

Singapore Air Safety Publication Part 9

Medical Requirements for the Grant or
Renewal of Flight Crew Licences and
Air Traffic Controllers

Publication of the
Civil Aviation Authority of Singapore
Singapore Changi Airport
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*Copies of this document may be obtained from
the CAAS website at www.caas.gov.sg*

FOREWORD

Pursuant to the Fourteenth Schedule of the Air Navigation Order (ANO), this Singapore Air Safety Publication (SASP) contains the medical requirements for the grant and renewal of flight crew licences and air traffic controller licences under paragraph 20 and paragraph 62A respectively of the ANO. Any person applying for or holding a licence granted or renewed under the ANO shall comply with these requirements as amended from time to time. Paragraph 2 of the ANO and SASP Part D contains the definitions of some terms used in this document, to facilitate the interpretation of the requirements in this SASP.

2 Failure to comply with any of these requirements may result in suspension or the revocation of the licence or the penalties as provided for under the Thirteenth Schedule of the ANO.

3 Amendments to SASP are notified through Notice of Amendment (NOA) and shall take effect from the date stipulated in the NOAs.

4 Queries on medical requirements contained in this publication should be referred to:

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CHAPTER 1 MEDICAL EXAMINATIONS AND REQUIREMENTS

1 CLASSES OF MEDICAL REQUIREMENTS

1 Under the Fourteenth Schedule of the ANO, medical fitness requirements applicable to the various classes of licence granted or renewed under paragraph 20 (1) (a) to (m) and paragraph 62A of the ANO are as follows:

(a) Class 1 Medical Requirements —

- (i) Commercial Pilot's Licence (Aeroplanes);
- (ii) Commercial Pilot's Licence (Helicopters and Gyroplanes);
- (iii) Airline Transport Pilot's Licence (Aeroplanes);
- (iv) Airline Transport Pilot's Licence (Helicopters and Gyroplanes);
- (v) Commercial Pilot's Licence (Airships); and
- (vi) Multi-crew Pilot's Licence (Aeroplanes).

(b) Class 2 Medical Requirements —

- (i) Student Pilot's Licence;
- (ii) Private Pilot's Licence (Aeroplanes);
- (iii) Private Pilot's Licence (Helicopters and Gyroplanes);
- (iv) Private Pilot's Licence (Balloons and Airships);
- (v) Commercial Pilot's Licence (Balloons);
- (vi) - *deleted* -
- (vii) Commercial Pilot's Licence (Gliders);
- (viii) Flight Navigator's Licence;
- (ix) Flight Engineer's Licence.

(c) Class 3 Medical Requirements —

Air Traffic Controller Licence.

2 An applicant for or a holder of a Private Pilot's Licence (Aeroplanes) or a Private Pilot's Licence (Helicopters) who also applies for or has been granted an Instrument Rating (Aeroplanes) or Instrument Rating (Helicopters), as the case may be, shall also satisfy Class 1 Medical Requirements.

- 3 All applicants for the initial issue or renewal of a licence must undergo a Licensing Medical Examination (LME), in accordance with the prescribed formats from the Civil Aviation Medical Board (CAMB), based on the following requirements:
- (a) physical and mental;
 - (b) visual and colour perception; and
 - (c) hearing.

- 4 All applicants for or a holder of a licence presented for LME shall be required to be free from:
- (a) any abnormality, congenital or acquired;
 - (b) any active, latent, acute or chronic disability;
 - (c) any wound, injury or sequelae from operation; or
 - (d) any effect or side-effect of any prescribed or non-prescribed therapeutic, diagnostic or preventive medication taken;

such as would entail a degree of functional incapacity which is likely to interfere with the safe operation of an aircraft or with the safe performance of duties.

- 5 Predisposing factors for disease, such as obesity and smoking, may be important for determining whether further evaluation or investigation is necessary in an individual case.

- 6 The following LMEs shall be carried out at the premises of the CAMB:

- (a) Initial Class 1 and Class 2 LMEs
- (b) Every fourth renewal of Class 1 and Class 2 LMEs
- (c) Renewal Class 1 LMEs at the age of 60

LME other than those mentioned above may be conducted by any other Designated Medical Examiner (See Chapter 2).

- 7 The frequency of LME for a holder of a flight crew licence granted in part on the basis of medical fitness can be found in the Eighth Schedule of the ANO as noted in paragraph 20(4) and 20(6) of the ANO. For a holder of an Air Traffic Controller (ATC) licence, the frequency of LME can be found in Paragraph 62C of the ANO. The medical validity period may be reduced when clinically indicated.

- 8 Pursuant to Paragraph 20(7) and Paragraph 62(E) of the ANO, the holder of a flight crew licence or ATC licence granted in part on the basis of medical fitness shall not be entitled to perform any of the functions to which his/her licence relates if he/she knows or has reason to believe that his/her physical condition renders him/her temporarily or permanently unfit to perform such functions. He/She is required to inform the DGCA in writing, as soon as practicable, if he/she:

- (a) suffers any personal injury involving incapacity to undertake the functions to which his licence relates;

- (b) suffers any illness involving incapacity to undertake those functions throughout a period of more than 20 days;
- (c) knows or has reason to believe that she is pregnant;
- (d) requires continued treatment with prescribed medication; or
- (e) has received medical treatment requiring hospitalisation.

The licence holder shall not exercise the privileges of his/ her licence and related ratings until he/she has satisfied the CAMB that his/her medical fitness has been restored to the standards as specified in the Fourteenth Schedule of the ANO and the SASP Part 9. If under any doubt, he/she is to seek clarification or guidance from a DME to ascertain if the medical issue or occurrence is of relevance to flight safety.

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CHAPTER 2 DESIGNATED MEDICAL EXAMINER

1 INTRODUCTION

- 1.1 Under the Fourteenth Schedule of the ANO, all LME must be conducted by a Designated Medical Examiner (DME).
- 1.2 A “Designated Medical Examiner” (DME) is a doctor who is approved by the DGCA to conduct LMEs on applicants or holders for the grant or renewal of a flight crew licence or an air traffic controller licence.
- 1.3 The list of names and addresses of DMEs is published in the Aeronautical Information Circular which is available on the CAAS website at www.caas.gov.sg.
- 1.4 Doctors interested to be appointed as a DME should submit the application in a form and manner prescribed by the DGCA.

2 APPOINTMENT OF DMEs IN SINGAPORE

- 2.1 Criteria for appointment/re-appointment as a DME are as follows:
 - (a) Be qualified and licensed to practise medicine in Singapore;
 - (b) Have received training in the practice of aviation medicine and demonstrated adequate competency in aviation medicine;
 - (c) Have attended refresher training in aviation medicine, prescribed by CAMB, at least once every 3 years;
 - (d) Possesses practical knowledge and experience of the conditions in which the holder of a licence carries out the functions to which his licence relates; and
 - (e) Have conducted at least one LME on flight crew/ATCOs preceding every year for the last 3 years.

Note — Examples of practical knowledge and experience are flight experience, simulator experience, on-site observation.

- 2.2 The appointment of a DME is on three-year term, at the end of which DMEs must apply for reappointment. Re-appointment is subject to the DGCA’s satisfaction that the DME has met the criteria spelled out in Paragraph 2.1. If sufficient evidence exists to show that the DME has not performed his/her duties according to best medical practices or competently as would be expected of a DME, the appointment of a DME may be suspended or terminated.
- 2.3 DMEs who are appointed will receive a letter of appointment which also specifies their period of appointment.

3 APPOINTMENT OF OVERSEAS DMEs

- 3.1 The appointment of overseas DMEs is based on request from Singapore air operators. As such, any application by an overseas doctor to be a Singapore DME will only be considered if it is supported by a Singapore air operator. All costs incurred in relation to the appointment of the overseas DME (e.g. visit to overseas clinic) shall also be borne by the Singapore air operator.
- 3.2 The criteria to be met for appointment/re-appointment of overseas DMEs outside Singapore are similar to those spelt out in paragraph 2 above but with the following additional requirements:
- (a) the overseas doctor shall be appointed as a DME by the Civil Aviation Authority in the country where he/she is practising; and
 - (b) he/she shall submit a copy of the Certificate of Good Standing issued by the medical licensing authority in the country where he/she is practising.
- 3.3 Once appointed, the overseas DME can perform LMEs for all Singapore licence holders.

4 RESPONSIBILITIES OF DMEs

- 4.1 The responsibilities of the DMEs are as follows:
- (a) to conduct LMEs (according to the prescribed format) for flight crew and ATCOs;
 - (b) to ensure that any investigation required for the LME and those specified by the CAMB on individual licence applicant or holder, are carried out duly;
 - (c) to refer for specialist examination any flight crew/ATCO who in the opinion of the DME, requires further specialists opinion;
 - (d) to submit a signed report of the LME along with the compilation of all original copies of the relevant reports and results to CAMB for the LMAB process (when submission from the DME is on electronic format, the logging-in by the DME using his personal login ID and Password is deemed to represent his authentication, equivalent to a signed report);
 - (e) to ensure, before submission to the CAMB for the LMAB process, that :
 - (i) all data required according to LME format are complete;
 - (ii) all special reports and investigation results/reports contain all pertinent details;
 - (iii) sufficient information for the LMAB to assess the applicant for medical fitness and to enable medical assessment audits.
 - (f) to conduct aeromedical evaluation of licence holders who have been temporarily unfit to exercise privileges of their licence under Chapter 2, Paragraph 8 and make a recommendation to CAMB on whether the licence holder's medical fitness has been restored to the requirements as specified in the Fourteenth Schedule of the ANO and the SASP Part 9; and

- (g) to emphasise on health education and prevention of ill health as appropriate to the risk factors and conditions found in any applicant undergoing a LME.
- 4.2 Whether it is for LME or aeromedical evaluation, the DME shall be required to submit sufficient medical information to CAMB for Medical Assessments and fitness clearance. CAMB will also conduct audits to ensure that DMEs meet applicable standards of good practices.
- 4.3 DMEs shall ensure that proper safeguards of medical confidentiality are observed at all times. All medical reports and records shall be securely held with accessibility restricted to authorised personnel.
- 4.4 In cases where, in the DME's judgement, an applicant has failed to meet any medical requirements such that exercise of the privileges of his/her licence is likely to jeopardise flight safety or are-complicated and unusual cases, the DME shall defer his/her evaluation and submit the case to the CAMB for assessment. If the applicant is an existing licence holder, the DME shall issue a certificate of medical leave to the licence holder and advise him/her against exercising the privileges of his/her licence and report to CAMB as soon as practicable.
- 4.5 If the LME is carried out by two or more DMEs, the DME who reviewed the medical declaration with the licence holder shall also conduct the general physical examination portions of the LME and be responsible for coordinating the results of the examination, evaluating the findings with regard to medical fitness, and signing the report. If the results of the examination are to be submitted electronically, this DME shall be responsible for entering the collated information into the electronic system and submit the completed LME to CAMB.

5 MEDICAL STANDARDS

- 5.1 All LMEs must be conducted in accordance with the Fourteenth Schedule of the ANO and this SASP, as amended. The latest versions of the documents can be downloaded from the CAAS website at www.caas.gov.sg.
- 5.2 The level of medical fitness to be met for the renewal of a Medical Certificate shall be the same as that for the initial assessment except where otherwise specifically stated.

6 MEDICAL EXAMINATION FEES

- 6.1 The fees to be charged by the DME for all Student Pilots, Private Pilots and Professional Pilots, i.e. Commercial and Airline Transport Pilots may follow guidelines set by the Singapore Medical Council (SMC) or as determined by the DME performing the medical examination.
- 6.2 The fee to be paid by the applicant for a medical evaluation by the CAMB is laid down in the Twelfth Schedule of the ANO.

7 CHANGE OF ADDRESS

7.1 The C.A.M.B. should be notified by the DME of any change of address or telephone numbers.

8 KEEPING ABREAST

8.1 The DME is required to have and be familiar with the medical requirements stipulated in the ANO, this SASP and the International Civil Aviation Organisation (ICAO) Manual on Civil Aviation (latest edition). The DME is also encouraged to keep himself abreast with aviation medicine by:

- (i) reading relevant journals e.g. "Aviation Space and the Environmental Medicine". "ICAO Bulletin" etc and;
- (ii) attending seminars/congress/scientific meetings on aviation medicine whenever possible.

9 DMEs AND THE C.A.M.B.

9.1 DMEs are encouraged to maintain close links with members of the C.A.M.B. They should clarify any problems that they may have pertaining to the conduct of LMEs with the office of the C.A.M.B.

9.2 For the purpose of carrying out the necessary medical assessments, the DGCA has appointed a panel of Medical Assessors, as part of the Office of C.A.M.B., who meets the criteria for "Evaluating Medical Examiners" as spelt out in the ANO paragraph 2 and are competent in evaluating and assessing medical conditions of flight safety. Licensing Medical Assessors' Boards (LMAB) are convened to assess the medical fitness of an applicant for the issue or renewal of a Medical Certificate in accordance with the Fourteenth Schedule of the ANO and the SASP Part 9.

CHAPTER 3 CLASS 1 MEDICAL REQUIREMENTS

1 PHYSICAL AND MENTAL REQUIREMENTS

1.1 The applicant shall not suffer from any disease or disability which could render that applicant likely to become suddenly unable either to operate an aircraft safely or to perform assigned duties safely.

1.2 The applicant shall have no established medical history or clinical diagnosis of:

- (a) an organic mental disorder;
- (b) a mental or behavioural disorder due to use of psychoactive substances; this includes dependence syndrome induced by alcohol or other psychoactive substances;
- (c) schizophrenia or a schizotypal or delusional disorder;
- (d) a mood (affective) disorder;
- (e) a neurotic, stress-related or somatoform disorder;
- (f) a behavioural syndrome associated with physiological disturbances or physical factors;
- (g) a disorder of adult personality or behaviour, particularly if manifested by repeated overt acts;
- (h) mental retardation;
- (i) a disorder of psychological development;
- (j) a behavioural or emotional disorder, with onset in childhood or adolescence; or
- (k) a mental disorder not otherwise specified;

such as might render the applicant unable to safely exercise the privileges of the licence applied for or held.

1.2.1 An applicant with depression, being treated with antidepressant medication, should be assessed as unfit unless the CAMB, having access to the details of the case concerned, considers the applicant's condition as unlikely to interfere with the safe exercise of the applicant's licence and rating privileges.

1.3 The applicant shall have no established medical history or clinical diagnosis of any of the following:

- (a) a progressive or non-progressive disease of the nervous system, the effects of which are likely to interfere with the safe exercise of the applicant's licence and rating privileges;

- (b) epilepsy; or
 - (c) any disturbance of consciousness without satisfactory medical explanation of cause.
- 1.4 The applicant shall not have suffered any head injury, the effects of which are likely to interfere with the safe exercise of the applicant's licence and rating privileges.
- 1.5 The applicant shall not possess any abnormality of the heart, congenital or acquired, which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.
- 1.5.1 An applicant who has undergone coronary by-pass grafting or angioplasty (with or without stenting) or other cardiac intervention or who has a history of myocardial infarction or who suffers from any other potentially incapacitating cardiac condition shall be assessed as unfit unless the applicant's cardiac condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.
- 1.5.2 An applicant with an abnormal cardiac rhythm shall be assessed as unfit unless the cardiac arrhythmia has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.
- 1.6 Electrocardiography shall form part of the heart examination for the first medical examination.
- 1.6.1 Electrocardiography shall be included in re-examinations of applicants over the age of 50 no less frequently than annually.
- 1.6.2 Electrocardiography shall be included in re-examinations of applicants between the ages of 30 and 50 no less frequently than every 2 years.
- Note.— The purpose of routine electrocardiography is case finding. It does not provide sufficient evidence to justify disqualification without further thorough cardiovascular investigation.
- 1.7 The systolic and diastolic blood pressures shall be within normal limits.
- 1.7.1 The use of drugs for control of high blood pressure shall be disqualifying except for those drugs, the use of which is compatible with the safe exercise of the applicant's licence and rating privileges.
- 1.8 There shall be no significant functional nor structural abnormality of the circulatory system.
- 1.9 There shall be no acute disability of the lungs nor any active disease of the structures of the lungs, mediastinum or pleurae likely to result in incapacitating symptoms during normal or emergency operations.
- 1.9.1 Chest radiography shall form part of the initial examination.

Note — Periodic chest radiography is usually not necessary but may be a necessity in situations where asymptomatic pulmonary disease can be expected.

- 1.10 Applicants with chronic obstructive pulmonary disease shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.
- 1.11 Applicants with asthma causing significant symptoms or likely to cause incapacitating symptoms during normal or emergency operations shall be assessed as unfit.
 - 1.11.1 The use of drugs for control of asthma shall be disqualifying except for those drugs, the use of which is compatible with the safe exercise of the applicant's licence and rating privileges.
- 1.12 Applicants with active pulmonary tuberculosis shall be assessed as unfit.
 - 1.12.1 Applicants with quiescent or healed lesions which are known to be tuberculous, or are presumably tuberculous in origin, may be assessed as fit.
- 1.13 Applicants with significant impairment of function of the gastrointestinal tract or its adnexa shall be assessed as unfit.
 - 1.13.1 Applicants shall be completely free from those hernias that might give rise to incapacitating symptoms.
- 1.14 Applicants with sequelae of disease of, or surgical intervention on, any part of the digestive tract or its adnexa, likely to cause incapacitation in flight, in particular any obstruction due to stricture or compression, shall be assessed as unfit.
 - 1.14.1 An applicant who has undergone a major surgical operation on the biliary passages or the digestive tract or its adnexa with a total or partial excision or a diversion of any of these organs shall be assessed as unfit until such time as the medical assessor, having access to the details of the operation concerned, considers that the effects of the operation are not likely to cause incapacitation in flight.
- 1.15 Applicants with metabolic, nutritional or endocrine disorders that are likely to interfere with the safe exercise of their licence and rating privileges shall be assessed as unfit.
- 1.16 Applicants with insulin-treated diabetes mellitus shall be assessed as unfit.
 - 1.16.1 Applicants with non-insulin-treated diabetes mellitus shall be assessed as unfit unless the condition is shown to be satisfactorily controlled by diet alone or by diet combined with oral anti-diabetic medication, the use of which is compatible with the safe exercise of the applicant's licence and rating privileges.
- 1.17 Applicants with diseases of the blood and/or the lymphatic system shall be assessed as unfit unless adequately investigated and their condition found unlikely to interfere with the safe exercise of their licence and rating privileges.

Note.— Sickle cell trait or other haemoglobinopathic traits are usually compatible with a fit assessment.
- 1.18 Applicants with renal or genito-urinary disease shall be assessed as unfit, unless adequately investigated and their condition found unlikely to interfere with the safe exercise of their licence and rating privileges.

1.18.1 Urine examination shall form part of the medical examination and abnormalities shall be adequately investigated.

1.19 Applicants with sequelae of disease of or surgical procedures on the kidneys or the genito-urinary tract, in particular obstructions due to stricture or compression, shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

1.19.1 Applicants who have undergone nephrectomy shall be assessed as unfit unless the condition is well compensated.

1.20 *-deleted-*.

1.20.1 Applicants who are seropositive for human immunodeficiency virus (HIV) shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with the best medical practice and is assessed by CAMB as not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

Note 1 – Early diagnosis and active management of HIV disease with antiretroviral therapy reduces morbidity and improves prognosis and thus increase the likelihood of a fit assessment.

1.21 *-deleted-*.

1.22 Applicants who are pregnant shall be assessed as unfit unless obstetrical evaluation and continued medical supervision indicate a low-risk uncomplicated pregnancy.

1.22.1 For applicants with a low-risk uncomplicated pregnancy, evaluated and supervised in accordance with paragraph 1.22, the fit assessment shall be limited to the period from the end of the 12th week until the end of the 26th week of gestation.

1.23 Following confinement or termination of pregnancy, the applicant shall not be permitted to exercise the privileges of her licence until she has undergone re-evaluation in accordance with best medical practice and it has been determined that she is able to safely to exercise the privileges of her licence and ratings.

1.24 The applicant shall not possess any abnormality of the bones, joints, muscles, tendons or related structures which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.

Note.— Any sequelae after lesions affecting the bones, joints, muscles or tendons, and certain anatomical defects will normally require functional assessment to determine fitness.

1.25 The applicant shall not possess any abnormality or disease of the ear or related structures which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.

1.26 There shall be:

(a) no disturbance of vestibular function;

(b) no significant dysfunction of the Eustachian tubes; and

(c) no unhealed perforation of the tympanic membranes.

1.26.1 A single dry perforation of the tympanic membrane need not render the applicant unfit.

1.27 There shall be:

(a) no nasal obstruction; and

(b) no malformation nor any disease of the buccal cavity or upper respiratory tract;

which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.

1.28 Applicants with stuttering or other speech defects sufficiently severe to cause impairment of speech communication shall be assessed as unfit.

2 VISUAL ACUITY TEST REQUIREMENTS

2.1 Each eye of the applicant will be tested separately. The methods of testing visual acuity shall be as follows:

(a) visual acuity tests shall be conducted in an environment with a level of illumination which corresponds to ordinary office illumination (30-60 cd/m²);

(b) visual acuity shall be measured by means of a series of Landolt rings, or similar optotypes, placed at a distance from the applicant, as appropriate to the method of testing adopted.

2.2 The function of the eyes and their adnexa shall be normal. There shall be no active pathological condition, acute or chronic, nor any sequelae of surgery or trauma of the eyes or their adnexa likely to reduce proper visual function to an extent that would interfere with the safe exercise of the applicant's licence and rating privileges.

2.3 Distant visual acuity with or without correction shall be 6/9 or better in each eye separately, and binocular visual acuity shall be 6/6 or better. No limits apply to uncorrected visual acuity. Where this standard of visual acuity can be obtained only with correcting lenses, the applicant may be assessed as fit provided that:

(a) such correcting lenses are worn during the exercise of the privileges of the licence or rating applied for or held; and

(b) in addition, a pair of suitable correcting spectacles is kept readily available during the exercise of the privileges of the applicant's licence.

Note.— An applicant accepted as meeting these provisions is deemed to continue to do so unless there is reason to suspect otherwise, in which case an ophthalmic report is required at the discretion of the Civil Aviation Medical Board. Both uncorrected and corrected visual acuity are normally measured and recorded at each re-examination. Conditions which indicate a need to obtain an ophthalmic report include: a substantial decrease in the uncorrected visual acuity, any decrease in best corrected visual acuity, and the occurrence of eye disease, eye injury or eye surgery.

2.3.1 Applicants may use contact lenses to meet this requirement provided that:

- (a) the lenses are monofocal and non-tinted;
- (b) the lenses are well tolerated; and
- (c) a pair of suitable correcting spectacles is kept readily available during the exercise of the licence privileges.

Note.— Applicants who use contact lenses may not need to have their uncorrected visual acuity measured at each reexamination provided the history of their contact lens prescription is known.

2.3.2 Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses.

Note.— If spectacles are used, high-index lenses are needed to minimise peripheral field distortion.

2.3.3 Applicants whose uncorrected distant visual acuity in either eye is worse than 6/60 shall be required to provide a full ophthalmic report prior to initial Medical Examination and every five years thereafter.

Note.— The purpose of the required ophthalmic examination is (1) to ascertain normal visual performance, and (2) to identify any significant pathology.

2.4 Applicants who have undergone surgery affecting the refractive status of the eye shall be assessed as unfit unless they are free from those sequelae which are likely to interfere with the safe exercise of their licence and rating privileges.

2.5 The applicant shall have the ability to read, while wearing the correcting lenses, if any, required by paragraph 2.3, the N5 chart or its equivalent at a distance selected by that applicant in the range of 30 to 50 cm and the ability to read the N14 chart or its equivalent at a distance of 100 cm. If this requirement is met only by the use of near correction, the applicant may be assessed as fit provided that this near correction is added to the spectacle correction already prescribed in accordance with paragraph 2.3; if no such correction is prescribed, a pair of spectacles for near use shall be kept readily available during the exercise of the privileges of the licence. When near correction is required, the applicant shall demonstrate that one pair of spectacles is sufficient to meet both distant and near visual requirements.

Note 1.— N5 and N14 refer to the size of typeface used.

Note 2.— An applicant who needs near correction to meet this requirement will require “look-over”, bifocal or perhaps multifocal lenses in order to read the instruments and a chart or manual held in the hand, and also to make use of distant vision, through the windscreen, without removing the lenses. Single-vision near correction (full lenses of one power only, appropriate for reading) significantly reduces distant visual acuity and is therefore not acceptable.

Note 3.— Whenever there is a requirement to obtain or renew correcting lenses, an applicant is expected to advise the refractionist of reading distances for the visual flight deck tasks relevant to the types of aircraft in which the applicant is likely to function.

- 2.5.1 When near correction is required in accordance with this paragraph, a second pair of near-correction spectacles shall be kept available for immediate use.
- 2.6 The applicant shall be required to have normal fields of vision.
- 2.7 The applicant shall be required to have normal binocular function.
- 2.7.1 Reduced stereopsis, abnormal convergence not interfering with near vision, and ocular misalignment where the fusional reserves are sufficient to prevent asthenopia and diplopia need not be disqualifying.

3 COLOUR PERCEPTION REQUIREMENTS

- 3.1 The applicant shall be required to demonstrate the ability to perceive readily those colours the perception of which is necessary for the safe performance of duties.
- 3.2 The applicant shall be tested for the ability to correctly identify a series of pseudoisochromatic plates in daylight or in artificial light of the same colour temperature such as that provided by CIE standard illuminants C or D65 as specified by the International Commission on Illumination (CIE).
- 3.3 An applicant obtaining a satisfactory result as prescribed by the evaluating medical examiner shall be assessed as fit. An applicant failing to obtain a satisfactory result in such a test shall be assessed as unfit unless able to readily distinguish the colours used in air navigation and correctly identify aviation coloured lights. Applicants who fail to meet these criteria shall be assessed as unfit.
 - 3.3.1 Sunglasses worn during the exercise of the privileges of the licence or rating held shall be non-polarising and of a neutral grey tint.

4 HEARING TEST REQUIREMENTS

- 4.1 The applicant shall be required to demonstrate a hearing performance sufficient for the safe exercise of their licence and rating privileges.
- 4.2 The applicant shall be tested by pure-tone audiometry at first issue of the licence, not less than once every five years up to the age of 40 years, and thereafter not less than once every two years.
 - 4.2.1 Alternatively, other methods providing equivalent results may be used.
- 4.3 At medical examinations, other than those mentioned in paragraph 4.2, where audiometry is not performed, applicants shall be tested in a quiet room by whispered and spoken voice tests.

Note 1.— For the purpose of testing hearing in accordance with the requirements, a quiet room is a room in which the intensity of the background noise is less than 35 dB(A).

Note 2.— For the purpose of testing hearing in accordance with the requirements, the sound level of an average conversational voice at 1 m from the point of output (lower lip of the speaker) is c. 60 dB(A) and that of a whispered voice c. 45dB(A). At 2 m from the speaker, the sound level is 6 dB(A) lower.

4.4 The applicant, when tested on a pure-tone audiometer, shall not have a hearing loss, in either ear separately, of more than 35 dB at any of the frequencies 500, 1 000 or 2 000 Hz, or more than 50 dB at 3 000 Hz.

4.4.1 An applicant with a hearing loss greater than the above may be declared fit provided that the applicant has normal hearing performance against a background noise that reproduces or simulates the masking properties of flight deck noise upon speech and beacon signals.

Note 1.— It is important that the background noise be representative of the noise in the cockpit of the type of aircraft for which the applicant's licence and ratings are valid.

Note 2.— In the speech material for discrimination testing, both aviation-relevant phrases and phonetically balanced words are normally used.

4.4.2 Alternatively, a practical hearing test conducted in flight in the cockpit of an aircraft of the type for which the applicant's licence and ratings are valid may be used.

CHAPTER 4 CLASS 2 MEDICAL REQUIREMENTS

1 PHYSICAL AND MENTAL REQUIREMENTS

1.1 The applicant shall not suffer from any disease or disability which could render that applicant likely to become suddenly unable either to operate an aircraft safely or to perform assigned duties safely.

1.2 The applicant shall have no established medical history or clinical diagnosis of:

- (a) an organic mental disorder;
- (b) a mental or behavioural disorder due to psychoactive substance use; this includes dependence syndrome induced by alcohol or other psychoactive substances;
- (c) schizophrenia or a schizotypal or delusional disorder;
- (d) a mood (affective) disorder;
- (e) a neurotic, stress-related or somatoform disorder;
- (f) a behavioural syndrome associated with physiological disturbances or physical factors;
- (g) a disorder of adult personality or behaviour, particularly if manifested by repeated overt acts;
- (h) mental retardation;
- (i) a disorder of psychological development;
- (j) a behavioural or emotional disorder, with onset in childhood or adolescence; or
- (k) a mental disorder not otherwise specified;

such as might render the applicant unable to safely exercise the privileges of the licence applied for or held.

1.2.1 An applicant with depression, being treated with antidepressant medication, should be assessed as unfit unless the CAMB, having access to the details of the case concerned, considers the applicant's condition as unlikely to interfere with the safe exercise of the applicant's licence and rating privileges.

1.3 The applicant shall have no established medical history or clinical diagnosis of any of the following:

- (a) a progressive or non-progressive disease of the nervous system, the effects of which are likely to interfere with the safe exercise of the applicant's licence and rating privileges;
- (b) epilepsy;

- (c) any disturbance of consciousness without satisfactory medical explanation of cause.
 - 1.4 The applicant shall not have suffered any head injury, the effects of which are likely to interfere with the safe exercise of the applicant's licence and rating privileges.
 - 1.5 The applicant shall not possess any abnormality of the heart, congenital or acquired, which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.
 - 1.5.1 An applicant who has undergone coronary by-pass grafting or angioplasty (with or without stenting) or other cardiac intervention or who has a history of myocardial infarction or who suffers from any other potentially incapacitating cardiac condition shall be assessed as unfit unless the applicant's cardiac condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.
 - 1.5.2 An applicant with an abnormal cardiac rhythm shall be assessed as unfit unless the cardiac arrhythmia has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.
 - 1.6 Electrocardiography shall form part of the heart examination for the first medical examination.
 - 1.6.1 Electrocardiography shall form part of the heart examination for the first issue of a Medical Assessment after the age of 40.
 - 1.6.2 Electrocardiography shall be included in re-examinations of applicants after the age of 50 no less frequently than every two years.
- Note.— The purpose of routine electrocardiography is case finding. It does not provide sufficient evidence to justify disqualification without further thorough cardiovascular investigation.
- 1.7 The systolic and diastolic blood pressures shall be within normal limits.
 - 1.7.1 The use of drugs for control of high blood pressure shall be disqualifying except for those drugs, the use of which is compatible with the safe exercise of the applicant's licence and rating privileges.
 - 1.8 There shall be no significant functional nor structural abnormality of the circulatory system.
 - 1.9 There shall be no disability of the lungs nor any active disease of the structures of the lungs, mediastinum or pleura likely to result in incapacitating symptoms during normal or emergency operations.
 - 1.9.1 Chest radiography shall form part of the initial and periodic examinations in cases where asymptomatic pulmonary disease can be expected.
 - 1.10 Applicants with chronic obstructive pulmonary disease shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

- 1.11 Applicants with asthma causing significant symptoms or likely to cause incapacitating symptoms during normal or emergency operations shall be assessed as unfit.
 - 1.11.1 The use of drugs for control of asthma shall be disqualifying except for those drugs, the use of which is compatible with the safe exercise of the applicant's licence and rating privileges.
- 1.12 Applicants with active pulmonary tuberculosis shall be assessed as unfit.
 - 1.12.1 Applicants with quiescent or healed lesions, known to be tuberculous or presumably tuberculous in origin, may be assessed as fit.
- 1.13 Applicants shall be completely free from those hernias that might give rise to incapacitating symptoms.
 - 1.13.1 Applicants with significant impairment of the function of the gastrointestinal tract or its adnexa shall be assessed as unfit.
- 1.14 Applicants with sequelae of disease of or surgical intervention on any part of the digestive tract or its adnexa, likely to cause incapacitation in flight, in particular any obstruction due to stricture or compression, shall be assessed as unfit.
 - 1.14.1 An applicant who has undergone a major surgical operation on the biliary passages or the digestive tract or its adnexa with a total or partial excision or a diversion of any of these organs shall be assessed as unfit until such time as the medical assessor, having access to the details of the operation concerned, considers that the effects of the operation are not likely to cause incapacitation in flight.
- 1.15 Applicants with metabolic, nutritional or endocrine disorders that are likely to interfere with the safe exercise of their licence and rating privileges shall be assessed as unfit.
- 1.16 Applicants with insulin-treated diabetes mellitus shall be assessed as unfit.
 - 1.16.1 Applicants with non-insulin-treated diabetes mellitus shall be assessed as unfit unless the condition is shown to be satisfactorily controlled by diet alone or by diet combined with oral anti-diabetic medication, the use of which is compatible with the safe exercise of the applicant's licence and rating privileges.
- 1.17 Applicants with diseases of the blood and/or the lymphatic system shall be assessed as unfit unless adequately investigated and their condition found unlikely to interfere with the safe exercise of their licence and rating privileges.

Note.— Sickle cell trait and other haemoglobinopathic traits are usually compatible with fit assessment.
- 1.18 Applicants with renal or genito-urinary disease shall be assessed as unfit unless adequately investigated and their condition found unlikely to interfere with the safe exercise of their licence and rating privileges.
 - 1.18.1 Urine examination shall form part of the medical examination and abnormalities shall be adequately investigated.

1.19 Applicants with sequelae of disease of, or surgical procedures on, the kidneys or the genito-urinary tract, in particular obstructions due to stricture or compression, shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

1.19.1 Applicants who have undergone nephrectomy shall be assessed as unfit unless the condition is well compensated.

1.20 *-deleted-*.

1.20.1 Applicants who are seropositive for human immunodeficiency virus (HIV) shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with the best medical practice and is assessed by CAMB as not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

Note 1. — Early diagnosis and active management of HIV disease with antiretroviral therapy reduces morbidity and improves prognosis and thus increase the likelihood of a fit assessment.

1.21 *-deleted-*.

1.22 Applicants who are pregnant shall be assessed as unfit unless obstetrical evaluation and continued medical supervision indicate a low-risk uncomplicated pregnancy.

1.22.1 For applicants with a low-risk uncomplicated pregnancy, evaluated and supervised in accordance with paragraph 1.22, the fit assessment shall be limited to the period from the end of the 12th week until the end of the 26th week of gestation.

1.23 Following confinement or termination of pregnancy, the applicant shall not be permitted to exercise the privileges of her licence until she has undergone re-evaluation in accordance with best medical practice and it has been determined that she is able to safely exercise the privileges of her licence and ratings.

1.24 The applicant shall not possess any abnormality of the bones, joints, muscles, tendons or related structures which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.

Note.— Any sequelae after lesions affecting the bones, joints, muscles or tendons, and certain anatomical defects will normally require functional assessment to determine fitness.

1.25 The applicant shall not possess any abnormality or disease of the ear or related structures which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.

1.26 There shall be:

- (a) no disturbance of the vestibular function;
- (b) no significant dysfunction of the Eustachian tubes; and
- (c) no unhealed perforation of the tympanic membranes.

1.26.1 A single dry perforation of the tympanic membrane need not render the applicant unfit.

1.27 There shall be:

- (a) no nasal obstruction; and
- (b) no malformation nor any disease of the buccal cavity or upper respiratory tract;

which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.

1.28 Applicants with stuttering and other speech defects sufficiently severe to cause impairment of speech communication shall be assessed as unfit.

2 VISUAL ACUITY TEST REQUIREMENTS

2.1 Each eye of the applicant will be tested separately. The methods of testing visual acuity shall be as follows:

- (a) visual acuity tests shall be conducted in an environment with a level of illumination which corresponds to ordinary office illumination (30-60 cd/m²);
- (b) visual acuity shall be measured by means of a series of Landolt rings, or similar optotypes, placed at a distance from the applicant, as appropriate to the method of testing adopted.

2.2 The function of the eyes and their adnexa shall be normal. There shall be no active pathological condition, acute or chronic, nor any sequelae of surgery or trauma of the eyes or their adnexa likely to reduce proper visual function to an extent that would interfere with the safe exercise of the applicant's licence and rating privileges.

2.3 Distant visual acuity with or without correction shall be 6/12 or better in each eye separately, and binocular visual acuity shall be 6/9 or better. No limits apply to uncorrected visual acuity. Where this standard of visual acuity can be obtained only with correcting lenses, the applicant may be assessed as fit provided that:

- (a) such correcting lenses are worn during the exercise of the privileges of the licence or rating applied for or held; and
- (b) in addition, a pair of suitable correcting spectacles is kept readily available during the exercise of the privileges of the applicant's licence.

Note.— An applicant accepted as meeting these provisions is deemed to continue to do so unless there is reason to suspect otherwise, in which case an ophthalmic report is required at the discretion of the Civil Aviation Medical Board. Both uncorrected and corrected visual acuity are normally measured and recorded at each re-examination. Conditions which indicate a need to obtain an ophthalmic report include: a substantial decrease in the uncorrected visual acuity, any decrease in best corrected visual acuity, and the occurrence of eye disease, eye injury or eye surgery.

2.3.1 Applicants may use contact lenses to meet this requirement provided that:

- (a) the lenses are monofocal and non-tinted;

- (b) the lenses are well tolerated; and
- (c) a pair of suitable correcting spectacles is kept readily available during the exercise of the licence privileges.

Note.— Applicants who use contact lenses may not need to have their uncorrected visual acuity measured at each reexamination provided the history of their contact lens prescription is known.

- 2.3.2 Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses.

Note.— If spectacles are used, high-index lenses are needed to minimise peripheral field distortion.

- 2.3.3 Applicants whose uncorrected distant visual acuity in either eye is worse than 6/60 shall be required to provide a full ophthalmic report prior to initial Medical Examination and every five years thereafter.

Note.— The purpose of the required ophthalmic examination is (1) to ascertain normal visual performance, and (2) to identify any significant pathology.

- 2.4 Applicants who have undergone surgery affecting the refractive status of the eye shall be assessed as unfit unless they are free from those sequelae which are likely to interfere with the safe exercise of their licence and rating privileges.

- 2.5 The applicant shall have the ability to read, while wearing the correcting lenses, if any, required by 2.3, the N5 chart or its equivalent at a distance selected by that applicant in the range of 30 to 50 cm. If this requirement is met only by the use of near correction, the applicant may be assessed as fit provided that this near correction is added to the spectacle correction already prescribed in accordance with paragraph 2.3; if no such correction is prescribed, a pair of spectacles for near use shall be kept readily available during the exercise of the privileges of the licence. When near correction is required, the applicant shall demonstrate that one pair of spectacles is sufficient to meet both distant and near visual requirements.

Note 1.— N5 refers to the size of typeface used.

Note 2.— An applicant who needs near correction to meet the requirement will require “look-over”, bifocal or perhaps multifocal lenses in order to read the instruments and a chart or manual held in the hand, and also to make use of distant vision, through the windscreen, without removing the lenses. Single-vision near correction (full lenses of one power only, appropriate for reading) significantly reduces distant visual acuity and is therefore not acceptable.

Note 3.— Whenever there is a requirement to obtain or renew correcting lenses, an applicant is expected to advise the refractionist of the reading distances for the visual flight deck tasks relevant to the types of aircraft in which the applicant is likely to function.

- 2.5.1 When near correction is required in accordance with this paragraph, a second pair of near-correction spectacles shall be kept available for immediate use.

- 2.6 The applicant shall be required to have normal fields of vision.

- 2.7 The applicant shall be required to have normal binocular function.
- 2.7.1 Reduced stereopsis, abnormal convergence not interfering with near vision, and ocular misalignment where the fusional reserves are sufficient to prevent asthenopia and diplopia need not be disqualifying.

3 COLOUR PERCEPTION REQUIREMENTS

- 3.1 The applicant shall be required to demonstrate the ability to perceive readily those colours the perception of which is necessary for the safe performance of duties.
- 3.2 The applicant shall be tested for the ability to correctly identify a series of pseudoisochromatic plates in daylight or in artificial light of the same colour temperature such as that provided by CIE standard illuminants C or D65 as specified by the International Commission on Illumination (CIE).
- 3.3 An applicant obtaining a satisfactory result as prescribed by the evaluating medical examiner shall be assessed as fit. An applicant failing to obtain a satisfactory result in such a test shall be assessed as unfit unless able to readily distinguish the colours used in air navigation and correctly identify aviation coloured lights. Applicants who fail to meet these criteria shall be assessed with the following restriction – valid daytime only.
 - 3.3.1 Sunglasses worn during the exercise of the privileges of the licence or rating held shall be non-polarising and of a neutral grey tint.

4 HEARING REQUIREMENTS

- 4.1 Applicants shall be required to demonstrate a hearing performance sufficient for the safe exercise of their licence and rating privileges.
- 4.2 Applicants shall be tested by pure-tone audiometry at first issue of the licence and, after the age of 50 years, not less than once every two years.
 - 4.2.1 Alternatively, other methods providing equivalent results may be used.
- 4.3 At medical examinations, other than those mentioned in paragraph 4.2, where audiometry is not performed, applicants shall be tested in a quiet room by whispered and spoken voice tests.

Note 1.— For the purpose of testing hearing in accordance with the requirements, a quiet room is a room in which the intensity of the background noise is less than 35 dB(A).

Note 2.— For the purpose of testing hearing in accordance with the requirements, the sound level of an average conversational voice at 1 m from the point of output (lower lip of the speaker) is c. 60 dB(A) and that of a whispered voice c. 45dB(A). At 2 m from the speaker, the sound level is 6 dB(A) lower.

- 4.4 Applicants who are unable to hear an average conversational voice in a quiet room, using both ears, at a distance of 2 m from the examiner and with the back turned to the examiner, shall be assessed as unfit.

- 4.5 When tested by pure-tone audiometry, an applicant with a hearing loss, in either ear separately, of more than 35 dB at any of the frequencies 500, 1 000 or 2 000 Hz, or more than 50 dB at 3 000 Hz, shall be assessed as unfit.
- 4.6 An applicant with a hearing loss greater than the above may be declared fit provided that the applicant has normal hearing performance against a background noise that reproduces or simulates the masking properties of flight deck noise upon speech and beacon signals.

Note 1.— It is important that the background noise be representative of the noise in the cockpit of the type of aircraft for which the applicant's licence and ratings are valid.

Note 2.— In the speech material for discrimination testing, both aviation-relevant phrases and phonetically balanced words are normally used.

CHAPTER 5 CLASS 3 MEDICAL REQUIREMENTS

1 PHYSICAL AND MENTAL REQUIREMENTS

1.1 The applicant shall not suffer from any disease or disability which could render that applicant likely to become suddenly unable to perform duties safely.

1.2 The applicant shall have no established medical history or clinical diagnosis of:

- (a) an organic mental disorder;
- (b) a mental or behavioural disorder due to psychoactive substance use; this includes dependence syndrome induced by alcohol or other psychoactive substances;
- (c) schizophrenia or a schizotypal or delusional disorder;
- (d) a mood (affective) disorder;
- (e) a neurotic, stress-related or somatoform disorder;
- (f) a behavioural syndrome associated with physiological disturbances or physical factors;
- (g) a disorder of adult personality or behaviour, particularly if manifested by repeated overt acts;
- (h) mental retardation;
- (i) a disorder of psychological development;
- (j) a behavioural or emotional disorder, with onset in childhood or adolescence; or
- (k) a mental disorder not otherwise specified;

such as might render the applicant unable to safely exercise the privileges of the licence applied for or held.

1.2.1 An applicant with depression, being treated with antidepressant medication, should be assessed as unfit unless the CAMB, having access to the details of the case concerned, considers the applicant's condition as unlikely to interfere with the safe exercise of the applicant's licence and rating privileges.

1.3 The applicant shall have no established medical history or clinical diagnosis of any of the following:

- (a) a progressive or non-progressive disease of the nervous system, the effects of which are likely to interfere with the safe exercise of the applicant's licence and rating privileges;
- (b) epilepsy; or

- (c) any disturbance of consciousness without satisfactory medical explanation of cause.
- 1.4 The applicant shall not have suffered any head injury, the effects of which are likely to interfere with the safe exercise of the applicant's licence and rating privileges.
- 1.5 The applicant shall not possess any abnormality of the heart, congenital or acquired, which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.
 - 1.5.1 An applicant who has undergone coronary by-pass grafting or angioplasty (with or without stenting) or other cardiac intervention or who has a history of myocardial infarction or who suffers from any other potentially incapacitating cardiac condition shall be assessed as unfit unless the applicant's cardiac condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence and rating privileges.
 - 1.5.2 An applicant with an abnormal cardiac rhythm shall be assessed as unfit unless the cardiac arrhythmia has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence and rating privileges.
- 1.6 Electrocardiography shall form part of the heart examination for the first medical examination.
 - 1.6.1 Electrocardiography shall be included in re-examinations of applicants after the age of 50 no less frequently than every two years.
- 1.7 The systolic and diastolic blood pressures shall be within normal limits.
 - 1.7.1 The use of drugs for control of high blood pressure is disqualifying except for those drugs, the use of which is compatible with the safe exercise of the applicant's licence privileges.
- 1.8 There shall be no significant functional nor structural abnormality of the circulatory system.
- 1.9 There shall be no disability of the lungs nor any active disease of the structures of the lungs, mediastinum or pleurae likely to result in incapacitating symptoms.

Note.— Chest radiography is usually not necessary but may be indicated in cases where asymptomatic pulmonary disease can be expected.
- 1.10 Applicants with chronic obstructive pulmonary disease shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.
- 1.11 Applicants with asthma causing significant symptoms or likely to cause incapacitating symptoms shall be assessed as unfit.
 - 1.11.1 The use of drugs for control of asthma shall be disqualifying except for those drugs, the use of which is compatible with the safe exercise of the applicant's licence and rating privileges.

- 1.12 Applicants with active pulmonary tuberculosis shall be assessed as unfit.
- 1.12.1 Applicants with quiescent or healed lesions, known to be tuberculous or presumably tuberculous in origin, may be assessed as fit.
- 1.13 Applicants with significant impairment of the function of the gastrointestinal tract or its adnexae shall be assessed as unfit.
- 1.14 Applicants with sequelae of disease of or surgical intervention on any part of the digestive tract or its adnexa, likely to cause incapacitation, in particular any obstructions due to stricture or compression, shall be assessed as unfit.
- 1.14.1 An applicant who has undergone a major surgical operation on the biliary passages or the digestive tract or its adnexa, with a total or partial excision or a diversion of any of these organs shall be assessed as unfit until such time as the medical assessor, having access to the details of the operation concerned, considers that the effects of the operation are not likely to cause incapacitation.
- 1.15 Applicants with metabolic, nutritional or endocrine disorders that are likely to interfere with the safe exercise of their licence and rating privileges shall be assessed as unfit.
- 1.16 Applicants with insulin-treated diabetes mellitus shall be assessed as unfit.
- 1.16.1 Applicants with non-insulin-treated diabetes shall be assessed as unfit unless the condition is shown to be satisfactorily controlled by diet alone or by diet combined with oral anti-diabetic medication, the use of which is compatible with the safe exercise of the applicant's licence and rating privileges.
- 1.17 Applicants with diseases of the blood and/or the lymphatic system shall be assessed as unfit, unless adequately investigated and their condition found unlikely to interfere with the safe exercise of their licence and rating privileges.
- 1.18 Applicants with renal or genito-urinary disease shall be assessed as unfit unless adequately investigated and their condition found unlikely to interfere with the safe exercise of their licence and rating privileges.
- 1.18.1 Urine examination shall form part of the medical examination and abnormalities shall be adequately investigated.
- 1.19 Applicants with sequelae of disease of, or surgical procedures on the kidneys or the genito-urinary tract, in particular obstructions due to stricture or compression, shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.
- 1.19.1 Applicants who have undergone nephrectomy shall be assessed as unfit unless the condition is well compensated.
- 1.20 *-deleted-*.
- 1.20.1 Applicants who are seropositive for human immunodeficiency virus (HIV) shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with the best medical practice and is assessed by CAMB as not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

Note 1. — Early diagnosis and active management of HIV disease with antiretroviral therapy reduces morbidity and improves prognosis and thus increase the likelihood of a fit assessment.

- 1.21 *-deleted-*.
- 1.22 Applicants who are pregnant shall be assessed as unfit unless obstetrical evaluation and continued medical supervision indicate a low-risk uncomplicated pregnancy.
 - 1.22.1 During the gestational period, precautions shall be taken for the timely relief of an air traffic controller in the event of early onset of labour or other complications.
 - 1.22.2 For applicants with a low-risk uncomplicated pregnancy, evaluated and supervised in accordance with paragraph 1.22, the fit assessment shall be limited to the period until the end of the 34th week of gestation.
- 1.23 Following confinement or termination of pregnancy the applicant shall not be permitted to exercise the privileges of her licence until she has undergone re-evaluation in accordance with best medical practice and it has been determined that she is able to safely exercise the privileges of her licence and ratings.
- 1.24 The applicant shall not possess any abnormality of the bones, joints, muscles, tendons or related structures which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.

Note.— Any sequelae after lesions affecting the bones, joints, muscles or tendons, and certain anatomical defects will normally require functional assessment to determine fitness.

- 1.25 The applicant shall not possess any abnormality or disease of the ear or related structures which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.
- 1.26 There shall be no malformation nor any disease of the nose, buccal cavity or upper respiratory tract which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.
- 1.27 Applicants with stuttering or other speech defects sufficiently severe to cause impairment of speech communication shall be assessed as unfit.

2 VISUAL ACUITY TEST REQUIREMENTS

- 2.1 Each eye of the applicant will be tested separately. The methods of testing visual acuity shall be as follows:
 - (a) visual acuity tests shall be conducted in an environment with a level of illumination which corresponds to ordinary office illumination (30-60 cd/m²);
 - (b) visual acuity shall be measured by means of a series of Landolt rings, or similar optotypes, placed at a distance from the applicant, as appropriate to the method of testing adopted.

2.2 The function of the eyes and their adnexa shall be normal. There shall be no active pathological condition, acute or chronic, nor any sequelae of surgery or trauma of the eyes or their adnexa likely to reduce proper visual function to an extent that would interfere with the safe exercise of the applicant's licence and rating privileges.

2.3 Distant visual acuity with or without correction shall be 6/9 or better in each eye separately, and binocular visual acuity shall be 6/6 or better. No limits apply to uncorrected visual acuity. Where this standard of visual acuity can be obtained only with correcting lenses, the applicant may be assessed as fit provided that:

- (a) such correcting lenses are worn during the exercise of the privileges of the licence or rating applied for or held; and
- (b) in addition, a pair of suitable correcting spectacles is kept readily available during the exercise of the privileges of the applicant's licence.

Note.— An applicant accepted as meeting these provisions is deemed to continue to do so unless there is reason to suspect otherwise, in which case an ophthalmic report is required at the discretion of the Civil Aviation Medical Board. Both uncorrected and corrected visual acuity are normally measured and recorded at each re-examination. Conditions which indicate a need to obtain an ophthalmic report include: a substantial decrease in the uncorrected visual acuity, any decrease in best corrected visual acuity, and the occurrence of eye disease, eye injury or eye surgery.

2.3.1 Applicants may use contact lenses to meet this requirement provided that:

- (a) the lenses are monofocal and non-tinted;
- (b) the lenses are well tolerated; and
- (c) a pair of suitable correcting spectacles is kept readily available during the exercise of the licence privileges.

Note.— Applicants who use contact lenses may not need to have their uncorrected visual acuity measured at each reexamination provided the history of their contact lens prescription is known.

2.3.2 Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses.

Note.— If spectacles are used, high-index lenses are needed to minimise peripheral field distortion.

2.3.3 Applicants whose uncorrected distant visual acuity in either eye is worse than 6/60 shall be required to provide a full ophthalmic report prior to initial Medical Examination and every five years thereafter.

Note.— The purpose of the required ophthalmic examination is (1) to ascertain normal vision performance, and (2) to identify any significant pathology.

2.4 Applicants who have undergone surgery affecting the refractive status of the eye shall be assessed as unfit unless they are free from those sequelae which are likely to interfere with the safe exercise of their licence and rating privileges.

- 2.5 The applicant shall have the ability to read, while wearing the correcting lenses, if any, required by 2.3, the N5 chart or its equivalent at a distance selected by that applicant in the range of 30 to 50 cm and the ability to read the N14 chart or its equivalent at a distance of 100 cm. If this requirement is met only by the use of near correction, the applicant may be assessed as fit provided that this near correction is added to the spectacle correction already prescribed in accordance with 2.3; if no such correction is prescribed, a pair of spectacles for near use shall be kept readily available during the exercise of the privileges of the licence. When near correction is required, the applicant shall demonstrate that one pair of spectacles is sufficient to meet both distant and near visual requirements.

Note 1.— N5 and N14 refer to the size of typeface used.

Note 2.— An applicant who needs near correction to meet the requirement will require “look-over”, bifocal or perhaps multi-focal lenses in order to read radar screens, visual displays and written or printed material and also to make use of distant vision, through the windows, without removing the lenses. Single-vision near correction (full lenses of one power only, appropriate for reading) may be acceptable for certain air traffic control duties. However, it should be realised that single-vision near correction significantly reduces distant visual acuity.

Note 3.— Whenever there is a requirement to obtain or renew correcting lenses, an applicant is expected to advise the refractionist of reading distances for the air traffic control duties the applicant is likely to perform.

- 2.5.1 When near correction is required in accordance with this paragraph, a second pair of near-correction spectacles shall be kept available for immediate use.
- 2.6 The applicant shall be required to have normal fields of vision.
- 2.7 The applicant shall be required to have normal binocular function.
- 2.7.1 Reduced stereopsis, abnormal convergence not interfering with near vision, and ocular misalignment where the fusional reserves are sufficient to prevent asthenopia and diplopia need not be disqualifying.

3 COLOUR PERCEPTION REQUIREMENTS

- 3.1 The applicant shall be required to demonstrate the ability to perceive readily those colours the perception of which is necessary for the safe performance of duties.
- 3.2 The applicant shall be tested for the ability to correctly identify a series of pseudoisochromatic plates in daylight or in artificial light of the same colour temperature such as that provided by CIE standard illuminants C or D65 as specified by the International Commission on Illumination (CIE).
- 3.3 An applicant obtaining a satisfactory result as prescribed by the evaluating medical examiner shall be assessed as fit. An applicant failing to obtain a satisfactory result in such a test shall be assessed as unfit unless able to readily distinguish the colours used in air navigation and correctly identify aviation coloured lights. Applicants who fail to meet these criteria shall be assessed as unfit.
- 3.3.1 Sunglasses worn during the exercise of the privileges of the licence or rating held shall be non-polarising and of a neutral grey tint.

4 HEARING REQUIREMENTS

- 4.1 The applicant shall be required to demonstrate a hearing performance sufficient for the safe exercise of their licence and rating privileges.
- 4.2 Applicants shall be tested by pure-tone audiometry at first issue of the licence, not less than once every four years up to the age of 40 years, and thereafter not less than once every two years.
 - 4.2.1 Alternatively, other methods providing equivalent results may be used.
- 4.3 At medical examinations, other than those mentioned in paragraph 4.2, where audiometry is not performed, applicants shall be tested in a quiet room by whispered and spoken voice tests.

Note 1.— For the purpose of testing hearing in accordance with the requirements, a quiet room is a room in which the intensity of the background noise is less than 35 dB(A).

Note 2.— For the purpose of testing hearing in accordance with the requirements, the sound level of an average conversational voice at 1 m from the point of output (lower lip of the speaker) is c. 60 dB(A) and that of a whispered voice c. 45dB(A). At 2 m from the speaker, the sound level is 6 dB(A) lower.

- 4.4 The applicant, when tested on a pure-tone audiometer shall not have a hearing loss, in either ear separately, of more than 35 dB at any of the frequencies 500, 1 000 or 2 000 Hz, or more than 50 dB at 3 000 Hz.
 - 4.4.1 An applicant with a hearing loss greater than the above may be declared fit provided that the applicant has normal hearing performance against a background noise that reproduces or simulates that experienced in a typical air traffic control working environment.

Note 1.— The frequency composition of the background noise is defined only to the extent that the frequency range 600 to 4 800 Hz (speech frequency range) is adequately represented.

Note 2.— In the speech material for discrimination testing, both aviation-relevant phrases and phonetically balanced words are normally used.

- 4.4.2 Alternatively, a practical hearing test conducted in an air traffic control environment representative of the one for which the applicant's licence and ratings are valid may be used.

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