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ATC AEROMEDICAL REQUIREMENT (CAD 6201)

SUBPART A – GENERAL REQUIREMENTS

PEL-MED.A.001 CAO.IRI

For the purpose of this part, CAO.IRI shall be responsible for implementation of this part.

PEL-MED.A.005 Scope

This Part establishes the requirements for the issuance, validity, revalidation and renewal of the medical certificate required for exercising the privileges of an air traffic controller.

PEL-MED.A.010 Definitions

For the purposes of this Part, the following definitions apply:

Accredited medical conclusion. The conclusion reached by one or more medical experts acceptable to the CAO.IRI for the purposes of the case concerned, in consultation with other experts as necessary.

Human performance. Human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

Medical Assessment. The evidence issued by CAO.IRI that the licence holder meets specific requirements of medical fitness.

Medical assessor. A physician qualified and experienced in the practice of aviation medicine who evaluates medical reports submitted to the CAO.IRI by medical examiners.

Medical examiner. A physician with training in aviation medicine and practical knowledge and experience of the aviation environment (for example: flight experience, simulator experience, on-site observation) who is designated by the CAO.IRI to conduct medical examinations of fitness of applicants for licences or ratings for which medical requirements are prescribed.

Problematic use of substances. The use of one or more psycho-active substances by aviation personnel in a way that:

constitutes a direct hazard to the user or endangers the lives, health or welfare of others;
and/ or

causes or worsens an occupational, social, mental or physical problem or disorder.

Psychoactive substances. Alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens, and volatile solvents, whereas coffee and tobacco are excluded.

Specialist' means a medical specialist qualified in one of medical branch trained to recognize pathological conditions.

'Investigation' means the assessment of a suspected pathological condition of an applicant by means of examinations and tests in order to verify the presence or absence of a medical condition.

'Limitation' means a condition placed on the medical certificate or licence that shall be complied with whilst exercising the privileges of the licence.

'CAO.IRI' means Civil Aviation Organization of Islamic Republic of Iran.

Aeromedical Centre (AeMC): Aeromedical Centre (AeMC) is designated and authorised, or re-authorised, at the discretion of the CAO.IRI for a period not exceeding

3 years. An AeMC has to be within the national boundaries of CAO.IRI and attached to or in liaison with a designated hospital or a medical institute; engaged in clinical aviation medicine and related activities; and, headed by an Authorised Medical Examiner (AME), responsible for coordinating assessment results and signing reports and certificates. An AeMC also has to have staff physicians with advanced training and experience in aviation medicine; and, also has to be equipped with the necessary facilities for "extensive" aeromedical examinations. CAO.IRI is able to determine the number of national AMCs.

CAO.IRI designates and authorises national Aviation Medical Examiners (AMEs), who need to be qualified and licensed medical practitioners and who have had some training in aviation medicine. They must also have practical knowledge and experience of the "conditions in which the holders of licences and ratings carry out their duties".

Aviation Medical Examiner (AME)

A designated aviation medical examiner given the additional authority to perform medical examinations or tests required for the issuing of medical certificates.

PEL-MED.A.015 Medical confidentiality

All persons involved in medical examination, assessment and certification shall ensure that medical confidentiality is respected at all times.

PEL-MED.A.020 Class of Medical Assessment and certification

Class 3 Medical Assessment shall be established to applies to applicants for, and holders of air traffic controller licenses.

PEL-MED.A.021

- 1- The applicant for a class 3 Medical Assessment shall provide the medical examiner with a personally certified statement of medical facts concerning personal, familial and

hereditary history. The applicant shall be made aware of the necessity for giving a statement that is as complete and accurate as the applicant's knowledge permits.

- 2- The applicants for a class 3 Medical assessment, shall sign and furnish to the designated AME a declaration, whose content conforms to requirements on Annex 1 (including past medical history, familial and hereditary history, the use of drugs)
- 3- The medical examiner shall report to the CAO.IRI any individual case where, in the examiner's judgment, an applicant's failure to meet any requirement, whether numerical or otherwise, is such that exercise of the privileges of the licence being applied for, or held, is not likely to jeopardize flight safety. According to the table of limitations in appendix 9, AMEs can issue the medical certificates with 1-6 limitations, but limitations 7-19 shall confirmed by CAO.IRI.)
- 4- The requirements to be met for the renewal of a Medical Assessment are the same as those for the initial assessment except where otherwise specifically stated.

PEL-MED.A.025 Validity of Medical certification

- 1- CAO.IRI, having issued a license, shall ensure that the privileges granted by that license, or by related ratings, are not exercised unless the holder maintains competency and meets the requirements for recent experience established by CAO. IR.
- 2- A Medical Assessment issued shall be valid from the date of the medical examination for a period not greater than 48 months for the air traffic controller license.

The period of validity of a Medical Assessment may be reduced when clinically indicated, also:

- 1- When the holders of an air traffic controller licenses have passed their 40th birthday, the period of validity specified in PEL-MED.A.025 shall be reduced to 24 months.
- 2- When the holders of an air traffic controller licenses have passed their 50th birthday, the period of validity specified in PEL-MED. A025 should be further reduced to 12 months.

Aeromedical disposition. After completion of the examination the applicant shall be advised whether fit, unfit or referred to the CAO. IRI. The Aviation

Medical Examiner (AME) shall inform the applicant of any condition(s) (medical, operational or otherwise) that may restrict the privileges of any licence issued.

PEL-MED. A030 Medical fitness

Fitness. The holder of a medical certificate shall be mentally and physically fit to exercise safely the privileges of the applicable licence.

Requirement for medical certificate. In order to apply for or to exercise the privileges of a licence, the applicant or the holder shall hold a medical certificate issued in accordance with the provisions of PEL-MED and appropriate to the privileges of the licence.

In the case of injury or illness the suspension shall be lifted upon the holder by the CAO. IRI being medically assessed by the AME and being pronounced fit to function as a member of ATC, or upon the CAO. IRI exempting, subject to such conditions as it thinks appropriate, the holder from the requirement of a medical examination.

In the case of pregnancy, the suspension may be lifted by the CAO. IRI for such period. The suspension shall cease upon the holder being medically assessed by the AME after the pregnancy has ended – and being pronounced fit.

PEL-MED.A.035 Decrease in medical fitness

Holders of medical certificates shall not exercise the privileges of their licenses, related ratings or authorizations at any time when they are aware of any decrease in their medical fitness which might render them unable to safely exercise those privileges.

Holders of medical certificates shall not take any prescription or non-prescription medication or drug, or undergo any other treatment, unless they inform the AME and are completely sure that the medication or treatment will

not have any adverse effect on their ability to perform safely their duties. If there is any doubt, advice shall be sought from the AME or AeMC.

Holders of medical certificates shall, without undue delay, take an approval of the AME, when becoming aware of:

1. hospital or clinic admission for more than 12 hours; or
2. surgical operation or invasive procedure; or
3. the regular use of medication; or
4. the need for regular use of correcting lenses or glasses

Holders of medical certificates who are aware of:

- i. Any significant personal injury involving incapacity to function as a member of a ATC; or
- ii. any illness involving incapacity to function as a ATC throughout a period of 21 days or more; or
- iii. being pregnant, shall inform the CAO. IRI in writing of such injury or pregnancy, and as soon as the period of 21 days has elapsed in the case of illness.

The medical certificate shall be deemed to be suspended upon the occurrence of such injury or the elapse of such period of illness or the confirmation of the pregnancy.

PEL-MED.A.035-2 PROCEDURE FOR ISSUANCE OF WAIVERS

1. An applicant who does not satisfy the appropriate medical requirement may, at the discretion of CAO. IRI can be accepted as eligible for the grant or renewal of licences so far as his/ her medical requirements are concerned under such conditions and restrictions that may be considered, appropriate, in the particular case, if CAO. IRI has satisfactory evidence that the applicant had already acquired and demonstrated ability, skill and experience which could compensate for a failure to meet the prescribed medical standards without adversely influencing the said performance of his duties while exercising the privileges of licences and the accredited medical conclusion in accordance to risk assessment indicates that the conditions of the applicant is not such as to introduce any hazards either of sudden

incapacity or of inability to perform his duties safely during the validity period of the licences. In issuing a medical certificate under this provision, CAO. IRI may do any or all of the following:

- a. Limit the duration of the certificate.
 - i. Condition the continued effect of the certificate on the results of subsequent medical tests, examination or evaluations.
 - ii. Impose any operational limitations on the certificate needed for safety reasons.
 - iii. Condition the continued effect of classes medical certificate on compliance with a statement of functional limitations issued to the applicant in coordination with AMS.
 - iv. Air traffic controller who being considered for special issuance of medical certificate shall not refuse any or all above restrictions/ examinations/ evaluations as determined by CAO.IRI.
- 2- Whenever AME or AeMC find that additional medical information or history is necessary to determine whether an applicant or holder of licence does not meet the medical standards, in such circumstances, applicant or licence holder shall furnish any medical information or authorize any clinic, hospital, doctor or other person to release to the AME or AeMC any available information or records concerning his past, present medical history/ treatment received or involved in psycho-active substances/ illicit drugs. .
- 3- If the applicant, or holder of licence, refuses to provide requisite medical information or history of medical dispensation or release of medical documents so requested, the CAO. IRI shall suspend, deny or revoke medical certificate that he holds or may, in the case, refuse to issue him a medical certificate.
- 4- CAO. IRI may authorize application of waiver under flexibility rules to any applicants on similar lines.

PEL-MED.A.035-3 FLEXIBILITY/ WAIVER IN THE APPLICATION OF MEDICAL REQUIREMENTS:

(1) Nevertheless the flexibility clause must not lead to a situation where its use becomes "the rule" rather than exception. This flexibility clause must be exercised only in the exceptional cases keeping in view the flight safety requirements. Thus, when decision to exercise the flexibility/ waiver is backed by accredited medical conclusion, it indicates that these decisions have not been regarded as a routine measures but have been taken following close examinations and assessment of all the medical factors and their relationship to personal performances. However the degree and the intensity of investigations lying behind each decision accurately measures compliance with the principles behind the flexibility clause.

(2)The flexibility clause therefore must be approved by CAO. IRI/ CAMB with the following conditions:

3-1. Accredited medical conclusion indicates that in special circumstances, the applicants failure to meet any requirement, whether numerical or otherwise, is such that the exercise of the privileges of the licence applied for is not likely to jeopardize flight safety.

3-2. Relevant ability, skill and experience of the applicant and operational conditions have been given due consideration.

3-3. The licence is endorsed with any special limitations/ restrictions when the safe performance of the licence holders duties are dependent on compliance with such limitations periodically.

3-4. The flexibility clause is applied either on the same class of licence or even lowering the licence category based on accredited medical conclusion.

NOTE: Guidance material on application of Flexibility/ Waiver in respect of cardiovascular, visual and hearing problems is available in the Manual of Aviation Medicine .

PEL-MED.A.035-4 MEDICAL ASSESSMENT & PREGNANCY

- 1- Pregnancy shall be regarded as incapacitating condition and shall disqualify air traffic controller temporary until ATC has in due course been examined and pronounced fit by AME. However, following confinement or termination of pregnancy, the applicant shall not be permitted to exercise the privileges of her licence until she has undergone re-examination and has been assessed as fit.
- 2- In an uncomplicated pregnancy, most organ systems adapt to the increased demand placed upon a healthy young female in such a way that the expectant mother can carry on with routine activities in her usual environment until close to the time of labor and delivery.
- 3- However, a pilot applicant who is pregnant, faces an unusual and hostile air environment, in which organ adaptation can be affected. Once she believes that she is pregnant, she should report to her own doctor, an aviation medical examiner. This is advisable not only for her own protection, but also to ensure that her obstetrician is aware of the type of flying she intends or desires, particularly as the common complications of pregnancy can be detected and treated by careful prenatal evaluation, observation, and care.
- 4- The aviation medical examiner should consider the following physiological changes associated with pregnancy, which might interfere with the safe operation of an aircraft at any altitude throughout a prolonged or difficult flight.
 - 4-1. Nausea and vomiting of early pregnancy which occur in 30 percent of all pregnancies, and can cause dehydration and malnutrition;
 - 4-2. Approximately 15 percent of embryos will abort in the first trimester; if the candidate is not restricted for flying;

4-3. Cardiac output rises in early pregnancy, and accompanies by an increase in stroke volume, heart rate, and plasma volume;

4-4. Hemoglobin (and haematocrit) begins to fall between the third and fifth month and is lowest by the eight month;

4-5. Adequate diet and supplementary iron and folic acids are necessary, but self-medication and prescribed medicine should be avoided;

4-6. The incidence of venous varicosities is three times higher in females than males and venous thrombosis and pulmonary embolism are among the most common serious vascular diseases occurring during pregnancy;

4-7. As the uterus enlarges, it compresses and obstructs the flow through the vena cava;

4-8. Progressive growth of the fetus, placenta, uterus and breasts, and the vasculature of these organs, leads to an increased oxygen demand;

4-9. Increased blood volume and oxygen demands produce a progressive increase in work-load on both the heart and lungs;

4-10. Hormonal changes affect pulmonary function by lowering the threshold of the respiratory centre to carbon dioxide, thereby influencing the respiratory rate;

4-11. In order to overcome pressure on the diaphragm, the increased effort of breathing any hyperventilation leads to greater consciousness of breathing and possible greater cost in oxygen consumption;

4-12. The effect of hypoxia at increased altitude further increases the ventilation required to provide for increasing demands for oxygen in all tissues.

NOTE: The certification, thus must not be issued unless such conditions are taken care based on accredited medical conclusion.

PEL-MED. A 040 Special Medical circumstances

When a new medical technology, medication or procedure is identified that may justify a fit assessment of applicants otherwise not in compliance with the requirements, CAO. IRI, may develop and evaluate a new medical assessment protocol. The protocol shall include a risk assessment. The exercise of licence privileges based on the protocol will be limited to flights in aircraft operated in CAO. IRI.

PEL-MED.A.045 Curtailment of privileges of licence holders aged 40 years or more

When the holders of an air traffic controller licenses have passed their 40th birthday, the period of validity shall be reduced to 24 months.

PEL-MED.A.050 Competence for the issue, revalidation and renewal of medical certificates

A medical certificate shall only be issued, revalidated or renewed once the required medical examinations have been completed and a fit assessment is made.

PEL-MED.A.055 Application for a medical certificate

(a) Applications for a medical certificate shall be made in a format established by the CAO.IRI.

(b) Applicants for a medical certificate shall provide the AeMC or AME as applicable, with:

(1) proof of their identity;

(2) a signed declaration:

(i) of medical facts concerning their medical history;

(ii) as to whether they have previously undergone an examination for a medical certificate and, if so, by whom and with what result;

(iii) as to whether they have ever been assessed as unfit or had a medical certificate suspended or revoked.

(c) When applying for a revalidation or renewal of the medical certificate, applicants shall present the medical certificate to the AeMC or AME prior to the relevant examinations.

PEL-MED. A 060 Aero medical Section (AMS)

Establishment. CAO. IRI may include one or more physicians experienced in the practice of aviation medicine as Medical assessor. Such physicians shall either form part of the CAO. IRI, or be duly empowered to act on behalf of the CAO. IRI. In either case they shall be known as the Aero medical Section (AMS).

Medical assessor

1- CAO. IR shall use the services of medical assessors to evaluate reports submitted to CAO.IRI by aviation medical examiners.

2-The aviation medical examiner shall be required to submit sufficient medical information to the

CAO.IRI to enable the authority to audit Medical Assessments.

Note. — The purpose of such auditing is to ensure that aviation medical examiners meet applicable standards for good practice.

Medical assessors, because of their functions as employees of or consultants for CAO.IRI and as supervisors for the aviation medical examiners, will normally have advanced training in the specialty of aviation medicine and extensive experience in regulatory and clinical civil aviation medicine.

In addition to evaluating medical reports submitted to the CAO.IRI and making final assessments in border-line cases, the medical assessor will normally be in charge of

Accredited Medical Conclusions. An important duty of the medical assessor is the safeguarding of medical confidentiality, although pertinent medical information may be presented by the medical assessor to other officials of the CAO.IRI when justified by operational concerns or when an Accredited Medical Conclusion is sought. Also the audit of medical reports by aviation medical examiners and refresher training of medical examiners will usually fall within the remit of the medical assessor.

Medical Confidentiality. Medical Confidentiality shall be respected at all times. The CAO. IRI will ensure that all oral or written reports and electronically stored information on medical matters of licence holders/ applicants are made available only to the AME or AeMC handling the application and for the purpose of completion of a medical assessment. The applicant or his physician shall have access to all such documentation in accordance with CAO.IRI regulation.

PEL-MED. A.065 Aeromedical Centres (AMCs)

Aeromedical centres (AMCs) will be designated and authorised, or reauthorised, at the discretion of the CAO. IRI for a period not exceeding 3 years. An AMC shall be:

- within the boundaries of the CAO.IRI and attached to or in liaison with a designated hospital or a medical institute;
- engaged in clinical aviation medicine and related activities;
- headed by an Authorised Medical Examiner (AME), responsible for coordinating assessment results and signing reports and certificates, and shall have on staff physicians with advanced training and experience in aviation medicine;
- equipped with medico-technical facilities for extensive aeromedical examinations.

PEL-MED.A.070 Aviation Medical Examiners

Designation. The CAO. IRI shall designate and authorize Medical Examiners (AMEs), within its CAO.IRI boundaries, qualified and licensed in the practice of medicine.

(a) Aviation Medical Examiner (AME)

1- CAO. IRI shall designate medical examiners, qualified and licensed in the practice of medicine, to conduct medical examinations of fitness of applicants for the issue or renewal of the licenses or ratings and of the appropriate licenses specified in PEL-MED part.

2- Medical examiners shall have received training in aviation medicine and shall receive refresher training at regular intervals. Before designation, medical examiners shall demonstrate adequate competency in aviation medicine.

3- Medical examiners shall have practical knowledge and experience of the conditions in which the holders of licenses and ratings carry out their duties.

Note. — Examples of practical knowledge and experience are flight experience, Simulator, experience, on-site observation or any other hands-on experience deemed by CAO.IRI to meet this requirement

As CAO. IRI regulation , designated medical examiners must be familiar with have practical knowledge and experience of the operating environments of the various license holders. Such practical knowledge and experience should include, whenever possible, actual flight deck experience in aircraft engaged in commercial operation as well as experience in the operational working conditions of air traffic controllers. This is an effective way to promote the medical examiner's understanding of the practical demands, both physiological and psychological, that the license holder's task and duties impose. Practical difficulties may be encountered in the implementation of this recommendation for all designated examiners, but it is desirable that, as a minimum, medical assessor (physicians evaluating the medical reports submitted to CAO.IRI be afforded the opportunity of attaining such experience.

(b) Appointment of AMEs:

Criteria for appointment/ re- appointment as AME are as follows:

1- Be qualified and licensed to practice medicine in IRAN

2- at least certificate of basic aviation medicine course.

3- have received training in the practice of aviation medicine and demonstrated adequate competency in aviation medicine

4- Have attended refresher training in aviation medicine at least once every 3 years.

5- Possesses practical knowledge and experience of the conditions in which the holder of a license carries out the functions to which his/ her license relates,

6- Take part in CAO.IRI aviation medical examination and pass successful it

7- Have conducted at least five medical on flight crew/ ATCOs for the preceding year.

Note- Example of practical knowledge and experience are flight experience, simulator experience, on –site observation.

The appointment is on 3 years basis, at the end of which AMEs must apply to CAO. IRI for reappointment. Re-appointment would be reviewed and processed by CAO. IRI.

AMEs who are re-appointed will receive a letter of appointment from CAO. IRI. The full list of AMEs is also published in the CAO. IR web site at, www.cao.ir

(c) Duties and responsibilities of AMEs

An AME, responsible for coordinating assessment results and signing reports, shall be allowed access to any prior aero medical documentation held by the CAO.IRIS and related to such examinations as that AME is to carry out. The responsibilities of the AME are as follows:

1- On becoming aware of any condition of potential aero medical significance in the holder of or applicant for an aviation medical certificate, the AME must notify CAO. IR of full details within time working days

2- The AME must be satisfied as to the identity of each applicant for medical certification. Unless the AME personally knows the applicant, he/ she must sight a photographic identity document of the applicant. Subsequently, the AME is required to certify that he/ she has formally identified each applicant.

3- The AME is to answer the medical history questions in the medical assessment report, in conjunction with the applicant, and ensure that the applicant understands each such question.

4- The AME is to examine personally each applicant presenting for examination, and record the results in the medical assessment report.

5- The AME is to perform or arrange for any investigations or specialist assessments that are necessary for the examiner to be satisfied that the applicant meets the medical standard for the class of medical certificate sought.

6- The AME is to comply with CAO. IRI directions concerning completion and judgment of medical reports.

7- The AME is to forward to CAO. IRI each medical report or ancillary report received concerning an applicant for medical certification.

8- The AME is to ensure that the applicant signs the required statement on completion of the examination. Thereafter, the AME is to complete his/ her details on the statement, and forward it to CAO. IR within the specified period.

9- The AME is to maintain an up-to-date knowledge of the relevant civil aviation medical standards and techniques required by CAO. IRI, and also interpret these requirements for applicants for medical certification.

10-The AME is to notify CAO. IRI promptly of any change of address, change of e-mail address, change of telephone number, or absence from practice for periods of four weeks or more.

11-The AME is to display his/ her certificate of appointment as a AME in his or her professional rooms.

12-The AME is to return his/ her official stamp to CAO. IRI on cessation of appointment.

13-The AME is to use his/ her official stamp only for CAO. IRI-related purposes.

(d) **Number and location of examiners.** The CAO. IRI shall determine the number and location of examiners it requires, taking account of the number and geographic distribution of its applicants population.

Training. AMEs shall be qualified and licensed in the practice of medicine and shall have received training in aviation medicine acceptable to CAO. IRI. They should acquire practical knowledge and experience of the conditions in which the holders of licences and ratings carry out their duties. (see PEL-MED.A.070(a).

Refresher Training in Aviation Medicine. During the period of authorisation an AME is required to attend a minimum of 20 hours refresher training acceptable to the CAO. IRI. A minimum of 6 hours must be under the direct supervision of the AMC. Scientific meetings, congresses and flight deck experience may be approved by the AMS for this purpose, for a specified number of hours.

(f) **Authorisation.** An AME will be authorised for a period not exceeding 3 years. Authorisation to perform medical examinations may be for Class 1 or Class 2 or both at the discretion of the CAO. IRI. For re-authorisation the AME shall have completed an adequate number of aeromedical examinations to the satisfaction of the AMS and shall also have undertaken relevant training during the period of authorisation.

PEL-MED.A.075 Aeromedical examinations and assessment - General

(a) Requirements for Medical Assessments

An applicant for a Medical Assessment issued in accordance with the PEL-MED part shall undergo a medical examination based on the following requirements:

- (a) physical and mental;
- (b) visual and colour perception; and
- (c) hearing.

Compliance with PEL-MED.

The examinations and assessments shall be carried out in accordance with the relevant requirements of PEL-MED and associated procedures.

Reference material. This part contains the requirements for class3 applicants, respectively. The Appendices to this part contain the requirements for those applicants outside the limits of class 3 applicants, respectively. The CAO. IRI contains descriptions of good medical and aeromedical practice and the procedures that may be applied in aeromedical examinations and assessments.

PEL-MED.A.080 Aeromedical examinations

For initial examinations medical certificate shall be carried out at an AMC.

Application and reports. The applicant shall complete the appropriate application form as described in PEL-MED.A.095 On completing a medical examination the AME shall submit without delay one signed full report to the AMS.

Periodic Requirements. For a summary of special investigations required at initial, routine revalidation or renewal, and extended revalidation and renewal examination.

PEL-MED.A.085 Medical certificates

Content of certificate. The medical certificate shall contain the following information:

1. Reference number (as designated by the CAO. IRI)
2. Class of certificate
3. Full name
4. Date of birth
5. Nationality

6. Expiry date of the medical certificate
7. Limitations, conditions and/ or variations
8. AME/ AeMC name, number and signature
9. Date of examination
10. Signature of applicant
11. Signature of AME/AeMC.

Issuing of medical certificates.:

Class 3 medical certificates shall be issued by the AME or AMC.

Disposition of certificate

A medical certificate shall be PEL-MED.A090 Period of validity of medical certificates.

The holder of a medical certificate shall submit it to the AMS for further action if required.

The holder of a medical certificate shall present it to the AME or AMC at the time of the revalidation or renewal of that certificate.

(e) Certificate annotation, limitation or suspension

When a review has been performed and a medical certificate has been issued any limitation that may be required shall be stated on the medical certificate.

Following a medical certificate renewal examination, the CAO.IRI may, for medical reasons duly justified and notified to the applicant and the AeMC or AME, limit or suspend a medical certificate issued by the AeMC or by the AME.

(f) Denial of Certificate

- i. An applicant who has been denied a medical certificate will be informed of this in writing and of his right of review by the CAO. IRI.
- ii. Information concerning such denial will be collated by the CAO. IRI within some days and be made available to other authorities. Medical information supporting this denial will not be released without prior consent of the applicant.

PEL-MED.A.090 Period of validity of medical certificates

(a) Period of validity. A medical certificate shall be valid from the date of the initial general medical examination and for:

The validity period of a medical certificate (including any associated extended examination or special investigation) shall be determined by the age at which the medical examination of the applicant takes place.

The period of validity of the medical certificate may be reduced when clinically indicated.

(b) Revalidation.

If the medical revalidation is taken up to 45 days prior to the expiry date calculated in accordance with (a), the expiry of the new certificate is calculated from the expiry date of the previous medical certificate.

A medical certificate revalidated prior to its expiry becomes invalid once a new certificate has been issued.

Renewal. If the medical examination is not taken within the 45 day period referred to in (b) above, the expiry date will be calculated in accordance with paragraph (a) with effect from the date of the next general medical examination.

Requirements for revalidation or renewal. The requirements to be met for the revalidation or renewal of medical certificates are the same as those for the initial issue of the certificate, except where specifically stated otherwise.

Reduction in the period of validity. The period of validity of a medical certificate may be reduced by AME in consultation with the CAO.IRI when clinically indicated.

(f) **Additional examination.** Where the CAO. IRI has reasonable doubt about the continuing fitness of the holder of a medical certificate, the AME may require the holder to submit to further examination, investigation or tests. The reports shall be forwarded to the CAO.IRI.

PEL-MED. A.095 Requirements for medical assessments

An applicant for, or holder of, a medical certificate issued in accordance with PEL-MED (Medical) shall be free from:

1. any abnormality, congenital or acquired,
2. any active, latent, acute or chronic disability,
3. any wound, injury or sequela from operation, such as could entail a degree of functional incapacity which is likely to interfere with the safe operation or with the safe performance of duties.

An applicant for, or holder of, a medical certificate issued in accordance with PEL-MED (Medical) shall not suffer from any disease or disability which could render him likely to become suddenly unable either to operate an aircraft safely or to perform assigned duties safely.

PEL-MED.A.105 PRINCIPLES OF DRUG TREATMENT & FLIGHT SAFETY

1- Use of psychoactive substance/ drugs

- (a) The use of psychoactive substances/ drugs by aviation personnel constitutes a direct hazard to the users besides endangers the lives, health of others, and/ or causes or worsens an occupational, social, mental or physical problems. The psychoactive substances

comprises of -alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine and other psychostimulants, hallucinogens and volatile solvents. The use of these substances is considered incompatible due to their uniformity harmful effects resulting psychological, mental, social and personality disorder. Thus the holder of licences shall not exercise the privileges of their licences and related ratings while under the influence of any above psychoactive/ drugs which might render them unable to safely exercise such privileges.

- (b) Apart from this, holder of licences shall also not involve themselves in any problematic use of substances which are likely to affect their performance while exercising such privileges. Thus it must be ensured, as far as practicable, that all licence holders who are engaged in any kind of psychoactive or problematic substances must be identified and timely removed from the safety critical functions. However, their return to the safety critical functions may nevertheless be re-considered after a course of successful treatment or, in case, when no treatment is necessary, after cessation of the use of such substance and upon determination that their continued performance of functions is unlikely to jeopardized flight safety.
- (c) The use of psychoactive/ substances usually alters the mental state, interferes with the judgement, alertness, vision and coordination and where abuse or dependence upon such psychoactive substance is strongly suspected in the light of (a), air traffic controller must immediately be assessed as temporary unfit and should be referred to the concerned medical authorities for further assessment under close supervision. When dependence of such drug substance is confirmed, temporarily unfitness assessment shall be continued until adequate treatment has successfully been completed and individual remains free from medication and the accredited medical conclusion indicates that such person is not showing signs and symptoms of any relapses/ remissions and has fully been rehabilitated. The period of treatment with rehabilitation in such cases varies from 06 months to 02 years depending upon the course of the treatment given with no chances of relapses and remissions.
- (d) The treatment of flying personnel involved using such psychoactive substances depends upon the modality of use in response to specific symptoms and behaviour of the person. The treatment may include pharmacotherapy, psycho-therapy and various social measures depending upon the conditions of the person and the clinician's determination of conducting appropriate course of therapy. The treatment and rehabilitation in such cases shall be undertaken by doctors in close coordination with the relatives of the person involved and the treatment is carried-out on the following lines:

Detoxification

- i. In-patient treatment
- ii. Out-patient treatment

- iii. Pharmaco-therapy
 - iv. Psycho-therapy
 - v. Behaviour-therapy
- (e) After the completion of above course of treatment under supervision of Psychiatrist and Psychologist, rehabilitation programme may be started. The goal of rehabilitation is to establish and maintain a new substance free life in a normal social environment along-with optimal health, mental functions and social well-beings.
- (f) The treatment and rehabilitation often overlap in a way that makes differences, difficult to realize for non-specialist and sometimes the terms of rehabilitation may be used for all therapeutic activities following detoxification. Some of the most important elements of rehabilitation are:
- i. After care and long treatment follow-ups.
 - ii. Self help/ support groups.
 - iii. Vocational rehabilitation.

PEL-MED.A.115 Responsibilities of the applicant

Information to be provided. The applicant for or holder of a medical certificate shall produce proof of identification and sign and provide to the AME a declaration of medical facts concerning personal, family and hereditary history.

The declaration shall also include a statement of whether the applicant has previously undergone such an examination and, if so, with what result. The applicant shall be made aware by the AME of the necessity for giving a statement that is as complete and accurate as the applicant's knowledge permits.

False information. Any declaration made with intent to deceive shall be reported to the CAO. IRI. On receipt of such information the CAO.IRI shall take such action as it considers appropriate in accordance to CAO.IRI enforcement procedure.

PEL-MED. A125 Delegation of Fit Assessment, Review Policy and Secondary Review

(a) Delegation of fit assessment

1. If the medical requirements prescribed in PEL-MED (Medical) for a particular licence are not fully met by an applicant, the appropriate medical certificate shall not be issued, revalidated or renewed by the AMC or AME but the decision shall

be referred to the CAO. IRI. If there are provisions in PEL-MED (Medical) that the applicant under certain conditions (in accordance with the Appendices) may be assessed as fit, the CAO. IRI may do so. Such fit assessments may be done by the AMC or AME in consultation with the CAO. IRI.

2. An AMC or AME, that assesses an applicant as fit at discretion of the CAO. IRI as in (a)(1), shall inform the CAO. IRI of the details of such assessment.

(b) Review Policy

1. The CAO. IRI may issue, revalidate or renew a medical certificate after due consideration has been given to the requirements, acceptable means of compliance and guidance material, expert aero medical opinion and, if appropriate, the opinion of other relevant experts familiar with the operational environment and to:
 - a. the medical deficiency in relation to the operating environment;
 - b. the ability, skill and experience of the applicant in the relevant operating environment; and
 - c. the requirement for application of any limitations to the medical certificate and license.
2. Where the issue of a certificate will require more than one limitation the additive and interactive effects upon flight safety must be considered by the CAO. IRI before a certificate can be issued.

(c)Secondary review.

The CAO. IRI will constitute a secondary review procedure, with independent medical advisers, experienced in the practice of aviation medicine, to consider and evaluate contentious cases.

CLASS 3 MEDICAL ASSESSMENT

PEL.MED.400 Class 3 Medical Assessment

Assessment issue and renewal

- (a) An applicant for an air traffic controller licence shall undergo an initial medical examination for the issue of a Class 3 Medical Assessment.
- (b) The requirements to be met for the renewal of a CAO.IRI Class 3 Medical Certificate are the same as those for an initial certificate, except where otherwise specifically stated.
- (c) Except where otherwise stated in this section, holders of air traffic controller licenses shall have their Class 3 Medical Assessments renewed at intervals not exceeding 48 months.
- (d) When the holders of air traffic controller licenses have passed their 40th birthday, the period of validity, interval shall be reduced to 24 months
- (e) When CAO.IRI is satisfied that the requirements of this section and the general provisions of PEL-MED.402 have been met, a Class 3 Medical Assessment shall be issued to the applicant

PEL-MED.402 Aeromedical examinations and assessment

- General

(a) Requirements for Medical Assessments:

An applicant for a Medical Assessment issued in accordance with this part shall undergo a medical examination based on the following requirements:

1. physical and mental;
2. visual and color perception; and
3. hearing.

(b) Compliance with this part:

The examinations shall be carried out in accordance with the relevant requirements of this part and associated procedures.

PEL-MED.405 Physical and mental requirements

- (a) The applicant shall not suffer from any disease or disability which could render that applicant likely to become suddenly unable to perform duties safely.
- (b) The applicant shall have no established medical history or clinical diagnosis of:
1. an organic mental disorder;
 2. a mental or behavioural disorder due to psychoactive substance use; this includes dependence syndrome induced by alcohol or other psychoactive substances;
 3. schizophrenia or a schizotypal or delusional disorder;
 4. a mood (affective) disorder;
 5. a neurotic, stress-related or somatoform disorder;
 6. a behavioural syndrome associated with physiological disturbances or physical factors;
 7. a disorder of adult personality or behaviour, particularly if manifested by repeated overt acts;
 8. mental retardation;
 9. a disorder of psychological development;
 10. a behavioural or emotional disorder, with onset in childhood or adolescence; or
 11. 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.
- (c) The applicant shall have no established medical history or clinical diagnosis of any of the following:
1. 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;
 2. epilepsy; or
 3. any disturbance of consciousness without satisfactory medical explanation of cause.
- (d) 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 license and rating privileges.

PEL-MED.410 Cardiovascular System Examination

- (a) An applicant for or holder of CAO.IRI Class 3 Medical Certificate shall not possess any abnormality of the cardiovascular system, congenital or acquired, which is likely to interfere with the safe exercise of the privileges of the applicable licence(s)/ certificate(s) of competence.
- (b) A standard twelve-lead resting electrocardiogram (ECG) and report are required at the examination for first issue of a medical certificate.
- (c) A standard 12-lead resting electrocardiogram (ECG) and report are required four-yearly intervals until age fifty, and two-yearly intervals thereafter and on clinical indication
- (d) Electrocardiography shall form part of the heart examination for the first issue of a Medical Assessment.
- (e) Reporting of resting and exercise electrocardiograms shall be by AME or other specialists acceptable to the AeMC.
- (f) Exercise electrocardiography, or other appropriate cardiological testing, shall be required:
 - 1. when indicated by signs or symptoms suggestive of cardiovascular disease;
 - 2. for clarification of a resting electrocardiogram;
 - 3. at the discretion of an aeromedical specialist acceptable to the AMS;
- (g) Estimation of serum lipids, including cholesterol, is required to facilitate risk assessment at the examination for first issue of a medical certificate, and at the first examination after the 40th birthday (see paragraph 2 Appendix 1 to Subpart B).

PEL-MED.415 Cardiovascular system – Blood pressure

- (a) The systolic and diastolic blood pressures shall be within normal limits.
- (b) 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 license privileges.
- (c) The systolic and diastolic blood pressures shall be within normal limits.
- (d) The blood pressure shall be recorded with the technique given in paragraph 3 Appendix 1 to Subpart B at each examination.

- (e) When the blood pressure at examination consistently exceeds 160 mmHg systolic and/ or 95 mmHg diastolic, with or without treatment, the applicant shall be assessed as unfit.
- (f) Treatment for the control of blood pressure shall be compatible with the safe exercise of the privileges of the applicable license(s) and be compliant with paragraph 4 Appendix 1 to Subpart B. The initiation of medication shall require a period of temporary suspension of the medical certificate to establish the absence of significant side effects.
- (g) 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 license and rating privileges
- (h) Applicants with symptomatic hypotension shall be assessed as unfit.

PEL-MED.420 Cardiovascular system – Coronary artery disease

- (a) An applicant who has undergone coronary bypass 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 license and rating privileges.
- (b) An applicant with suspected coronary artery disease shall be investigated. an applicant with asymptomatic, minor, coronary artery disease may be considered fit by AMS
- (c) Applicants with symptomatic coronary artery disease,, shall be assessed as unfit
- (d) In suspected asymptomatic coronary artery disease, exercise electrocardiography shall be required and if necessary followed, by scintigraphy and/ or coronary angiography
- (e) Applicants shall be assessed as unfit following myocardial infarction.

(f) An asymptomatic applicant who has satisfactorily controlled risk factors if any, and requiring no medication for ischaemic heart pain six months after the index event (myocardial infarction) shall have completed investigations, demonstrating:

1- satisfactory symptom limited exercise ECG;

2- left ventricular ejection fraction of greater than 50% without significant abnormality of wall motion and normal right ventricular function;

3- satisfactory 24-hour ambulatory ECG recording; and

4- coronary angiography showing less than 30% stenosis or other imaging testing showing no significant reversible ischaemia in any vessel remote from the myocardial infarction and no functional impairment of myocardium subtended by any such vessel.

5- Applicants demonstrating satisfactory recovery six months following coronary bypass surgery or angioplasty and or stenting may be assessed as fit by the AMS

6- Follow-up investigation requires annual cardiovascular system review, including exercise ECG or exercise scintigraphy. Coronary angiography or other imaging testing is required no later than five years after the index event, unless non-invasive tests, e. g. exercise ECG/ stress echo, are impeccable.

7- An asymptomatic applicant having satisfactorily controlled risk factors and using, if necessary, Beta blockers, ACE inhibitors, Statins and Aspirin, who does not need to suppress ischaemic heart pain, may be reviewed. This review, shall include the following investigations demonstrating:

(a) satisfactory symptom limited exercise ECG into Bruce Stage 4 or equivalent;

(b) left ventricular ejection fraction of greater than 50% without significant abnormality of wall motion and normal right ventricular ejection function;

(c) satisfactory 24-hour ambulatory ECG recording if indicated; and

(d) post-treatment coronary angiography carried out at the time of interventional procedure showing good run off. There shall be no stenosis more than 50% in any major untreated vessel, in any vein or artery graft or at the site of an angioplasty/ stent, except in a vessel leading to an infarct. More than two stenoses between 30% and 50% within the vascular tree should not be acceptable. The whole coronary

vascular tree shall be assessed as satisfactory by a cardiologist acceptable to the AMS, and particular attention should be paid to multiple stenoses and/ or multiple revascularisations. An untreated stenosis greater than 30% in the left main or proximal left anterior descending coronary artery should not be acceptable.

- (e) Follow-up investigation requires annual cardiovascular system review, including exercise ECG or exercise scintigraphy. Coronary angiography or other imaging testing is required no later than five years after the index event, unless non-invasive tests, e. g. exercise ECG/ stress echo, are impeccable.

PEL-MED.425 Cardiovascular system – Rhythm/ conduction disturbances

- a) 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.

- b) Applicants with clinically significant disturbance of supraventricular rhythm, whether intermittent or established, shall be assessed as unfit. A fit assessment may be considered by the AMS subject to a satisfactory outcome of the cardiologicalevaluation

- c) Any significant rhythm or conduction disturbance requires evaluation by a cardiologist acceptable to the AMS and appropriate follow-up in the case of a fit assessment.

- (i) Such evaluation shall include:

- 1.Exercise ECG to the Bruce protocol or equivalent. The test should be to maximum effort or symptom limited. Bruce stage 4 shall be achieved and no significant abnormality of rhythm or conduction, nor evidence of myocardial ischaemia shall be demonstrated. Withdrawal of cardioactive medication prior to the test should be considered.

- 2. 24-hour ambulatory ECG which shall demonstrate no significant rhythm or conduction disturbance,

3. 2D Doppler echocardiogram which shall show no significant selective chamber enlargement, or significant structural, or functional abnormality, and a left ventricular ejection fraction of at least 50%.

(ii) Further evaluation may include:

1-Repeat 24-hour ECG recording;

2-electrophysiological study;

3-myocardial perfusion scanning, or equivalent test;

4-cardiac MRI or equivalent test;

5-coronary angiogram or equivalent test

d)-Applicants with asymptomatic sinus bradycardia or sinus tachycardia may be assessed as fit in the absence of significant underlying abnormality.

e)- Applicants with evidence of sinoatrial disease require cardiological assessment

f)- Applicants with asymptomatic isolated uniform ventricular ectopic complexes need not be assessed as unfit but frequent or complex forms require full cardiological evaluation

g)- In the absence of other abnormality, applicants with incomplete bundle branch block or stable left axis deviation may be assessed as fit. Applicants with complete right or left bundle branch block require cardiological evaluation on first presentation

h)- Supraventricular or ventricular ectopy complexes on a resting electrocardiogram may require no further evaluation, provided the frequency can be shown to be not greater than one per minute (for example, on an extended rhythm strip).

i)- Applicants who develop complete right bundle branch block over the age of 40 years should demonstrate a period of stability, normally 12 months, before a fit assessment may be carried out.

j)- Left bundle branch block is more commonly associated with coronary artery disease and thus requires more in-depth investigation, which may need to be invasive. The applicant for initial examination who has been thoroughly investigated and no pathology found may be assessed as fit. In case of a de-novo left bundle branch block at revalidation or renewal examinations a fit assessment may be considered after close follow-up and a period of stability not less than 12 months.

Applicants who have received ablation therapy shall be assessed as unfit. A fit assessment may be considered by the AeMC.

PEL-MED.430 Cardiovascular system – General

a)- Applicants with peripheral vascular disease shall be assessed as unfit, before or after surgery. Provided there is no significant impairment, a fit assessment may be considered by the AME.

b)- Fit assessment may be considered by AME if there is no sign of significant coronary disease, or evidence of significant atheroma elsewhere, and no functional impairment of the end organ supplied. Evaluation will include an exercise ECG and a duplex ultrasound investigation

c)- There shall be no significant functional nor structural abnormality of the circulatory system.

d)- Applicants with aneurysm of the thoracic or abdominal aorta, before or after surgery, shall be assessed as unfit. Applicants with aneurysm of the infra-renal abdominal aorta may be considered fit by AME at renewal or revalidation examinations

e)- After surgery for infra renal abdominal aortic aneurysm without complications and subject to the individual being free of disease of the carotid and coronary circulation a fit assessment may be considered by the AME.

f)- Applicants with clinically significant abnormality of any of the heart valves shall be assessed as unfit.

g)- Unidentified cardiac murmurs shall require assessment by the AME following evaluation by a cardiologist acceptable to the AME. If considered significant, further investigation shall include 2D Doppler echocardiography

h)- Applicants with minor cardiac valvular abnormalities may be assessed as fit by the AMS following cardiological evaluation

i)- Valve Conditions

(f) Bicuspid aortic valve is acceptable without restriction if no other cardiac or aortic abnormality is demonstrated, but requires review on a two-yearly basis with echocardiography

(g) Mild aortic stenosis (less than 25 mmHg differential pressure or a Doppler flow rate of less than 2 m per second) may be acceptable. Annual review shall be required, with 2D Doppler echo-cardiography, by a cardiologist acceptable to the AME.

(h) Aortic regurgitation is acceptable for unrestricted certification only if minor, with no evidence of volume overload. There shall be no demonstrable abnormality of the ascending aorta on 2D Doppler echo-cardiography. Annual review shall be carried out by a cardiologist acceptable to the AME.

(i) Mitral valve disease (rheumatic mitral stenosis) is normally disqualifying. Mitral leaflet prolapse and mild mitral regurgitation may be acceptable. Applicants with isolated mid-systolic click may need no restriction. Applicants with uncomplicated minor regurgitation may be acceptable with regular cardiological follow-up.

(j) Applicants with evidence of volume overloading of the left ventricle by increased left ventricular end-diastolic diameter shall be assessed as unfit

(k) Applicants with cardiac valve replacement/ repair shall be assessed as unfit. Favorable cases may be assessed as fit by the AME following cardiological evaluation.

PEL-MED.435 Respiratory system – General

- (a) An applicant for or the holder of CAO.IRI Class 3 Medical Certificate shall not possess any abnormality of the respiratory system, congenital or acquired, which is likely to interfere with the safe exercise of the privileges of the applicable licence(s)/ certificate(s) of competence.
- (b) 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.
- (c) Posterior/ anterior chest radiography shall be carried out on clinical indication.
- (d) Pulmonary function tests are required at the initial examination. Applicants with significant impairment of pulmonary function shall be assessed as unfit.
- (e) Any significant abnormality shall require further evaluation by a specialist in respiratory diseases.
- (f) Spirometric examination is required for initial CAO.IRI Class 3 examination. An FEV1/ FVC ratio less than 70% shall require evaluation by a specialist in respiratory disease

PEL-MED.440 Respiratory system – Disorders

- (a) 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.
- (b) Applicants with asthma causing significant symptoms or likely to cause incapacitating symptoms shall be assessed as unfit
- (c) Applicants with active inflammatory diseases of the respiratory system shall be assessed as temporarily unfit
- (d) Applicants with active sarcoidosis shall be assessed as unfit
- (e) A fit assessment may be considered by the AME if the disease is:

1- fully investigated with respect to the possibility of systemic involvement; and

2-limited to hilar lymphadenopathy and the applicant is taking no medication

- (f) Applicants with spontaneous pneumothorax shall be assessed as unfit
- (g) 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.
- (h) Applicants with active pulmonary tuberculosis shall be assessed as unfit.
- (i) Applicants with quiescent or healed lesions, known to be tuberculous or presumably tuberculous in origin, may be assessed as fit.
- (j) Applicants suffering from excessive daytime sleepiness including sleep apnoea syndrome shall be assessed as unfit
- (k) Applicants suffering from sleep apnoea may be assessed as fit subject to the extent of the symptoms, satisfactory treatment and functional evaluation in the working environment

PEL-MED.445 Digestive system- General

- (a) An applicant for or the holder of a Class 3 medical certificate shall not possess any functional or structural disease of the gastro-intestinal tract or its adnexa which is likely to interfere with the safe exercise of the privileges of the applicable licence(s).
- (b) An Applicants with significant impairment of function of the gastrointestinal tract or its adnexa shall be assessed as unfit.

PEL-MED.450 Digestive system Disorders

- (a) Applicants with any sequelae of disease or surgical intervention in 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.

- (b) 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 should 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.
- (c) Applicants with recurrent dyspeptic disorders requiring medication shall be assessed as unfit
- (d) Recurrent dyspepsia requiring medication shall be investigated by internal examination (radiologic or endoscopic). Laboratory testing should include haemoglobin assessment and faecal examination. Any demonstrated ulceration or significant inflammation requires evidence of recovery before revalidation or renewal by the AME.
- (e) Pancreatitis is disqualifying
- (f) A fit assessment may be considered by the AME if the cause or obstruction (e. g. , drug, gallstone) is removed.
- (g) Applicants exhibiting symptomatic multiple gallstones or a single large gallstone shall be assessed as unfit until effective treatment has been applied
- (h) Alcohol may be a cause of dyspepsia and pancreatitis. If considered appropriate a full evaluation of its use/ abuse is required.
- (i) A single large gallstone may be compatible with a fit assessment after consideration by the AME. An individual with asymptomatic multiple gallstones while awaiting assessment or treatment may be considered as fit pending investigation.
- (j) An applicant who has an established medical history or clinical diagnosis of acute or chronic inflammatory bowel disease (regional ileitis, ulcerative colitis, diverticulitis) shall be assessed as unfit
- (k) An applicant with herniae that may give rise to complications leading to incapacitation shall be assessed as unfit.

- (l) Any sequela of disease or surgical intervention in any part of the digestive tract or its adnexae likely to cause incapacitation, in particular any obstruction due to stricture or compression, shall be assessed as unfit
- (m) An applicant who has undergone a surgical operation on the digestive tract or its adnexae, involving a total or partial excision or a diversion of any of these organs, shall be assessed as unfit
- (n) Following major abdominal surgery, it is unlikely that an individual will be fit to return to work before a minimum of three months has elapsed. The AMS may consider earlier fit assessment at revalidation or renewal if recovery is complete, the applicant is asymptomatic, there is a minimal risk of secondary complication or recurrence and the effects of the operation are no longer likely to interfere with the safe exercise of the privileges of the applicable licences/ certificates of competence.

PEL-MED.455 Metabolic, nutritional and endocrine systems

- (a) An applicant for or the holder of a CAO.IRI Class 3 Medical Certificate shall not possess any functional or structural metabolic, nutritional or endocrine disorder which is likely to interfere with the safe exercise of the privileges of the applicable licence(s)/ certificate(s) of competence.
- (b) 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
- (c) Applicants with insulin-treated diabetes mellitus shall be assessed as unfit.
- (d) 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.
- (e) An applicant with metabolic, nutritional or endocrine dysfunction shall be assessed as unfit
- (f) Endocrine surgery entails unfitness. Fit assessment will be considered by the AMS after full recovery

- (g) Applicants with diabetes mellitus shall be assessed as unfit
- (h) Glycosuria and abnormal blood glucose levels require investigation. A fit assessment may be considered by the AMS if normal glucose tolerance is demonstrated (low renal threshold) or impaired glucose tolerance without diabetic pathology is fully controlled by diet and regularly reviewed.
- (i) The use of antidiabetic medications is disqualifying
- (j) The use of biguanides, alpha-glucosidase inhibitors and glitazones may be acceptable for type 2 diabetes, as they do not cause hypoglycaemia.

PEL-MED.460 Haematology

- (a) An applicant for or the holder of a CAO.IRI Class 3 Medical Certificate shall not possess any haematological disease which is likely to interfere with the safe exercise of the privileges of the applicable licence(s)/ certificate(s) of competence
- (b) 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.
- (c) Anaemias demonstrated by reduced haemoglobin level require investigation. Anaemia which is unamenable to treatment is disqualifying. A fit assessment may be considered by the AMS in cases where the primary cause has been satisfactorily treated (e. g. iron deficiency or B12 deficiency) and haemoglobin has stabilised (recommended range 11 g/ dl - 17 g/ dl), or where minor thalassaemia or haemoglobinopathies are diagnosed without a history of crises and where full functional capability is demonstrated
- (d) An applicant with significant localised and generalised enlargement of the lymphatic glands and of diseases of the blood shall be assessed as unfit
- (e) Lymphatic enlargement requires investigation. A fit assessment may be considered by the AMS in cases of acute infectious process which is fully recovered or Hodgkin's lymphoma

which has been treated and is in full remission. Due to potential long-term side-effects of specific chemotherapeutic agents, the precise regime utilised should be taken into account

- (f) An applicant with acute leukaemia shall be assessed as unfit. Initial applicants with chronic leukaemias shall be assessed as unfit
- (g) An applicant with significant enlargement of the spleen shall be assessed as unfit
- (h) Splenomegaly requires investigation. The AME may consider a fit assessment where the enlargement is minimal, stable and no associated pathology is demonstrable (e.g. treated chronic malaria), or if the enlargement is minimal and associated with another acceptable condition (e.g. Hodgkin's lymphoma in remission). Splenectomy may not preclude a fit assessment, but should be assessed on an individual basis.
- (i) An applicant with significant polycythaemia shall be assessed as unfit (see para 6.1.6). A fit assessment may be considered by the AME if the condition is fully controlled and good follow-up reports have been received.
- (j) Polycythaemia requires investigation. The AME may consider a fit assessment if the condition is stable and no associated pathology has been demonstrated.
- (k) An applicant with a coagulation defect shall be assessed as unfit
- (l) Significant coagulation defects require investigation. The AME may consider a fit assessment if there is no history of significant bleeding or clotting episodes and the haematological data indicate that it is safe to do so.

PEL-MED.465 Urinary system

- (a) An applicant for or the holder of a CAO.IRI Class 3 Medical Certificate shall not possess any functional or structural disease of the urinary system or its adnexae which is likely to interfere with the safe exercise of the privileges of the applicable licence(s)/ certificate(s) of competence.
- (b) An applicant presenting any signs of organic disease of the kidney shall be assessed as unfit. Urinalysis shall form part of every medical examination. The urine shall contain no abnormal element considered to be of pathological significance. Particular attention shall be paid to disease affecting the urinary passages and the genital organs

- (c) Any abnormal finding upon urinalysis requires investigation. Investigation and analysis shall include proteinuria, haematuria and glycosuria.
- (d) An applicant presenting with urinary calculi shall be assessed as unfit
- (e) An asymptomatic calculus or a history of renal colic requires investigation. After treatment a fit assessment may be considered with appropriate follow-up, which is to be decided by a specialist acceptable to the AMS. Residual calculi shall be disqualifying unless they are in a location where they are unlikely to move and give rise to symptoms
- (f) 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.
- (g) Urine examination shall form part of the medical examination and abnormalities shall be adequately investigated.
- (h) 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.
- (i) Applicants who have undergone nephrectomy shall be assessed as unfit unless the condition is well compensated.
- (j) Major urological surgery is normally disqualifying. However, the AME may consider a fit assessment if the applicant is completely asymptomatic and there is a minimal risk of secondary complication or recurrence.
- (k) Renal transplantation or total cystectomy is disqualifying for initial certification. At renewal or revalidation a fit assessment may be considered by the AMS in the case of:
 - 7.1.4(a) renal transplant which is fully compensated and tolerated with minimal immuno-suppressive therapy after at least twelve months; and
- (l) Total cystectomy which is functioning satisfactorily with no recurrence of primary pathology.
- (m) An applicant who has undergone a major surgical operation in the urinary tract or the urinary apparatus involving a total or partial excision or a diversion of any of its

organs shall be assessed as unfit until such time as the effects of the operation are no longer likely to cause incapacity

PEL-MED. D 470 sexually transmitted diseases and other infections

(a) An applicant for or holder of a CAO.IRI Class 3 Medical Certificate shall have no established medical history or clinical diagnosis of any sexually transmitted disease or other infection which is likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence

(b) Particular attention shall be paid to a history of or clinical signs indicating:

- 1-HIV positivity,
- 2-Immune system impairment,
- 3-Infectious hepatitis,
- 4-Syphilis

(c) Applicants with acquired immunodeficiency syndrome (AIDS) shall be assessed as unfit.

(d) Applicants who are seropositive for human immunodeficiency virus (HIV) shall be assessed as unfit unless full investigation provides no evidence of clinical disease.

Note. — Evaluation of applicants who are seropositive for human immunodeficiency virus (HIV) requires particular attention to their mental state, including the psychological effects of the diagnosis.

PEL-MED.475 Gynaecology and obstetrics

(a) An applicant for or the holder of a CAO.IRI Class 3 Medical Certificate shall not possess any functional or structural obstetric or gynaecological condition which is likely to interfere with the safe exercise of the privileges of the applicable licence(s)/ certificate(s) of competence.

(b) Applicants with gynaecological disorders that are likely to interfere with the safe exercise of their licence and rating privileges shall be assessed as unfit.

- (c) Applicants who are pregnant shall be assessed as unfit unless obstetrical evaluation and continued medical supervision indicate a low-risk uncomplicated pregnancy.
- (d) For applicants with a low-risk uncomplicated pregnancy, evaluated and supervised in accordance with (c) the fit assessment should be limited to the period from the end of the period until the end of the 34th week of gestation.
- (e) During the gestational period, precautions should be taken for the timely relief of an air traffic controller in the event of early onset of labour or other complications.
- (f) 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.

PEL-MED.480 Musculoskeletal requirements

- (a) An applicant for or holder of a CAO.IRI Class 3 Medical Certificate shall not possess any abnormality of the bones, joints, muscles and tendons, congenital or acquired which is likely to interfere with the safe exercise of the privileges of the applicable licence(s)/ certificate(s) of competence
- (b) 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.

- (c) Abnormal physique, including obesity, or muscular weakness may require medical assessment (including that in the working environment) as approved by the AMS.
- (d) An applicant suffering from severe obesity shall be assessed as unfit
- (e) Applicants with osteoarthritic or muscular tendon progressive conditions resulting in functional upset shall be assessed as unfit.
- (f) Locomotor dysfunction, amputations, malformations, loss of function and progressive osteoarthritic disorders will be assessed on an individual basis. This will

be carried out by the AME in conjunction with the appropriate operational expert with a knowledge of the complexity of the tasks involved.

- (g) The applicant's age and body mass index should be taken into account when making the assessment.
- (h) Osteoarthritic or muscular tendon progressive conditions may be of congenital or acquired origin. Any functional upset should be evaluated against its impact on the individual's ability to operate satisfactorily in the working environment. They shall not be taking any disqualifying medication
- (i) A fit assessment at revalidation or renewal in cases of limb deficiency, with or without limb prosthesis, may be considered by the AME following satisfactory assessment in the working environment

PEL-MED.485 Psychiatric requirements

- (a) An applicant for or holder of a Class 3 medical certificate shall have no established medical history or clinical diagnosis of any psychiatric disease or disability, condition or disorder, acute or chronic, congenital or acquired, which is likely to interfere with the safe exercise of the privileges of the applicable licence(s),
- (b) Particular attention shall be paid to the following (see Appendix 2):
 - (1) Schizophrenia, schizotypal and delusional disorders;
 - (2) Mood disorders;
 - (3) Neurotic, stress-related and somatoform disorders;
 - (4) Personality disorders;
 - (5) Organic mental disorders;
 - (6) Mental and behavioural disorders due to alcohol;
 - (7) Use or abuse of psychotropic substances.

PEL-MED.490 Neurological requirements

- (a)- An applicant for or holder of a Class 3 medical certificate shall have no established medical history or clinical diagnosis of any neurological condition which is likely to interfere with the safe exercise of the privileges of the applicable licence(s).
- (b)- Particular attention shall be paid to the following (see Appendix 3):

- (1) Progressive disease of the nervous system,
- (2) Epilepsy and other causes of disturbance of consciousness,
- (3) Conditions with a high propensity for cerebral dysfunction,
- (4) Head injury,
- (5) Spinal or peripheral nerve injury.

(c)- Electroencephalography is required when indicated by the applicant's history or on clinical grounds (see Appendix 3).

PEL-MED.495 Ophthalmological requirements

(a)- An applicant for or holder of a Class 3 medical certificate shall not possess any abnormality of the function of the eyes or their adnexa or any active pathological condition, congenital or acquired, acute or chronic, or any sequela of eye surgery or trauma, which is likely to interfere with the safe exercise of the privileges of the applicable licence(s).

(b)- An ophthalmological examination by an ophthalmologist or a vision care specialist acceptable to the AME (All abnormal and doubtful cases shall be referred to an ophthalmologist acceptable to the AME) is required at the initial examination and shall include:

- (1) History;
- (2) Visual acuity, near, intermediate and distant vision: uncorrected; with best optical correction if needed;
- (3) Objective refraction. Hyperopic applicants under age 25 in cycloplegia;
- (4) Ocular motility and binocular vision;
- (5) Colour vision;
- (6) Visual fields;
- (7) Tonometry on clinical indication and after the 40th birthday;

(8) Examination of the external eye, anatomy, media (slit lamp) and funduscopy.

(c) A routine eye examination may be performed by an AME. It shall form part of all revalidation and renewal examinations (see paragraph 1 Appendix 4) and shall include:

1) History;

2) Visual acuity, near, intermediate and distant vision: uncorrected and with best optical correction if needed;

3) Examination of the external eye, anatomy, media and funduscopy;

4) Further examination on clinical indication (see paragraph 3 Appendix 4).

(d) Where, in certificate holders the functional performance standards (6/ 9 (0,7), 6/ 6 (1,0), N14, N5) can only be reached with corrective lenses and the refractive error exceeds ± 3 diopters, the applicant shall supply to the AME an examination report from an ophthalmologist or vision care specialist acceptable to the Aeromedical assessor (see paragraph 2 Appendix 4).

If the refractive error is within the range not exceeding +5 to -6 diopters, then this examination must have been carried out within 60 months prior to the general medical examination. If the refractive error is outside this range, then this examination must have been carried out within 24 months prior to the examination. The examination shall include:

(1) History;

(2) Visual acuity, near, intermediate and distant vision: uncorrected; with best optical correction if needed;

(3) Refraction;

(4) Ocular motility and binocular vision;

(5) Visual fields;

(6) Tonometry after the 40th birthday;

Examination of the external eye, anatomy, media (slit lamp) and funduscopy. The report shall be forwarded to the AME. If any abnormality is detected, such that the applicant's ocular health is in doubt, further ophthalmological examination will be required (see paragraph 3 Appendix 4).

(e) Class 3 certificate holders after the 40th birthday should undergo tonometry 2-yearly or submit a report of a tonometry which must have been carried out within 24 months prior to the examination.

(f) Where specialist ophthalmological examinations are required for any significant reason, the medical certificate is to be marked with the limitation —Requires specialist ophthalmological examinations – RXO". Such a limitation may be applied by an AME but may only be removed by the Aeromedical assessor.

PEL-MED. D 500 Visual requirements

(a) 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.

(b) Distant visual acuity. Distant visual acuity, with or without correction, shall be 6/ 9 (0,7) or better in each eye separately and visual acuity with both eyes shall be 6/ 6 (1,0) 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:

1- such correcting lenses are worn during the exercise of the privileges of the licence or rating applied for or held; and

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

- (c) The methods in use for the measurement of visual acuity are likely to lead to differing evaluations. To achieve uniformity, therefore, Contracting States shall ensure that equivalence in the methods of evaluation be obtained.
- (d) 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.
- (e) The applicant shall have the ability to read, while wearing the correcting lenses, if any, required by 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 point (g) 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.
- (f) Refractive errors. Refractive error is defined as the deviation from emmetropia measured in dioptres in the most ametropic meridian. Refraction shall be measured by standard methods (see paragraph 1 Appendix 5). Applicants shall be assessed as fit with respect to refractive errors if they meet the following requirements:

1. Refractive error

- a. At the initial examination the refractive error shall be within the range of +5 to -6 dioptres (see paragraph 2 (a) Appendix 5).
- b. At revalidation or renewal examinations, an applicant experienced to the satisfaction of the CAO. IRI with a refractive error not exceeding +5 dioptres or with a high myopic refractive error exceeding -6 dioptres may be assessed as fit by the AMS (see paragraph (b) Appendix 5).
- c. Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses.

- (g) An applicant for or holder of a Class 1 medical certificate shall not possess any abnormality of the function of the eyes or their adnexa or any active pathological condition, congenital or acquired, acute or chronic, or any sequela of eye surgery or trauma, which is likely to interfere with the safe exercise of the privileges of the applicable licence(s).

2. Astigmatism

- (a) In an initial applicant with a refractive error with an astigmatic component, the astigmatism shall not exceed 2, 0 dioptries.
- (b) At revalidation or renewal examinations, an applicant experienced to the satisfaction of the CAO. IRI with a refractive error with an astigmatic component exceeding 3,0 dioptries may be assessed as fit by the AME (see paragraph 3 Appendix 5).

3. Keratoconus is disqualifying. The AME may consider a fit assessment for revalidation or renewal if the applicant meets the requirements for visual acuity (see paragraph 3 Appendix 5).

4. Anisometropia

- i. In initial applicants the difference in refractive error between the two eyes (anisometropia) shall not exceed 2,0 dioptries.
- ii. At revalidation or renewal examinations, an applicant experienced to the satisfaction of the CAO. IRI with a difference in refractive error between the two eyes (anisometropia) to exceeding 3,0 dioptries may be assessed as fit by the AMS. Contact lenses shall be worn if the anisometropia exceeds 3,0 dioptries (see paragraph 5

5. The development of presbyopia shall be followed at all aeromedical renewal examinations.

6. An applicant shall be able to read N5 chart (or equivalent) at 30–50 centimetres and N14 chart (or equivalent) at 100 centimetres, with correction if prescribed.

- (e) An applicant with significant defects of binocular vision shall be assessed as unfit (see paragraph 4 Appendix 5).
- (f) An applicant with diplopia shall be assessed as unfit.
- (g) An applicant with imbalance of the ocular muscles (heterophorias) exceeding (when measured with usual correction, if prescribed): 2,0 prism dioptres in hyperphoria at 6 metres, 10,0 prism dioptres in esophoria at 6 metres, 8,0 prism dioptres in exophoria at 6 metres; and 1,0 prism dioptre in hyperphoria at 33 cms, 8,0 prism dioptres in esophoria at 33 cms, 12,0 prism dioptres in exophoria at 33 cms shall be assessed as unfit. If the fusional reserves are sufficient to prevent asthenopia and diplopia the AMS may consider a fit assessment (see paragraph 5 Appendix 5).
- (h) An applicant with abnormal visual fields shall be assessed as unfit (see paragraph 4 Appendix 5).
- (i) **Spectacles or contact lenses.:**

If a visual requirement is met only with the use of correction, the spectacles or contact lenses must provide optimal visual function and be well-tolerated and suitable for aviation purposes. If contact lenses are worn they shall be monofocal and for distant vision. Orthokeratologic lenses shall not be used.

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

- d. the lenses are monofocal and non-tinted;
- e. the lenses are well tolerated; and
- f. a pair of suitable correcting spectacles is kept readily available during the exercise of the licence privileges.

3) Correcting lenses, when worn for aviation purposes, shall permit the licence holder to meet the visual requirements at all distances. No more than one pair of spectacles shall be used to meet the requirement.

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

5) Contact lenses, when worn for aviation purposes, shall be monofocal and non-tinted.

6) 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 Assessment and every five years thereafter.

7) A spare set of similarly correcting spectacles shall be readily available when exercising the privileges of the licence.

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

9) The applicant shall be required to have normal fields of vision.

10) The applicant shall be required to have normal binocular function.

11) 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

(I) Eye Surgery

(1) 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) Refractive surgery entails unfitness. A fit assessment may be considered by the AMS (see paragraph 6 Appendix 5).

(3) Cataract surgery, retinal surgery and glaucoma surgery entail unfitness. A revalidation/ renewal a fit assessment may be considered by the AMS (see paragraph 7 Appendix 5).

PEL-MED.505 Colour perception

(a) Normal colour perception is defined as the ability to pass the Ishihara test or to pass Nagel's anomaloscope as a normal trichromate (see paragraph 1 Appendix 6).

(b) An applicant shall have normal perception of colours or be colour safe. At the initial examination applicants have to pass the Ishihara test. Applicants who fail Ishihara's test shall be assessed as colour safe if they pass extensive testing with methods acceptable to the AMS (anomaloscopy or colour lanterns – see paragraph 2 Appendix 6). At revalidation or renewal colour vision needs only to be tested on clinical grounds.

(c) An applicant who fails the acceptable colour perception tests is to be considered colour unsafe and shall be assessed as unfit.

(d) An applicant obtaining a satisfactory result as prescribed by the CAO.IRI 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 except for Class 2 assessment with the following restriction: valid daytime only.

(e) 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.

PEL-MED.510 Otorhinolaryngological requirements

(a) An applicant for or holder of a Class 1 medical certificate shall not possess any abnormality of the function of the ears, nose, sinuses or throat (including oral cavity, teeth and larynx), or any active pathological condition, congenital or acquired, acute or chronic, or any sequela of surgery and trauma which is likely to interfere with the safe exercise of the privileges of the applicable licence(s).

(b) 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.

(c) There shall be:

(1) no disturbance of vestibular function;

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

(3) no unhealed perforation of the tympanic membranes.

(d) A single dry perforation of the tympanic membrane need not render the applicant unfit.

(e) There shall be:

1- no nasal obstruction; and

2- 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

(f) A comprehensive otorhinolaryngological examination is required at the initial examination and subsequently on clinical indication (comprehensive examination – see paragraph 1 and 2 Appendix 7) and shall include:

1) History.

2) Clinical examination including otoscopy, rhinoscopy, and examination of the mouth and throat.

3) Tympanometry or equivalent.

4) Clinical assessment of the vestibular system. All abnormal and doubtful cases within the ENT region shall be referred to a specialist in aviation otorhinolaryngology acceptable to the AMS.

(g) A routine Ear-Nose-Throat examination shall form part of all revalidation and renewal examinations (see Appendix 7).

(h) Presence of any of the following disorders in an applicant shall result in an unfit assessment.

(1) Active pathological process, acute or chronic, of the internal or middle ear.

(2) Unhealed perforation or dysfunction of the tympanic membranes (see paragraph 3 Appendix 7).

- (3) Disturbances of vestibular function (see paragraph 4 Appendix 7).
- (4) Significant restriction of the nasal air passage on either side, or any dysfunction of the sinuses.
- (5) Significant malformation or significant, acute or chronic infection of the oral cavity or upper respiratory tract.
- (6) Significant disorder of speech or voice.

PEL-MED.515 Hearing requirements

- (a) Hearing shall be tested at all examinations. The applicant shall understand correctly conversational speech when tested with each ear at a distance of 2 metres from and with his back turned towards the AME.
 - 1- Contracting States shall use such methods of examination as will guarantee reliable testing of hearing.
 - 2- Applicants shall be required to demonstrate a hearing performance sufficient for the safe exercise of their licence and rating privileges.
- (b) Hearing shall be tested with pure tone audiometry at the initial examination and at subsequent revalidation or renewal examinations every five years up to the 40th birthday and every two years thereafter (see paragraph 1 Appendix 8).
- (c) 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.
- (d) An applicant with a hearing loss greater than the FCL3-515 (c) 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.
- (e) 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.

- (f) At revalidation or renewal, applicants with hypoacusis may be assessed as fit by the AMS if a speech discrimination test demonstrates a satisfactory hearing ability (see paragraph 2 Appendix 8)

Appendix 1

Cardiovascular system

1. Exercise electrocardiography shall be required:
 - (a) When indicated by signs or symptoms suggestive of cardiovascular disease;
 - (b) For clarification of a resting electrocardiogram;
 - (c) at the discretion of an aeromedical specialist acceptable to the AME;
 - (d) at age 65 and then every 4 years for Class 1 revalidation or renewal;
2.
 - (a) Serum lipid estimation is case finding and significant abnormalities shall require review, investigation and supervision by the AMC or AME in conjunction with the AMS.
 - (b) An accumulation of risk factors (smoking, family history, lipid abnormalities, hypertension, etc.) shall require cardiovascular evaluation by the AMC or AME in conjunction with the AMS.
3. The diagnosis of hypertension shall require review of other potential vascular risk factors. The systolic pressure shall be recorded at the appearance of the Korotkoff sounds (phase I) and the diastolic pressure at their disappearance (phase V). The blood pressure should be measured twice. If the blood pressure is raised and/ or the resting heart rate is increased, further observations should be made during the assessment.
4. Anti-hypertensive treatment shall be agreed by the AMS. Drugs acceptable to the AMS may include:
 - (a) non-loop diuretic agents;
 - (b) certain (generally hydrophilic) beta-blocking agents;
 - (c) ACE Inhibitors;
 - (d) angiotensin II AT1 blocking agents (the sartans);
 - (e) slow channel calcium blocking agents. For Class 1, hypertension treated with medication may require a to multi-pilot (Class 1 —OML) or, for Class 2, a safety pilot (Class 2 — OSL) limitation.
5. In suspected asymptomatic coronary artery disease or peripheral arterial disease, exercise electrocardiography (according to paragraph 6(a) Appendix 1) shall be required followed, if necessary, by further tests (myocardial perfusion scanning, stress echocardiography, coronary angiography or equivalent investigations acceptable to the AMS) which shall show no evidence of myocardial ischaemia or significant coronary artery stenosis.
6. After an ischaemic cardiac event, including revascularisation or peripheral arterial disease, applicants without symptoms shall have reduced any vascular risk factors to an appropriate level. Medication, when used only to control cardiac symptoms, are not acceptable. All applicants should be on acceptable secondary prevention treatment. A coronary angiogram obtained around the time of, or during, the ischaemic cardiac event shall be available. A complete and detailed clinical report of the ischaemic event, the

angiogram and any operative procedures shall be available to the AMS. There shall be no stenosis more than 50% in any major untreated vessel, in any vein or artery graft or at the site of an angioplasty/ stent, except in a vessel leading to an infarct. More than two stenoses between 30% and 50% within the vascular tree should not be acceptable. The whole coronary vascular tree shall be assessed as satisfactory by a cardiologist acceptable to the AMS, and particular attention should be paid to multiple stenoses and/ or multiple revascularisations. An untreated stenosis greater than 30% in the left main or proximal left anterior descending coronary artery should not be acceptable. At least 6 months from the ischaemic cardiac event, including revascularisation, the following investigations shall be completed:

(a) an exercise ECG (symptom limited to Bruce Stage IV, or equivalent), showing no evidence of myocardial ischaemia nor rhythm disturbance;

(b) an echocardiogram (or equivalent test acceptable to the AMS) showing satisfactory left ventricular function with no important abnormality of wall motion (such as dyskinesia or akinesia) and a left ventricular ejection fraction of 50% or more;

(c) in cases of angioplasty/ stenting, a myocardial perfusion scan or stress echocardiography (or equivalent test acceptable to the AMS) which shall show no evidence of reversible myocardial ischaemia. If there is any doubt about myocardial perfusion in other cases (infarction or bypass grafting) a perfusion scan will also be required;

(d) Further investigations, such as a 24 hour ECG, may be necessary to assess the risk of any significant rhythm disturbance. Follow-up shall be yearly (or more frequently if necessary) to ensure that there is no deterioration of cardiovascular status. It shall include a review by a specialist acceptable to the AMS, exercise ECG and cardiovascular risk assessment. Additional investigations may be required by the AMS. After coronary artery vein bypass grafting, a myocardial perfusion scan (or equivalent test acceptable to the AMS) shall be performed if there is any indication, and in all cases within five years from the procedure. In all cases coronary angiography, or an equivalent test acceptable to the AMS, shall be considered at any time if symptoms, signs or non-invasive tests indicate cardiac ischaemia.

AMS assessment

Successful completion of the six month review will allow for a fit assessment with multi-pilot (Class 1 — OML) limitation for Class 1 applicants. Class 2 applicants having fulfilled the criteria mentioned in paragraph (6) may fly without a safety pilot (Class 2 OSL) limitation, but the AMS may require a period of flying with a safety pilot before solo flying is authorised. Class 2 applicants for revalidation or renewal can fly, at the discretion of the AMS, with a safety pilot (Class 2 —OSL) limitation having completed only an exercise ECG to the standards in 6 (a) above. 7 Any significant rhythm or conduction disturbance requires evaluation by a cardiologist acceptable to the AMS and appropriate follow-up in the case of a fit assessment.

(a) Such evaluation shall include:

(1) Exercise ECG to the Bruce protocol or equivalent. The test should be to maximum effort or symptom limited. Bruce stage 4 shall be achieved and no significant abnormality

of rhythm or conduction, nor evidence of myocardial ischaemia shall be demonstrated. Withdrawal of cardioactive medication prior to the test should be considered.

(2) 24-hour ambulatory ECG which shall demonstrate no significant rhythm or conduction disturbance,

(3) 2D Doppler echocardiogram which shall show no significant selective chamber enlargement, or significant structural, or functional abnormality, and a left ventricular ejection fraction of at least 50%.

(b) Further evaluation may include:

(1) Repeated 24-hour ECG recording;

(2) Electrophysiological study;

(3) Myocardial perfusion scanning, or equivalent test;

(4) Cardiac MRI or equivalent test;

(5) Coronary angiogram or equivalent test (see Appendix 1 paragraph 6).

Appendix 2

Psychiatric requirements

1. An established schizophrenia, schizotypal or delusional disorder is disqualifying. A fit assessment may only be considered if the AME concludes that the original diagnosis was inappropriate or inaccurate, or in the case of a single episode of delirium provided that the applicant has suffered no permanent impairment.

2. An established mood disorder is disqualifying. The AME may consider a fit assessment after full consideration of an individual case, depending on the mood disorder characteristics and gravity and after all psychotropic medication has been stopped for an appropriate period.

3. A single self-destructive action or repeated acts of deliberate self-harm are disqualifying. A fit assessment may be considered by the AME after full consideration of an individual case and may require psychological or psychiatric review. Neuropsychological assessment may be required.

4. Mental or behavioural disorders due to alcohol or other substance use, with or without dependency, are disqualifying. A fit assessment may be considered by the AMS after a period of two years documented sobriety or freedom from substance use. At revalidation or renewal, a fit assessment may be considered earlier – and a multi-pilot (Class 1 OML) or safety pilot limitation (Class 2 OSL) may be appropriate. Depending on the individual case and at the discretion of the AME, treatment and review may include:

- (a) in-patient treatment of some weeks followed by
- (b) review by a psychiatric specialist acceptable to the AMS; and
- (c) ongoing review including blood testing and peer reports, which may be required indefinitely.

Appendix 3

Neurological requirements

1. Any stationary or progressive disease of the nervous system which has caused or is likely to cause a significant disability is disqualifying. However, in case of minor functional losses, associated with stationary disease the AME may consider a fit assessment after full evaluation.

2. A history of one or more episodes of disturbance of consciousness of uncertain cause is disqualifying. In case of a single episode of such disturbance of consciousness, which can be satisfactorily explained, a fit assessment may be considered by the AMS, but a recurrence is normally disqualifying.

3. Epileptiform paroxysmal EEG abnormalities and focal slow waves normally are disqualifying. Further evaluation shall be carried out by the AME.

4. A diagnosis of epilepsy is disqualifying, unless there is unequivocal evidence of a syndrome of benign childhood epilepsy associated with a very low risk of recurrence, and unless the applicant has been free of recurrence and off treatment for more than 10 years. One or more convulsive episodes after the age of 5 are disqualifying. However, in case of an acute symptomatic seizure, which is considered to have a very low risk of recurrence by a consultant neurologist acceptable to the AME, a fit assessment may be considered by the AME.

5. An applicant having had a single afebrile epileptiform seizure which has not recurred after at least 10 years while off treatment, and where there is no evidence of continuing predisposition to epilepsy, may be assessed as fit if the risk of a further seizure is considered to be within the limits acceptable to the AME. For a Class 1 fit assessment a multi-pilot (Class 1 OML) limitation shall be applied.

6. Any head injury which has been severe enough to cause loss of consciousness or is associated with penetrating brain injury must be assessed by the AME and be seen by a consultant neurologist acceptable to the AME. There must be a full recovery and a low risk (within the limits acceptable to the AME) of epilepsy before a fit assessment is possible.

7. Assessment of applicants with a history of spinal or peripheral nerve injury shall be undertaken in conjunction with the musculo-skeletal requirements, Appendices and Manual Chapter.

8. The assessment of malignant conditions in this system is also explained in the Oncology Chapter of the Manual which provides information regarding assessment and should be consulted together with the Chapter specific to this system. All intracerebral malignant tumours are disqualifying.

Appendix 4

Ophthalmological requirements

1. At the initial examination for a Class 2 medical certificate the examination shall be carried out by an ophthalmologist acceptable to the AME or by a vision care specialist acceptable to the AME or, at the discretion of the Aeromedical assessor, by an AME. All abnormal and doubtful cases shall be referred to an ophthalmologist acceptable to the Aeromedical assessor. Applicants requiring visual correction to meet the standards shall submit a copy of the recent spectacle prescription.
2. At each aeromedical revalidation or renewal examination an assessment of the visual fitness of the licence holder shall be performed and the eyes shall be examined with regard to possible pathology. All abnormal and doubtful cases shall be referred to an ophthalmologist acceptable to the AME.
3. Owing to the differences in provision of optometrist services across the CAO. IRI, for the purposes of these requirements, each nation's AME shall determine whether the training and experience of its vision care specialists is acceptable for these examinations.

Appendix 5

Visual requirements

1. Refraction of the eye and functional performance shall be the index for assessment.

2.

(a) Class 1. For those, who reach the functional performance standards only with corrective lenses the AMS may consider a Class 1 fit assessment if the refractive error is not exceeding +5 to -6 dioptres and if: (1) no significant pathology can be demonstrated; (2) optimal correction has been considered ; (3) 5 yearly review is undertaken by an ophthalmologist or vision care specialist acceptable to the AMS, if the refractive error is outside the range ± 3 dioptres.

(b) Class 1. The AME may consider a fit assessment at revalidation or renewal if the myopic refraction is greater than -6 dioptres if:

(1) no significant pathology can be demonstrated;

(2) optimal correction has been considered;

(3) a 2 yearly review is undertaken by an ophthalmologist or vision care specialist acceptable to the AMS for those with a myopic refraction greater than -6 dioptres.

3. Astigmatism. Class 1. The AMS may consider a fit assessment at revalidation or renewal if the astigmatic component is greater than 3,0 dioptres if:

(1) no significant pathology can be demonstrated;

(2) optimal correction has been considered;

(3) a 2 yearly review is undertaken by an ophthalmologist or vision care specialist acceptable to the AME.

4. Keratoconus. The AME may consider fit assessment for Class 2 and fit assessment for Class 1 at revalidation or renewal after diagnosis of a keratoconus provided that:

(a) the visual requirements are met with the use of corrective lenses;

(b) review is undertaken by an ophthalmologist acceptable to the AME, the frequency to be determined by the AME.

5. Anisometropia. Class 1. The AMS may consider fit assessment at revalidation or renewal if the anisometropia exceeds 3,0 dioptres if:

(1) no significant pathology can be demonstrated;

(2) optimal correction has been considered;

(3) a 2 yearly review is undertaken by an ophthalmologist or vision care specialist acceptable to the AME.

6 (a) Monocularity.

(1) Monocularity entails unfitness for a Class 1 certificate;

(2) In the case of an initial Class 2 applicant who is functionally monocular, the AME may consider a fit assessment if,

(a) the monocularity occurred after the age of 5.

(b) at the time of initial examination, the better eye achieves the following:

(i) distant visual acuity (uncorrected) of at least 6/ 6;

(ii) no refractive error;

(ii) no history of refractive surgery;

(iii) no significant pathology.

(c) a flight test with a suitable qualified pilot acceptable to the CAO. IRI, who is familiar with the potential difficulties associated with monocularity, must be satisfactory;

(d) operational limitations, as specified by the CAO. IRI, may apply.

(3) The AME may consider a fit assessment at revalidation or renewal for Class 2 applicants if the underlying pathology is acceptable according to ophthalmological specialist assessment and subject to a satisfactory flight test with a suitably qualified pilot acceptable to the CAO. IRI, who is familiar with the potential difficulties associated with monocularity. Operational limitations as specified by the CAO. IRI, may apply

(b) Applicants with central vision in one eye below the limits stated in FCL 3. 220 may be assessed as fit at revalidation or renewal for Class 1 if the binocular visual field is normal and the underlying pathology is acceptable according to ophthalmological specialist assessment. A satisfactory flight test is and multi-pilot (Class 1 OML) limitation are required.

(c) In case of reduction of vision in one eye to below the limits stated in FCL 3. 340 a fit assessment at revalidation or renewal for Class 2 may be considered if the underlying pathology and the visual ability of the remaining eye are acceptable following ophthalmological evaluation acceptable to the AME and subject to a satisfactory medical flight test, if indicated.

(d) An applicant with a visual fields defect may be considered as fit if the binocular visual field is normal and the underlying pathology is acceptable to the AME.

7 Heterophorias. The applicant/ certificate holder shall be reviewed by an ophthalmologist acceptable to the AMS. The fusional reserve shall be tested using a method acceptable to the AMS (e. g. Goldman Red/ Green binocular fusion test).

Appendix 6

Colour perception

1.The Ishihara test (24 plate version) is to be considered passed if the first 15 plates are identified without error, without uncertainty or hesitation (less than 3 seconds per plate). These plates shall be presented randomly. For lighting conditions see the CAO. IRI Manual of Civil Aviation Medicine.

2.Those failing the Ishihara test shall be examined either by: (a) Anomaloscopy (Nagel or equivalent). This test is considered passed if the colour match is trichromatic and the matching range is 4 scale units or less, or by (b) Lantern testing. This test is considered passed if the applicant passes without error a test with lanterns acceptable to the AME such as Holmes Wright, Beynes, or Spectrolux.

Appendix 7

Otorhinolaryngological requirements

1. At the initial examination a comprehensive ORL examination (for further guidance see CAO. IRI Manual of Civil Aviation Medicine) shall be carried out by an AMC or a specialist in aviation otorhinolaryngology acceptable to the AMS.
2. At revalidation or renewal examinations all abnormal and doubtful cases within the ENT region shall be referred to a specialist in aviation otorhinolaryngology acceptable to the AMS.
3. A single dry perforation of non-infectious origin and which does not interfere with the normal function of the ear may be considered acceptable for certification.
4. The presence of spontaneous or positional nystagmus shall entail complete vestibular evaluation by a specialist acceptable to the AMS. In such cases no significant abnormal caloric or rotational vestibular responses can be accepted. At revalidation or renewal examinations abnormal vestibular responses shall be assessed in their clinical context by the AMS.
5. The assessment of malignant conditions in this system is also explained in the Oncology Chapter of the Manual which provides information regarding assessment and should be consulted together with the Chapter specific to this system.

Appendix 8

Hearing requirements

1. The pure tone audiogram shall cover the frequencies from 500 – 3000 Hz. Frequency thresholds shall be determined as follows: 500 Hz 1 000 Hz 2 000 Hz 3 000 Hz

2 (a) Cases of hypoacusis shall be referred to the AMS for further evaluation and assessment.

(b) If satisfactory hearing in a noise field corresponding to normal flight deck working conditions during all phases of flight can be demonstrated, a fit assessment may be considered at revalidation or renewal.

Appendix 9

Limitation codes to medical certificates

	Code	Limitation
1	TML (Time Limitation)	Restriction of the period of validity of the medical certificate
2	VDL	Correction for defective distant vision and carry spare set of spectacles
3	VML	Correction for defective distant, intermediate and near vision and carry spare set of spectacles
4	VNL	Correction for defective near vision and carry spare set of spectacles
5	CCL	Correction by means of contact lenses
6	Age 60-64	Shall not act as a pilot of an aircraft engaged in commercial air transport except as a member of multi-pilot crew.
7	VCL	Valid by day only (class 2)
8	HAL	Valid only when hearing aids are worn
9	APL	Valid only with approved prosthesis (class 1 & class 2)
10	OCL	Valid only as co-pilot
11	OPL (Operational Passenger Limitation)	Valid only without passengers (PPL and UL only)
12	SSL	Special restriction as specified
13	OAL	Restricted to demonstrated aircraft type (class 1 & class 2)
14	AHL	Valid only with approved hand controls
15	SIC	Specific regular medical examination(s) - contact licensing authority
16	RXO	Specialist ophthalmological examinations
17	OSL (Operational Safety Pilot Limitation)	Valid only with safety pilot and in aircraft with dual controls (PPL and UL only)
18	OML (Operational Multi-Pilot Limitation)	Valid only as or with qualified co-pilot (class 1): - Shall only operate an aircraft in multi-pilot operations when the other pilot is fully qualified on the relevant type of aircraft, is not subject to an OML and has not attained the age of 60 years.
19	Age 65 or higher	Shall not act as a pilot of an aircraft engaged in commercial air transport.