二零零一年十一月二十六日
參考文件

立法會經濟事務委員會

國際民用航空組織安全監察審查

引言

國際民用航空組織[1]已經就香港的航空安全監察系統完成審查工作，審查組的結論指香港在航空安全方面維持高的水平，並就本港的航空政策、規則、程序、架構及人手安排各方面的配合得以維持航空安全的高水平，給予正面的評價。本文向委員簡報審查的結果及建議。

背景

國際民用航空組織全球安全監察審查計劃

2. 有關國際民用航空組織的航空安全國際標準羅列於《國際民用航空公約》的附件及相關的指引文件內。為確保航空安全，該組織在一九九八年推行全球安全監察審查計劃，審查各地航空當局履行安全監管職能的有效程度。

3. 國際民用航空組織的三位專家，按上述計劃於二零零零年十一月十七日至廿四日訪港，期間對民航處飛行標準及適航部的人員執照組，飛行標準組和適航組進行了詳盡的審查。審查的目標和範圍包括:

(a) 就國際民用航空組織有關專業人員(如飛行機組和航空器維修工程師)執照、航空器營運和航空器適航性三方面所訂立的標準，斷定香港遵從國際民用航空組織標準的程度；

[1] 國際民用航空組織成立自《國際民用航空公約》，是全球最重要的民航組織，現時共有 187 個締約國。成立目的是以安全及有秩序的方式推廣國際民航發展，使國際空運事業可建基於平等的基礎上而穩健和經濟地運作。

(b) 觀察和衡量香港在上述(a)項如何依從國際民用航空組織的建議措施和相關的程序、指引和安全操作守則;

(c) 斷定香港在上述(a)項，透過訂定法規、檢查和監察，實施安全監察系統的有效程度；及

(d) 在適當和有需要的情況下，提供意見給予香港，從而改善其安全監察能力。

這次審查包括深入研究香港航空法例及相關的政策、要求和程序。國際民用航空組織審查組接見了民航處飛行標準及適航部各階層的專業人員，並且探訪了國泰航空公司和港龍航空公司，以觀察安全監察系統在航空公司施行的實況。

審查結果

整體評語(附件 3.1 段)

4. 國際民用航空組織審查組給予的整體評語是正面的。審查組對我們的政策、規則、程序、架構及人手安排，都給予正面的評價。審查組在離開香港前向民航處匯報時，提到對香港只提出七項改進建議，是已審查了約一百五十個航空當局中，建議改進事項數目最少的其中一個。小組亦讚譽兩所接受訪問的本地航空公司的安全水平，以及在航空安全事宜上民航處與這些航空公司的緊密合作。

5. 我們最近收到正式審查報告，報告的摘要載於附件(按：原文並無中釋本)。主要結論和建議事項覆述如下。

民航法律和規例(附件 3.2 段)

6. 審查組總結香港的航空法規是完整、足夠和令人滿意的，並沒有發現問題需要改善。

民航架構制度(附件 3.3 段)

7. 審查組認為民航處的架構、制度和可用資源，足夠香港履行有關人員執照、航空器營運和適航性各方面的安全監察責任。所

有服務於飛行標準及適航部的有關人員，他們的職責和授權都清楚界定，有關人員亦接受足夠的培訓。審查組提出了一項建議，認為民航處應為飛行營運督察設立一個更全面性的培訓計劃。

人員牌照和培訓(附件 3.4 段)

8. 審查組認為香港有恰當的規例和程序，以實施國際民用航空公約的相關國際標準和建議措施。飛行標準及適航部的人員執照組有足夠和合資格的人員去履行職務。

9. 在這方面只有一個建議，審查組注意到民航處按國際慣例授權航空公司委任飛行考驗員代表民航處向投考者進行飛行考驗。民航處只在初次發給考驗授權時和每次續期授權時查核這些考驗員。審查組建議民航處應採取措施於初發授權和每次續期之間，監察考驗員的表現。

航空器營運審定和監管(附件 3.5 段)

10. 審查組認為民航處投放於檢查和審定以香港為基地的營運人所需架構、人員安排、法規和程序是適當和充分的，足以確保符合國際民用航空組織的相關國際標準和建議措施的要求。有關的飛行標準及適航部人員都持有恰當的飛行員執照和航空器機型級別和所需經驗。指引員工執行職務和通知業內有關民航處的要求所需的政策和程序亦已確立。

11. 審查組只有一項建議，就是檢查手冊應先闡釋清楚就申請航空運輸企業經營許可證初次查核的範圍/程序，並且闡釋為確保有關許可證的要求得到遵守，民航處所採取措施的執行程序。

航空器適航性(附件 3.6 段)

12. 審查組認為香港有效地籌劃和實施持續適航檢查和監察制度。飛行標準及適航部適航組備有接受過充分培訓並且合乎資格的人員去履行職務。

13. 在這方面共有四項建議，都與民航處運作文件或程序有關。第一，民航處應考慮在有關管制文件中，要求航空公司依照國際民用航空組織國際標準和建議措施，訂定航空器內最低危炸彈放

置位置[2]。第二，民航處應考慮在批準航空器維修機構的要求內註明該等機構技術經理的最低資格。第三，應在民航處規例內註明採納航空器設計國的適航指令的要求和程序。第四，民航處的特許飛行授權[3]，應註明要求營運人士取得航空器運作空域的管轄航空當局的核準。

實施建議

14. 民航處接受並且已經實施所有七項國際民用航空組織審查組的建議，項目包括改良飛行營運督察的培訓計劃(上文第七段述)，引進中期評核飛行考驗員表現的制度(上文九段述)，並且修訂有關航空運輸企業經營許可證及航空器適航性的運作文件和程序(上文第十一及十三段述)。

15. 民航處將繼續加強其監察系統，以確保在香港登記的航空器、有關的營運人士和維修機構全面符合相關的國際標準。民航處亦致力與業界合作，維持飛行安全的高水平，與及推廣香港作為國際和區域航運中心。

民航處
二零零一年十一月

L:\NA\ESPANEL\NOV01\ICAO\ICAO-C.DOC

[2] 若在飛行中發現飛機上有炸彈，把炸彈放在這指定位置會對飛機構成最低危險。
[3] 當一架飛機在香港以外受到損壞，民航處可發出特許飛行授權，授權該沒有載客的飛機飛往修理的地方。

ICAO Universal Safety Oversight Audit Programme

AUDIT SUMMARY REPORT OF THE CIVIL AVIATION DEPARTMENT OF HONG KONG SPECIAL ADMINISTRATIVE REGION OF THE PEOPLE'S REPUBLIC OF CHINA

(*Hong Kong, 17 to 24 November 2000)*

INTERNATIONAL CIVIL AVIATION ORGANIZATION

ICAO UNIVERSAL SAFETY OVERSIGHT AUDIT PROGRAMME

Audit Summary Report on the Safety Oversight Audit Mission to Hong Kong, People's Republic of China

(Hong Kong, 17 to 24 November 2000)

1. BACKGROUND

1.1 The Civil Aviation Department (CAD) of Hong Kong, People's Republic of China was audited from 17 to 24 November 2000 by an ICAO safety oversight audit team in accordance with the Memorandum of Understanding (MOU) agreed on between Hong Kong, People's Republic of China and ICAO. The audit was carried out pursuant to Assembly Resolution A32-11, with the objective of ascertaining the safety oversight capability of the CAD of Hong Kong, People's Republic of China and to ensure that it is in conformity with ICAO Standards and Recommended Practices (SARPs), as contained in Annexes 1, 6 and 8 to the *Convention on International Civil Aviation* (*Chicago Convention*) and related provisions in other Annexes, guidance material and relevant safety-related practices in general use in the aviation industry.

1.2 On 12 February 2001, Hong Kong, People's Republic of China submitted an action plan addressing all the findings and recommendations contained in the audit interim report and also containing comments and clarifications of some of the items contained in the audit interim report. The action plan submitted was reviewed by the Safety Oversight Audit (SOA) Section and was found to be satisfactory. The comments and clarifications provided were, as appropriate, taken into consideration in the preparation of this report.

2. CIVIL AVIATION ACTIVITIES IN HONG KONG, PEOPLE'S REPUBLIC OF CHINA

At the time of the audit, civil aviation activities in Hong Kong, People's Republic of China included:

a) number of technical staff employed by the organization at Headquarters	26
b) number of active pilot licences	1 732
c) number of active flight crew licences other than pilot licences	72
d) number of active licences other than flight crew licences	992
e) number of commercial air transport operators	6
f) number of air operator certificates (AOCs) issued	6
g) number of aircraft operations inspectors	10
h) number of aircraft registered in Hong Kong	113

i) number of Certificates of Airworthiness (C of As) issued 110

j) number of approved maintenance organizations (AMOs) 36

k) number of aircraft airworthiness inspectors 10

3. SUMMARY OF FINDINGS

3.1 General Statement

3.1.1 The *Basic Law of the Hong Kong Special Administrative Region (HKSAR)* provides that the Government of the HKSAR shall provide conditions and take measures for the maintenance of the status of Hong Kong's international and regional aviation, shall be responsible for its own matters of routine business and technical management of civil aviation, and shall continue the previous system of civil aviation management in Hong Kong. Thus, Hong Kong has a separate system of laws and regulations related to aviation from that of the People's Republic of China. Hong Kong has the necessary legal framework in the form of laws, regulations and regulatory documents to effectively certify and supervise its air operators. The *Civil Aviation Ordinance 1994 (Chapter 448 of the Laws of Hong Kong)* is the primary aviation law. The *Air Navigation (Hong Kong) Order 1995* is the highest level of operating regulations. The Ordinance and the Order are supported by policy and procedures documents such as Civil Aviation Documents, Airworthiness Notices, Aeronautical Information Circulars and internal guidance documents. Civil Aviation Documents are promulgated by the Director of Civil Aviation and have the status of "conditions such as the Chief Executive of the HKSAR sees fit" mentioned in several Articles of the Order. The Chief Executive has delegated his powers and duties under the Order to the Director of Civil Aviation. Such delegation was continued after the reunification of Hong Kong and the People's Republic of China on 1 July1997. The Director of Civil Aviation has further delegated a number of those duties and responsibilities to various officers within the Civil Aviation Department, such as those related to access and inspection, which he has delegated to individual inspectors.

3.1.2 The Government of the HKSAR is headed by a Chief Executive to whom the various Secretaries and Commissions report. The Civil Aviation Department (CAD) reports to the Economic Services Bureau, which has the policy responsibility for civil air navigation and has the policy oversight on the work of the CAD. The Director of Civil Aviation is the head of the CAD. The organization and system established by the CAD and the resources available are adequate for Hong Kong to fulfil its responsibility for safety oversight with respect to personnel licensing, aircraft operations and airworthiness. The organizational structure of the CAD is harmonized with the overall administrative organization of the HKSAR. The CAD receives a budget allocation which is adequate to discharge its safety oversight responsibilities. The CAD has adopted appropriate policies and developed suitable procedures to guide its personnel in the performance of their tasks. Offices are suitably equipped and up-to-date technical documentation is readily available. Within the CAD, the Flight Standards and Airworthiness Division (FSAD) is responsible for operator certification and continuing surveillance. Responsibilities and lines of authority are clearly defined for all offices within FSAD. Personnel are provided with adequate training with the exception of training related to routine inspector job tasks and administrative matters. This is accomplished primarily on the job and most technical officers within the Flight Standards Office have not been sent to formal indoctrination courses on the duties and responsibilities of government Flight Operations Inspectors.

3.1.3 There are adequate regulations and procedures to implement the SARPs contained in Annex 1. The requirement to hold aviation-related licences is provided in the Order. Technical requirements applicable to licensing are issued in Civil Aviation Documents. The Personnel Licensing Office of the FSAD has adequate and suitably qualified licensing staff to accomplish its assigned functions. The *Personnel Licensing Office Procedures Manual* provides job descriptions, prerequisites for appointment and all required procedures to guide personnel in the performance of their duties. Personnel licensing files containing complete records of all applicants and licence holders are maintained and securely kept. The multiple verification performed during the processing of applications ensures integrity of the process. However, there is no system or procedure in place to systematically supervise and control the performance of designated flight test examiners after their initial appointment other than the requirement for observing them prior to renewal of their authority every three years.

3.1.4 The organization, staffing, policies and procedures employed for the inspection and certification of air operators in Hong Kong are adequate to ensure compliance with the relevant SARPs contained in Annex 6. Technical officers within the Flight Standards Office of the FSAD have appropriate licences and ratings and the requisite experience. The policies and procedures to guide inspectors in the performance of their duties and to inform industry of CAD requirements are well established. The empowerment of inspectors by law, regulations and directives is adequate. However, *CAD 120 Inspecting Staff Manual (Flight Operations)* does not contain detailed, written guidance to inspectors concerning the scope of the inspections which are to be carried out during the inspection phase of approval for an initial AOC. Furthermore, the guidance contained in CAD 120 with respect to cases of non-compliance with the Order and other regulatory documents is limited in scope.

3.1.5 The system for continuing airworthiness inspection and surveillance in Hong Kong is effectively organized and implemented. The Airworthiness Office of the FSAD is well staffed with appropriately qualified technical officers who have received sufficient training to effectively carry out their duties and responsibilities. Policies and procedures for carrying out airworthiness-related job tasks are well documented. There is no regulatory provision which requires operators to identify a least-risk bomb location and the procedures for AMO certification do not establish the minimum qualifications for technical managers of AMOs. There is a lack of regulations and procedures with respect to adopting mandatory continuing airworthiness information directly from the State of Design and the requirement for an operator using a special flight authorization to obtain authorization from the civil aviation administration within whose airspace the aircraft is intended to be operated.

3.2 Primary aviation legislation and civil aviation regulations in Hong Kong, People's Republic of China

3.2.1 Abstract of findings

3.2.1.1 The *Basic Law of the Hong Kong Special Administrative Region (HKSAR)* authorizes the HKSAR to exercise a high degree of autonomy and to enjoy executive, legislative, and independent judicial power. Various articles within this law provide that the Government of the HKSAR shall provide conditions and take measures for the maintenance of the status of Hong Kong as a centre of international and regional aviation, shall be responsible for its own matters of routine business and technical management of civil aviation, and shall continue the previous system of civil aviation

management in Hong Kong. Thus, Hong Kong, although a part of China, has a separate system of laws and regulations related to aviation from that of the People's Republic of China.

3.2.1.2 The primary aviation legislation in Hong Kong is the *Civil Aviation Ordinance 1994* (Chapter 448 of the Laws of Hong Kong), hereafter referred to as "the Ordinance". The Ordinance meets the basic criteria for primary legislation outlined in ICAO Doc 8335. It provides that the Chief Executive in Council, who is the head of the HKSAR, may make orders and provisions for implementing the *Chicago Convention* and its Annexes and for generally regulating air navigation, including provisions concerning the registration of aircraft, certificates of airworthiness, access to aerodromes for the purpose of inspecting aircraft and operations, and the manner and conditions concerning the issuance of licences and other documents. Regulations made under the Ordinance contain a number of articles specific to the licensing of air services and to the investigation of accidents.

3.2.1.3 In *Air Navigation (Hong Kong) Order 1995 (SI 1995 No. 2700)*, the Chief Executive has delegated his powers and duties under the *Air Navigation (Hong Kong) Order 1995* to the Director of Civil Aviation. Such delegation was continued after the reunification of Hong Kong and the People's Republic of China on 1 July 1997 in accordance with Chapter 2601 of the *Hong Kong Reunification Ordinance*. The Director of Civil Aviation has further delegated a number of those duties and responsibilities to various officers within the Civil Aviation Department (CAD), by reference to Article provisions and to specific job titles, in accordance with a memorandum effective 3 October 2000.

3.2.1.4 The *Air Navigation (Hong Kong) Order 1995*, hereafter referred to as "the Order", is subsidiary to the Ordinance and is the highest level of civil aviation operating regulations within Hong Kong. The Order is comprehensive and, with few exceptions, adequately implements the Standards contained in Annexes 1, 6, and 8 to the *Chicago Convention*.

3.2.1.5 There are a number of articles in the Order which permit access by inspectors to aerodromes, aircraft, and operator facilities for the purpose of conducting specific inspections, including inspections related to the manufacture of aircraft parts or equipment, the storage and delivery of aviation fuel, and aircraft, documents and records. Among the duties and responsibilities delegated by the Director of Civil Aviation to individual inspectors are those related to access and inspection.

3.2.1.6 The Order is supported by policy and procedures documents such as Civil Aviation Documents, Hong Kong Aviation Requirements (HKARs), and Aeronautical Information Circulars. These documents encompass a broad range of subjects, such as approval of authorized examiners, approval of maintenance organizations and aircraft fuelling. The Civil Aviation Documents are promulgated by the Director of Civil Aviation and have the status of "conditions such as the Chief Executive of the HKSAR sees fit" mentioned in several Articles of the Order.

3.2.1.7 Penalties for non-compliance with the Order are contained in Article 91 and Schedule 13. Civil Aviation Documents and other forms of directives and instructions are enforced, when necessary, through an administrative process which may include letters of warning and suspension or revocation of licences, certificates and authorizations.

3.2.1.8 Preceding and immediately following the reunification of Hong Kong with the People's Republic of China, actions by the CAD concerning civil aviation laws, orders and other regulatory

documents were primarily concerned with the localization and adaptation of such laws, orders and regulations. However, during several months preceding this audit, the Flight Standards and Airworthiness Division (FSAD) of the CAD undertook an extensive review of the content of its regulatory materials with regard to ICAO SARPs and associated guidance material. This review has resulted in an action plan which has eliminated a majority of differences, which could be effected at the Departmental level, or which has initiated action to amend the Ordinance and Order as required. It is expected that the few differences which remain will be eliminated in the near future.

3.2.2 Corrective action proposed/implemented by Hong Kong, People's Republic of China

During the audit and in line with the procedures established on the basis of the MOU and the Exchange of Letters between ICAO and the CAD of Hong Kong, the primary aviation legislation and civil aviation regulations in Hong Kong were found to be comprehensive, adequate and satisfactory and no findings were identified that required corrective action to be taken in this area.

3.3 Civil aviation organization system in Hong Kong, People's Republic of China

3.3.1 Abstract of findings

3.3.1.1 The HKSAR has been established in accordance with the provisions of Article 31 of the *Constitution of the People's Republic of China* under the principle of "one country, two systems". Pursuant to the *Basic Law of the HKSAR*, the HKSAR exercises a high degree of autonomy and enjoys executive, legislative and independent judicial power. The Government of the HKSAR is headed by a Chief Executive to whom the various Secretaries and Commissions report. The CAD reports to the Economic Services Bureau. The Director of Civil Aviation is the head of the CAD.

3.3.1.2 Seven of the eight divisions forming the CAD are headed by Assistant Directors who report to the Deputy Director of Civil Aviation. These Divisions are Finance, Administration, Air Services, Airport Standards, Air Traffic Management, Technical Planning and the Flight Standards and Airworthiness Division.

3.3.1.3 The eighth division is the Accident Investigation Division which is mobilized, only when required, by drawing specially trained inspectors and staff from other divisions. Under the *Hong Kong Civil Aviation (Investigation of Accidents) Regulations* (Sub-legislation B of the Ordinance) the Director of Civil Aviation is the Chief Inspector of Accidents. Whenever an investigation is required, a trained inspector is designated as the Inspector-in-Charge of the investigation. The investigation is conducted in accordance with the above-mentioned regulations and Annex 13 to the *Chicago Convention*.

3.3.1.4 Within the Flight Standard and Airworthiness Division (FSAD) are the Flight Standards and the Airworthiness Offices. The Flight Standards Office, which includes the Flight Operations Office and the Personnel Licensing Office, is headed by the Chief of Flight Standards. The Airworthiness Office is the sole airworthiness regulatory agency in Hong Kong. Various SARPs contained in Annexes 1, 6, 8, 13 and 16 fall under the responsibility of the Flight Standards and Airworthiness Division.

3.3.1.5 All divisions are located in Hong Kong and there are no regional offices. The Hong Kong Airport Authority manages the Hong Kong International Airport and is regulated by the CAD through the Airport Standards Division.

3.3.1.6 The CAD obtains its financial resources through a budget allocation from the Government. Any increase in resources, except for those related to aviation security which are presented to the Security Bureau, must be presented to the Economic Service Bureau and the Finance Bureau for vetting and endorsement. The budget is approved by the Finance Committee of the Legislative Council each year in March. The Director of Civil Aviation is the controlling officer of the budget. Approximately 63 per cent of the FSAD budget is used to cover salaries. The FSAD intends to eventually generate revenues equivalent to its entire operation costs.

3.3.1.7 The CAD has a total workforce of 720 persons. The FSAD employs twenty-four technical and nineteen clerical staff. They all have access to the Internet, to both the Government and the CAD Intranet systems and use modern office automation and communication equipment. Terms of reference for each office and the responsibilities of each chief are outlined in the FSAD exposition manual. Terms of reference and responsibilities of personnel are included in each office's administrative manual.

3.3.1.8 Personnel employed by the CAD are public service employees and recruitment is performed in accordance with the rules and procedures applicable to the public service. The FSAD determines the qualifications and experience required for each of its technical positions and conducts all interviews. This process enables the FSAD to recruit and retain adequately qualified and experienced technical staff. Salaries of the FSAD technical staff are established by the CSB using industry salaries as a reference.

3.3.1.9 Technical staff remuneration is generally comparable with that of industry. However, a newly-hired airworthiness specialist earns only 70 per cent of what is offered by industry to individuals with comparable expertise and experience. Remuneration for Flight Operations Inspectors is almost comparable to that of industry in that salaries are somewhat less but benefits contribute to reduce the difference. The CAD and the CSB have established new conditions of employment whereby inspectors would be appointed as consultants under contract rather than employed by the public service. This is expected to allow for better remuneration, hence reducing the gap with industry.

3.3.1.10 The FSAD has adopted and published a training policy concerning staffing and training. In accordance with this policy, each office is responsible for developing a training programme to address initial, recurrent and specialized training required by the office. The programmes are described in the administrative and procedures manuals developed by each office to guide personnel in the performance of their tasks. The personnel records maintained for each employee by the CAD Secretary contain a list of all government training received and each office keeps records of internal training provided.

3.3.1.11 Although government funding for training both within and outside of Hong Kong appears to be readily available, there is no comprehensive, documented training policy or programme for training related to routine inspector job tasks and administrative matters. This is accomplished primarily on-the-job and without the benefit of a master plan. Most technical officers within the Flight Standards Office

have not been sent to formal indoctrination courses on the duties and responsibilities of government Flight Operations Inspectors.

3.3.1.12 Relevant technical and up-to-date documentation is readily available to technical and administrative staff of the FSAD in a central library. In addition, each staff member has a copy of the regulatory and technical documentation required to support the performance of the tasks associated with their respective positions.

3.3.2 Corrective action proposed/implemented by Hong Kong, People's Republic of China

With respect to the recommendation that a comprehensive inspector training programme be developed to address all job tasks and competencies which are required for inspectors to undertake their responsibilities, the CAD indicated that formal indoctrination courses and refresher courses at appropriate institutions will be introduced for all inspecting staff by 1 July 2001.

3.4 Personnel licensing and training in Hong Kong, People's Republic of China

3.4.1 Abstract of findings

3.4.1.1 The Order empowers the Chief Executive (as delegated to the Director of Civil Aviation) to grant licences and ratings "subject to such conditions as he thinks fit". The conditions referred to are described in Civil Aviation Documents. The Civil Aviation Documents which include the technical requirements for licences are:

— *CAD 50 Flight Engineer's Licence*
— *CAD 54 Pilot Licences and Associated Ratings*
— *CAD 65 Licensing — Aircraft Maintenance Engineers*

3.4.1.2 The Personnel Licensing Office is part of the FSAD and is managed by the Senior Safety Officer who reports to the Chief of Flight Standards. The Senior Safety Officer is assisted by a Safety Officer and two personnel licensing officers. Administrative support is provided by three clerical officers reporting to an officer-in-charge. The lines of authority, terms of reference and responsibilities associated with each position are described in the *Personnel Licensing Office Procedures Manual*.

3.4.1.3 A list of basic training requirements and a training plan have been established for all technical staff of the Personnel Licensing Office. A detailed syllabus outlining the programme to provide on-the-job training to technical staff has been developed. It includes all administrative and regulatory requirements associated with the licensing process.

3.4.1.4 Each officer maintains a copy of the Order, a copy of all licensing related guidance material and a copy of the *Personnel Office Procedure Manual*. Copies of these documents are also available in the Personnel Licensing Office's technical library.

3.4.1.5 The Hong Kong Aeronautical Information Publication includes a reference to *CAD 54 Pilot Licences and Associated Ratings* which contains the requirements with respect to licensing procedures and provides a list of recommended books and manuals which may be studied in preparation

for examinations. A schedule of examination sessions is published annually and all examinations are conducted by the FSAD. There are normally several sets of examination papers for each subject and the questions are updated regularly or when new technology and requirements arise.

3.4.1.6 Applications for licences provide information relating to the age, knowledge, experience, skills and medical fitness of the applicant and are reviewed using a multiple-step verification procedure. The Director of Civil Aviation has delegated to the Personnel Licensing Officers the authority to sign licences on his behalf. This delegation is also provided to the Safety Officers, Senior Safety Officer, Chief of Flight Standards and the Assistant Director. An appeal process for decisions made on licensing matters is in place.

3.4.1.7 With the exception of the flight operations officer licence and the aeronautical station operator licence, the Order provides for the issuance of all licences described in Annex 1 as well as gyroplane and airship pilot licences. However, the current operations and the nature of the landscape are such that flight navigator licences, free balloon, glider, gyroplane and airship pilot licences are not issued. The licences issued by Hong Kong are of the expiring type.

3.4.1.8 *CAD 54 Pilot Licences and Associated Ratings*, Part 3, Chapter 3, includes the requirements for obtaining a Hong Kong licence on the basis of a foreign licence. Applications to obtain a Hong Kong licence through conversion of a foreign licence must be supported by a Hong Kong-based operator. The Personnel Licensing Office has established a verification procedure requiring that the issuing State be contacted. This procedure is randomly applied. In all cases, the regulatory requirements of the issuing State are consulted if readily available. All applicants are required to write an examination on Hong Kong legislation and undergo a practical test.

3.4.1.9 Validation allowing foreign licence holders to perform short-term specialized operations or to conduct specific training or testing of flight crews and aircraft may be granted. In the case of conducting training and testing, the application for validations must be supported by a Hong Kong-based operator and validations are available only to pilots sufficiently experienced to conduct training and testing on specific types of aircraft. The FSAD does not validate other licences. Military pilots may apply for a Hong Kong pilot licence provided that they have already possessed a civilian pilot licence obtained through examinations and issued by an ICAO Contracting State.

3.4.1.10 Written examinations required for flight crew licences are prepared, invigilated and corrected by the staff of the Personnel Licensing Office. Cathay Pacific Airways has been delegated the authority to prepare and conduct examinations for aircraft type ratings. The delegation is valid for its own flight crews and only for the aircraft types it operates. However, the examinations are subject to approval by the Flight Standards Office as part of the approved type rating training programme. FSAD relies on designated flight test examiners to conduct the practical tests required in the issuance of licences or type ratings.

3.4.1.11 AME licences are printed and signed in the Personnel Licensing Office. Requirements to have such licences are established in Article 11 of the Order. Ratings for small aircraft systems may be endorsed on AME licences in accordance with *CAD 65 Licensing — Aircraft Maintenance Engineers*. Only AMEs who are employed by organizations approved in accordance with *CAD 145 Approved*

Maintenance Organizations and who have completed the approved training and succeeded in the required examinations may be authorized to release large aircraft to service.

3.4.1.12 Approval of training programmes for organizations approved in accordance with *CAD 145 Approved Maintenance Organizations* is performed by the Airworthiness Office staff. They process the applications for basic AME licences, assess the applicant's experience, prepare, invigilate and mark examinations, and make recommendations for the licences to be issued. The administrative process is identical to that used to issue flight crew licences.

3.4.1.13 The process for issuing air traffic controller licences is entirely under the responsibility of the Air Traffic Management Division which reports to the Director of Civil Aviation. Three different offices are involved in the process. The Training and Evaluation Office provides professional training, the Air Traffic Services Office provides on-the-job training (OJT) and the Standards Office, in collaboration with the Training and Evaluation Office, prepares and conducts all examinations and evaluations leading to the issue of a licence.

3.4.1.14 Medical fitness of licence holders is determined by designated medical examiners. The examination reports are reviewed by medical assessors on behalf of the CAD. The assessors make the final assessment and the medical certificate is issued by the Personnel Licensing Office. Whenever medical Standards prescribed in Annex 1 are not fully met, the case is reviewed by two medical assessors before a final determination is made. The CAD has no arrangement for the deferral of a medical assessment. In order to be considered for designation as a medical examiner, physicians are required to demonstrate that they have been trained in an accepted medical institute in the United Kingdom, Australia or the United States, that they are experienced in aviation medicine, and that they have the required facilities and equipment to perform the examinations.

3.4.1.15 Candidates seeking designated flight test examiner authority must first be recommended by an operator and are required to hold the licence and qualifications for which the authority is sought. After having successfully completed an examiner course, they are required to conduct a practical examination under the supervision of a Flight Operations Inspector after which a specific authorization, valid for three years, is issued to the examiner. The authority remains valid if the examiner has conducted a minimum of six tests within a period of twelve months. Monitoring by a Flight Operations Inspector is performed for renewal of the validity. Requirements applicable to designated examiners are contained in *CAD 170 Guide to Authorized Examiners*. The *Personnel Licensing Office Procedures Manual*, Chapter 5 provides the administrative procedures applicable to the processing of initial applications and renewal of examiners. There is no system or procedure in place within the FSAD to systematically supervise and control the performance of the designated flight test examiners after their initial appointment, other than the monitoring required for the renewal of their authority.

3.4.1.16 The Personnel Licensing Office maintains a file for each applicant and licence holder. The files contain all correspondence, applications, assessments and examination results relating to the issuance of licences and ratings. Those files are maintained in locked cabinets within the licensing office. Archived files which are inactive for five years are destroyed after the licence details are scanned into CD-Rom for future use.

3.4.1.17 There is no flight training school in Hong Kong. The requirements to operate a Hong Kong approved training organization are detailed in *CAD 509 Approval of Flying Training Organizations*. The process used by the FSAD to certify a training organization is similar to that provided in JAR-FCL.

3.4.1.18 The FSAD approved, in June 2000, a training organization in Adelaide, Australia to provide ab-initio training for the issue of Hong Kong personnel licences. The FSAD reviewed and approved the manuals, agreed to the appointment of the proposed candidates to key positions and conducted an inspection of the facilities. The school is authorized to conduct integrated commercial pilot licence training with instrument rating and frozen air transport pilot licence training. The course duration is sixty weeks. The first course is expected to be completed in June 2001. The students enrolled in the first course are cadets sponsored by the two main Hong Kong-based operators, Cathay Pacific Airways and Hong Kong Dragon Airlines. The training school is subject to an annual audit for the renewal of its certificate. However, the FSAD may conduct other inspections if deemed necessary.

3.4.2 Corrective action proposed/implemented by Hong Kong, People's Republic of China

With respect to establishing a system for the supervision and control of designated examiners and for monitoring the delivery of flight and practical tests performed by such examiners, the CAD indicated that, by 1 July 2001, appropriate statements will be incorporated into CAD 120 — Inspecting Staff Manual (Flight Operations), *Chapters 4, 6 and 11 and* CAD 170 — Guide to Authorized Examiners, *in order to reflect the appropriate ICAO guidance material. By this same date, the CAD will establish a system, and develop and implement procedures to conduct a sufficient number of checks each year.*

3.5 Aircraft operations certification and supervision in Hong Kong, People's Republic of China

3.5.1 Abstract of findings

3.5.1.1 Article 6 of the Order requires that an aircraft registered in Hong Kong may not be used for public transport unless operated in accordance with an air operator certificate (AOC) granted by the Chief Executive in accordance which such conditions as he sees fit. Article 62 of the Order provides for the revocation, suspension or variation of AOCs.

3.5.1.2 The Flight Standards Office of the FSAD is responsible for the operational certification and supervision of air operators as well as any enforcement action that may become necessary. The Flight Standards Office is headed by a Chief, Flight Standards and is staffed by four Flight Operations Inspectors, one Helicopter Operations Inspector, two Senior Safety Officers and three Safety Officers. There are six clerical and administrative staff members assigned to the office to assist in its work programme. Facilities to support the flight operations oversight function are adequate.

3.5.1.3 Operations inspectors' duties and responsibilities encompass the full range of tasks associated with the certification and supervision of air operators as described in ICAO Doc 8335. There is a plan to add four senior operations inspector positions to the roster in 2001. These positions will be filled by promoting qualified Senior Safety Officers and/or recruiting from the industry. Senior Operations Inspectors are either ATPL(A) holders with at least 5 000 hours air transport experience or CPL(A)

holders with multi-engine instrument ratings and an ATPL level of knowledge, and must have at least seven years of regulatory experience.

3.5.1.4 Senior Safety Officer and Safety Officer duties and responsibilities are mostly administrative. They are responsible for crew licensing, the registration of aircraft, internal and external liaison and a variety of special projects and studies such as those concerned with flight time limitations and weather minima. The Senior Safety Officers are CPL(A) holders with multi-engine instrument ratings and regulatory experience and have completed a training programme for qualification as accident inspectors.

3.5.1.5 Training requirements for operations inspectors, which emphasize aircraft qualifications and currency, are contained in Chapter 1 of *CAD 120 Inspecting Staff Manual (Flight Operations)*. Inspectors must maintain competence and currency on the appropriate aircraft type, including a valid instrument rating. Recurrent technical training for Flight Operations Inspectors is provided by the operator and Flight Operations Inspectors periodically perform line flights as co-pilots under the supervision of a company training pilot in order to maintain proficiency and recency of experience. Flight Operations Inspectors routinely receive training in dangerous goods, cabin safety and human factors as part of their recurrent training programmes with the operator.

3.5.1.6 Although government funding for training both within and outside of Hong Kong appears to be readily available, training which is specific to routine inspector tasks and administrative matters has not been made the subject of a comprehensive training plan and is accomplished primarily on the job and without the benefit of a master plan. A number of flight operation inspectors, Senior Safety Officers and Safety Officers have completed a formal course of accident investigation training in the United Kingdom and Singapore. Others have received supervisory training relevant to their administrative duties. Although one Senior Safety Officer has completed a basic Flight Operations Inspector course in the United Kingdom, most technical officers within the office have not been sent to formal indoctrination courses on the duties and responsibilities of government Flight Operations Inspectors. Individual training records are maintained for all technical staff which adequately document training which has been completed.

3.5.1.7 The Flight Operations Office maintains a technical library which contains a complete set of relevant ICAO publications, law books, technical reference books and periodicals. Operator manuals are maintained within the offices of the Flight Operations Inspectors responsible for specific aeroplane types. A master list of all available and required publications is kept which tracks the location of each document. Space for a centralized FSAD technical library to contain operations and airworthiness documents has recently been allocated.

3.5.1.8 *CAD 360 Air Operator's Certificate Requirements Document* contains detailed information concerning the administrative procedure for the issuance or variation of an AOC, together with the requirements to be met by applicants and certificate holders in respect of equipment, organization, staffing, training and other matters affecting the operation of aircraft. *CAD 120 Inspecting Staff Manual (Flight Operations)* provides internal guidance to FSAD personnel for the purpose of carrying out their duties and responsibilities related to AOC administration.

3.5.1.9 Records of recent initial AOC certifications indicate that such inspections were consistent with Chapters 5 and 9 of ICAO Doc 8335, including inspections of station facilities, operations control,

operational records. However, CAD 120 emphasizes the inspection and surveillance of existing operators and there is currently no detailed, written guidance to inspectors concerning the scope of the inspections which are to be carried out during the inspection phase of approval for an initial AOC. The Flight Safety Office is expected to make that determination. Furthermore, the guidance contained in CAD 120 with respect to cases of non-compliance with the Order and other regulatory documents is limited in scope.

3.5.1.10 AOCs are renewed annually following a programme of assessment of the continuing suitability of the operator's organization, base facilities, training, equipment, and so on. Relevant inspections are accomplished on a quarterly basis in accordance with comprehensive guidance contained in CAD 120 and in accordance with Operations Staff Instructions which are issued periodically by the Chief, Flight Standards. The scope and frequency of the inspection and surveillance of operators, including training programmes, flight records and operational control are consistent with the guidance contained in Chapters 9 and 10 of ICAO Doc 8335 and with the size and activity of the operators. A review of the inspection records indicated that inspections are being conducted in accordance with the annual plan and that reports are being filed on a timely basis using standard checklists and report formats. Prior to annual renewal of an AOC, an AOC annual report is compiled which contains the records of all inspections, assessments and observations made during the preceding year and this report is used as the basis for the renewal.

3.5.1.11 Hong Kong's supervision and surveillance programme does not yield a large number of instances of non-compliance with the Ordinance, Order, or the requirements of the various Civil Aviation Documents. Enforcement is normally accomplished through an administrative process which is briefly described in CAD 120.

3.5.2 Corrective action proposed/implemented by Hong Kong, People's Republic of China

The CAD indicated in its action plan that detailed procedures will be included in CAD 120 — Inspecting Staff Manual *by 1 July 2001 to reflect the scope of operational inspections which should be accomplished during the process of approving an initial AOC. By this same date, a detailed policy and the necessary procedures concerning cases of non-compliance with the Order and other regulatory requirements will be included in Chapter 1 of CAD 120.*

3.6 Airworthiness of aircraft in Hong Kong, People's Republic of China

3.6.1 Abstract of findings

3.6.1.1 The civil aviation regulations related to airworthiness in Hong Kong comprise the Hong Kong Aviation Requirements (HKAR), specifically *Approved Maintenance Organizations (HKAR-145)* and *Airworthiness Procedures (HKAR-1), CAD 360 Air Operator's Certificates Requirements Document* and Airworthiness Notices. The internal procedures to be used by airworthiness inspectors are contained in the *Administration Procedures Manual* and the *Technical Procedures Manual*. Most of these documents have been recently issued or updated and they form an effective system of airworthiness regulations. The issue and renewal of airworthiness regulations is initiated by the Chief, Airworthiness Standards.

3.6.1.2 There is no regulatory provision which requires operators to identify a least risk bomb location in accordance with paragraph 9.3.5 of Annex 8.

3.6.1.2.1 The Airworthiness Office of the FSAD is responsible for continuing airworthiness surveillance in Hong Kong. The Airworthiness Officers are responsible for conducting airworthiness inspections and surveillance for the issue and renewal of Certificates of Airworthiness, Aircraft Maintenance Organization Certificates and licences for certified aircraft maintenance engineers. The issue of type certificates is part of the procedure for issuing Certificates of Airworthiness and is accomplished by validating the original type certificate from the State of Manufacture. AOCs are issued and renewed by the Director of Civil Aviation after endorsement by the Airworthiness Office and the Flight Standards Office. Licences for aircraft maintenance engineers are issued and renewed by the Personnel Licensing Office after receiving a recommendation from the Airworthiness Office. The Airworthiness Office has a total workforce of fifteen persons, of which ten are technical officers and five are administrative staff. The CAD will increase the number of Airworthiness Officers to fifteen by the end of 2001, in order to replace two United Kingdom CAA airworthiness advisors who will finish their contracts in July 2001 and to cope with the increasing workload due to the expected expansion of the aviation industry.

3.6.1.2.2 The Airworthiness Office is divided into four functional groups: Standards, Engineering, AOC and Maintenance. Each operator and approved maintenance organization (AMO) is assigned to an Airworthiness Officer for coordination of certification activities. Special airworthiness activities such as extended range operations by aeroplanes with two turbine power-units (ETOPS), human factors, minimum equipment list (MEL), and so on, are also assigned to an Airworthiness Officer to act as coordinator for those activities among the operators.

3.6.1.2.3 The Airworthiness Office has adequate office accommodations and equipment to support the officers in their job tasks, including individual computers, access to the Internet, telephones, telefax, and a reference library. The training standards, training programmes and the qualifications of personnel are adequate for the activities performed. The training and personnel records of the Airworthiness Officers were found to be up to date and contained the necessary information to establish the qualifications of the technical staff.

3.6.1.2.4 The procedures for certification of air operators and AMOs and for issue of Certificates of Airworthiness are described in the *Administration Procedures Manual* and the *Technical Procedures Manual*. For each certification process an appropriate checklist is followed. The certification procedures for air operators and AMOs include a formal application, a pre-certification meeting; the evaluation and acceptance of the documentation and manuals, a certification meeting between officers and applicant representatives, an audit of facilities, procedures and organization, and a final certification meeting. However, the procedures for AMO certification do not establish the minimum qualifications for technical managers of AMOs.

3.6.1.2.5 The procedure for issue of Certificates of Airworthiness includes a formal application, validation of the type certificate (if necessary), the approval of the maintenance programme for the aircraft, the evaluation of the modification status, the airworthiness directive status and the maintenance status. It also includes a ramp inspection of the aircraft and a flight test.

3.6.1.2.6 The *Airworthiness Procedures (HKAR-1)*, in paragraph 1.6-6, require air operators to comply with United Kingdom CAA airworthiness directives. However, there is no requirement or procedure in place for adopting mandatory continuing airworthiness information from the State of Design.

3.6.1.2.7 The procedures which exist for the issue of special flight authorizations do not require the operator to obtain authorization from the civil aviation administration within whose airspace the aircraft is intended to be operated.

3.6.1.2.8 Appropriate procedures are in place for the continuing airworthiness surveillance of air operators and maintenance organizations after the issue of certificates. Manuals, maintenance programmes and other documentation contained in the files of approved operators and organizations were found to be up to date and complete.

3.6.1.2.9 There are no aircraft manufacturing or design activities performed in Hong Kong.

3.6.2 **Corrective action proposed/implemented by Hong Kong, People's Republic of China**

3.6.2.1 *The CAD indicated in its action plan that the requirement for operators to identify a least-risk bomb location will be published in the Hong Kong Airworthiness Notices by 1 July 2001.*

3.6.2.2 *With respect to AMO certification, HKAR-145 will be amended by 1 July 2001 to require AMOs to specify the minimum qualifications of their technical managers.*

3.6.2.3 *The CAD indicated that paragraph 1.6-6 of HKAR-1 and Notice No. 36 of the Hong Kong Airworthiness Notices will be amended by 1 July 2001 to emphasize the direct adoption of continuing airworthiness information from States of Design.*

3.6.2.4 *With respect to special flight authorizations, the procedure will be amended to require that the operator obtain validation from the civil aviation administration within whose airspace the aircraft is intended to be operated. The procedure will be published in the Hong Kong Airworthiness Notices by 1 July 2001.*

4. COMMENTS

As indicated above, Hong Kong, People's Republic of China submitted an action plan on 12 February 2001, addressing all the findings and recommendations that were forwarded, including comments and feedback on the interim report sent on 12 January 2001. All the corrective actions proposed by the CAD with regards to ICAO findings have been implemented in accordance with the schedule established.

5. STATUS OF IMPLEMENTATION AND DIFFERENCES FROM THE ICAO SARPs

Differences identified during the audit are found in Appendices A and B to this summary report and differences vis-à-vis Standards will be included in the relevant Annex Supplement in line with Article 17 of the MOU signed between Hong Kong, People's Republic of China and ICAO.

— — — — — — — —

APPENDIX A

STATUS OF IMPLEMENTATION AND LIST OF DIFFERENCES FROM THE ICAO STANDARDS (ANNEX 1 — PERSONNEL LICENSING)

ICAO Annex 1 reference	Hong Kong's regulations reference	Differences between the regulations of Hong Kong and ICAO Standards
1.2.2.1	Order Article 19	Provision is made which renders valid a flight crew licence of Contracting States for flight for private pilot purposes, provided the licence holder receives no remuneration. Privileges of an instrument rating or flying instructor rating are excluded. No certificate of validation is issued.
2.1.9	CAD 54, Part 1, Appendix C	The holder of a commercial pilot licence – aeroplane may be credited with one half of the flight time spent undertaking the duties of cruise co-pilot up to a maximum of: — 600 hours counting as 300 hours towards the granting of an ATPL; — providing that valid pilot ratings are held for the type.
2.1.10.1	Order Schedule 9, Part A	The holder of an ATPL can act as pilot-in-command or co-pilot for the purpose of public transport after attaining the age of 60 if the authorized maximum total weight of the aircraft does not exceed 20 000 kg.
2.3.1.3.2	CAD 54, Part 2, Chapter 1, para. 1.5.6	Due to geographical limitations, pilots are unable to complete 150 NM of cross-country flight in Hong Kong. The PPL will have the following endorsement: "The holder has not met the requirements in respect of experience of cross-country solo flight time, specified in paragraph 2.3.1.3.2 of Annex 1 to the *Convention on International Civil Aviation*."
2.3.2.1	Order Schedule 9, Part A	A holder of a private pilot licence which includes a flight instructor rating for aeroplanes may be paid for giving instruction or conducting flight tests on aeroplanes when doing so as and with members of the same flying club.
2.7.2.1	Order Schedule 9, Part A	A holder of a private pilot licence which includes a flight instructor rating valid for helicopters may be paid for giving instruction or conducting flight tests on helicopters when doing so as and with members of the same flying club.
3.2	Order Schedule 9, Part A	Hong Kong does not currently issue flight navigator's licences although there is provision in the legislation.

ICAO Annex 1 reference	Hong Kong's regulations reference	Differences between the regulations of Hong Kong and ICAO Standards
4.3.1.1	Order Article 65	Minimum age is 20 for aerodrome control or area control ratings and 21 years of age for all other ratings.
4.5		There are no flight operations officer/flight dispatcher licences in Hong Kong.
4.6.1.4.1		There are no aeronautical station operator licences in Hong Kong.

STATUS OF IMPLEMENTATION AND LIST OF DIFFERENCES FROM THE ICAO STANDARDS (ANNEX 6 — OPERATION OF AIRCRAFT)

(PART I — International Commercial Air Transport — Aeroplanes)

ICAO Anne 6, Part I reference	Hong Kong's regulations reference	Differences between the national regulations of Hong Kong and ICAO Standards
4.4.3	Order Article 58	A period of 12 consecutive months for measurement of cosmic radiation doses is not specified.
6.3.1.5	Order	Not implemented.
6.3.1.5.1	Order	Not implemented.
6.3.10.2	Order	Not implemented.
6.5.1 (b)	Order	Not implemented.
6.5.2.1 (a)	Order	Not implemented.
6.5.3.1 (a)	Order	Not implemented.
6.15.1	Order	Requirement for GPWS applies only to aircraft with TOGW exceeding 15 000 kg or carrying more than 30 passengers.
9.4.3.5	CAD 360	Provides that an operator shall not continue to utilize a pilot as a pilot-in-command on a route unless, within the preceding 13 months the pilot has made at least one trip between the terminal points of that route as a pilot member of the flight crew, as a check pilot or as an observer on the flight deck.
9.4.4	CAD 360	Requires pilot proficiency checks to be completed twice within 13 months.
11.7	Order	Not implemented.

STATUS OF IMPLEMENTATION AND LIST OF DIFFERENCES FROM THE ICAO STANDARDS (ANNEX 8 — AIRWORTHINESS OF AIRCRAFT)

ICAO Annex 8 reference	Hong Kong's regulations reference	Differences between the national regulations of Hong Kong and ICAO Standards
6.2	CAD 360	Requirement to assess damage with regard to airworthiness not implemented.
9.3.5	CAD 360	Requirement for least-risk bomb location not implemented.

APPENDIX B

STATUS OF IMPLEMENTATION AND LIST OF DIFFERENCES FROM THE ICAO RECOMMENDED PRACTICES (ANNEX 1 — PERSONNEL LICENSING)

Note: *— The Chicago Convention requires that a Contracting State file differences existing between its regulations and ICAO Annex Standards. However, due to the specific mandate given to ICAO for the implementation of the ICAO Universal Safety Oversight Audit Programme, it is necessary to include differences existing between the national regulations and ICAO Annex Recommendations, including Annex definitions, to encourage implementation and for inclusion in the summary report.*

ICAO Annex 1 reference	Hong Kong's regulations reference	Differences between the national regulations of Hong Kong and ICAO Recommended Practices
2.1.3.1.1	CAD 54, Part 3, Chapter 9, para. 9.1.1	A type rating is required for each and every helicopter type which the licence holder files.
2.1.10.2	Order Schedule 9, Part A	A pilot who attains the age of 60 can operate as co-pilot on aircraft under 20 000 kg. General Exemption from Director of Civil Aviation: A pilot who attains the age of 60 can operate as co-pilot on aircraft above 20 000 kg up to the age of 65 provided that it is a multi-crew operation and the other pilot is under the age of 60 and possesses an appropriate licence.
3.3.1.2.1	CAD 50	Hong Kong does not require this knowledge for the issue of flight engineer licences.
6.3.2.8.1	Guidance Notes for Approved Medical Examiners	Unless clinically required, radiography examinations of the chest are not repeated following initial assessment.
6.4.2.8.1	Guidance Notes for Approved Medical Examiners	Not required for the initial or repeat medical assessments unless clinically indicated.

ICAO Annex 1 reference	Hong Kong's regulations reference	Differences between the national regulations of Hong Kong and ICAO Recommended Practices
6.5.2.8.1	Guidance Notes for Approved Medical Examiners	Unless clinically required, radiography examinations of the chest are not repeated following initial assessment.

— END —