International Civil Aviation Organization

WORKING PAPER

A39-WP/407
TE/182
15/9/16
(Information paper)
English and Chinese only[1]

ASSEMBLY — 39TH SESSION

TECHNICAL COMMISSION

Agenda Item 36: Aviation safety and air navigation implementation support

PROMOTION OF THE USE OF ELECTRONIC FLIGHT BAG IN CHINA CIVIL AVIATION INDUSTRY

(Presented by the People's Republic of China)

EXECUTIVE SUMMARY	
The Civil Aviation Authority of China (CAAC) is popularizing paperless flight decks, and promoting the application of electronic flight bags is one of its major tasks.	
Strategic Objectives:	This paper relates to the Safety and Air Navigation Capacity and Efficiency Strategic Objectives.
Financial implications:	
References:	

[1] English and Chinese versions provided by the People's Republic of China.

1. INTRODUCTION

1.1 EFB (Electronic Flight Bag) stores and displays such files of digital version required for flight operation as flight chart data, Route Manual, General Operation Manual (GOM), Minimum Equipment List (MEL), Operations Specifications (OpSpecs) and control files. It may be approved to be used together with paper documents carried in the pilot's flight case, or to replace some of the documents. Compared with the traditional paper flight documents, EFB has an obvious advantage in clarity, displaying and timely and convenient updating of data. The promoting application of EFB plays an important role in popularizing paperless operation of Chinese airlines, saving energy and reducing emission, relieving the working load of flight crews, and improving the updating efficiency of flight data.

2. BASIC SITUATION OF THE APPLICATION OF EFB IN CHINA CIVIL AVIATION INDUSTRY

2.1 In October 2009, CAAC issued an advisory circular of the Guidance on Airworthiness and Operation Approval of Electronic Flight Bag (EFB) (AC-121-FS-2009-31). The advisory circular mainly provides guidance on approval for specific methods of EFB data storage, extraction and use. It clearly states that for airline operators applicable for CCAR121 and CCAR135, an operation approval shall be acquired before the introduction and application of EFB in the flight deck and cabin. Generally, it takes eight to ten months from EFB trial to approval of paperless flight deck operation, mainly covering a number of approval processes such as field validation, domestic flight validation, EFB test run, international flight validation, outreach validation and check, approval of official operation, and approval of operations specifications. What should be evaluated by CAAC include: all operational procedures, relevant training modules, checklists, operation manuals, training manuals, maintenance programmes, minimum equipment list (MEL) and other relevant documents and reporting procedures.

2.2 In 2010, CAAC Central and Southern Regional Administration accomplished supplementary EFB certification of B777 cargo aircraft of China Southern Airlines, which was the first time that CAAC certified for EFB use in domestic airlines. Since 2013, some airlines including China Eastern Airlines and Hainan Airlines started software R&D and airworthiness supplementary certification for Level 1 EFB. Electronic flight bags developed by airlines could provide information such as electronic chart data, aircraft type manuals, airline brochures, aircraft performance manuals, meteorological information, NOTAMs for flight crews, and try to replace original paper flight documents in a planned way.

2.3 At present, nearly 30 airlines in China are using Level 1 EFB officially or on trial. Most of those airlines have developed plans for the application of Level 1 EFB. A small number of aircraft types in some airlines are using Level 3 EFB.

3. INTRODUCTION OF CAAC'S EFB APPLICATION PROGRAM

3.1 To guarantee the accuracy, safety and validity of the flight chart data, after an over-two-year process of preparation and testing, the IOS-based Type I EFB electronic chart application software, developed by the Aeronautical Information Centre of Air Traffic Management Bureau (an authorized organization to provide China's civil aviation information), CAAC, was provided to civil aviation users in China officially on January 1, 2016. The software is comprised of two parts, IPAD terminal software and ground management software: the IPAD terminal software is for pilots, and the ground management software is for airlines to manage users and update data.

3.2 The outstanding feature of this software is that it not only guarantees the reliability and validity of data sources, supports its users to directly use it as EFB, but also has corresponding Software Development Kit (SDK) and software call interface which are convenient for airlines to make further development to meet their own usage requirements. At present, over 5 000 pilots from nearly 30 China domestic airlines are using the software officially or on trial.

— END —