

航空交通管理 AIR TRAFFIC MANAGEMENT



航空交通管理部負責在國際民用航空組織(國際民航組織)指定的香港飛行情報區內，提供空中交通管理(空管)、航行情報及飛機事故警報服務。

The Air Traffic Management Division (ATMD) is responsible for the provision of air traffic management (ATM) service, aeronautical information service and alerting service within the Hong Kong Flight Information Region (FIR) as assigned by the International Civil Aviation Organization (ICAO).





航空交通運作

年內，本部共處理了300 677架次在香港國際機場升降的國際及本地航班，並為112 435架次飛越香港飛行情報區，以及48 581架次進出澳門國際機場的航班提供空管服務。與上一年度比較，在香港國際機場升降及飛越香港的航班分別增加2.7%和11%。航空交通量上升，是由於區內經濟活動，帶動航空客運及貨運量增長。

跑道升降容量

香港國際機場採用雙跑道運作，跑道容量自二零零七年十月二十八日起遞增至每小時55班。

AIR TRAFFIC OPERATIONS

During the year, the Division handled a total of 300 677 international and local aircraft movements at the Hong Kong International Airport (HKIA). In addition, the Division handled 112 435 flights overflying the Hong Kong FIR and 48 581 flights into and out of the Macao International Airport. Compared to the previous year, the number of aircraft movements at the HKIA and overflights increased by 2.7 per cent and 11 per cent respectively. The overall increase in air traffic was due to the growth in passenger traffic and air cargo as a result of economic activities in the region.

Runway capacity

The declared runway capacity was progressively increased to 55 movements per hour on dual runway operations since October 28, 2007.



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空管主任執照考試和覆核

為維持高水平的空管，本部的訓練及安全組會就空管主任的各類執照進行考核及每年覆核。就塔台管制、進場管制和區域管制這三個組別進行的考試及覆核共有249次。

此外，本部亦有向考核合格的人員授發助理管制員證書、氣象觀察證書、導師證書和搜索及拯救證書。

招聘及培訓航空交通管制人員

招聘見習航空交通管制主任

見習航空交通管制主任(見習空管主任)由入職，訓練至可全面執行各項空管工作，過程漫長。每個階段的訓練需要周詳規劃，以令見習空管主任可達致各階段的表現基準。見習空管主任如要符合獲發執照的條件，首先須接受理論訓練，然後在模擬器接受實習，最後才可在導師的監督下，處理「現場」航空交通。由於本地就業市場欠缺符合相關資歷的人才，一般而言，民航處會在本地招聘見習空管主任，經過專門培訓後，再晉升為空管主任。

為應付預期的交通增長及中長期的人事升遷需求，空管人員的招聘和培訓程序必須要有效地管理。合資格人選須參加三項甄選程序——首先是才能測驗的筆試，接着是面試，最後再在評估中心進行團體活動，接受認知能力及性格評估。

Annual Examinations and Revalidations on ATCO Ratings

To ensure a high degree of ATC standard, the Training and Safety Section of the Division carries out licensing examinations and annual renewal checks on ratings held by Air Traffic Control Officers (ATCO). A total of 249 practical examinations were carried out in the three streams of Aerodrome Control, Approach Control and Area Control.

In addition, the Division also issues Assistant Controller Certificates, Meteorological Observer Certificates, Instructor Certificate, Search and Rescue Certificates to officers after attaining their respective qualifications.

RECRUITMENT AND TRAINING OF AIR TRAFFIC CONTROL STAFF

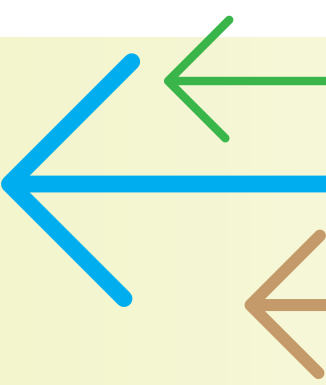
Recruitment of Student Air Traffic Control Officer

The training of a Student Air Traffic Controller from entry to attaining full performance status is a lengthy process requiring a carefully staged programme to meet each performance benchmark. To fulfil the licensing requirement, a candidate must first receive training in theory then practice in the simulator before progressing to the handling of 'live' traffic under the supervision of an instructor. As qualified ATCO human resources are not readily available in the local job market, they are normally recruited locally as Student Air Traffic Control Officers (SATCOs) to receive the specialised training up to the required professional standard.

Recruitment and training of ATC staff have to be effectively managed to meet anticipated traffic growth and medium to long term manpower succession requirements. Qualified candidates go through three screening processes - an initial written aptitude test, an interview followed by a group exercise in the Assessment Centre where candidates will undergo cognitive tests and personality assessments.



本處於2008教育及職業博覽設置的攤位。
CAD staff were on hand to share their working experience to the visitors at the Education and Careers Expo 2008.



為加深公眾和求職人士對空管行業的認識，民航處積極參與「2008教育及職業博覽」，在大學舉辦就業講座，並在年內定期安排學生參觀部門的空管設施。

截至二零零八年三月三十一日，在職的空管主任及航空交通事務員分別為238人及102人。

空管培訓

職員培訓向來是本部的重點任務。年內，本部舉辦多項指導班及在職訓練活動。除了已計劃的內部空管培訓和有關飛機緊急事故的複訓課程外，本部與民航訓練中心及中國民用航空局(中國民航局)轄下空中交通管理局合辦課程。

培訓一名見習空管主任成為全資格的管制員，以擔任二級空管主任職位，通常大約需時五年。其間該名人員須取得多項不同範疇的空管資歷。此外，我們須為在職空管主任編排定期複訓，以確保他們一旦面對突發情況，如航機遇到惡劣天氣或其他緊急事故等，都能應付自如。年內，本處舉辦了19項不同專業範疇的空管培訓課程及兩項空管複訓課程，共有263名人員參加。受訓人員取得多項專業資格，其中18名獲頒發空管執照。此外，2名見習空管主任接受基礎飛行訓練，9名參加海外航空交通管制課程，兩項培訓均有助事業發展。此類海外培訓活動可讓受訓人員增進航空知識，豐富有關空管運作的閱歷。

民航訓練中心提供的培訓

本部與民航訓練中心合辦兩項課程：「航空交通管理概論」及「航空交通管制單位對飛機緊急事故之應變」課程。課程深受歡迎，學員包括航空相關界別的從業員及對航空有興趣的市民。

為中國民航局轄下空中交通管理局舉辦課程

本部亦為中國民航局東北空中交通管理局12名空管督導主任舉辦了一項「航空交通督導主任課程」。

With the objective of introducing the profession to the public and potential job applicants, CAD participated in the Education and Career Expo 2008, held career talks in universities and conducted regular students visits to our ATC facilities throughout the year.

As of March 31, 2008, the strength of Air Traffic Control Officers and Air Traffic Flight Services Officer was 238 and 102 respectively.

ATC Training

Staff development continued to be one of the major tasks for the Division. Courses of instruction and on-the-job training activities had been intensive all through the year. Apart from the programmed in-house ATC training and refresher courses on aircraft emergency situations, the Division also conducted courses in conjunction with the Civil Aviation Training Centre and Air Traffic Management Bureau of Civil Aviation Administration of China (CAAC).



航空交通管制中心每天二十四小時運作。
The ATCC operates round-the-clock.

Training of a SATCO to become a fully qualified controller at the rank of ATCO II normally takes around five years where the individual would have to acquire qualifications in various ATC disciplines. In addition, periodic refresher training has to be programmed for qualified ATCOs to ensure that their competency in responding to unusual circumstances, such as poor weather operations and aircraft emergencies is maintained. During the year, a total of 19 ATC training courses on various disciplines of the profession and two refresher training courses were conducted for 263 officers, leading to the issue of 18 ATC ratings and the attainment of other professional qualifications. As part of their career development, two SATCOs were provided with General Flying Progress Test (GFPT) flying training and nine SATCOs with overseas courses on air traffic control. These overseas training activities enhanced their aviation knowledge and broadened their exposure to ATC operations.



航空控制塔台
The Air Traffic Control Tower

新航空交通管理程序

中國內地空域實施縮小垂直間隔

二零零七年十一月，中國內地空域實施縮小垂直間隔，務求提高空域容量，以應付增加的航空交通需求。新的間隔標準縮小飛機之間所需的垂直間距，因而增加航空交通管制可分配的飛行高度層數目。為配合上述變動，本部實施新的航空交通管制程序，並為航空交通管制人員提供所需的熟習訓練。新程序在安全快捷的情況下順利實施。

Training offered by Civil Aviation Training Centre

The Division has organised in conjunction with the Civil Aviation Training Centre to run two courses - "Introduction to Air Traffic Management" and "Response to Aircraft Emergencies by Air Traffic Control Units". These courses were well received by personnel engaged in the aviation-related industries and interested public.

Training provided to Air Traffic Management Bureau of CAAC

The Division also conducted an "Air Traffic Control Supervisor Course" for 12 ATC supervisors from Northeast Air Traffic Management Bureau of CAAC.

NEW AIR TRAFFIC CONTROL PROCEDURES

Implementation of Reduced Vertical Separation Minima (RVSM) in Mainland Chinese Airspace

With a view to improving airspace capacity to accommodate the increased demand in air travel, China implemented RVSM within the Mainland airspace in November 2007. The new separation standards reduced the vertical spacing required between aircraft and therefore increased the number of flight level available for assignment by air traffic control. In order to cater for the change, the Division implemented new air traffic control procedures and provided necessary familiarisation training to air traffic controllers. Transition to the new procedures was conducted in a safe and efficient manner.



著陸飛機之最後進場間距減至最低四海里。

The final approach spacing between landing aircraft reduces to a minimum of 4NM.

縮減最後進場間距

為了應付不斷增加的航空交通需求及充分利用跑道容量，本部在二零零七年年底採用一套新程序，縮減着陸飛機之間的最後進場間距，航機相距可低至四海里。新程序實施後，航空交通管制人員在符合飛行安全的情況下，可為航機編排更緊密的最後進場序列。

安全及質素保證管理

為確保航空交通管制安全和提升航空交通服務質素，本部根據國際民航組織標準及民航處的監管規定，在航空交通服務的質素保證，以及安全管理系統的發展方面，與飛行標準及適航部航空交通管理標準組緊密合作。在引進任何新的航空交通服務系統和程序，或落實重大變動前，本部會主動作出安全管理，進行安全評估及採取相應的風險緩解措施。此外，本部亦會定期進行內部審計，監察和評估航空交通服務系統及運作的安全程度。本部持續為員工提供安全管理系統訓練，讓他們對安全管理加深認識，並充分掌握安全管理系統的操作技巧。本部一向致力達到最高質素標準，我們努力成果之一是於二零零七年十一月，本部的航行情報服務取得國際標準化組織 (ISO) 9001 品質管理體系標準認證。

Reduction of Final Approach Spacing

In order to meet the growing traffic demand and capitalise on the available runway capacity to the fullest extent, the Division adopted a new set of procedures toward end 2007 to reduce the final approach spacing to a minimum of 4NM between landing aircraft. The new procedures enable air traffic controllers to sequence aircraft on final approach in a tighter and more compact manner, commensurate with flight safety.

SAFETY AND QUALITY

The Division endeavours to ensure Air Traffic Control safety and enhance quality in the provision of air traffic services (ATS). In this respect, the Division works closely with the Air Traffic Management Standards Office (ATMSO) in the Flight Standards and Airworthiness Division in ATS quality assurance, development and maintenance of the Safety Management System (SMS) in compliance with ICAO standards and CAD regulatory requirements. Proactive safety management such as safety assessments and subsequent implementation of risk mitigating measures are put in place before introducing any new or significant changes to ATS systems and procedures. In addition, regular internal audits are carried out to monitor and assess ATS systems and operations safety levels. On-going SMS training is provided to staff to enhance their understanding in safety management and skills in performing SMS related activities. As part of the continual efforts in pursuing highest quality standards, the Aeronautical Information Service undertaken by the Division acquired ISO 9001 accreditation for the Quality Management System in November 2007.



航行情報服務中心的服務包括為香港飛行情報區內航班提供航空資料。
The scope of AIC services includes the provision of Aeronautical Information Services within the Hong Kong Flight Information Region.

珠江三角洲(珠三角)地區航空交通管理計劃

年內，香港民航處、中國民用航空局與澳門民航局組成的三方工作小組舉行兩次會議，以完善珠三角航空交通管理綜合計劃。計劃目的在於改善珠三角地區的空域規劃和航空交通管理，已在本年度提交內地有關當局最後審批，結果預期在二零零八年公布。如獲內地有關當局最後批准，該計劃會分階段實施，確保珠三角地區直至二零二零年的航空交通的持續增長。

海外空管會議和研討會

年內，本部繼續積極參與航空交通管理事務的海外會議和研討會，包括由國際民航組織和其他航空機關主辦的會議和研討會。

電訊服務

關於固定航空通訊服務，本部電訊組年內處理的電報量達28 129 834個，較上一年度增加10.5%。

航空氣象廣播服務方面，電訊組年內為航機提供合共212 345次氣象報告，較上一年度增加0.9%。



航空電訊網中心
Aeronautical Network Centre

AIR TRAFFIC MANAGEMENT PLAN FOR THE PEARL RIVER DELTA (PRD) REGION

The Tripartite Working Group formed by the Hong Kong CAD, the Civil Aviation Administration of China and the Macao Civil Aviation Authority met twice during the year to fine tune the Integrated PRD Air Traffic Management Plan (the Plan), which aimed to improve the airspace organisation and air traffic management of the PRD Area. The Plan was submitted to the relevant Mainland Authorities for final vetting within the year and feedback is expected in 2008. Subject to final endorsement by relevant Mainland Authorities, the Plan will be implemented in phases to ensure sustainable air traffic growth within the PRD region up to 2020.

OVERSEAS ATC MEETINGS AND CONFERENCES

During the year, the Division continues to participate actively in overseas meetings and conferences on issues related to air traffic management. These include meetings, seminars and conferences initiated by ICAO and other aviation authorities.

TELECOMMUNICATIONS SERVICES

On Aeronautical Fixed Service, the number of messages handled by the Telecommunications Unit of the Division during the year reached a total of 28 129 834, representing a 10.5 percent increase over last year.

On Aeronautical Broadcast Service, a total of 212 345 weather messages were provided to aircraft in flight during the year. The amount was 0.9 percent more than that of the previous year.