

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

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AGENDA ITEM 4: AIR NAVIGATION

**EXPERIENCE SHARING FOR THE IMPLEMENTATION OF
PERFORMANCE BASED COMMUNICATION AND
SURVEILLANCE (PBCS) OPERATIONS**

Presented by Hong Kong, China

INFORMATION PAPER

SUMMARY

The Seventh Meeting of the Future Air Navigation Services (FANS) Interoperability Team – Asia (FIT-Asia/7, Bangkok, 11-13 December 2017) convened by the 28th Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/28) confirmed that PBCS will be implemented in APAC region on 29 March 2018. States/Administrations are required to identify means to determine the aircraft operator's eligibility requirements for PBCS operations. This paper presents the experience of Hong Kong, China on the implementation of PBCS operations.

EXPERIENCE SHARING FOR THE IMPLEMENTATION OF PERFORMANCE BASED COMMUNICATION AND SURVEILLANCE (PBCS) OPERATIONS

1. INTRODUCTION

1.1 The Performance Based Communication and Surveillance (PBCS) enable communication and surveillance based on the performance specifications applicable to the air provisions of navigation services and flight operations.

1.2 Through PBCS, air navigation services providers can have certain level of assurance that the aircraft and flight crew meet the communication and surveillance requirements needed for the application of the performance-based separation standards. PBCS also enhances the collaboration of all stakeholders (i.e. regulators, air traffic service providers, operators, communication service providers (CSP) and manufacturers) in optimizing the use of available airspace while identifying and mitigating safety risks.

2. DISCUSSION

2.1 The PBCS operations involve air traffic services, aircraft operator, and aircraft including its equipage. Operators that wish to continue to take advantage of performance-based lateral and longitudinal separation standards, in airspace where they are available, will need to obtain a PBCS operational authorization/approval from the State Authority in accordance with applicable RCP and RSP specifications. The PBCS authorization/approval certifies that the aircraft and operator meets both the communication and surveillance requirements allocated to them. This will require the State to have a PBCS policy based on the requirements of Annex 6 and guidance contained in Doc 9869.

2.2 Hong Kong Flight Information Region (FIR) is fully covered by Automatic Dependent Surveillance-Broadcast (ADS-B), primary and secondary radar surveillance, and Very High Frequency (VHF) voice communication. Therefore, there is no operational need to mandate PBCS operation in Hong Kong FIR.

2.3 Nevertheless, operators of Hong Kong registered aircraft may need to conduct PBCS operations in any RCP/RSP specific airspace.

2.4 In approving the PBCS operations, Hong Kong CAD will review the operator's submission to ensure that it includes:

- a) normal and abnormal procedures including contingency procedures;
- b) flight crew qualification and proficiency requirements, in accordance with appropriate RCP/RSP specification(s);
- c) a training programme for relevant personnel consistent with the intended operations;
- d) aircraft eligibility and appropriate maintenance procedures to ensure continued airworthiness, in accordance with the appropriate RCP/RSP specification(s); and
- e) performance monitoring and reporting.

2.5 During the implementation process, there is a concern on the aircraft manufacturer that some of their fleets could not provide the Statement of Compliances (SoCs) with RCP240/RSP180 specifications. Lack of SoCs prevents the operators from obtaining the PBCS operational approval for their corresponding fleets according to the requirements of ICAO and Hong Kong CAD. Also, some aircraft manufacturers have not provided Master Minimum Equipment List (MMEL) update on items related to PBCS. Without this MMEL update, the operators face difficulty to customize their own Minimum Equipment List (MEL) to support the operational approval. Hence, some of the aircraft types will not be able to obtain the PBCS approval which may affect the optimization and effectiveness of airspace usage.

2.6 Due to the newly implemented and still evolving PBCS operational requirements in various States (i.e. different degree of mix mode operations are currently allowed for PBCS and non-PBCS approved aircraft), civil aviation authorities should stay vigilant on the assessment of new PBCS operators for their knowledge, competence and readiness prior to granting approval.

2.7 In order to ensure a smooth transition from PBCS mix mode operations to fully implemented PBCS operations, more collaborative efforts and mutual understanding will be required among ICAO, aircraft manufacturers, regulatory authorities and operators. It will also be beneficial if ICAO Regional Office could arrange PBCS training for regulatory authorities and provide regular update on PBCS development.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to:-

- (a) note the information contained in this Paper; and
- (b) note Hong Kong's effort in developing new PBCS operational approval guidance for facilitating PBCS operations and optimized use of available airspace.

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