



ICAO

International Civil Aviation Organization

Fourth Meeting of the Asia/Pacific Air Traffic Management Automation System Task Force (APAC ATMAS TF/4)

Bangkok, Thailand, 28 – 30 June 2023

Agenda Item 7: ATS Inter-Facility Data - Link Communication (AIDC) Implementation Experience by States

PROGRESS AND PLAN OF AIDC IMPLEMENTATION IN CHINA

(Presented by China)

SUMMARY

This paper presents the status of AIDC implementation between China and adjacent ATS units.

1. INTRODUCTION

1.1 To promote better cooperative air traffic management with China's adjacent FIRs and domestic ATS units, to realize automatic information exchange to replace voice communication between ATS units, and to respond to the requirements of the ICAO Asia-Pacific Seamless ATM Program, China has taken the electronic transfer function based on AIDC protocol as one of the necessary functions of ATM automation system since 2012, and has been continuously promoting AIDC implementation between domestic ATS units and with adjacent ones.

2. DISCUSSION

Status of AIDC Implementation in Chinese Mainland

2.1 By the end of 2022, more than 90% of China's domestic ATM automation systems are capable of the AIDC ICD V3.0 interface. 67 AIDC groups are in operation, with an overall implementation rate of 93%, achieving the expected utilization effect. Based on the beneficial effect of AIDC in improving efficiency, China plans to fully implement AIDC electronic handover in domestic regions in the following two years.

2.2 China's domestic operation of AIDC links are the AFTN network and dedicated line. AFTN network accounts for about 75%, and the dedicated line is used between some heavy traffic regional ATS units. In the AIDC electronic handover, China mainly uses seven types of core AIDC messages, including ABI, EST, ACP, TOC, AOC, LAM, and LRM.

Status of AIDC Implementation with Regions of China

2.3 China has implemented AIDC between Sanya and Hong Kong, Guangzhou and Hong Kong, Shanghai and Taipei China, as well as Guangzhou and Taipei China. Meanwhile, the

implementation of AIDC between Nanning and Hong Kong China has been gradually promoted. As shown in the following table.

Location of ATSU1	Correspondent ATSU2	Interface Status	Implementation Date or Target Date	AIDC messages used	Transmission Means	Remarks
Sanya	Hong Kong China	Operational	Feb.2007	EST, ACP, TOC, AOC, LRM, LAM	AFTN	
Guangzhou	Hong Kong China	Operational	May.2018	EST, ACP, TOC, AOC, LRM, LAM	AFTN	
Shanghai	Taipei China	Operational	2013	EST, ACP, TOC, AOC, LRM, LAM	Dedicated Line	
Guangzhou	Taipei China	Operational	2013	EST, ACP, TOC, AOC, LRM, LAM	Dedicated Line	
Nanning	Hong Kong China	Planned	2024Q2	TBD	AFTN	

Status of AIDC Implementation with adjacent ATS units

2.4 China-RoK AIDC has been implemented between Dalian ACC and Taegu ACC. The AIDC trial run between Kunming ACC and Vientiane ACC has been carried out.

2.5 China has completed the test work of AIDC between Beijing and Ulaanbaatar, Lanzhou and Ulaanbaatar. Meanwhile, China plans to promote the implementation of AIDC between Kunming and Yangon, Haikou and Hanoi, Haikou and Ho Chi Minh, Nanning and Hanoi, Harbin and Khabarovsk, Dalian and Khabarovsk, Urumqi and Almaty, Urumqi and Bishkek by 2024.

2.6 The implementation of AIDC between China's ATS units and nine adjacent ATS units, a total of 12 pairs of ATSUs are updated in the following table.

Location of ATSU1	Correspondent ATSU2	Interface Status	Implementation Date or Target Date	AIDC messages used	Transmission Means	Remarks
Dalian	Taegu	Operational	Oct.2016	ABI, EST, ACP, TOC, AOC, LRM, LAM	Dedicated Line	
Kunming	Vientiane	trial run	TBD	EST, ACP, TOC, AOC, LRM, LAM	Dedicated Line	
Beijing	Ulaanbaatar	Promoting	2023Q4	EST, ACP, TOC, AOC, LRM, LAM	AFTN	test completed
Lanzhou	Ulaanbaatar	Promoting	2023Q4	EST, ACP, TOC, AOC, LRM, LAM	AFTN	test completed
Kunming	Yangon	Planned	2024Q4	EST, ACP, TOC, AOC, LRM, LAM	AFTN	Start testing in 2023

				LAM		
Sanya	Ho Chi Minh	Planned	2024Q4	EST, ACP, TOC, AOC, LRM, LAM	AFTN	
Sanya	Hanoi	Planned	2024Q2	EST, ACP, TOC, AOC, LRM, LAM	AFTN	Start testing in 2023
Nanning	Hanoi	Planned	2024Q2	TBD	AFTN	Start testing in 2023
Harbin	Khabarovsk	Planned	2024Q2	TBD	Dedicated Line	OLDI messages Start testing in 2023
Dalian	Khabarovsk	Planned	2024Q2	TBD	Dedicated Line	OLDI messages Start testing in 2023
Urumqi	Almaty	Planned	2024Q2	TBD	Dedicated Line	Start testing in 2023
Urumqi	Bishkek	Planned	2024Q4	TBD	Dedicated Line	

Beijing ACC and Lanzhou ACC with Ulaanbaatar ACC

2.7 The AIDC testing between Beijing and Ulaanbaatar officially started in 2018, and all tests of the main and backup automation systems have been completed in August 2022.

2.8 In 2021, the AIDC testing between Lanzhou and Ulaanbaatar officially started, and all tests of the main and backup automation systems have been completed in December 2022.

2.9 At present, it has been confirmed that AIDC can be implemented between the test systems of both parties. After Ulaanbaatar finishes the launch of a new version for the operating system, then the trial operation of AIDC between Beijing-Ulaanbaatar and Lanzhou-Ulaanbaatar could be carried out.

2.10 If Ulaanbaatar could share with China the plan of releasing the new version to the operating system promptly, it will help China much better in the AIDC trial operation preparation.

Kunming ACC with Yangon ACC

2.11 Kunming and Yangon originally planned to promote the test in 2022, but the impact of the epidemic postponed the planned time. Both parties now try to contact each other, and the goal is to start the test in Q4th of 2023 if both parties' contact keeps stable and persistent.

Sanya ACC and Nanning ACC with Hanoi ACC

2.12 In 2019, AIDC technical tests were conducted between Sanya ACC and Hanoi ACC. In 2021, both the main and backup ATM automation systems in Sanya ACC were replaced, and no further testing has been conducted since then. The plan is to resume testing activities after establishing stable contact with each other. If the contact between the two parties keeps stable and ongoing, the goal is to resume testing in Q4th of 2023.

2.13 China is also planning to discuss the implementation of AIDC between Nanning ACC and Hanoi ACC with Vietnam. The target testing time will be in Q4th of 2023.

Urumqi ACC with Almaty ACC

2.14 According to the work plan, China will discuss the implementation of AIDC between Urumqi ACC and Almaty ACC with Kazakhstan in Q3rd 2023, and strive to start testing in Q4th 2023.

Harbin ACC and Dalian ACC with Khabarovsk ACC

2.15 Previously, China-Russia OLDI electronic transfer was implemented between Shenyang ACC and Khabarovsk ACC. However, due to the airspace adjustments, the handover relationship has changed, and there is no handover relationship between Shenyang ACC and Khabarovsk ACC now.

2.16 And China needs to re-establish the handover relationship between Harbin ACC and Dalian ACC with Khabarovsk ACC, and plans to start testing in the fourth quarter of this year.

2.17 The AIDC implementation plan between Chinese ATS units and adjacent ATS units, which was not mentioned above, currently has no specific promotion tasks for this year.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matter as appropriate
