC	TBA	TBA	ABI, EST, ACP, LAM, LRM, TOC, AOC	TBA

3. IMPLEMENTATION ISSUES

3.1. A number of issues observed recently were attributed to network link issues. The disruption of these links will result in unsuccessful AIDC message transmission/exchanges due to message non-reception/timeouts.

3.2. The 2 main reasons for most of the unsuccessful EST message exchanges remains the same: flight plan has been manually coordinated before EST message is received and missing FPL information in the receiving ACC ATM system.

4. ACTION BY THE MEETING

4.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) note the revised AIDC implementation plan in Singapore;
- c) discuss the issues encountered during AIDC implementation, and;
- d) discuss any relevant matter as appropriate.
