

1997 Report

176 findings



ICAO SAFETY OVERSIGHT PROGRAMME

DEPARTMENT OF CIVIL AVIATION OF SRI LANKA

SAFETY OVERSIGHT ASSESSMENT FINAL REPORT

CONFIDENTIAL



INTERNATIONAL CIVIL AVIATION ORGANIZATION

SAFETY OVERSIGHT PROGRAMME

Final Report on Assessment Mission to Sri Lanka

(Colombo, 10 to 14 February 1997)

1. INTRODUCTION

1.1 Request for safety oversight assessment

1.1.1 The International Civil Aviation Organization (ICAO) was requested to carry out an assessment of the safety oversight capability of the Department of Civil Aviation (DCA) of Sri Lanka, to ensure that it is in conformity with ICAO Standards and Recommended Practices (SARPs) as contained in Annex 1 — *Personnel Licensing*, Annex 6 — *Operation of Aircraft* and Annex 8 — *Airworthiness of Aircraft* to the *Convention on International Civil Aviation*.

1.1.2 The request was addressed to the Secretary General of ICAO by the DCA of Sri Lanka and the objective and conditions of the safety oversight assessment are contained in the Memorandum of Understanding (MOU) agreed on 20 January 1997 between Sri Lanka and ICAO and included in Appendix A to this report.

1.2 Dates of the safety oversight assessment

1.2.1 The safety oversight assessment was carried out at Colombo from 10 to 14 February 1997.

1.3 Safety oversight assessment team composition

1.3.1 The safety oversight assessment team was composed of Capt. Haile Belai, team leader (Personnel Licensing), Mr. Raul Pomales, team member (Flight Operations) and Mr. Roy Barnett, team member (Airworthiness).

1.4 Officials contacted

a) Ministry of Media, Tourism and Aviation

Mr. W.P.S. Jayawardene	Secretary for Aviation
Mr. G.S. Withanage	Senior Assistant Secretary for Aviation
Mr. R.Y. de Silva	Additional Secretary for Aviation
Mr. Milton Aponso	Consultant on Aviation

b) Department of Civil Aviation

Mr. M.L.U. de S. Malalgoda	Director General of Civil Aviation
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Mr. H.M.C. Nimalsiri	Assistant Director, Operations
Mr. J. Wimalasena	Assistant Director, Personnel Licensing
Mr. W.P.M. Fernando Acting	Assistant Director, Aeronautical Inspection
Mr. V.J. Pamaratna	Aeronautical Inspector
Mr. L.R. Gunaratne	Aeronautical Inspector
Ms. H.S.R. Marasinghe	Aeronautical Inspector
Mr. A.M.P. Atapattu	Aeronautical Inspector
Mrs. Shantidevi Kotalawela	Senior Clerk, Personnel Licensing

c) **Air Lanka**

Capt. Nihal Jayawickrama	Manager, Flight Operations
Capt. Mohan O. Gooneratne	Chief Pilot, A320
Mr. M.H. Subasinghe	Senior Manager Engineering and Maintenance
Mr. K.A.N. Prera	Acting Manager, Inflight and Duty Free Services
Mr. Rashmore Ferdinands	Inflight Services Executive (Training)

d) **Sky Cabs/Asian Academy of Aeronautics**

Mr. Ali Akbar S. Jeevunjee	Chairman
Capt. Suranjan de Silva	Managing Director

1.5 **Acknowledgements**

1.5.1 The ICAO safety oversight assessment team would like to express its sincere appreciation for the assistance provided to it by the Director General of the DCA and his staff during its conduct of the assessment.

2. **OBJECTIVE AND ACTIVITIES OF THE MISSION**

2.1 The safety oversight assessment was carried out with the objective of offering advice and assistance, as necessary, in the fields of personnel licensing, operation of aircraft and airworthiness to assist in implementing ICAO SARPs and associated procedures, and to enable Sri Lanka to notify differences to these SARPs in accordance with its obligation pursuant to Article 38 of the *Convention on International Civil Aviation*.

2.2 The safety oversight assessment team reviewed the State regulations and practices relating to personnel licensing, operation of aircraft and airworthiness of aircraft and in particular, the *Air Navigation Act No. 15* of 1950, legislated on 29 March 1950 (see 3.2 below) to enable Sri Lanka to regulate civil aviation operations as well as develop, enact and enforce specific national regulations conforming to the SARPs provided for in Annexes 1, 6 and 8 to the Chicago Convention and related documents.

2.3 An assessment was made of the *Ceylon Air Navigation Regulations* of 1955, enacted on 4 May 1955, and specifically of those regulations relating to personnel licensing, aircraft operations and the continued airworthiness of aircraft introduced by the Minister of Transport and Works in accordance with Section 24 of the *Air Navigation Act, No. 15* of 1950.

2.4 An assessment was also made of the level of implementation of the SARPs and associated procedures, in particular, with respect to an adequate organization, method of control and supervision of flight operations, ground and flight personnel qualifications, training programme, establishment of a system and/or mechanism for accident prevention and aircraft maintenance arrangements consistent with the nature and extent of the operations specified to evaluate the State's capacity to undertake its obligations under the Chicago Convention.

2.5 The DCA was further assessed to establish:

- a) the availability of qualified airworthiness and flight operations inspectors and licensing personnel supported by an appropriate organizational and managerial structure;
- b) detailed records of training given to airworthiness inspectors, flight operations inspectors and licensing personnel;
- c) policy on the safety regulation of maintenance, flight operations and licensing, availability of appropriate reference material, including ICAO documentation;
- d) information on which standards have been used for approval of air operator certificate (AOC) holders or maintenance organizations;
- e) inspection results containing details of technical and operational deficiencies;
- f) evidence of compliance with airworthiness directives (ADs) and of adherence to approved maintenance programmes;
- g) evidence of procedures for the issuance, approval, suspension and revocation of licences and AOCs when unsafe conditions are identified and records of how often action has been taken; and
- h) evidence that major modifications to aircraft have been properly approved.

3. FINDINGS

3.1 Basic aviation law

3.1.1 The basic aviation law, the *Air Navigation Act No. 15* of 1950, was amended in 1956, 1964, 1982, 1983, 1987 and 1992, and *inter alia*:

- a) provides for the delegation of the necessary authority to the Minister responsible for civil aviation to develop rules and regulations based on the provision of the Annexes to the *Convention on International Civil Aviation* [Article 3.1 (a) of the Act];
- b) provides for the appointment of the Director General of Civil Aviation and other personnel as required [Article 20.1 (a, b and c) of the Act];
- c) empowers the Director General to exercise, perform and discharge such powers, duties and functions as may be conferred, imposed upon, or assigned to him by the *Air Navigation Act*, or delegated to him by the Minister (Article 20.2);
- d) empowers the Minister responsible for civil aviation to make regulations and orders for the purpose of carrying out or giving effect to the principles and provisions of the Act; in the case of regulations, they may be submitted to the Senate and the House of Representatives for approval (Articles 24 to 31 of the Act); and
- e) provides for the prosecution and punishment of persons who contravene or fail to comply with any provision of any regulation or order made under the Act; or obstruct or impede any person in the exercise of his powers and duties under this Act or under any regulations or orders made thereunder (Articles 34, 35, 36 and 37).

3.1.2 The *Air Navigation Act No. 15* of 1950 does not invest on the DCA or its Director General powers, duties or functions which make it specifically responsible for aircraft operations. Except for the few articles in various amendments to the Act, which designate the Director General as the "competent authority on matters relating to aircraft security" (Article 24 of the *Offences Against Aircraft Act* of 1982), "responsible for issuing licences of air transport providers, on behalf of the Minister" [Article 9 (1) of *Act No. 55, 1992*] and "issue directives relating to security of airports and aircraft" (Article 15 of *Act No. 55, 1992*), all other responsibilities and functions are vested on the Minister.

3.1.3 The *Air Navigation Act No. 15* further legislates that the Minister may, for the purpose of civil aviation, generally or specifically, delegate to the Director General any powers or functions conferred or imposed upon, or invested on the Minister by or under the Act (Article 21). However, the same article makes it clear that the power to make regulations and/or orders cannot be delegated and remains the responsibility of the Minister.

3.1.4 In 1961, proposed legislation to supersede the *Air Navigation Act No. 15* of 1950 was developed by a consultant under an airport development and administration project. The objective of the project (No. 83-37-021) was "to assist the Directorate of Civil Aviation in establishing a strong and progressive civil aviation organization conforming to modern world-wide practices of organization and legislation." However, it was not accepted by the Government and no reason was offered as to why it was not considered.

3.1.5 The proposal to amend the *Air Navigation Act No. 15* of 1950 included two specific articles which were missing in the original act. They are significant inclusions providing for "the establishment of a Department of Civil Aviation which shall be under the immediate executive control and supervision of a Director of Civil Aviation" [Sec. 104. (A)] and "the vesting in the Director of Civil Aviation, complete responsibility and authority for the regulations and supervision of air transportation, the protection and control of air traffic, the regulation of the civil aviation industry and use of the airspace" [Sec. 100 (b)].

3.1.6 The *Air Navigation Act No. 2* of 1982 introduced a new article, Article 21A. 1, which empowered the Minister to appoint, as an agent of the Government, a company registered under the Companies Ordinance for the following purposes:

- a) the development, maintenance and administration, on behalf of the Government, of aerodromes and airports;
- b) the provision of airport and aerodrome facilities at such airports and aerodromes;
- c) the provision and maintenance of air navigation services and facilities; and
- d) the provision of fire-fighting services at aerodromes.

3.1.7 New Article 21A. 4 further states that "the Minister may give to the Agent general and special directions as to the discharge by the Agent of his functions and it shall be the duty of such Agent to comply with such directions." It also states that the Minister, if he considers it appropriate, may, *inter alia*, direct the Agent to:

- a) discharge or facilitate the discharge of an obligation binding on the State by virtue of it being a member of an international organization or a party to an international agreement [Article 21A. 5, c)];
- b) attain or facilitate the attainment of any other object of which, in the opinion of the Minister, is appropriate in view of the fact that Sri Lanka is a member of an international organization or a party to an international agreement [Article 21A. 5, d)];
- c) regulate the use of any airport or aerodrome [Article 21A. 6, a)]; and
- d) notify the Minister of matters such as accidents to aircraft or interference with, or damage to, navigational aids (Article 21A. 7).

3.1.8 Although the above articles authorize the establishment of a company to undertake several obligations incumbent on a State, Article 21A. 13 of the same amendment also states that "no proceeding shall lie against the State in respect of anything done or omitted to be done by the Agent in the discharge or purported discharge of his functions".

3.1.9 A Memorandum of Association, dated 23 February 1982, establishing the Airport and Aviation Services, Sri Lanka, Limited (AASL), in accordance with Article 21A, states that the objectives for which the company is established, *inter alia*, are to:

- a) take over the provision of air navigation services and airport and aerodrome facilities and services from the Director of Civil Aviation and the Airport Authority of Sri Lanka;
- b) provide and maintain air navigation services and facilities, including visual and non-visual navigation aids, for the safe, efficient, regular operation of aircraft in the Sri Lanka flight information region;
- c) provide security services at airports and aerodromes to ensure, *inter alia*, the safety of aircraft, vehicles, persons, passengers' baggage and effects, cargo, and prevention of hijacking of aircraft and other acts of violence interfering with aviation;
- d) provide adequate, efficient fire fighting services at airports, aerodromes and other premises of the company;
- e) provide adequate facilities for the exercise of government regulatory powers including customs, immigration, health and security checks;
- f) take over the lease, rent or otherwise of any movable or immovable property vested in the Director of Civil Aviation, including airports and aerodromes.

3.1.10 Procedures and/or instructions for the control and supervision of activities transferred or delegated to the company are not provided in either the Air Navigation Act or Memorandum of Association which established the company.

3.2 Civil aviation regulations

3.2.1 By virtue of the powers vested in the Minister of Transport and Works, in accordance with Section 24 of the *Air Navigation Act, No. 15* of 1950, he developed specific regulations to regulate and control civil aviation operations in Sri Lanka. The regulations, known as the *Ceylon Air Navigation Regulations, 1955*, came into force on 1 October 1955. The Director General of Civil Aviation, subject to the direction of the Minister, is charged with the administration of these regulations and is authorized to exercise and perform the powers and functions conferred on him by them. [Article 5 (1)].

3.2.2 The regulations contain 294 articles in seventeen chapters, and address issues, *inter alia*, relating to:

- a) the registration and marking of aircraft;

- b) aircraft airworthiness requirements;
- c) licences and ratings of operating crew;
- d) the establishment of flying schools and training organizations;
- e) aerodromes, air routes and airways;
- f) conditions of flight and flight rules;
- g) rules of the air;
- h) visual and instrument flight rules;
- i) international flight and air services;
- j) suspension, cancellation and amendment of licences and certificates; and
- k) accident inquiry.

3.2.3 In addition to the seventeen chapters there are also eight schedules included in the Air Navigation Regulations. The schedules, *inter alia*, provide detailed requirements and procedures for:

- a) personnel licensing;
- b) rules of the air;
- c) certificate of airworthiness; and
- d) regulatory requirements regarding the operation of aircraft.

3.2.4 Reviewing the various schedules, specifically those related to personnel licensing, aircraft operations and airworthiness, it was revealed that the contents of the schedules are verbatim copies of the respective ICAO Annexes which were in force during that period.

3.2.5 In that which concerns licensing, operations and airworthiness, there has been only one amendment (1969) to the regulations and schedules. The amendment concerning the regulations is made in Article 279 and pertains to a declaration by Sri Lanka that "all amendments made to the ICAO Annexes and adopted by the ICAO Council, thereafter, will be construed as being enacted by Sri Lanka". The second part of the same amendment replaced the contents of the First Schedule — *Personnel Licensing*, in toto, from that of Annex 1, third edition to that of Annex 1, fifth edition.

3.2.6 Although Sri Lanka, through amendment to Article 279 (1969), declared that amendments made to ICAO Annex provisions adopted by the ICAO Council would be construed as amendments made

by Sri Lanka and enforced without any further action, in practice, the amendment to the Article was not implemented. The assessment revealed that practices which do not conform to Annex SARPs are practiced in the State.

3.3 Structure of the DCA

3.3.1 The Air Navigation Act does not directly provide for the establishment of a Department of Civil Aviation nor does it specify its functions and responsibilities. According to the Act, all responsibilities and functions relating to the management and supervision of civil aviation activities in Sri Lanka are vested in the Minister. Even though the Act stipulates that several functions and responsibilities can be delegated to the Director of Civil Aviation, they are limited and can be transferred to any other agency at the Minister's discretion. As a result, some of the functions and responsibilities tasked to the Director of Civil Aviation by the *Ceylon Air Navigation Regulations, 1955*, were thus transferred to a company established by an amendment to the Act in 1982.

3.3.2 The amendment to the Air Navigation Act in 1982 provided for the establishment of an agency of the Government to effect the responsibilities listed in new Article 21A of the Act (see 3.1.7 to 3.1.11 above). The immediate result was the transfer of responsibilities and functions from the Department of Civil Aviation to the Agent by a Ministerial Order.

3.3.3 Sixty-seven staff are assigned to the Department of Civil Aviation comprising the Director General of Civil Aviation; eight officers, one each for Flight Operations, Personnel Licensing and Air Traffic Services; five inspectors in the Aeronautical Inspection Department (AID); and thirteen clerical staff assisting the officers in the three departments (see Appendix B). The structural organization also shows an additional assistant director post for regulations. The position is currently filled by a person who is responsible for the maintenance of the DCA building.

3.3.4 An amendment made to the Air Navigation Act, while upgrading the post of Director of Civil Aviation to that of Director General, also provided for the appointment of directors under the leadership of the Director General. However, there has never been an appointment at the new director level and the various departments are headed by assistant directors. With the exception of AID, which has four more additional officers, the Assistant Directors for Personnel Licensing, Flight Operations and Air Traffic Services are the only officers employed in their respective departments.

3.3.5 Human resources for the DCA are provided by a centralized government civil servants employment service known as the Combined Services Administration. Staff of all government offices are recruited and assigned by this administration. Two categories of employees are recruited for either transferable services or non-transferable services. Employees under transferable services can be transferred to any government office on short notice. However, there is no schedule of rotation or any professional consideration given when ordering transfers. If a shortage of personnel is indicated in one office, and it is believed that there is a surplus in another, employees are ordered to move and no questions as to qualification or otherwise are raised. Employees under non-transferable services are not subject to the rotation principle.

3.3.6 All DCA employees, except for two assistant directors (Flight Operations and Air Traffic Services), belong to the transferable services scheme. Their functions, responsibilities and qualifications are of no consequence. For example, just prior to the arrival of the assessment team, the Assistant Director, AID was transferred to the Postal Department after thirteen years of service with the DCA; no reason for the transfer was given.

3.3.7 The system of employment does not take into consideration qualification and experience when assigning personnel to the DCA. There are no training, qualification and experience requirements in subjects related to the functions and responsibilities to be performed. All employees of the DCA are introduced to aviation on their assignment and are expected to function as experts in fields they have not been prepared for. The only exception to this method of recruitment is the Assistant Director, Flight Operations who was trained as a flight operations officer/flight dispatcher prior to joining the DCA.

3.3.8 Employees assigned to the DCA are not provided with external training (internal training is not available) nor allowed to participate in seminars and workshops related to their assigned duties and responsibilities until the completion of a three-year probation period. Even then, there is no assurance that they will be provided with training and seminars as they may not be available. In the event that they are available, the Ministry might not approve the necessary funding for employee participation.

3.3.9 The DCA financial resource is the annual budget allocated by the Government. The budget for 1997 was estimated at seven million rupees (approximately US \$ 125 000); an inadequate amount for a civil aviation authority to undertake its supervisory and control responsibilities in the required manner. However, in accordance with Article 21A of the Air Navigation Act, AASL was established to develop and administer airports, provide services and facilities and air traffic control services and collect or recover, on behalf of the Government, such fees, rents, taxes or other charges imposed or levied under the Act, as may be specified by the Minister. At the year ended 31 December 1995, the Company recorded a profit of 22.9 million rupees (approximately US \$ 409 000), over three times the annual budget allocated to the DCA.

3.4 Personnel licensing

3.4.1 General

3.4.1.1 Licences and ratings are issued by the DCA on the basis of the First Schedule to the *Ceylon Air Navigation Regulations, 1955* as amended in 1969. The original First Schedule (1955), containing regulations pertaining to personnel licensing, is a carbon-copy of Annex 1, third edition and the amended First Schedule (1969) represents a copy of Annex 1, fifth edition.

3.4.1.2 Sri Lanka has not made any further amendments to its personnel licensing regulations even though Annex 1 has been amended six times since the fifth edition became applicable in September 1963. However, as the amendment made (1969) to Article 279 of the *Ceylon Air Navigation Regulations, 1955* decrees that "any amendments made to Annex 1, adopted by the ICAO Council, shall be construed as having the same force under these regulations as prescribed under sub-paragraph (1) of this regulation", the DCA is satisfied that it will suffice for not amending the national regulations as

required since the law clearly states that amendments adopted by the ICAO Council will be enforced in Sri Lanka.

3.4.1.3 Regardless of what is believed and written in the *Ceylon Air Navigation Regulations, 1995*, several Annex 1 SARPs, introduced since the fifth edition, have not been implemented. As a result, several licensing requirements and practices significantly differ from what is provided for in the latest edition of the Annex. Sri Lanka, not having its own specific licensing regulations and, at least theoretically, adhering to ICAO Annex provisions as amended from time to time, has not filed differences *vis-à-vis* Annex 1 provisions.

3.4.1.4 The copy of Annex 1 available to the Aircrew Licensing Department does not include the latest amendment (No. 160) to the Annex provisions which became applicable in November 1994. Notwithstanding, the Department has not fully implemented the Standards contained in the copy which is available; changes introduced by Amendments 156 through 159 have not been implemented.

3.4.1.5 Four separate departments are responsible for issuing licences and ratings as follows:

- a) the Aircrew Licensing Department issues licences and ratings to operating crew members (pilots, flight engineers and cabin attendants);
- b) the Operations Department issues licences to flight operations officers/flight dispatchers;
- c) the Aeronautical Inspection Department issues licences to aircraft maintenance engineers; and
- d) the Air Traffic Services Department issues licences to air traffic controllers.

3.4.1.6 There is no co-ordination of licensing activities performed by the four departments and no effort has been made to harmonize personnel licensing procedures and requirements throughout the DCA.

3.4.2 **Availability of qualified licensing officers**

3.4.2.1 The Aircrew Licensing Department employs one licensing officer (Assistant Director, Aircrew Licensing) and three clerks. None had qualifications, training or experience in aviation subjects prior to their assignment as licensing personnel (see also 3.3.3 to 3.3.6 above). They were all assigned to their present posts by the Combined Services Administration and belong to the transferable services scheme.

3.4.2.2 None of the personnel licensing staff (Assistant Director and clerical staff) have been provided with any training related to their duties and responsibilities. They were not allowed to go to any training course or seminar during the first three years of employment and funds were not available to send them to any after the probation period was completed.

3.4.2.3 There are no procedures or written instructions for licensing staff to follow regarding the processing of licence and rating applications. The main responsibility of the Assistant Director is to sign licences prepared by the clerical staff. There is no control or supervision of the process leading to the issuance of the licence or rating. The clerical staff process the licence applications with the objective of satisfying demand. They are unable to implement new provisions adopted nor do they have the latest edition of the Annex to refer to. They perform in accordance with the requirements of the First Schedule of 1969. 34 35 36 37

3.4.3 Requirements, procedures and practices

3.4.3.1 The First Schedule (1969) is the major reference used for the licensing of personnel by the Aircrew Licensing Department. The function of the other departments issuing licences to aircraft maintenance technicians and air traffic controllers is limited to rubber-stamping certificates and licences prepared either by the national airline or the company established to provide airport and aerodrome services. 38

3.4.3.2 There are no written procedures or guidelines for the processing of licence applications. The validation of foreign licences and ratings, the issuance of Sri Lankan licences on the basis of licences issued by other Contracting States, designation of medical, written and flight test examiners, instructors, etc., all major functions of a State's licensing authority, are discharged by the Aircrew Licensing Department on the strength of knowledge and skill learned while doing the job. 39 40 41 42

3.4.3.3 Licences are issued to student pilots, private pilots (aeroplane and helicopter), commercial pilots (aeroplane and helicopter), airline transport pilots, flight engineers/second officers and cabin crew members by the Aircrew Licensing Department. The licensing record shows that, to date, 3 989 licences have been issued by the Aircrew Licensing Department including 1 270 student pilot licences, 1 148 cabin crew certificates, 282 airline transport pilot licences (aeroplane) and ninety-six flight dispatcher licences. In addition, aircraft maintenance technician licences, and air traffic controller licences are issued by the other departments of the DCA as indicated in 3.4.1.5 and 3.4.2.1 above. 43 44 45 46

3.4.3.4 Written examinations for private pilot licences (aeroplane) are prepared by the DCA and flight tests are provided by designated instructors/check pilots from several flying schools. Written examinations for commercial pilot licences (aeroplane) are prepared by the United Kingdom Civil Aviation Authority (CAA) under contract to provide examinations and marking services on behalf of the DCA. 47 48

3.4.3.5 Air transport pilot licences are issued upon presentation of licences issued by other Contracting States. Applicants for Sri Lankan airline transport licences are not required to sit any examination or undertake any specific flight check. Sri Lankan licences and ratings are issued to such applicants on the strength of experience indicated on their log-book and on the recommendation of the national airline which, in almost all cases is the employer of such applicants. The DCA has not developed procedures for confirming authenticity of licences and ratings presented and does not have the capacity to control or supervise training and flight checks provided to applicants by the national airline. 49 50 51 52

3.4.3.6 Licences for flight engineers are provided upon presentation of a licence issued by other Contracting States. Confirmation that applicants have met the airline's requirement for the flight engineer position suffices for the issuance of the licence. Cabin crew certificates are issued upon the national airline's request and the licensing authority's function is limited to signing and stamping the certificate provided by the airline.

3.4.3.7 There are no requirements for the validation of licences issued by other Contracting States for private flying purposes and for stays of short duration. However, private and commercial pilot licence holders who require Sri Lankan licences must sit a written examination on air law and satisfactorily complete a flight check. The DCA does attempt to verify the authenticity of licences and ratings held by private applicants.

3.4.3.8 A review of the aircraft maintenance engineers (AME) examination syllabus revealed that examination material is photocopied from a text book and is never revised. The examination given does not outline the general knowledge required nor relate to any of the aircraft that are registered in Sri Lanka. There is no revision mechanism for AME examinations and the exams do not meet the knowledge requirements provided for in Annex 1 to the Chicago Convention.

3.4.3.9 According to Article 24 of the *Ceylon Air Navigation Regulations, 1955*, the duration of an AME licence is twelve months from date of issue. The licence can be renewed by the Director of the DCA for a period not exceeding twelve months. However, the Director General published a letter rescinding this requirement and changed the duration of the AME licence to a longer validity period without an amendment to the regulations which would provide due process as required by Sri Lankan law. Extension of AME licences are often made by unqualified technical personnel in contravention to Articles 24 through 27 of the *Ceylon Air Navigation Regulations, 1955* (see 3.2 for findings on specific regulations).

3.4.3.10 DCA inspectors assigned to assist in examining applicants for the AME licence are not qualified, trained or experienced to appropriately discharge this responsibility. Since none of the AID have been trained as inspectors and do not have aircraft engineering (maintenance) experience, they are not in a position to properly administer and control the issuance of AME licences.

3.4.3.11 Flight operations officers/flight dispatchers are examined jointly by the Assistant Director, Operations, and Air Lanka, the only airline which utilizes their services. Training, also provided by the airline, is based on ICAO Course 201 — Flight Operations Officer, August 1982. The course, as provided by Air Lanka, is very comprehensive but needs to be updated to reflect current practices.

3.4.3.12 Air traffic controllers are examined by the Chief Air Traffic Controller, an employee of AASL, and observed by the Assistance Director for Air Traffic Services. The Assistant Director, assigned to the DCA by the Combined Services Administration, has no qualification or experience as an air traffic controller, hence his function is just a formality allowing the company managing the air traffic services to operate without any kind of technical control or supervision.

3.5 Flight operations

3.5.1 General

3.5.1.1 The Director General has no authority to issue AOCs, as referred to in paragraph 4.2.1, Annex 6 — *Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes*, as the available regulations have not been amended since their promulgation in 1955; they refer to granting an air carrier license not an AOC (see findings in 3.2 above). The air carrier license does not have any attachments, i.e. operations specifications, to expand on or supplement those operations authorized for the operator. The Director General does not have the authority to establish a flight operations inspection organization, although there is one in place, to assist in carrying out the functions and responsibilities of the DCA, nor develop, revise and issue operating regulations consistent with the code of Air Navigation Regulations.

3.5.1.2 The Operations Department of the DCA is composed of one Assistant Director, Operations, technically qualified as a flight operations officer/flight dispatcher, and four clerical support staff but no operations inspectors.

3.5.1.3 The aviation industry is composed of two international operators: Air Lanka, the national carrier, operating a fleet of four Lockheed L-1011s, three Airbus A-340s and two Airbus A-320s; and Sky Cabs, operating one wet-leased Antonov 12 aircraft and a pilot training school. There are also five domestic air carriers operating a total fleet of twenty-one aircraft including seven helicopters, one Antonov 24 and thirteen light single and twin engine aeroplanes. Due to the number of operators registered and operating in Sri Lanka and the variety of aircraft utilized, the DCA must develop and maintain the capability to control and supervise aircraft operations. The present situation puts the DCA in a very sensitive, precarious situation as it has not established the necessary mechanism to fulfil its supervisory obligations as a signatory of the *Convention on International Civil Aviation*.

3.5.1.4 The regulations for the certification of air carriers, enacted and promulgated in 1955, have not been updated. Full compliance could not be assured since these regulations are a copy of ICAO Annex 6 in force at that time (see 3.2 above), and subsequent amendments to Annex 6 were not incorporated to form part of the *Ceylon Air Navigation Regulations*. For example, there is no requirement to issue AOCs to operators nor is there a requirement for the operator to demonstrate to the DCA that it is competent and able to carry out the proposed operations. The DCA has, nonetheless, issued AOCs, on demand, which are not based on, nor dependent upon, any operational and demonstration process on the part of the operator. In the text of the AOC issued, the DCA uses permissive language such as the word "should" for items that must be expressed in a mandatory sense.

3.5.1.5 The DCA has issued AOCs to wet-lease operators based in other States. Yet it is unable to evaluate or oversee those operations and therefore cannot exercise control and supervision. The DCA is also unaware if control and supervision of those operators is exercised by the State of Registry.

3.5.2 Certification of the operator

3.5.2.1 The DCA was unable to show a structure, including policy, procedures, personnel and historical records for the operational certification and supervision of operators. However, it was established that the Director General has the authority to determine the need for proposed commercial air transport operations and the technical and financial capability of the operator to conduct the proposed operations. Nevertheless, authority for technical evaluation has never been applied and certificates are issued without properly determining commercial need or technical and financial capability.

3.5.2.2 The DCA was unable to provide any technical guidance regarding the system of air operator certification as required by paragraph 4.2.1.3 of Annex 6 — *Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes*. There are no instructions or inspector handbooks available. Without the requirement to undergo a certification process, operators have not provided the DCA with, nor obtained its approval of, their training and accident prevention programmes, minimum equipment list, etc., as evidenced from the visit made to Air Lanka and Sky Cabs. These programmes have not been developed nor are manuals relating to the programmes available in the airlines themselves. The lack of necessary regulations and qualified inspectors prevents the DCA from carrying out a proper operator certification process to ensure compliance with International Standards and Recommended Practices.

3.5.2.3 Prospective operators who intend to apply for an AOC, are not fully informed of the type of operations, privileges, conditions and limitations pertaining to the AOC which may be authorized, as referred to in paragraph 3.2.1 of the *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335).

3.5.2.4 Since there are no inspectors in the DCA, there is no surveillance of any kind being conducted in Sri Lanka. There is no system for continued surveillance of operators, as in paragraph 5, Attachment F of Annex 6 — *Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes*. Consequently, the airlines are self-regulated and a standard, recognized level of safety or compliance with International Standards cannot be assured. The gravity of the State's incapacity to control and supervise aircraft operations was illustrated with the discovery of suspected bogus registration of an aircraft and non-compliance with the requirements of the biannual pilots' proficiency checks for the national airline.

3.6 Airworthiness

3.6.1 Organization and Structure

3.6.1.1 The Aeronautical Inspection Department (AID) has five airworthiness inspectors, three of which have approximately six months experience on the job. There are no airworthiness avionics or maintenance helicopter-trained inspectors. None, including the most experienced inspector in the AID, have had any formal or familiarization training on assigned aircraft. The AID inspectors are not versed in any one type of aircraft operated by the certificated air operators in Sri Lanka such as the Lockheed L-1011 and Airbus A-340 and A-320 aircraft. There are no training records and résumés available for review. The three inspectors who recently joined the AID graduated from an engineering institute with no practical aviation training and/or experience (see 3.3.3 to 3.3.8 above on recruitment practices).

3.6.1.2 The AID is incapable of undertaking its responsibilities in accordance with international practices and requirements and, for all practical purposes, is a government oversight department in name only. There are no current airworthiness regulations, or appropriately trained, qualified and experienced technical personnel, and there is a complete lack of financial support and administrative infrastructure for it to perform its aircraft inspection tasks.

3.6.1.3 The AID is also responsible for aircraft accident/incident investigation. However, none of the AID personnel are qualified nor have they had any training to appropriately discharge that function.

3.6.1.4 The DCA was unable to show a structure, including policy, procedures, personnel and historical surveillance records for the certification and supervision of operators with regard to continuing airworthiness of aircraft operating in Sri Lanka.

3.6.1.5 The DCA was unable to provide any technical guidance or procedural methodology for the system of aircraft registration, airworthiness certification and certificate of airworthiness approvals. A review of records showed that aircraft engine overhaul times were extended beyond the manufacturers' recommended approval and aircraft with expired certificates of airworthiness were operating without the DCA's permission and review.

3.6.1.6 The airworthiness section of the DCA lacked a system of directives, bulletins, instructions and procedures to assist inspectors in performing their duties. There is no inspector handbook or guidance material for them.

3.6.1.7 The DCA was unable to demonstrate that its existing infrastructure has the capability to regulate or implement adequate surveillance or regulatory oversight of the operators under its jurisdiction. The following was noted:

- a) there is no formal training programme for AID inspectors; indoctrination training and recurrent training for assigned inspectors is non-existent;
- b) there is no delegation of power from the Director General to the AID to enable it to regulate air operators and general aviation industry. Non-availability of office-supplied transportation and lack of telephones at inspectors' residences cause significant problems, hence, response to reports of aircraft accident/incident occurrences are adversely affected;
- c) AID inspectors are not provided with authority or empowerment credentials to conduct the necessary aircraft inspections. Security personnel were observed refusing entry to AID inspection personnel to access aircraft and company maintenance facilities for inspection purposes. Access to these facilities by DCA inspectors is extremely difficult to obtain;
- d) aircraft accident investigations are conducted by untrained, unqualified and inexperienced AID personnel. A review of past accident investigation reports showed that rudimentary details of aircraft accident/incident investigation were

omitted and no aircraft technical examiner follow-up has ever been undertaken; and

- e) there are no micro-readers, computers or microfiche machines for review of ADs, maintenance manuals, structural repair manuals, etc., available to the inspectors. There is no proper filing system in the AID and the inspectors do not have access to a technical library.

3.6.1.8 The national air carrier, Air Lanka, operates a maintenance technicians training school which is also authorized to administer examinations for aircraft maintenance engineer licenses on behalf of the DCA. However, there are no records of surveillance performed by the DCA inspectors or a DCA formal approval process for the training school to ensure the integrity of instruction (see also 3.4 above on personnel licensing procedures).

3.6.1.9 Master minimum equipment lists (MMELs) and minimum equipment lists (MELs) for assigned aircraft are not being maintained for all aircraft under Sri Lankan registry. The MMELs maintained by the airline are out of date and were not DCA approved. The DCA inspectors demonstrated no knowledge of the MMEL or MEL process and procedural methodology for deferring parts, configuration changes, etc. No MMELs or MELs from the operators are available in the AID and during a visit to Air Lanka it was observed to do largely as it pleased in the regulatory vacuum.

3.6.1.10 A review of certificates of airworthiness on the Sri Lanka aircraft registry revealed the following discrepancies:

- a) four military aircraft used for public hire and under Sri Lankan registry are operating with invalid (expired) certificates of airworthiness. The DCA is aware of this violation, but does not prevent the use of these aircraft in civilian operation;
- b) the DCA does not maintain certificates of airworthiness in accordance with the provisions of Article 19 of the *Ceylon Air Navigation Regulations, 1955*. The registry proved to be unreliable as there were aircraft of questionable airworthiness status, and certificates of airworthiness were approved by unqualified technical personnel; and
- c) the AID is basically performing a paper review during certificate of airworthiness renewals and providing a rubber stamp approval to all operators. The assessment revealed that proper inspections are not conducted and renewals have been demanded and granted even though weight and balance checks were not made; flight instruments were not calibrated. In addition, it was revealed that engine overhaul extensions were given without conducting proper review and research, in violation of the manufacturers' recommendations.

3.6.1.11 The DCA does not retain maintenance control manuals on any of the operators under its registry as outlined in Annex 6, Chapter 11 and ICAO Doc 9389 — *Manual of Procedures for an Airworthiness Organization*. The Air Navigation Regulations relating to aircraft airworthiness have not been amended since their enactment in 1955 and therefore, do not reflect the requirement for operators to submit a maintenance control manual as part of the certification process.

3.6.1.12 ADs are not being maintained on all aircraft. The DCA does not monitor the progression of ADs and there is no attempt to follow-up to ensure compliance and continued repetitive inspection requirements. The current filing system is inadequate in determining how an AD is received and processed. The inspector in charge of ADs was assigned to the DCA by the Combined Services Administration three months ago and has had no training on the handling of airworthiness directives or of the importance of these documents for aviation safety. Currently there is no written guidance on how ADs are to be handled in the DCA.

3.6.1.13 AID inspectors do not have access to publications which could assist them in discharging their assigned duties. The DCA does not subscribe to any external publication regarding the maintenance of aircraft safety. Publications such as the bi-weekly supplement to ADs, aviation newsletters and bulletins are all necessary to understand the advances that are taking place in aviation industry.

3.6.1.14 The filing system for critical documents required by the AID is in dire need of review and overhaul. The DCA has not established a method of monitoring service bulletins or manufacturers' alert notices, etc., as the filing system for these documents does not exist.

3.6.1.15 The DCA has not developed a programme for airworthiness inspection. There are no checklists or guidance material available and there is no guidance on what type of inspections are required for the seven operators authorized to conduct air transport operation in Sri Lanka.

3.6.1.16 The DCA does not perform any type of surveillance of the operators and is basically an administrative agency without any oversight capability, for example:

- a) the DCA has not performed surveillance or oversight of the twenty outstations associated with the major national carrier Air Lanka;
- b) the DCA does not perform surveillance of the seven air operators registered in Sri Lanka. There are no records of surveillance or certification process made prior to starting operations;
- c) there is no written record of surveillance of Air Lanka. Review of its maintenance records revealed that the airline does not send periodic aircraft/component reliability reports to the DCA for review;
- d) the DCA does not perform surveillance of the many subcontractors under its registry; and

- e) the DCA does not perform surveillance or oversight of aircraft operating in Sri Lanka under wet-lease and/or dry-lease contracts as outlined in Chapter 8 of Doc 8335 — *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* and Chapter 7 of Doc 9389 — *Manual of Procedures for an Airworthiness Organization*. 149

3.6.1.17 Reliability information on Sri Lanka's seven operators is not being maintained or sent through the AID. It is unaware of the reliability status of the operators as it does not review any reliability information. 150 151

3.6.1.18 Mandatory airworthiness information (fires, smoke in cockpit, etc.) is not being maintained or sent to the AID as required by ICAO Doc 9389, Attachment 4-A and Part VI, Chapter 7 of Doc 9642 — *Continuing Airworthiness Manual*. 152

3.6.1.19 The DCA does not monitor or maintain information on critical airworthiness information that is sent directly to aircraft manufacturers or States of Design/Manufacture. In this respect Sri Lankan operators act as they wish without regulatory oversight or control. System Difficulty Reports (SDRs) are not always sent to manufacturers and to the DCA as required by ICAO Doc 9642, Part VI, Chapter 7. 153 154 156

3.6.1.20 Fuel farm audits are not being accomplished by the DCA or by the operators. Quality of fuel cannot be ascertained or confirmed as there are no inspection records maintained on fuel providers. 157 158

3.6.1.21 There is no procedural methodology established in the DCA for review of critical procedures performed by the air operators. Examples include aircraft engine run checklist, re-fuel/de-fuel, review of requests for extension of engine overhaul times, escalation of aircraft inspection requirements, etc. 159 160

3.6.1.22 The DCA has not developed regulations to keep pace with the changing international aviation environment as outlined in the following discrepancies:

- a) there are no State regulations dictating operations-derived equipment and its approval by the DCA; 161
- b) the DCA has not developed a ferry flight procedure even though Sri Lankan regulations allow flights with temporary repairs to return to home base for further repair. No individual inspector or officer in the DCA has been authorized to approve this procedure even though the national airline is performing this procedure divorced from DCA involvement; 162 163
- c) the DCA has not developed a comprehensive, detailed, national airworthiness code and operators perform aircraft maintenance work as they please; and 164

- d) it is unclear who is responsible for the production and amendment of airworthiness regulations as they are deviated from and ignored almost at will. There is no procedural methodology for amendment to airworthiness regulations. 165

3.6.1.23 The DCA has not made provisions for the airworthiness information used for approval of the application of AOCs. This information was not available for review, and there was no way to ascertain how an operator's maintenance programme was DCA approved. 166 167

3.6.1.24 The DCA does not maintain records of authorized personnel lists for technicians who are authorized to sign a maintenance release. Maintenance releases are done by all seven operators, however, the AID has no information on who is authorized or what the individual's qualifications are, and under what circumstances an individual is authorized to sign the maintenance release. 168 169

3.6.1.25 Major aircraft repairs and alterations are made by the operators without DCA approval. No information on major repairs and alterations is sent for DCA review and approval and often, as was revealed during the assessment, invalid or improper repair data is used to make repairs. No attempt is made to advise the State of Manufacture as outlined in ICAO Doc 9389, Attachment 4-C. 170 171 172

3.6.1.26 Air Lanka plans to reinstate extended range operations for twin engine aircraft (ETOPS) despite the DCA having revoked these privileges for failing to meet reliability requirements. However, no one in the DCA has received training on approving ETOPS nor has the maintenance programme of Air Lanka met the ICAO requirements outlined in ICAO Doc 9642, Chapter 1, and the associated Appendix. 173 174

3.6.1.27 The DCA has not ensured that operators develop methods for designating critical maintenance tasks and repair work requiring additional inspection. 175

3.6.1.28 The DCA has not developed a methodology for use in the approval of Aircraft Maintenance Organizations (AMO), contractual arrangements for maintenance and overhaul and maintenance specific operating provisions such as overhaul time limits, short-term escalation authorization and parts borrowing authorizations etc., in accordance with ICAO Doc 9389, Chapter 7. 176

4. RECOMMENDATIONS

4.1 The Air Navigation Act, 1950 (as amended 1950 - 1992)

Note. - The following comments and recommendations relate to the findings on the Air Navigation Act, 1950 as amended and detailed in 3.2 above.

4.1.1 The Air Navigation Act, 1950 can be considered as the keystone for the establishment and management of an effective and efficient DCA. However, even in its latest version, which included an amendment to upgrade the post of the chief executive from Director to Director General, it falls short in empowering the DCA and/or its Director General with the necessary authority for effectiveness and efficiency. The Act does not provide for the establishment of a civil aviation organization (DCA) and is

not specific about the responsibilities and functions of the DCA and its Director General. The Act invests all responsibility for aviation matters in the Minister who, at his discretion, may delegate several of those functions to the Director General of Civil Aviation or any other Agent which may be created.

4.1.2 Furthermore, the authority invested in the Minister to delegate functions to the Director General of Civil Aviation is also limited by the Air Navigation Act which, in Article 31, states that the power of delegation by the Minister does not include delegation to make regulations and orders. This is one of the major reasons why personnel licensing, flight operations and aircraft airworthiness regulations have not been amended in the last forty-two years. The one amendment made (First Schedule, 1969), cannot be considered as such because it was an exercise in copying and publishing Annex provisions without any change in wording or style.

4.1.3 The amendment introduced to the Air Navigation Act in 1982 (new Article 21A), provided for the establishment of a company (AASL) with the objective, among other things, "to transfer the provisions of air navigation services and airport and aerodrome facilities and services from the Director of Civil Aviation and the Airports Authority of Sri Lanka." The twenty sub-Articles introduced to establish the Company and the subsequent Memorandum of Association formulating the Agent's functions make it clear that the Agent established will be a privately held share company even though all the shares are held by the Government. Furthermore, while investing the company with responsibilities and functions which essentially are invested in a State authority, the Act makes it clear that "no proceeding shall lie against the State in respect of anything done or omitted to be done by the Agent in the discharge or purported discharge of its functions" [new Article 21A. (13)].

4.1.4 However, with the exception of providing for the transfer of functions and responsibilities previously delegated to the DCA, no provisions for the control or supervision of the company either in the new provisions added to the Act, or by other ministerial orders and/or instructions, have been provided. Some of the functions transferred from the DCA involve responsibilities that an ICAO Contracting State has an obligation to implement. A State, of course, has the right to delegate or contract its obligation for performing specific tasks and functions, however, the responsibility for ensuring the proper implementation of such tasks and functions, including control and supervision, remains its sole responsibility. Thus, organizations and companies performing tasks on behalf of the State on safety-related matters must be authorized, controlled and supervised by a State authority such as a civil aviation authority (CAA). A State cannot designate safety-related functions to an agent and disclaim responsibility in the case that tasks delegated are not performed in accordance with International Standards and Recommended Practices.

RECOMMENDATION GEN/01 - The *Air Navigation Act No. 15* of 1950 should be amended to explicitly and clearly provide for the establishment of a State civil aviation organization (DCA or CAA). It should also clearly state the functions and responsibilities of such an organization including that of its Director General. This task will require the assistance of an expert in aviation law. Therefore, it is further recommended that the State employ an expert experienced in the preparation of basic aviation law as soon as possible. The Act should be prepared in such a way that it is clear and simple, and avoids ambiguities in respect of the authority of the Director General to make specific operational regulations, approval and promulgation of regulations, and the enforcement of aviation

rules and regulations including the provisions of the Act. In this respect, the Government may wish to refer to guidance material found in ICAO Doc 8335 — *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance*. It may also wish to refer to proposals made under project number 83-37-021 of 1961, to amend the *Air Navigation Act No. 15* as a basis for the development of a new basic aviation law (air navigation act).

RECOMMENDATION GEN/02 — The State should establish a system of control and supervision of companies and organizations tasked to perform specific functions in the aviation sector. No company or organization must be allowed to undertake aviation safety-related tasks unless the Government has, at the same time, established a system of control and supervision. Operators, flight operation service providers, etc., whether owned privately or by a government holding company must be made responsible to a State CAA, to ensure that functions are performed in accordance with International Standards, recommendations, procedures and practices. Safety oversight is the responsibility of a State and cannot be delegated to an operator or a company. Therefore, it is further recommended that an appropriate safety oversight system be established and effected to ensure a safe, efficient, effective and economic air transport system (see also specific recommendations on organization in 4.3 below).

4.2 The Ceylon Air Navigation Regulations, 1955

Note. - The following comments and recommendations relate to the findings on the Ceylon Air Navigation Regulations, 1955 detailed in 3.2 above.

4.2.1 Specific civil aviation regulations are promulgated by an ICAO Contracting State to enable it to fulfil its Convention obligations in the most appropriate and adequate manner. In respect of rules and regulations relating to aircraft operations there are, in the *Convention on International Civil Aviation*, at least eighteen references alluding to a State's aviation rules and regulations. This is because safe and economic international air transport operation, in order to succeed, must be based on a standard set of procedures and practices fully supported by national regulations and laws. Without such regulations, the management and operation of a safe and orderly international air transport system would be practically impossible.

4.2.2 The Convention is very clear on the recognition of certificates and licences issued by a Contracting State. Article 32 explicitly states that "certificates of airworthiness and certificates of competency and licences issued or rendered valid by the Contracting State in which the aircraft is registered, shall be recognized as valid by other Contracting States, provided that the requirements under which such certificates or licences were issued or rendered valid are equal to or above the minimum standards which may be established from time to time pursuant to this Convention." Not only does a State need to promulgate adequate and specific operating regulations but it should also ensure that those regulations are equal to or above the minimum standards specified by the Annexes to the Chicago Convention. In this respect, guidance material available in ICAO clearly shows the need for a State to

develop and implement its own operating regulations and rules on the basis of Annex provisions. The *Ceylon Air Navigation Regulations, 1955*, attempt to fulfil this requirement. However, forty-two years have elapsed since the enactment of these Regulations. The Annexes which were used to formulate Sri Lankan regulations have been amended several times to serve the interests of a dynamic and evolving industry making those which were applicable over forty years ago practically obsolete.

4.2.3 The ICAO Council adopted a resolution (13 April 1948) inviting the attention of Contracting States to the desirability of using in their own national regulations, as far as practicable, the precise language of those ICAO Standards that are of a regulatory character, i.e. Annex 1. However, it is still incumbent on a Contracting State to develop its own national regulations on the basis of those Annexes even if a State has to adopt the wording, sometimes, verbatim. Models and guidance in this respect can be found in the *Manual of Model Regulations for National Control of Flight Operations and Continuing Airworthiness of Aircraft* (Doc 9388), the *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335) and the *Manual of Procedures for the Establishment and Management of a State's Personnel Licensing System* (Doc 9379).

4.2.4 International recognition of a State's airworthiness certificates is also based on adequate airworthiness regulations. In addition to Article 33 of the Chicago Convention, Annex 8 — *Airworthiness of Aircraft*, paragraph 2.2, clearly indicates that the recognition of other States may be withheld if the code of airworthiness regulations is inadequate. This is further emphasized in paragraphs 1.1.1 and 1.1.3 of the *Manual of Procedures for an Airworthiness Organization* (Doc 9389).

4.2.5 Specific operational regulations need to be constantly amended to satisfy the requirements of the ever-evolving aviation industry. Witness the 160 amendments made to Annex 1 since it was first adopted in 1948 and the twenty-one amendments made to Annex 6, Part I since the sixth edition which included 152 amendments in 1969. It is for this reason that we recommend the empowerment of the civil aviation authority to make and amend specific operational regulations as necessary. If this function must remain in the hands of a minister or a national law-making body, the result will be similar to that which has so far occurred: stagnating regulations which cannot adequately satisfy the international requirements for aircraft operation. With each Annex to the Chicago Convention being amended in a three-year cycle, it will be difficult for a minister, responsible for three demanding portfolios, to directly follow-up and effect the amendment of aviation regulations and to keep pace with changes and amendments as adopted by ICAO.

4.2.6 Since specific operating regulations are technical in nature, they can be adequately covered by the experts in the DCA with the assistance of a qualified legal advisor experienced in aviation law. To ensure the overall compatibility of such regulations with the other laws of the State, a system of approval by a team of legal experts in the Ministry and/or the Attorney General's office can be instituted. The primary aviation legislation, in this case the new Air Navigation Act, should empower the DCA to make and amend specific operating regulations and provide for a method of approval of such regulations.

RECOMMENDATION GEN/03 – As a matter of urgency, the DCA must recruit a legal adviser experienced in aviation law to enable it to develop specific operating regulations for personnel licensing, aircraft operations and aircraft airworthiness. The implementation

of Recommendations GEN/01 and GEN/02 is necessary to enable the DCA to make and amend specific operating regulations. However, as the process for the promulgation of a new Air Navigation Act may take a longer time, the DCA, with the assistance of a legal adviser, should start work on the development of operating regulations for parallel implementation. In the instance that the promulgation of the new Air Navigation Act takes longer than expected, a system to allow the DCA to implement the operating regulations must be devised. ICAO Annexes and documents including SARPs contained in Annex 1 — *Personnel Licensing*, Annex 6, Part I — *Operation of Aircraft — International Commercial Air Transport — Aeroplanes*, Doc 9388 — *Manual of Model Regulations for National Control of Flight Operations and Continuing Airworthiness of Aircraft* and other model regulations can be referred to in the development of the specific operating regulations.

RECOMMENDATION GEN/04 – The DCA should develop or adopt a detailed and comprehensive code of airworthiness regulations, as required in paragraph 2.2 of Annex 8 — *Airworthiness of Aircraft*, for aircraft with Sri Lankan registration and airworthiness certificates. The existence of an airworthiness code will enable the DCA to control and supervise aircraft maintenance performed in Sri Lanka or in other AMOs approved to provide maintenance for Sri Lankan registered aircraft. If the DCA elects to adopt another Contracting State's regulations, such adoption should be provided for either in the Air Navigation Act or in the general provisions of the Air Navigation Regulations.

4.3 Structure and organization of the DCA

Note. - The following comments and recommendations relate to the findings on the DCA structure and organization detailed in 3.3 above.

4.3.1 The guidance material contained in the *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335), *Manual of Procedures for the Establishment and Management of State's Personnel Licensing System* (Doc 9379) and the *Manual of Procedures for an Airworthiness Organization* (Doc 9389), outline the role and structure of a functional and effective DCA. It is recognized that DCA structures throughout the world will vary in size and complexity depending upon the size and level of aviation activity in the particular State. However, because of the requirement to maintain standardized operating procedures and practices, the scope of responsibilities of the respective DCAs, and the promotion, supervision and control of a safe and sound air transport system should not vary substantially from State to State.

4.3.2 Although the size and level of aviation activity in Sri Lanka is very limited, the responsibility of the State remains essentially the same as those of other ICAO Contracting States with a higher level of aviation activity, albeit at a reduced number. The fact that the national air carrier, Air Lanka, has an international route network which stretches from London, United Kingdom in the West to Tokyo, Japan in the East, emphasizes the need for an appropriately established and provided-for CAA.

4.3.3 The DCA does not have a single officer who, prior to joining the DCA, was trained and experienced in the specific duties and responsibilities he or she is expected to perform. The only exception

is the Assistant Director for Flight Operations who received training as flight dispatcher in Russia. DCA officers perform their tasks on a trial and error basis and on any experience gained by performing a responsibility for which they were not qualified and prepared.

4.3.4 It is obvious that a civil aviation authority cannot effectively discharge its responsibilities of control and supervision unless it has a proper establishment including appropriately trained, qualified and experienced personnel. The proper discharging of one's responsibilities in functions, such as personnel licensing, supervision and control of flight operations and airworthiness of aircraft highly depends on the individual officer's training, qualification and experience. If supervising officers do not have the appropriate qualification and experience necessary for performing their tasks, they cannot enlist confidence and respect from the community they are expected to supervise and control. In the absence of qualified and experienced supervisors on the part of the DCA, organizations and individuals will be tempted to take it upon themselves to act as they please. As the findings in Section 3 above show, this has been observed during the assessment mission. The effectiveness of the DCA depends upon the availability of adequately qualified and experienced personnel and since such personnel are not currently available to it, to all intents and purposes in that which concerns the licensing of personnel, control and supervision of aircraft operation and continued airworthiness of aircraft, Sri Lanka does not presently have the capacity for safety oversight of air navigation operations as required by the *Convention on International Civil Aviation* and relevant Annexes.

4.3.5 The system of DCA recruitment, including aircraft airworthiness inspection, requires a complete overhaul. Aviation is a speciality which demands the recruitment of appropriately trained, qualified and experienced personnel in the various fields of operation. In addition, personnel assigned to supervisory and inspection functions need to have gained considerable experience both in performing the task and in supervisory methodology. Personnel recruited by the DCA lack appropriate training, qualification and experience and cannot discharge their responsibilities as expected by the international aviation community. This handicap on the part of the supervisory agency allows the system to be abused as an economic expediency because of lack of adequate knowledge of what may be required. Additionally, the practice of prohibiting new recruits from participating in job-related seminars, workshops and training courses during the first three years of their employment deprives the DCA officers from acquiring practical knowledge and experience which can help improve the way it performs its respective functions.

4.3.6 Apart from recruitment practices, the second major problem inhibiting the DCA from performing as required is lack of adequate financial resources. The annual budget which is available to the DCA cannot cover a fraction of the expenses required by an appropriately established DCA. Aviation activities in Sri Lanka generate funds which can adequately support the DCA and other established aviation organizations. The profit made in 1995 by the company, established to operate airport and other services, amounted to over three times the budget allocated to the DCA. This profit was derived from charges and taxes levied on users of aviation services. Essentially, aviation charges and taxes are levied with the understanding that funds collected through such charges will be used for the improvement of airport services and aviation safety standards. As such the DCA, as the primary agency for ensuring safe operating practices, should be allowed to benefit from such income.

RECOMMENDATION GEN/05 - The Government should consider the establishment of a civil aviation authority (CAA) and employ the services of a civil aviation consultant to reorganize and re-establish the DCA of Sri Lanka in this respect. The restructuring must allow for the recruitment of appropriately trained and qualified personnel to perform the tasks assigned to the DCA (CAA) specifically with respect to personnel licensing, flight operations and airworthiness of aircraft. The restructuring should also allow for the establishment of a separate aircraft accident and incident investigation office staffed by trained and qualified personnel. Internal recruitment of qualified and experienced personnel could pose a serious problem and it may take time until national experts acquire the necessary qualification and experience. For this reason, it is recommended that Recommendation GEN/09 be implemented without further delay.

RECOMMENDATION GEN/06 - The DCA (CAA), as part of its restructuring programme, should develop and maintain a training programme for all staff members charged with personnel licensing, aircraft operations and airworthiness inspection functions. The practice of prohibiting newly recruited officers with the opportunity to participate in job-related seminars, workshops and training courses should be discontinued. They must be given the chance to learn from such exposure as soon as the opportunity arises.

RECOMMENDATION GEN/07 - The Government should, for civil aviation duties, establish a system of recruitment which takes into consideration the individual recruits training, qualification and experience. Even if the services of the centralized government employment office must be used, a criteria for employment regarding the applicants training, qualification and experience should be established. The DCA should define the necessary prerequisites for the specific duties and responsibilities and provide the recruiting agency with this information as well as assist in the selection process. The current practice of transferring civil servants from other government offices to the DCA, without due regard to their qualifications and experience, should be discontinued.

RECOMMENDATION GEN/08 - A part of the funds generated by providing aviation services to users should be made available to the DCA (CAA). If necessary, and it is feasible, the Government should consider returning some of the functions which were taken away from the DCA. Reinstating several of the functions will raise morale in the DCA and help it to develop its own funding resources. In all instances, the new DCA should be made responsible for certifying (licensing), controlling and supervising aviation service providers in Sri Lanka and charge for the services it provides.

RECOMMENDATION GEN/09 - On the basis of this report, the DCA, without further delay, is urged to recruit expert services in the form of consultants to restructure and ensure the proper functioning of the civil aviation authority and to direct and manage the functions of the Personnel Licensing, Flight Operations and Aeronautical Inspection Departments until such time that the DCA becomes self-sufficient in this respect. The activities of the consultants employed should include the provision of on-the-job training

for staff. The opportunity should also be used to provide the DCA officers with formal training when available. Assistance in this respect can be sought from the Technical Co-operation Bureau of ICAO or any other assistance programme which may be available to the State.

4.4 Personnel licensing

Note. - The following comments and recommendations relate to the findings on personnel licensing detailed in 3.4 above.

4.4.1 Licensing is one of the control mechanisms available to a State to ensure the competence and capability of operational personnel granted with privileges which otherwise should not be exercised. Licensing or validation of licences and/or certificates of the members of the operating crew of every aircraft engaged in international operation is a direct requirement of the *Convention on International Civil Aviation*, and Standards and Recommended Practices are provided in Annex 1 to the Convention. The process of licensing and/or validation of licences is a major task of a State's personnel licensing office and ICAO, taking into account the possible variations and the complexity of the process, has developed guidance material, in the *Manual of Procedures for Establishment and Management of a State's Personnel Licensing System* (Doc 9379) to assist States in this respect.

4.4.2 This assessment has shown that Sri Lanka, for all practical purposes, has not established the required procedures and a system for the licensing of operational personnel. The findings (3.4 above) show that there are no specific regulations for personnel licensing. The First Schedule of the *Ceylon Air Navigation Regulations, 1955*, as amended in 1969, is a carbon-copy of Annex 1 provisions which were in force during that period. There are no other amendments even though the one made in 1969 states that further amendments adopted by the ICAO Council will be construed as amendments to the Sri Lankan Regulations; it was revealed that this is not the practice.

4.4.3 The current practice of allowing licence holders employed by the national airline, who have attained their sixtieth birthday, to act as pilot-in-command of an aircraft engaged in scheduled and non-scheduled air transport operations indicates that there is a significant difference between Annex requirements and national practices. Sri Lanka has not filed a difference as required by Article 38 of the *Convention on International Civil Aviation*. However, filing a difference will not give any State the right to export its differences. For international flights, pilot licences and ratings benefit from automatic recognition by other Contracting States only if they meet **all** Annex 1 Standards (Article 33 of the Convention refers). When a Standard is not met, the licence must be endorsed accordingly [Article 39 (b) of the Convention], and international flights can be undertaken only with specific authorization from **all** States whose territories are entered (Article 40 of the Convention).

4.4.4 The personnel licensing process must be harmonized. Issuance of personnel licences by four different departments has created the opportunity of non-accountability because there is no one person or department charged with supervising the process as a whole. In the case of aircrew licensing, the act of licensing is literally limited to granting an official recognition to licences and certificates issued by other Contracting States on the recommendation of the national carrier. As there is no control and supervision

of the carrier's activities regarding training and testing, the DCA has no way of ensuring, other than trust, the appropriateness of procedures and practices leading to the issuance of licences and ratings. The theoretical examinations for private and commercial pilot licences is satisfactory, however, the DCA has no quality control of the practical test and has to depend on the professionalism and integrity of the examiners. A visit to one of the training schools showed that it has established training and testing standards on the basis of United Kingdom CAA requirements. Nevertheless, it is up to the State to ensure that the standards are maintained at all times.

4.4.5 With the exception of the Operations Department which participates in the provision and marking of examinations for flight operations officers' licences, the other two departments issuing licences are practically providing official recognition to licences and/or certificates issued either by the airline or the company responsible for air traffic services. Personnel assigned to issue licences both in the AID and the Assistant Director for Air Traffic Services have no qualification or experience in administering licensing processes and their function is limited to the provision of official recognition for a process over which they have no control.

RECOMMENDATION PEL/01 - As part of the overall re-organization of the DCA, the Government should consider the establishment of a centralized licensing authority within the DCA. All licences and ratings issued by the DCA should be centralized and administered by the centralized Licensing Department. The department should be adequately staffed by appropriately qualified and experienced personnel and provided with the necessary equipment and support to perform its tasks (see also Recommendations GEN/03 to GEN/09). Guidance on the establishment of a State's Personnel Licensing Authority can be found in ICAO Doc 9379 — *Manual of Procedures for Establishment and Management of a State's Personnel Licensing System*.

RECOMMENDATION PEL/02 - The DCA should, in addition to the specific regulations contained in Recommendations GEN/03 and GEN/04, develop procedures and guidelines for the processing of applications for licences and ratings. Requirements and procedures for designating organizations and/or individuals to perform tasks (medical examiners, practical test examiners, etc.) on behalf of the DCA should be established and strictly implemented. The DCA should also develop the capacity to supervise and control tasks performed on its behalf. Guidance in this respect can be found in ICAO Doc 9379 — *Manual of Procedures for Establishment and Management of a State's Personnel Licensing System*.

RECOMMENDATION PEL/03 - The DCA should immediately stop the use of pilots over the age of 60 in international air transport operations by the national carrier until such time that it has implemented the requirements of the *Convention on International Civil Aviation* and Annex 1. The State should also file other differences it may have with Annex 1 provisions or amend its practices to conform to Annex 1 requirements (for example: cross-country experience requirement for pilots). (Note.- On the basis of the briefing provided at the end of the assessment mission, the DCA has initiated action

on Recommendation PEL/03 and has advised ICAO on action taken and proposed action to be taken).

RECOMMENDATION PEL/04 - In developing training programmes for its officers, in accordance with the recommendations of this report, the DCA should consider providing appropriate training to the licensing clerks who actually perform all the tasks leading to the issuance of licences and ratings. As well, clerical staff should participate in personnel licensing seminars and workshops.

RECOMMENDATION PEL/05 - The DCA should, as a matter of priority, implement the above-mentioned recommendations and recruit a personnel licensing expert (consultant) to administer personnel licensing functions and provide on-the-job training to the national staff. Such an expert should also be tasked to assist the DCA in developing detailed national personnel licensing regulations, procedures and requirements for all the licences, ratings and certificates which are issued by the DCA and for the designation of organizations and/or individuals for licensing-related tasks.

4.5 Flight operations

Note. - The following comments and recommendations relate to the findings on flight operations detailed in 3.5 above.

4.5.1 Paragraph 4.2.1.3 of Annex 6 — *Operation of Aircraft*, Part I — *International Commercial Air Transport — Aeroplanes*, requires that the issuance of an AOC be dependent upon the operator demonstrating an adequate organization, method of control and supervision of flight operations, training programme and maintenance arrangement consistent with the nature and extent of the operations specified. Attachment F to Annex 6, Part I expands this Standard to require the State to establish a system for certification of the operator.

4.5.2 The practice of issuing AOCs to operators over whom the DCA has no control could result in the DCA incurring liability. The DCA needs to ascertain whether the State of the Operator is conducting, and will continue to conduct, proper surveillance over such operators prior to issuing them with an AOC from Sri Lanka. By the DCA's own admission, most of the foreign operators are not being supervised by their respective State of Registry. This is a very dangerous situation and one in which, once again, the DCA has put itself in a very sensitive and legally liable position by providing an air operator's certificate without conducting the necessary control and supervision or ascertaining that proper control and supervision is being conducted by the State of Registry.

4.5.3 Such a system of certification is outlined in the *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335) with supporting information in the *Manual of Procedures for an Airworthiness Organization* (Doc 9389) and other ICAO guidance material. It details a process of application, including a compliance document, as in Doc 8335, Chapter 3, and a preliminary assessment of the application including proposed operations, financial and technical capability, and qualifications of the management personnel, as in Doc 8335, Chapter 4. The inspectors could then begin a technical review of the procedures in the operations manual, maintenance manual, training programme and other technical instructions issued by the applicant, as in Doc 8335, paragraphs 4.4.2 and 4.4.3. More specific details for the evaluation of the operations manual are contained in the *Preparation of an Operations Manual* (Doc 9376) and Doc 8335, Chapter 6. Details for evaluation of the maintenance manual are contained in Doc 8335, Section 6.3 and Doc 9389, Chapter 7. Included in this evaluation are the provisions for control of aircraft mass, as in Doc 9389, Attachment 6-C.

4.5.4 The ground operations inspection, as in Section 5.4 of the *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335), should be accomplished on the facilities, aerodromes and mobile equipment. The operational control organization should be evaluated for staffing, communications, meteorology, procedures and operational flight plans, as in Doc 8335, paragraph 5.4.4. The training programme, the actual training and proficiency checks must be evaluated for completeness and effectiveness, as in Doc 8335, paragraph 5.4.6. An emergency evacuation and ditching demonstration should be performed to determine the effectiveness of the company procedures, as in Doc 8335, paragraph 5.4.7. The company's records should be evaluated, as in Doc 8335, paragraph 5.4.9. That evaluation should include the records for crew member qualification, operational planning, operational control, fuel computation and aircraft loading.

4.5.5 Flight operations inspections should be conducted in the course of demonstration flights, without passengers, as in Section 5.5 of the *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335). During those inspections the adequacy of the in-flight procedures contained in the operations manual and the crew's compliance with those procedures should be evaluated as well as the adequacy of the facilities and equipment provided to the crew, the support of the operational control, ground handling provisions and en-route facilities.

4.5.6 After the inspector in charge of the certification determines that the operator has satisfactorily demonstrated the ability to conduct safe operations he advises the Director. The DCA Director of the State of the Operator issues an AOC and operations specifications, as in paragraph 4.2.1.1 of Annex 6 — *Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes* and Chapter 7 of the *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335). It should be noted that Doc 8335 indicates, in the following statements, that all evaluations, inspections and approval should be properly documented during the process of certification: "... the Director should be in possession of sufficient information ..." (paragraph 4.4.4); "It is normally convenient to approve the training programme in discrete sections ..." (paragraph 5.4.6.5); "Properly conducted and documented ..." (7.1.1); and "Submit reports on each inspection in the manner prescribed and complete and process the applicable inspection forms..." (9.5.3 d).

4.5.7 **Supervision of certificated operators**

4.5.7.1 Annex 6 — *Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes*, Chapter 4, paragraph 4.2.1.4 ties the continued validity of an AOC to the original certification standards. It also ties this continued validity to the supervision of the State of the Operator. Paragraph 9.2.1 of the *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335) outlines the reasons why the inspectorate should exercise continued surveillance and inspection of the operations. Paragraph 9.2.2 gives reasons why the State should not allow the operator to regulate itself. Doc 8335 specifically states that this is not normally in the interest of the travelling public and should be avoided. It is also clear in Chapter 9 that a major part of the inspector's work involves inspecting, assessing, reporting and making recommendations.

4.5.7.2 There is a requirement that a programme of specific inspections at designated intervals should be followed and there are recommended intervals for the inspections. Doc 8335 lists some of the inspections to be accomplished including station facilities, apron (ramp) inspections, en-route inspections, base inspections, training programme review, training records, operation and flight records, aircraft maintenance records and flight crew proficiency checks. There are discussions for each type of inspection and sample forms are given. The *Manual of Procedures for an Airworthiness Organization* (Doc 9389) also discusses other assessments and inspections.

4.5.7.3 The concept of follow-up of inspections is outlined in Doc 8335. Some of the methods employed include: submitting reports of all inspections and investigations; advising the operator in writing of all significant deficiencies and requesting their proposals for remedial action; investigating possible enforcement action; and keeping the DCA Director and other inspectors advised of the problem areas.

4.5.7.4 It is important to the safety of commercial air transport operations that the State of the Operator employs competent technical personnel as inspectors. For maximum effectiveness, these inspectors should be as technically qualified as the pilots, mechanics and engineers in the airline industry. Where a State is unable to maintain the inspector's technical qualifications for specialized tasks, it should contract the services of technically qualified inspectors to perform those tasks. These inspectors should maintain a continuous programme of compliance with regulations and safe practices. The concept of competent, qualified inspectors is addressed repeatedly in Docs 8335 and 9389.

4.5.7.5 The role of inspectors in the operations oversight of State airlines should be active certification and inspection of the airlines as outlined in the *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335) and *Manual of Procedures for an Airworthiness Organization* (Doc 9389). It should be a continuous and full-time role. The personnel of the airline should not be surprised to see inspectors any place and any time.

4.5.7.6 The establishment of written policies and procedures for the inspectorate to follow-up is necessary to the implementation of a professional inspector workforce. This guidance provides a basis for training additional inspectors, evaluating inspector work and is a common ground between the inspectors and the airlines. Doc 8335, paragraph 9.6.1 echoes this theme:

"It is essential that inspections be conducted to a common standard. Inspections, therefore, should be carried out in accordance with established methods and criteria so as to eliminate discrepancies due to the variations in procedure and experience of individual inspectors. The development of a manual for inspectors containing detailed inspection procedures and techniques will promote standardization."

RECOMMENDATION OPS/01 — The DCA should develop and implement the necessary regulations and inspector guidance to properly certificate commercial air transport operators, as referred to in paragraphs 2.4 and 9.6.1 of the *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335) and on the basis of Recommendations GEN/03 and GEN/04 above.

RECOMMENDATION OPS/02 — Upon implementation of the necessary regulations recommended in this report, the DCA must re-certify all air operators registered in Sri Lanka by applying the newly implemented regulations. This will re-establish the credibility of the DCA which will assure itself and the international community of the operators' compliance with International Standards and Recommended Practices.

RECOMMENDATION OPS/03 — The DCA should, in addition to implementing Recommendation GEN/09, take immediate steps to hire, train and fully qualify operations inspectors in order to carry out its obligations to the international aviation community and the Chicago Convention, to which it is a signatory. The fact that there are no qualified inspectors at the present time puts the State in a very critical and precarious situation since there are no qualified personnel to oversee the flight operations of any of its air carriers.

RECOMMENDATION OPS/04 — Until the necessary regulations and certification systems are developed, the DCA should consider the recruitment of operations inspectors from other DCAs to provide certification support and assistance to the operations consultant in the provision of on-the-job training for its inspectors.

RECOMMENDATION OPS/05 — The DCA should establish a system for the continued surveillance of the operator to ensure that the required standards of operations are maintained as indicated paragraph 4.2.1.4 and Attachment F, paragraph 5 of Annex 6 — *Operation of Aircraft, Part 1 — International Commercial Air Transport — Aeroplanes*.

RECOMMENDATION OPS/06 — The DCA should establish, by directive, a system for following up the correction of discrepancies from inspections, incidents and accidents. In this respect, it should also establish a legal method for investigating and penalizing persons who do not comply with the specific directives and aviation regulations of Sri Lanka.

RECOMMENDATION OPS/07 — The DCA should develop inspector's guidance for the certification and surveillance tasks that inspectors will be required to perform. In this respect, the DCA can use the services of the operations consultant as per Recommendation GEN/09 above. This will ensure a more standardized application of the DCA policies by the inspector and the operators, as referred to in Chapter 9, paragraph 9.6.1 of the *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335).

RECOMMENDATION OPS/08 — The DCA must use imperative language, such as the words "must" and "shall" in its regulations and stipulations issued to operators when giving mandatory instructions.

4.6

Airworthiness

Note. - The following comments and recommendations relate to the findings on aircraft airworthiness detailed in 3.6 above.

4.6.1 The major function of a State's aircraft airworthiness inspection organization is to ensure that aircraft registered and operating in the State are maintained in accordance with national and International Standards and Recommended Practices. In this respect, the State aircraft airworthiness authority must evaluate the maintenance personnel, equipment and facilities, buildings, shops, manuals, service agreements and spare parts of each operator as recommended in ICAO Doc 9389, paragraph 7.2.2. The assessment has shown that the AID of the DCA does not have the capability to evaluate maintenance organizations as recommended in Doc 9389 and is therefore, issuing airworthiness certificates without performing the required inspection. The practice of issuing an aircraft airworthiness certificate to operators over whom the DCA has no control could lead it to incur liability.

4.6.2 The failure to perform a proper oversight on the part of the AID is the direct result of the deficiencies prevailing in the DCA as was explained in 3.1, 3.2 and 3.3 above. Although the inspectors in the AID have Bachelor of Science degrees in engineering, none have had any experience in aircraft maintenance or in any other aviation subject which could aid them in the performance of their inspectorate duties. The assessment revealed that they lacked the basic aviation knowledge to perform their assigned oversight tasks. With no practical experience, aircraft systems training or any type of training associated with the inspection of aircraft, facilities, training and maintenance management systems review, etc., it is difficult to expect them to appropriately discharge their aircraft inspection responsibility.

4.6.3 At the time of the assessment, the AID was in a state of disarray. Misunderstandings and differences within the DCA and with the major carrier, Air Lanka, stemmed from a lack of cohesiveness on the part of the DCA to perform its assigned duties. Lack of professional credibility and non-acceptance by the major air operators often resulted in preventing the AID inspectors from performing their oversight activities. The AID in particular, and the DCA in general, lacked leadership and direction at all levels. The AID was decimated by the departure of qualified personnel on the one hand, and the total lack of funding support on the part of the Government on the other. Lack of serious financial support on the part of the Government to the DCA, as a whole, meant that required training, competitive salaries and adequate facilities were never available. The result of this untenable situation meant that the AID is totally ineffective as an oversight body and this is clearly shown by the numerous precarious discrepancies noted during this assessment.

4.6.4 Further underlining the seriousness of the situation, the assessment revealed that, in the regulatory vacuum, the operators are left to do as they please in respect of maintenance requirements. That operator maintenance control manuals were not maintained or approved prior to starting maintenance operations and the AID inspectors did not know the maintenance activities of these operators, are indicative of the AID's ineffectiveness in its assigned duties. The operators not only failed to retain maintenance control manuals but as no surveillance was ever accomplished, operators were, in some cases, found to be extending engine overhaul times without manufacturer approval and operating with invalid (expired) certificates of airworthiness. DCA inspectors must be empowered with a regulatory mandate in order to perform their numerous inspections within the premises of the operators. During the assessment team's visit the assigned airworthiness inspector was refused entry to an aircraft.

4.6.5 The AID has not established a system for critical record keeping such as maintaining ADs, MMELs, and weight and balance computation data. Thus, the AID had no way to ensure that operators were complying with aircraft manufacturers' recommended safety practices. Additionally, the DCA did not maintain an updated airworthiness library or have the rudimentary tools required to perform research and oversight forcing the AID, for all practical purposes, to function in the dark.

4.6.6 The AID is presently incapable of performing surveillance and oversight of the seven air operators in Sri Lanka and must be augmented with trained, qualified personnel in order to do so adequately. The Government should address the recommendation for acquiring experienced technical experts with due seriousness and endeavour to implement it as soon as possible. The need to recruit qualified inspectors for the AID is highly emphasized in view of the fact that the operators were observed to act in contravention to accepted International Standards and Recommended Practices.

4.6.7 The following recommendations are provided specifically in respect of observed airworthiness deficiencies in Sri Lanka. In that which concerns the need for appropriate regulations and procedures in respect of aircraft airworthiness and the restructuring of the AID, recommendations provided under paragraphs 4.1, 4.2 and 4.3 above remain relevant.

RECOMMENDATION AIR/01 — The DCA should, in addition to implementing Recommendation GEN/09, take immediate steps to hire, train and fully qualify aircraft airworthiness inspectors in order to carry out its obligations to the international aviation community and the Chicago Convention, to which it is a signatory. Aircraft airworthiness inspectors are professionals who have acquired extensive hands-on experience of the tasks they are inspecting. As such, the DCA has to recruit inspectors who are appropriately trained, qualified and highly experienced aircraft maintenance engineers/technicians.

RECOMMENDATION AIR/02 — Until the necessary regulations and certification systems are developed, the DCA should consider the recruitment of airworthiness inspectors from other DCAs to adequately discharge the responsibilities of the State *vis-à-vis* its aircraft airworthiness certification obligation as stipulated in the Chicago Convention and its Annexes.

RECOMMENDATION AIR/03 — Upon implementation of the necessary airworthiness regulations and the restructuring of the DCA as a whole, and the AID in particular, as recommended in this report, the DCA should perform the following inspection activities on all air operators registered in Sri Lanka by applying the newly implemented regulations. This will re-establish the credibility of the DCA which will assure itself and the international community of the operators' compliance with International Standards and Recommended Practices in respect of aircraft airworthiness:

- a) review the air operators maintenance manuals for compliance with Annex 6, Part I, Chapter 11 and the *Manual of Procedures for An Airworthiness Organization*, Doc 9389, Chapter 7, paragraph 7.2.1. At present, the DCA does not retain maintenance manuals for assigned air operators as outlined in ICAO guidelines;
- b) establish a standard weights and balance methodology for computing the weight and centre of gravity of the aircraft types within the airline and operators' fleets;
- c) immediately commence the conduct of periodic spot inspections of maintenance work in progress and perform surveillance required for the renewal of airworthiness certificate of air operators, such as ramp inspections, in-flight airworthiness inspections, spot inspections and record reviews of all aircraft;
- d) biannually conduct a maintenance facility inspection including training facilities and aircraft flight simulators, to ensure airworthiness and compliance with Sri Lankan and international requirements;

- e) accomplish, on a quarterly basis, records inspections of the maintenance status of aircraft currently in the fleet including assigned general aviation aircraft;
- f) develop a central airworthiness technical library within the inspection facility to house the numerous documents required to perform reliability analysis, oversight of aircraft repair and review and implementation of airworthiness directives;
- g) take special surveillance and enforcement measures to ensure compliance with the airworthiness directives and give additional attention to the repetitive nature of ADs and how these directives are processed and accomplished;
- h) inspect aircraft ground and flight simulators, at least on an annual basis, to ensure compliance with appropriate directives and ICAO Doc 9625;
- i) develop a system for monitoring and ensuring that assigned operators maintain airworthiness directives that include continued inspection items which require continued monitoring, as required by ICAO guidelines;
- j) formalize an inspection programme for foreign aircraft operating within Sri Lanka's jurisdiction on a wet/dry lease agreement;
- k) establish and monitor reliability data on the aircraft of assigned air operators;
- l) develop a programme for monitoring and approving major repairs and alterations of aircraft registered in Sri Lanka;
- m) establish a system and procedure for the preparation of the maintenance release or for the circumstances under which this release is issued and assigned personnel are authorized to release it;
- n) enforce the use of checklists at maintenance facilities under its control for refuelling/defueling, engine run-up, etc.;
- o) evaluate training programmes at the various maintenance organizations as part of the overall inspection programme;
- p) ensure that critical maintenance tasks are reviewed by qualified technical personnel prior to issuing a maintenance airworthy release; and
- q) develop a maintenance inspection programme for the review of aircraft records, maintenance bulletins, service letters and manual amendments, etc., to ensure timely and correct revision of technical data.

RECOMMENDATION AIR/04 — The DCA should adopt or develop an airworthiness code for its maintenance facilities, methods, techniques and practices for accomplishing preventive maintenance and alterations.

RECOMMENDATION AIR/05 — The DCA should establish a system for inspecting aircraft fuel farms, by both the air operators and the DCA. Fuel samples should be taken by the CAA/AID at least on a quarterly basis, and inspection records should be kept of these fuel farm inspections. Fuel contamination prevention procedures should also be developed.

RECOMMENDATION AIR/06 — The DCA should develop internal guidance for AID inspectors including an inspector's handbook for the performance of assigned duties.

RECOMMENDATION AIR/07 — The DCA should develop an airworthiness inspection plan to include all assigned aircraft and maintenance facilities in Sri Lanka.

RECOMMENDATION AIR/08 — The DCA should procure the necessary equipment, tools and expertise to perform a State's oversight responsibilities in a pro-active and efficient manner. Computers, micro-readers, microfiche and subscriptions to key industry technical guidance should be made available to the inspectors.

RECOMMENDATION AIR/09 — The DCA should establish guidelines for the exchange of information regarding faults, malfunctions, defects and other occurrences, and system difficulty reporting (SDR) that might adversely affect the continuing airworthiness of assigned aircraft. Engine failures, fire and smoke, fuel flow interruptions, etc., need to be reported to the DCA in accordance with ICAO guidance listed in ICAO Doc 9389, Chapter 4, Attachment 4-A.

RECOMMENDATION AIR/10 — The DCA should create a standardized airworthiness enforcement programme which includes the development of regulations, formal procedures and a process of investigation, etc.

RECOMMENDATION AIR/11 — The DCA should develop a methodology to be used in the approval of aircraft maintenance organizations (AMO), contractual arrangements for maintenance and overhaul, and maintenance specific operating provisions such as overhaul time limits, short-term escalation authorization and parts borrowing authorizations, etc. ICAO Doc 9389, Chapter 7 provides guidance in this regard.

RECOMMENDATION AIR/12 — The DCA should develop guidance on the storage of materials and approved shelf-life of time-sensitive parts, components and accessories.

5. GENERAL REMARKS

5.1 The assessment team appreciated the enthusiasm and attitude of the staff of the DCA who greatly assisted the team in looking into all relevant activities.

5.2 The DCA of Sri Lanka should convince its Government and the national airline that it is not only mandatory, pursuant to the Chicago Convention, to have an effective DCA, but that it is becoming more and more of an economic necessity for the national airline and foreign governments and airlines to have confidence in safety oversight in Sri Lanka.

5.3 In accordance with the Memorandum of Understanding (MOU) agreed between the DCA of Sri Lanka and ICAO, it is expected that an action plan acceptable to ICAO will be provided by the DCA of Sri Lanka within ninety calendar days, starting on the last day of assessment. In the event that long-term assistance is required to rectify deficiencies, the DCA may wish to make a formal request to ICAO for such assistance. Nevertheless, the State is once more assured that it can contact ICAO and members of the assessment team for advice and information related to the assessment, its findings and recommendations. It should be noted that the differences to the ICAO SARPs, which were identified during the course of the safety oversight assessment and which still exist when the final report is issued, will be incorporated in the final report.

5.4 Should Sri Lanka need assistance for the preparation of the required action plan, as per Article 9 of the MOU, the DCA may contact directly ICAO's Technical Co-operation Bureau which, on a cost-recovery basis will assist the DCA with the formulation of a confidential action plan addressing the recommendations made by the assessment team, as contained in this interim report. As the action plan produced by ICAO will contain detailed information on timeframe and cost of implementation, it can also be used as a basis to seek funding from donor organizations and/or financial institutions.

6. ASSESSMENT OF THE ACTION PLAN SUBMITTED BY THE DCA OF SRI LANKA

6.1 In accordance with Article 9 of the Memorandum of Understanding, the DCA of Sri Lanka submitted its action plan, (see Appendix C) for meeting the recommendations of the Safety Oversight Assessment Interim Report on 7 August 1998. This action plan was developed by the ICAO Technical Co-operation Bureau at the request of the DCA of Sri Lanka.

6.2 The action plan is noted, with the following observations. The plan is very comprehensive but was only due to begin in July 1998. No results of actions under the plan, which is scheduled to take 2 years to complete, are therefore available at the time of preparing this part of the report. The plan relies largely on the use of outside experts to prepare amendments to the primary legislation and civil aviation regulations of Sri Lanka, to reorganize the structure of the Department of Civil Aviation, to establish functioning flight operations, airworthiness and personnel licensing systems and to train national counterparts to continue to operate the systems when the outside experts leave. The plan also requires the Government of Sri Lanka to provide adequate funds for the operation of a fully functioning DCA and to amend its recruitment policies to ensure that adequately qualified personnel are engaged and retained by the DCA. Provided that these plans are fully implemented as described, the DCA should be in a position, at the end of plan implementation period, to fully meet its safety oversight responsibilities.

a) (to be completed)

6.3 After reviewing the action plan, and at the time this final report is being issued, the following ICAO SARPs have not been fully implemented:

(to be completed)

6.4 In accordance with Article 11 of the Memorandum of Understanding between Sri Lanka and ICAO, SARPs which have not been fully implemented in accordance with the action plan and ICAO's recommendations, will be deemed to have been notified to ICAO as differences by the DCA of Sri Lanka, and will be incorporated in the Supplements to the appropriate Annexes.

6.5 In keeping with the objective of the ICAO safety oversight programme, the DCA of Sri Lanka is requested to keep ICAO informed of progress in the implementation of its action plan. It is also requested that new or up-dated regulations or procedures, as outlined in the action plan, be sent to ICAO for its review, as they become available.

6.6 Any assistance that the DCA of Sri Lanka may require to implement the recommendations contained in this report, or to correct the deficiencies identified during the safety oversight assessment visit, should be addressed to ICAO.

APPENDIX A

MEMORANDUM OF UNDERSTANDING (MOU) BETWEEN SRI LANKA AND THE INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) REGARDING SAFETY OVERSIGHT ASSESSMENT

1. Sri Lanka hereby agrees to the conduct of a safety oversight assessment by an ICAO safety oversight assessment team.
2. The safety oversight assessment will review the State's compliance with the Standards and Recommended Practices (SARPs) set out in Annexes 1, 6 and 8. If deficiencies are found during the safety oversight assessment, short-term assistance, in the form of advice, from the safety oversight team will be made available on request by the State. Long-term assistance will be made available through the Technical Co-operation Programme, on request.
3. The assessment team will comprise experts in the fields of personnel licensing, flight operations, airworthiness or any other discipline that might be required for the assessment. The composition of the team (names and qualifications) will be provided to the civil aviation administration of the State prior to the assessment.
4. The ICAO Regional Office accredited to the State will be requested to provide assistance to facilitate the assessment team visit.
5. The team members will have a good command of one of the ICAO official languages.
6. Sri Lanka agrees to facilitate the assessment by making appropriate staff from its Civil Aviation Authority (or any relevant entity responsible for safety regulation) and commercial air transport operators, available for interview by the assessment team. Sri Lanka will be required to take the necessary measures, including interpretation services, to facilitate interviews by the assessment team. Sri Lanka will arrange and meet the cost of local travel, if required.
7. The assessment team will review the State regulatory provisions, examine records and documentation, conduct interviews in order to make its findings, on the basis of safety oversight assessment general guidelines, as follows:
 - a) consideration of existing national legislation enabling States to enforce the provisions of the Chicago Convention and Annexes 1, 6 and 8;
 - b) consideration of existing national regulations enabling States to carry out detailed safety regulation in support of the Chicago Convention and Annexes 1, 6 and 8;
 - c) implementation of SARPs and associated procedures related to the certification and supervision of the operator, in particular with respect to:

- i) an adequate organization, method of control and supervision of flight operations, training programmes and maintenance arrangements consistent with the nature and extent of the operations specified;
 - ii) qualified airworthiness and flight operations inspectors and licensing personnel supported by an appropriate organizational and managerial structure;
 - iii) detailed records of training given to airworthiness inspectors, flight operations inspectors and licensing personnel;
 - iv) policy on the safety regulation of maintenance, flight operations and licensing;
 - v) availability of appropriate reference material, including ICAO documentation;
 - vi) information on which Standards have been used for approval of air operator certificate (AOC) holders or maintenance organization;
 - vii) inspection results containing details of technical and operational deficiencies;
 - viii) evidence of compliance with airworthiness directives (ADs) and of adherence to approved maintenance programmes;
 - ix) evidence of procedures for the issuance, approval, suspension and revocation of licences and AOCs when unsafe conditions are identified and records of how often action has been taken;
 - x) evidence that major modifications to aircraft have been properly approved; and
 - xi) evidence of overall system safety awareness and of a mechanism for accident prevention.
8. At the completion of the safety oversight assessment, ICAO will endeavour to make available to Sri Lanka, within thirty calendar days, an interim report detailing the findings of the safety oversight assessment, together with recommendations for immediate remedial action, if necessary.
9. Should action be necessary to remedy deficiencies, Sri Lanka agrees to provide, within ninety calendar days of the completion of the safety oversight assessment, an action plan acceptable to the ICAO Secretary General to correct the deficiencies identified during the assessment. After this period of ninety days the final report will be completed and made available to Sri Lanka. If no action plan is needed or when it is already implemented at the end of the ninety-day period, the final report will contain information with respect to the deficiencies identified during the assessment, including those remedied in the meantime. If an acceptable action plan is provided and agreed upon, but not yet implemented, the final report will mention this information. If no acceptable action plan is provided, the final report will mention the deficiencies and differences to ICAO SARPs.

10. Safety oversight interim and final reports will be confidential and made available to Sri Lanka and the accredited ICAO Regional Office. A summary of the final report, containing information related to the differences to ICAO SARPs identified during the assessment, if any, will be made available to States, through ICAO, on request.
11. The obligations and responsibilities for notifying ICAO of non-compliance with ICAO SARPs shall rest with the State. Differences to ICAO SARPs, which have been identified during the course of the assessment and which will exist when the final report is issued, shall be deemed to have been notified to ICAO by Sri Lanka. ICAO will incorporate the differences in the Supplements to the appropriate Annexes.
12. In light of the conclusions of the safety oversight assessment conducted by the assessment team, Sri Lanka agrees to remedy the deficiencies, and also agrees to any other follow-up action required, such as another assessment which may be necessary to confirm that the deficiencies have been corrected.

Sri Lanka Civil Aviation Authority

International Civil Aviation Organization

Director General of Civil Aviation

Secretary General

Date

Date