55th CONFERENCE OF DIRECTORS GENERAL OF CIVIL AVIATION ASIA AND PACIFIC REGION

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AGENDA ITEM 4: AIR NAVIGATION

CHINA PBCS IMPLEMENTATION PROGRESS

Presented by the People's Republic of China

INFORMATION PAPER

SUMMARY

This paper presents the process and progress of the Performance-Based Communication and Surveillance (PBCS) implementation in China.

CHINA PBCS IMPLEMENTATION PROGRESS

1. INTRODUCTION

1.1 The expected implementation of PBCS provisions of ICAO Annexes, PANS and Guidance Materials is by no later than 29th March 2018. The Civil Aviation Administration of China (CAAC) and Air Traffic Management Bureau (ATMB) of CAAC took a number of actions to further promote PBCS implementation in China.

1.2 Since the beginning of 2017, China has organized related departments of CAAC and the stakeholders to prepare the PBCS deployment based on the requirement of ICAO. On 29 March 2018, China implemented PBCS formally and monitors the PBCS performance after the implementation.

2. DISCUSSION

2.1 In China mainland airspace, the datalink service, CPDLC/ADS-C, is applied to the routes: L888 (SANLI-XKC), Y1 and Y2. These routes are operated by Urumqi and Lanzhou Area Control Center (ACC). The relevant ATS units support FANS 1/A CPDLC/ADS-C applications. For detailed information of the operational conditions, please refer to Appendix A.

2.2 China applies RCP240 and RSP180 specification on the above-mentioned routes. In the area where CPDLC/ADS-C is the primary means of communication/surveillance, reduced longitudinal separation may be applied between the aircraft with a specific operation approval of RCP240 and RSP180. However, RCP240 and RSP180 are not mandated for flying on these routes. If either or both aircraft do not have RCP240 or RSP180 approval, the ATS units will apply procedural separation minimum between them.

2.3 From June of 2017, the ATMB of CAAC started to organize related parties to upgrade ATC system. On Feb. of 2018, all of the related ATC system has finished test to identify RCP/RSP specification.

2.4 The Aeronautical Information Publication (AIP) concerning data link routes with CPDLC/ADS-C application in China Mainland has published on the March of 2018 which includes more detailed information.

2.5 The Flight Standard Department of CAAC had updated the corresponding Advisory Circular embracing the regulations and requirements for PBCS related operations in accordance with Annex 6, the PBCS Implementation Manual (ICAO Doc. 9869) and the GOLD Manual (ICAO Doc. 10037). Guidance materials for operators who are intent on applying for the PBCS operation approval are also provided in this revised revision. Several dedicated symposiums for inspectors and operators had been held after the issuance of the AC.

2.6 Until August, 2018, more than 66% of the China operators' fleets which has been operating and/or will be operating in PBCS implemented airspace have been granted with PBCS operational authorization.

2.7 In 2016, China started to conduct data link performance monitoring using G-PAT tool and established ATC data link Problem Reporting (PR) mechanism on the ISPACG website. China is establishing a PBCS post-implementation platform to provide better PBCS data analysis and monitoring function. In March, 2018, China established the FANS1/A PR mechanism in related operators formally. China will continue to improve the PBCS monitoring system establishment and PR mechanism.

2.8 Before March 29, 2018, relevant stakeholders (including ANSP, CSP and relevant operators) in China joined the Global PBCS charter.

2.9 After PBCS implementation, China made a preliminary survey for the observed flight counts and RCP240 capability for the data link routes based on the July 2018 messages. Please refer to the table below. China will keep tracking the percentage of flights filing data link capabilities and increase the statistics for RSP capability in the near future.

	No. of flights	**With P2**	**With M1-M3**	**With J2-J7**
L888	493	105 (21.03%)	461 (93.51%)	477 (96.75%)
Y1	678	39 (5.75%)	650（95.87%）	666 (98.23%)

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to note the information contained in this Paper.

— END —

Appendix A: China Mainland Data Link Routes Operational Conditions

Route Designator	**Area Control Center (Unit)**	**Route Segment**	**Communication means and RCP specification**	**ATS Surveillance means and RSP specification**	**Longitudinal Separation**
L888	Lanzhou	SANLI-TONAX	Primary: CPDLC RCP: FANS 1/A CPDLC RCP 240 Alternate1: VHF (no coverage from LUVAR to SANLI) Alternate2: HF	Primary: ADS-C RSP: FANS 1/A ADS-C RSP180 Alternate: ADS-B(Cover most area)	PBCS separation
	Urumqi	TONAX-XKC	Primary: VHF Alternate: CPDLC RCP: FANS 1/A CPDLC RCP 240	Primary: ADS-B Alternate: ADS-C RSP: FANS 1/A ADS-C RSP180	ATS surveillance separation
Y1	Lanzhou	OMBON-MAGOD	Primary: VHF Alternate1: CPDLC RCP: FANS 1/A CPDLC RCP 240 Alternate2: HF	Primary: ADS-B/SSR Alternate: ADS-C RSP: FANS 1/A ADS-C RSP180	ATS surveillance separation
	Urumqi	MAGOD-SADAN	Primary: VHF Alternate: CPDLC RCP: FANS 1/A CPDLC RCP 240	Primary: ADS-B Alternate: ADS-C RSP: FANS 1/A ADS-C RSP180	ATS surveillance separation
Y2	Lanzhou	LUVAR-MEPEP	Primary: VHF Alternate1: CPDLC RCP: FANS 1/A CPDLC RCP 240 Alternate2: HF	Primary: ADS-B Alternate: ADS-C RSP: FANS 1/A ADS-C RSP180	ATS surveillance separation

- The RNP specification for the data link routes: RNP4
- Direction of all route segments: bidirectional
- Available flight levels: 9 200m and above
- Route Lateral limits: 56km