飛行標準及適航

FLIGHT STANDARDS AND AIRWORTHINESS





飛行標準組

簽發和續發航空營運許可證

<mark>截至二零零八年三月三十一日,有九家航空公司</mark> 持有香港航空營運許可證,包括:

- ·香港華民航空有限公司 (華民航空)
- ·國泰航空有限公司 (國泰航空)
- · 直升機服務(香港)有限公司
- ·空中快線
- ·香港航空有限公司 (香港航空)
- ·港龍航空有限公司 (港龍航空)
- ·香港快運航空有限公司 (香港快運)
- ·香港商用飛機有限公司 (香港商用飛機)
- ·甘泉航空有限公司(甘泉航空)

年內,本部透過全面的巡查和審查計劃,繼續監察本地航空營運許可證的持證公司的安全表現現標準。當中,飛行標準組執行了153次飛檢查,並對航空營運許可證的持證公司作出核企對航空營運許可證的持證公司審批行合共265次的其他巡查(包括外站巡查和審港大人員)。本部亦按照年檢程序,對本港大公司所採用的27台飛行模擬器進行了3下無稅、監察及重新簽發使用許可。此外,本部進行了37次個別的有機坪巡查。

航空器移交

隨著香港航空業的快速發展,本地航空公司繼續擴充其機隊。年內,合共有25架航空器被新增至香港民用航空器登記冊內,詳情如下:

FLIGHT STANDARDS OFFICE

Issue and Renewal of AOC

As at March 31, 2008, there were nine Hong Kong AOC holders and they were:

- · Air Hong Kong Limited (AHK)
- · Cathay Pacific Airways Limited (CPA)
- · Heliservices (Hong Kong) Limited (HEL)
- · Heli Express Limited (HEXP)
- Hong Kong Airlines Limited (HKA)
- · Hong Kong Dragon Airlines Limited (HDA)
- · Hong Kong Express Airways Limited (HKE)
- · Metrojet Limited (Metrojet)
- · Oasis Hong Kong Airlines Limited (OHKA)

During the year, the safety performance and operating standards of Hong Kong AOC holders were monitored through a comprehensive programme of inspections and audits. In addition to 153 flight operations inspections, the Flight Standards Office had conducted a total of 265 AOC inspections including station inspections and approval of authorised examiners. The 27 flight simulators used by these local airlines were evaluated, inspected and re-approved for use in accordance with the annual inspection procedures. The Division was also tasked with the responsibility of monitoring the helicopter and fixed-wing aircraft operations of the Government Flying Service (GFS). Furthermore, to ensure compliance with international standards by all airline operators at the Hong Kong International Airport (HKIA), the Division conducted 37 separate ramp inspections on foreign airline operators during the year.

Delivery of Aircraft

As the Hong Kong aviation industry continued to grow rapidly, local airlines expanded their fleets and a total of 25 aircraft were added to the Hong Kong Civil Aircraft Register in the period as follow:

航空公司	類型	Airlines	Aircraft Type
國泰	三架空中巴士A330、三架波 音B747(其中一架為貨機) 和七架波音B777	CPA	3 Airbus A330, 3 Boeing B747 (one of which was freighter) and 7 Boeing B777
香港航空	兩架波音B737	HKA	2 Boeing B737
港龍航空	兩架波音B747F	HDA	2 Boeing B747F
香港快運	三架波音B737	HKE	3 Boeing B737
香港商用飛機	一架灣流G200	Metrojet	1 Gulfstream G200
甘泉航空	兩架波音B747	OHKA	2 Boeing B747
個別私人航空器營運者	一架灣流G550及 一架歐洲直升機公司 EC135型直升機	Private aircraft operators	1 Gulfstream G550 and 1 Eurocopter EC135 helicopter



航空營運督察審視本地航空公司的飛行模擬器。 A Flight Operations Inspector inspecting a flight simulator used by one of the local airlines.

工作組

為確保有效施行國際民航組織的安全標準,本處 負責領導飛行工作時間限制工作組、酒精及藥物 工作組和宇宙輻射及航空委員會的工作。當中 飛行工作時間限制工作組繼續與業界商討有關 行工作的時間限制事宜,酒精及藥物工作組則以 續努力草擬防止濫用精神科物質的工作守則 業界可以遵循,而宇宙輻射及航空委員會則繼續 透過監測計劃、監察機組人員所面對的宇宙輻射 動量。



適航主任為航機進行檢查。 An Airworthiness Officer conducting aircraft inspection.

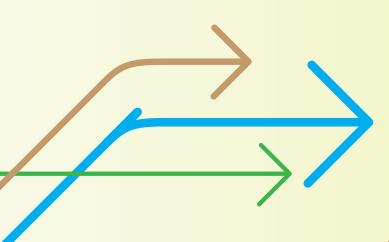
Working Groups

To ensure effective implementation of ICAO safety standards, the Flight Time Limitation Working Group (FTLWG), the Alcohol and Drugs Working Group (ADWG) and the Cosmic Radiation and Aviation Committee (CRAC) are formed under the chairmanship of CAD. While the FTLWG continued to work with the industry on matters relating to flight time limitation, ADWG has been focusing in the development of the Codes of Practice for the industry regarding the prevention of the use of psychoactive substances, and the programme to monitor the exposure to cosmic radiation by crew members has been under constant review by CRAC.

AIRWORTHINESS OFFICE

The Airworthiness Office monitored the maintenance and airworthiness standards of all Hong Kong registered aircraft. With a team of experienced Airworthiness Officers, the Office carried out routine AOC line station audits, approved maintenance organisation audits, and aircraft surveys locally in Hong Kong as well as other cities in the Mainland, Asia, Middle East, Australia, New Zealand, Europe and North America, for the purpose of continual validation of AOC, approval of maintenance organisation, and the issue and renewal of Certificates of Airworthiness for Hong Kong registered aircraft.

Airworthiness Officers received technical training and regulatory update on airworthiness issues, and attended international seminars, conferences and working group meetings to widen their exposure and update their professional and technical knowledge on the latest development of the international airworthiness standards. In the report period, Airworthiness Officers had attended the Airbus and Boeing working group meetings on Certification and Maintenance Review Board; ARJ 21 working group meetings on Certification, Flight Testing and Maintenance Review Board; the ICAO Noise Certification Workshop as well as various aircraft type technical, human factors and safety management courses.



適航事務組

適航事務組繼續監察所有在香港登記飛機的維修和適航水平。由經驗豐富的適航主任所組成的的商航事務組,工作範圍包括定期審查香港航空公司在本港、內地和海外的飛行站、定期審查認可的維修機構,以及在香港、內地、亞洲、中東、維修機構,以及在香港、內地、亞洲、內地、亞洲、台灣人民,以及在香港、內地、亞洲、內地、內澳、上述工作的目的是為求適航事務組能履行航空營運許可證內的持續認可、維修機構的認可,以及為在香港登記的飛機簽發或續發適航證的有關職責。

適航主任繼續接受適航事宜的相關技術培訓和吸取最新的監管策略資訊。此外,適航主任亦獲闊。此外,適就主任亦獲闊。 太宗國際研討會、會議和工作組會議,以擴闊 或宗王任的國際視野並了解適航標準的最新發展機時生年內,適航主任出席了空中巴士和波音飛機的審定和維修審查委員會工作組會議,ARJ21飛機的審定、試飛和維修審查委員會工作規會工作坊,以及飛機型號、人為因素和安全管理的課程。

飛機維修

適航事務組透過機庫檢查、公司運作審查及產品審查,定期監察所有香港認可的飛機維修及飛機部件維修公司。截至二零零八年三月三十一資格,共有30家公司獲發香港認可維修機構的資格。香港飛機工程有限公司、香港航空發動機維修服務有限公司及廈門太古飛機工程有限公司等主要維修公司,均受適航事務組監察,當中包括持續審查和定期視察。

年內,適航事務組亦有舉辦與飛機維修有關的課程。二零零七年六月,適航事務組舉辦為期兩星期的香港適航事務課程,並邀請英國民航局的客席講者作講解。上述課程獲業界熱烈參與,參加者包括維修工程師、技術服務專家、維修管制員、經理、品質監控人員等。



Aircraft Maintenance

The Airworthiness Office continued to monitor all Hong Kong approved aircraft and aircraft component maintenance companies regularly through hangar surveys, company audits and product audits. As at March 31, 2008, there were 30 approved maintenance organisations holding Hong Kong approvals. Major maintenance companies, including Hong Kong Aircraft Engineering Company Limited (HAECO), Hong Kong Aero Engine Services Limited (HAESL), and Taikoo (Xiamen) Aircraft Engineering Company Limited (TAECO), are regulated through rolling audits and regular visits.

The Airworthiness Office also conducted maintenance related courses during the year. A two-week Hong Kong Airworthiness Course hosted by the Division in June 2007 with guest speakers from the United Kingdom Civil Aviation Authority (UKCAA), received overwhelming attendance from the industry, including maintenance engineers, technical services experts, maintenance controllers, managers, quality monitoring personnel, etc.



適航事務組定期監察所有香港認可的飛機維修及飛機部件維修公司。 The Airworthiness Office regularly monitors all Hong Kong approved aircraft and aircraft component maintenance companies.

飛機維修訓練

截至二零零八年三月三十一日,在本港和海外 共有五家維修訓練機構獲發《香港航空要求-147》許可證。該五家機構均獲准舉辦跟維 修在香港登記的飛機有關的基本訓練課程及飛機 型號訓練課程。

適航事務組統計數字

〈由二零零七年四月一日至二零零八年三月三十一日〉

	數目
簽發適航證	25
續發適航證	199
審定重大改裝	17
認可飛機維修機構	30
認可飛機維修訓練機構	5
認可設計及制造機構	2
簽發飛機維修執照	1 348

航空人員執照事務組

飛行員執照

為配合國際民航組織於二零零八年三月五日起實施的航空人員語言能力標準要求,航空人員執高能力標準要求,航空人員執高發了3 623份語言能力批注之。 執照事務組在另一方面亦處理了1 896份有關發飛行員或機組入員執照、飛機型號和特殊批。 發飛行員或機和行了4 464份飛行員執照考試與學校的申試中,有3 897次考試在香港舉行的照考式中,有3 897次考試在香港舉行的阿米克。 些考次則是由本處人員前往位於澳洲的阿多多級不分學校,親自監考該校根據《CAD 509》組入 在文件所舉行的飛行員執照考試。執照事務務務 共簽發了3 659份體檢合格證明書。執照形式申請簽發了3 659份體檢合格證明書。執照形式申請簽發的香港執照。

飛機維修執照

截至二零零八年三月三十一日,航空人員執照事務組簽發的有效執照共有1348個。年內,航空人員執照事務組透過香港飛機工程有限公司位於將軍澳的電腦化考試系統,舉辦了合共7219份試卷的考試。

協調本地空域使用者

為促進航空安全,香港分區飛行安全委員會繼續 定期召開會議協調香港空域使用者之間的安全事 宜。這些本地空域使用者包括定翼機機構和旋翼 機機構(政府飛行服務隊、中國人民解放軍駐香

Aircraft Maintenance Training

As at March 31, 2008, there were a total of five HKAR-147 Aircraft Maintenance Training Organisations located in Hong Kong and overseas which were approved to provide basic and aircraft type training for the maintenance of Hong Kong registered aircraft.

Airworthiness Office Statistics

(between April 1, 2007 to March 31, 2008)

	Number
Certificate of Airworthiness Issued	25
Certificate of Airworthiness Renewed	199
Major Modification Approved	17
Approved Aircraft Maintenance Organisations	30
Approved Aircraft Maintenance Training Organisations	5
Approved Design and Manufacturing Organisations	2
Aircraft Maintenance Licence (AML) Issued	1 348

PERSONNEL LICENSING OFFICE

Flight Crew Licensing

In connection with the implementation of the ICAO Language Proficiency Requirements on March 5, 2008, Personnel Licensing Office (PLO) issued 3 623 Language Proficiency Endorsements in addition to the processing of 1 896 applications for initial licence issue or renewal, inclusion of ratings and addition or removal of endorsements in flight crew licences. A total of 4 464 CAD flight crew licensing written examinations were conducted with 3 897 held locally in Hong Kong while the remaining 567 were overseas examinations invigilated by CAD at Flight Training Adelaide in Australia under CAD 509 Approval. 3 659 Medical Certificates were issued to Hong Kong flight crew licence or air traffic controller's licence holders/applicants. PLO also processed during the year 430 applications for conversion of a foreign flight crew licence into a Hong Kong licence.

Aircraft Maintenance Licensing

As at March 31, 2008, the number of valid AML issued was 1 348. During the report period, a total of 7 219 examinations were conducted at the delegated examination centre, using paperless computerised examination system, at HAECO in Tseung Kwan O.

COORDINATION WITH LOCAL AIRSPACE USERS

To promote flight safety, the Hong Kong Sector Flight Safety Committee comprising local airspace users continued to meet regularly to discuss issues to enhance safety and coordination in the local airspace. These local airspace users include fixed-wing operators and rotary wing operators (GFS, the Hong Kong Garrison of the People's Liberation Army (PLA), HEL, HEXP and the Hong Kong Aviation Club (HKAC)) as well as the Hong Kong Paragliding Association and private aircraft owners.

港部隊(駐港部隊)、直升機服務(香港)有限公司、空中快線和香港飛行總會)、香港滑翔傘會以及個別私人航空器擁有人。

體諒到石崗機場是現時香港唯一可供輕型飛機運作之場地的原故,駐港部隊暫時批准香港飛行會於周末繼續在該機場進行康樂性質的定翼機飛行活動和訓練。駐港部隊亦允許政府服務隊在該機場進行直升機飛行員訓練。為領院保飛行安全,所有使用石崗機場的機構均的海駐港部隊保持緊密聯繫和協調在該機場進行的參與協調工作。

飛機登記

年內共有25架航空器被新增至香港民用航空器登記冊內,而同期亦有一架Cessna 172型、一架龐巴迪CRJ-700型及三架Embraer ERJ-170型飛機被取消有關登記。截至二零零八年三月三十一日,香港民用航空器登記冊內共有224架民用航空器。當中200架由香港航空營運許可證的持證公司和政府飛行服務隊所擁有,而它們的分類如下:

—————————————————————————————————————	數目
空中巴士A300型	8
空中巴士A320型	10
空中巴士A321型	6
空中巴士A330型	46
空中巴士A340型	18
波音B737型	12
波音B747型	55
波音B777型	24
BAe4100型	2
灣流G200型	3
灣流G450型	1
灣流G550型	1
直升機	14

With Shek Kong airfield the only aerodrome available in Hong Kong for light aircraft operations, PLA continued to give temporary permission to HKAC to operate its recreational fixed-wing and rotary wing aircraft flying and training at the airfield during weekends. GFS was also allowed by PLA to conduct training for its helicopter pilots at the airfield. To ensure flight safety, all these Shek Kong airfield users maintained close liaison and coordination with PLA for their operations at the airfield. The Hong Kong Sector Flight Safety Committee assisted in the coordination if required.

AIRCRAFT REGISTER

During the year, a total of 25 aircraft were put on the Hong Kong Civil Aircraft Register. In the same period, one Cessna 172, one Bombardier CRJ-700 and three Embraer ERJ-170 aircraft were removed from the Register. As at March 31, 2008, the total number of civil aircraft in the Hong Kong Civil Aircraft Register was 224. Of which 200 were registered under Hong Kong AOC holders and GFS as follows:

Aircraft Type	Number
Airbus A300	8
Airbus A320	10
Airbus A321	6
Airbus A330	46
Airbus A340	18
Boeing B737	12
Boeing B747	55
Boeing B777	24
BAe4100	2
Gulfstream G200	3
Gulfstream G450	1
Gulfstream G550	1
Helicopters	14



香港登記的民用航空器已增至224個。 The number of civil aircraft registered in Hong Kong has increased to 224.

航空交通管理標準組

航空交通管理標準組是本處安全監察及制衡機制中的主要部分,負責規管和審視航空交通管理運作,確保航空交通服務維持於最高安全水平。

航空交通管理標準組出版《CAD 670》文件 (航空交通管理服務的安全要求),以更有系統地規管航空交通服務。在報告期內,該組繼續確保航空交通提供者,即本處航空交通管理部有切實遵行《CAD 670》文件所載的要求。在安全要求方面,該組亦發出了新的促進安全規定及修訂了航空交通管制主任的發牌政策。

安全監督工作

為求航空交通管理部根據安全管理系統中的準則 進行內部安全審計,並作為該分部安全聚計,並作為該分部安全審計,並作為該分部在本報告年度 對不同的航空交通管理運作範疇及設施進行 55次檢查;當中包括航空交通管制中心、 塔台、培訓組、航空情報中心、雷達模擬員員 控制塔台模擬系統。有關航空交通管制等級考試進行合 控制塔台模擬系統。 有關航空交通管制等級考試進行合監 行面,該組亦就航空交通管制等級考試進行合監 覆檢,確保航空交通管理部所提供的考試符合監 管要求。

為著促進監察機構與航空交通服務提供者之間的 合作和協調,航空交通管理標準組會定期與航空 交通管理部舉行航空交通管理標準協調會議,加 強溝通。藉著這個會議,航空交通管理標準主任 便更能緊密監察該分部之安全管理系統的發展和 推行情況。

文件編制

航空交通管理標準組繼續就現行的規管安全文件 作出定期檢討。報告年內,航空交通管理標準 組發出了第二版的航空交通管制認可考官守則 《CAD 620》以及向航空交通管理部發出了八

AIR TRAFFIC MANAGEMENT STANDARDS OFFICE (ATMSO)

As part of the CAD check and balance mechanism, the ATMSO continued with its safety regulatory functions to oversee air traffic management (ATM) operations to ensure that the safety of ATM services is maintained at the highest level possible.

The ATM Services Safety Requirements (CAD 670) had been issued to aim at achieving a structured and rational approach to safety regulation of ATM services. Throughout the report year, the ATMSO continued to focus on overseeing the implementation of CAD 670 and compliance with the requirements therein by the ATM services provider, viz. the Air Traffic Management Division (ATMD) of CAD. In terms of safety regulatory requirements, new provisions relating to safety promotion and air traffic controller licensing were formulated.

Safety Oversight Activities

As part of its safety oversight activities, the ATMSO carried out during the report period a total of 55 inspections on ATM operations and on the various facilities including the Air Traffic Control Centre, Aerodrome Control Tower, the Training Unit, Aeronautical Information Centre, Radar Simulator and Control Tower Simulator to ensure that ATMD administered their internal safety audits as part of their safety and quality assurance programme; and that these audits were conducted in accordance with the Safety Management Systems (SMS) principles. In relation to air traffic controller licensing, the ATMSO carried out regular oversight on Air Traffic Control (ATC) rating examinations to ensure that they were conducted in compliance with the regulatory requirements.

The ATMSO participated in and monitored the investigations of all air traffic control incidents in accordance with established procedures of the Guidance for Air Traffic Incident Investigation (CAD 636). Furthermore, the ATMSO also monitored the progress of post-incident follow-up actions as per recommended in the investigation reports. To ensure the objectivity and comprehensiveness of these investigations, the Air Traffic Safety Assessment Committee (ATSAC), which comprised representatives from the ATMSO, ATMD, flight safety personnel of major local airline operators and the Government Flying Service, met half-yearly to review the investigations of ATC incidents with inputs from both ATC and pilots.

With a view to enhancing collaboration and cooperation between regulator and the service provider, the ATMSO convened regular meetings with the ATMD through the ATM Standards Coordination Meetings. Through this meeting, the development and implementation of SMS in ATMD could also be closely monitored by ATMSO.

Documentations

The ATMSO continued to carry out periodic reviews on the existing safety regulatory documents. In the report period, the ATMSO had issued the second version of the ATC Approved Examiner Handbook (CAD 620) and

份航空交通管理資料通告。這些通告的主要內容包括加強航空交通安全的條文、修訂航空交通管制主任執照申請程序、新的航空交通管制主任發牌政策和航空交通管制培訓的相關要求。

also a total of eight Air Traffic Management Information Notices (ATMIN) to the ATMD. The subjects of these ATMIN focused mainly on safety promotion, revised procedures for application of ATC license, new ATCO licensing policy and the corresponding requirements on ATC training.



航空交通管理標準組負責規管和審視航空交通管理運作 The Air Traffic Management Standards Office oversees air traffic management operations.

航空交通管制主任執照

航空交通管理標準組根據國際民航組織《附件1》的標準和建議,規管航空交通管制主任執照簽發制度。在本報告年度內,該組處理共七個簽發航空交通管制主任執照的申請、73個首次申領航空交通管制等級的申請和要求首發或續發合格證書的申請。二零零七年四月,航空交通管制組與航空交通管理部合辦了一次航空交通管制認可考官的訓練課程。

為遵從國際民航組織於二零零八年三月五日實施的航空交通管制員語言能力規定,航空交通管理部在29位資深航空交通管制主任完成訓練課程後,確認他們具有語言水平考核員資格。此外、共有181位航空交通管制員於年內完成測試,並全體達到國際民航組織訂定的語言能力要求。

意外調查

Topjet Aviation有限公司Robinson R44型 直升機

二零零五年六月十一日,Topjet Aviation有限公司一架登記標誌為B-HJS的Robinson R44型直升機,於西貢北丫起飛時發生意外。直升機墜毀,機上三名乘員受傷。飛機意外調查報告,於二零零七年二月公布。

ATC Personnel Licensing

The ATMSO administered the ATC licensing scheme in accordance with the standards of ICAO Annex 1. During the report period, ATMSO processed seven applications for the grant of ATC licences, 73 applications for the initial award of ATC ratings, as well as applications for the issue/renewal of Certificates of Competency. In April 2007, an ATC Approved Examiner Training Course was conducted jointly with the ATMD.

To comply with the ICAO standards on language proficiency for air traffic controllers by March 5, 2008, the ATMSO endorsed 29 senior ATCO to become Approved Language Proficiency Assessors to conduct language proficiency assessments after they had completed the required training on language proficiency assessment. A total of 181 operational air traffic controllers underwent the language proficiency assessment test and met the minimum standards set by the ICAO.

ACCIDENT INVESTIGATION

Topjet Aviation Limited Robinson R44 Helicopter

On June 11, 2005, a Robinson R44 helicopter of Topjet Aviation Limited with registration B-HJS had an accident when it lifted off at Pak A, Sai Kung. The helicopter was destroyed. Three persons on board the helicopter were injured. The investigation report was published in February 2007.

安全數據分析

本部與各航空公司、維修機構和航空交通服務提供者保持緊密聯繫,跟進涉及在香港登記的飛機的事件。年內,本部詳盡地調查和分析了486宗個案。

國際民航組織亞太區意外 調查工作坊



意外調查工作坊有逾57名代表出席。

The Regional Accident Investigation Workshop was well attended by over 57 participants.

國際民航組織全球安全 監督審核計劃

國際民航組織大會第35屆會議於二零零四年舉行,其後國際民航組織決定放棄原有按個別附件進行的安全監督審核方式,改為採用全面的系統安全監督審核方法。因應這新要求,本部成立一個由本處領導,並有各分部代表和香港天文台代表的工作小組,專責準備和統籌與國際民航組織安全監督審核相關的工作。在本報告年度內,工作小組定期召開會議,以便跟進準備工作的進度。

SAFETY DATA ANALYSIS

The Division maintained close liaison with airline operators, maintenance organisations and ATM services provider regarding occurrences involving Hong Kong registered aircraft. During the year, 486 occurrences and incidents were thoroughly investigated and analysed.

ICAO REGIONAL AIRCRAFT ACCIDENT INVESTIGATION WORKSHOP

With the support of ICAO, the Division hosted in October 2007 a Regional Accident Investigation Workshop in Hong Kong. The key objective of the workshop was to promote a regional co-operation in accident investigation, explore the ideas of improving the quality of investigation through training and/or participation in the workshop, as well as updates on the latest development of the accident investigations and techniques. This two-day workshop was well attended by over 57 participants from 12 different States/Administrations/international organisations, including ICAO, Australia, Mainland China, France, Japan, Republic of Korea, Singapore, Sri Lanka, and USA (FAA and NTSB). The workshop with its comprehensive coverage on the topics of accident investigation and valuable information on best practices provided very useful guidance to States/Administrations in the region in respect of aircraft accident investigation.



ICAO UNIVERSAL SAFETY OVERSIGHT AUDIT PROGRAMME

After the 35th Session of the ICAO Assembly in 2004, ICAO replaced the Annex-by-Annex approach with a comprehensive systems approach for the conduct of safety oversight audits. In response to this new approach, a working group led by CAD and comprised of representatives from different CAD divisions as well as the Hong Kong Observatory, was established to coordinate the preparation work for the ICAO universal safety oversight audit. During the report period, working group meetings were held to review the progress of the preparatory works.