



# Notice of Proposed Amendment 2018-15

## Rescue and firefighting services at aerodromes

RMT.0589

### EXECUTIVE SUMMARY

The objective of this NPA is to maintain a high level of safety for aerodrome operations and support level playing field. In particular, it aims to enhance the effectiveness of rescue and firefighting personnel when responding to aviation emergencies at an aerodrome, and to allow the training of rescue of firefighting personnel on pressure-fed fuel fires at facilities that utilise other than jet fuel (e.g. gas).

This NPA proposes guidance material for the aerodrome operators in order to verify the suitability of their existing medical and physical medical requirements for rescue and firefighting personnel and revise them, if considered necessary. Furthermore, alternative fuel types are allowed for the training of rescue and firefighting personnel on pressure-fed fuel fires.

The proposed changes are expected to maintain and in certain cases enhance safety as well as to support level playing field. Aerodrome operators will be affected by the proposed guidance material if they elect to review their current requirements based on the guidance provided by EASA. Additionally, the use of alternative fuel types for the training of rescue and firefighting personnel on pressure-fed fuel fires would provide the opportunity for the aerodrome operators to use facilities which are more cost-effective and environmentally friendly for the training of rescue and firefighting personnel.

<b>Action area:</b>	Human factors and competence of personnel		
<b>Affected rules:</b>	AMC & GM to Authority, Organisation and Operations Requirements for Aerodromes		
<b>Affected stakeholders:</b>	Aerodrome operators		
<b>Driver:</b>	Safety	<b>Rulemaking group:</b>	Yes
<b>Impact assessment:</b>	Light	<b>Rulemaking Procedure:</b>	Standard

● EASA rulemaking process milestones



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## 1. About this NPA

### 1.1. How this NPA was developed

The European Aviation Safety Agency (EASA) developed this NPA in line with Regulation (EU) 2018/1139<sup>1</sup> (hereinafter referred to as the 'Basic Regulation') and the Rulemaking Procedure<sup>2</sup>. This rulemaking activity is included in the European Plan for Aviation Safety<sup>3</sup> under rulemaking task (RMT).0589 'Rescue and firefighting services (RFFS) at aerodromes'. The text of this NPA has been developed by EASA based on the input of the Rulemaking Group (RMG) RMT.0589. It is hereby submitted to all interested parties<sup>4</sup> for consultation.

### 1.2. How to comment on this NPA

Please submit your comments using the automated **Comment-Response Tool (CRT)** available at <http://hub.easa.europa.eu/crt/><sup>5</sup>.

The deadline for submission of comments is **18 March 2019**.

### 1.3. The next steps

Following the closing of the public commenting period, EASA will review all comments and if considered necessary will perform a focused consultation which will consist of workshops and dedicated meetings with the affected stakeholders.

Based on the comments received, EASA will issue a decision containing the related acceptable means of compliance (AMC) and guidance material (GM).

The comments received and the EASA responses will be reflected in a comment-response document (CRD). The CRD will be annexed to the ED Decision.

<sup>1</sup> Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (OJ L 212, 22.8.2018, p. 1) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1535612134845&uri=CELEX:32018R1139>)

<sup>2</sup> EASA is bound to follow a structured rulemaking process as required by Article 115(1) of Regulation (EC) No 216/2008. Such a process has been adopted by the EASA Management Board (MB) and is referred to as the 'Rulemaking Procedure'. See MB Decision No 18-2015 of 15 December 2015 replacing Decision 01/2012 concerning the procedure to be applied by EASA for the issuing of opinions, certification specifications and guidance material (<http://www.easa.europa.eu/the-agency/management-board/decisions/easa-mb-decision-18-2015-rulemaking-procedure>).

<sup>3</sup> [https://www.easa.europa.eu/document-library/general-publications?publication\\_type%5B%5D=2467](https://www.easa.europa.eu/document-library/general-publications?publication_type%5B%5D=2467)

<sup>4</sup> In accordance with Article 115 of Regulation (EU) 2018/1139 and Articles 6(3) and (7) of the Rulemaking Procedure.

<sup>5</sup> In case of technical problems, please contact the CRT webmaster ([crt@easa.europa.eu](mailto:crt@easa.europa.eu)).



## 2. In summary — why and what

### 2.1. Why we need to change the rules — issue/rationale

Regulation (EU) 2018/1139, contains in paragraph 2.1.(n) of the Annex VII ‘Essential requirements for aerodromes’, a requirement for the aerodrome operator to ensure that:

‘all rescue and firefighting personnel potentially required to act in aviation emergencies shall periodically demonstrate their physical fitness to execute their functions satisfactorily, taking into account the type of activity. In this context, medical fitness, comprising both physical and mental fitness, means not suffering from any disease or disability which could make this personnel unable:

- to execute the tasks necessary to operate in aviation emergencies;
- to perform their assigned duties at any time; or
- to perceive their environment correctly.’

Regulation (EU) No 139/2014 of 12 February 2014<sup>6</sup> lays down requirements and administrative procedures related to aerodromes and ED Decision 2014/012/R<sup>7</sup> lays down the AMC & GM for the implementation of the regulation.

Point (a)(4) in ADR.OPS.B.010 of Regulation (EU) No 139/2014 requires the aerodrome operator to ensure that ‘rescue and firefighting personnel potentially required to act in aviation emergencies demonstrate their medical fitness to execute their functions satisfactorily, taking into account the type of activity’. EASA, during the drafting of Regulation (EU) No 139/2014 and its related AMC & GM, had not developed these medical and physical fitness requirements/standards for rescue and firefighting personnel due to the lack of expertise in the RMG and the need to take an in-depth view of this subject. For this reason, EASA later initiated RMT.0589 to develop, among others, the medical requirements for rescue and firefighting personnel, with the support of a dedicated group of experts.

The outcome of the activities of RMG RMT.0589 was a set of medical and physical fitness criteria for rescue and firefighting personnel, based on best medical practices taking also into consideration the operational tasks of rescue and firefighting personnel.

Earlier, during the drafting of the medical criteria, EASA had issued three questionnaires to the Member States and the aerodrome operators in order to collect information on the current requirements in each Member State, and to have their initial view on the proposed criteria.

The responses received confirmed that there are indeed national regulations or policies that establish medical and physical fitness requirements for rescue and firefighting personnel which are followed by those employed at aerodromes. However, the responsibility of establishing these regulations or policies rests with different authorities in the Member States. The responses also showed that the level of detail as well as the frequency of re-assessments of medical fitness differs among the Member States.

<sup>6</sup> Commission Regulation (EU) No 139/2014 of 12 February 2014 laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 44, 14.2.2014, p. 1) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1537945715019&uri=CELEX:32014R0139>)

<sup>7</sup> <https://www.easa.europa.eu/document-library/agency-decisions/ed-decision-2014012r>



Furthermore, during the implementation of Regulation (EU) No 139/2014, EASA received questions as to if other types of fuel could be used to simulate pressure-fed fuel fires, instead of jet fuel mainly due to environmental reasons, but also due to financial reasons. EASA, after reviewing the available information concluded that other types of fuel could be used provided that rescue and firefighting personnel are trained on the techniques for jet fuel fires. In this way, aerodromes would be able to use infrastructure which is cost-efficient and environmentally friendly. For this reason, AMC1 ADR.OPS.B.010(b);(c) is amended accordingly.

### Related safety issues

There are no safety recommendations addressed to EASA

**Exemptions<sup>8</sup> in accordance with Article 70 ‘Safeguard provisions’/Article 71 ‘Flexibility provisions’ and/or Article 76 ‘Agency measures’ of Regulation (EU) 2018/1139** pertinent to the scope of this RMT are:

There are no exemptions pertinent to the scope of this RMT.

### Alternative means of compliance (AltMoC) relevant to the content of this RMT

There are no AltMoC relevant to the content of this RMT.

### ICAO and third countries references relevant to the content of this RMT

ICAO Annex 14 does not contain any Standards and Recommended Practices (SARPs) for the physical and medical fitness of rescue and firefighting personnel. Nevertheless, ICAO Doc 9137 Part 1, ‘Rescue and Firefighting’ contains in Chapter 10 brief guidance material to the States for the development of such requirements.

## 2.2. What we want to achieve — objectives

The overall objectives of the EASA system are defined in Article 1 of the Basic Regulation. This proposal will contribute to the achievement of the overall objectives, such as the ‘maintenance of a high and uniform level of civil aviation safety in Europe’, by addressing the issues outlined in Section 2.1.

The specific objective of this proposal is to provide further guidance to the aerodrome operators in order to ensure that rescue and firefighting personnel required to act in aviation emergencies are medically and physically fit to perform their operational duties and to use alternative fuels for rescue and firefighting personnel training.

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<sup>8</sup> Exemptions having an impact on the development of this RMT content and referring to:

- Article 70(1): Measures taken as an immediate reaction to a safety problem
- Article 71(1): Limited in scope and duration exemptions from substantive requirements laid down in the Basic Regulation and its implementing rules in the event of urgent unforeseeable affecting persons or urgent operational needs of those persons
- Article 71(3): Derogation from the rule(s) implementing the Basic Regulation where an equivalent level of protection to that attained by the application of the said rules can be achieved by other means
- Article 76(7): Individual flight time specifications schemes deviating from the applicable certification specifications which ensure compliance with essential requirements and, as appropriate, the related implementing rules

### 2.3. How we want to achieve it — overview of the proposals

#### Background

Neither the ICAO Annex 1 nor the ICAO Annex 14 SARPs contain any provision for the medical and physical fitness of rescue and firefighting personnel. Nevertheless, when EASA had published Opinion No 3/2007 to extend the scope of the Basic Regulation in the area of aerodromes, following a public consultation, EASA had concluded that personnel involved in the operation of aerodromes must be subject to common safety requirements, and therefore some medical and physical fitness requirements for rescue and firefighting personnel were included in Annex Va to Regulation (EC) 216/2008<sup>9</sup> (the EASA Basic Regulation at the time). In accordance with these requirements, competence as well as possible medical and physical fitness shall be the normal responsibility of the organisations employing them.

EASA is not aware of any occurrence where the medical and physical fitness of rescue and firefighting personnel had an impact on the execution of their duties. Nevertheless, already ICAO recognised the role of the rescue and firefighting personnel to ensure the rapid evacuation of aircraft occupants following an accident, thereby mitigating the consequences of an accident, and thus ICAO included in Doc 9137 'Airport Services Manual' – Part 1 'Rescue and Firefighting' some guidance material to the Contracting States on the physical and medical fitness assessments for rescue and firefighting personnel.

During the drafting of the rules, the RMG took into consideration that rescue and firefighting personnel when responding to an accident need to be capable of withstanding physically aggressive conditions whilst performing efficiently. Additionally, managing life-threatening situations which put at risk aircraft occupants' safety require also mental fitness, thus ensuring that decision-making and stress management are not impaired. The overall idea for the development of the medical requirements follows the same approach as that for the medical requirements for cabin crew members, which ensure that they are medically fit to respond in emergency situations.

The key fitness components for rescue and firefighting personnel are generally aerobic and anaerobic fitness, flexibility and medical fitness. Optimum physical and medical fitness would mean that a firefighter is able to carry out rescue and firefighting activities safely, successfully and without undue fatigue.

In order to understand better the key fitness components, the following have to be considered:

**Aerobic fitness** is the ability to continue to exercise for prolonged periods of time at low to moderate or high intensity. This depends upon the capacity of the body's heart, lungs and blood to get the oxygen to the muscles (VO<sub>2</sub>) providing the sustained energy to maintain prolonged exercise<sup>10</sup>.

**Anaerobic fitness** works differently to aerobic fitness. It is an activity that requires high levels of energy and is done for only a very short period of time at a high level of intensity. Anaerobic fitness may be defined as higher levels of muscular strength, speed and power<sup>11</sup>.

<sup>9</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1537947123329&uri=CELEX:32008R0216>

<sup>10</sup> Typical aerobic activities include walking, jogging, cycling, rope skipping, stair climbing, swimming, or any other endurance activities.

<sup>11</sup> Examples of anaerobic activities include heavy weight lifting, running up several flights of stairs, sprinting, power swimming, or any other rapid burst of hard exercises.



**Flexibility** refers to the ability to move the limbs and joints into specific positions at the end of their normal range of movement. Flexibility is important as it will allow the body to work in cramped positions without unduly stressing the muscles, tendons and ligaments and may reduce the risk of injury.

### Overview of the proposal

The guidance material proposed by EASA aims to assist aerodrome operators to build or improve a system to ensure the medical and physical fitness of rescue and firefighting personnel. The guidance focuses on the following elements:

- personal responsibilities of the rescue and firefighting personnel;
- medical confidentiality;
- obligations of the medical staff;
- medical assessment programme;
- medical assessments;
- medical criteria;
- medical reports;
- limitations; and
- physical fitness evaluation.

### 2.4. What are the expected benefits and drawbacks of the proposals

The expected benefits and drawbacks of the proposal are summarised below. For the full impact assessment of alternative options, please refer to Chapter 4.

The conclusion, following the four different options that EASA assessed, is to issue GM to support the implementation of point (a)(4) in ADR.OPS.B.010. In this way, there will be no urgent need to revise national regulations or practices, however the guidance material supports aerodrome operators to focus on areas not covered by the national regulations or practices.



### 3. Proposed amendments and rationale in detail

The text of the amendment is arranged to show deleted text, new or amended text as shown below:

- deleted text is ~~struck through~~;
- new or amended text is highlighted in **blue**;
- an ellipsis '[...]' indicates that the rest of the text is unchanged.

#### 3.1. Draft acceptable means of compliance and guidance material (Draft EASA decision)

##### Draft resulting text

##### AMC1 ADR.OPS.B.010(b);(c) Rescue and firefighting services

###### TRAINING PROGRAMME OF RFFS PERSONNEL – GENERAL

The provisions of AMC1 ADR.OR.D.017(a);(b) apply also for the training programme of RFFS personnel.

In addition, the aerodrome operator should ensure that:

- (a) rescue and ~~fire-fighting~~ **firefighting** personnel actively participate in live fire drills commensurate with the types of aircraft, and type of rescue and firefighting equipment in use at the aerodrome, including pressure-fed fuel fire drills **or any other type of fuel provided that the techniques applied are the same as for jet fuel**; and

[...]

##### GM1 ADR.OPS.B.010(a)(4) Rescue and firefighting services

###### MEDICAL ASSESSMENT

###### 1. General

Rescue and firefighting personnel, when responding to an accident, need to be capable of withstanding physically aggressive conditions whilst performing efficiently. Additionally, managing life-threatening situations which put at risk aircraft occupants' safety require also mental fitness, thus ensuring that decision-making and stress management are not impaired.

The key fitness components for rescue and firefighting personnel are generally aerobic fitness, anaerobic fitness, flexibility and medical fitness. Optimum physical and medical fitness would mean that a firefighter is able to carry out rescue and firefighting activities safely, successfully and without unjustified fatigue.

In order to understand better the key fitness components, the following has to be considered:

**Aerobic fitness** is the ability to continue to exercise for prolonged periods of time at low to moderate or high intensity. This depends upon the capacity of the body's heart, lungs and blood to get the oxygen to the muscles (VO<sub>2</sub>) providing the sustained energy to maintain prolonged exercise.

**Anaerobic fitness** works differently to aerobic fitness. It is an activity that requires high levels of strength and is done for only a very short period of time at a high level of intensity. Anaerobic fitness may be defined as higher levels of muscular strength, speed and power.





**Flexibility** refers to the ability to move the limbs and joints into specific positions at the extreme of their normal range of movement. Flexibility is important as it will allow the body to work in cramped positions without unduly stressing the muscles, tendons and ligaments and may reduce the risk of injury.

## 2. Definitions

For the purpose of this guidance, the following definitions should be considered:

'Assessment' means the conclusion on the medical fitness of a person based on the evaluation of the applicant's medical history, medical examinations and medical tests such as, but not limited to, (electrocardiography) ECG, blood pressure measurement, blood testing, and X-ray.

'Examination' means inspection, palpation, percussion, auscultation or any other means of investigation especially for diagnosing a disease.

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

'Medical staff' means general medical practitioners (GMPs) and occupational health medical practitioners (OHMPs).

'Significant' means a degree of a medical condition, the effect of which would prevent the safe performance of duties related to rescue and firefighting.

## 3. Medical confidentiality

All persons involved in medical examination and assessment should ensure that medical confidentiality is respected at all times. For this reason, all reports and records should be securely held with accessibility restricted only to authorised personnel.

## 4. Decrease in medical fitness

Rescue and firefighting personnel should exercise a duty of care and should not perform their duties when they are aware of any decrease in their medical fitness, to the extent that this condition might render them unable to perform their duties. Furthermore, they should, without undue delay, seek medical advice when they:

- (a) have undergone a surgical operation or invasive procedure;
- (b) have commenced the regular use of any medication;
- (c) have suffered any significant personal injury;
- (d) have been suffering from any significant illness;
- (e) are pregnant; and
- (f) have been admitted to hospital or medical clinic.

In these cases, the medical fitness of the person should be assessed by medical staff in order to decide whether the person is fit to resume duties. Additionally, following recovery from significant illness or injury, it may be necessary, after recommendation of the medical staff, to undergo any relevant physical fitness tests prior to a return to operational duty.



## 5. Medical staff

- (a) Medical examinations and/or assessments should be conducted by authorised medical staff.
- (b) When conducting medical examinations and/or assessments, the medical staff should:
- (1) ensure that communication with the person can be established without language barriers;
  - (2) make the person aware of the consequences of providing incomplete, inaccurate or false statements on their medical history.
- (c) After completion of the medical examinations and/or assessments, the medical staff should:
- (1) advise the person whether fit or unfit;
  - (2) inform the person of any limitation(s) to operational duty;
  - (3) complete a medical report;
  - (4) inform the person of their responsibilities in the case of decrease in medical fitness; and
  - (5) if the person has been assessed as unfit, inform them of their right of a secondary review.

## 6. Medical assessment programme

A medical assessment programme should be developed in order to ensure that rescue and firefighting personnel are free of any physical or mental illness, which might lead to incapacitation or inability to perform their assigned duties and responsibilities.

The programme should include an initial assessment prior to employment and re-examinations at regular intervals. The frequency of the re-examinations may take into account the age of the person, the medical history, etc.

## 7. Medical assessments

- (a) The objective of the medical assessment is to assess the physical and mental ability of the rescue and firefighting personnel to:
- (1) undergo the training required to acquire and maintain competence in the execution of their tasks related to rescue and firefighting, such as working in a high-temperature environment, the use of protective breathing equipment in a simulated smoke-filled environment, the assistance to trapped or injured passengers to escape the aircraft, etc.; and
  - (2) perform their duties in psychologically demanding circumstances.
- (b) Rescue and firefighting personnel should be free from any:
- (1) abnormality, congenital or acquired;
  - (2) active, latent, acute or chronic disease or disability;
  - (3) wound, injury or sequel from an operation;
  - (4) effect or side effect of any prescribed or non-prescribed therapeutic, diagnostic or preventive medication taken that would entail a degree of functional incapacity which is



likely to interfere with the performance of their duties or could render them likely to become suddenly unable to perform their duties.

(c) The initial medical assessment should include at least:

- (1) an assessment of the medical history; and
- (2) a clinical examination of the following:
  - (i) cardiovascular system;
  - (ii) respiratory system;
  - (iii) musculoskeletal system;
  - (iv) otorhinolaryngology (ENT); and
  - (v) visual system.

(d) Each subsequent medical assessment should include:

- (1) an assessment of the medical history; and
- (2) a clinical examination (if deemed necessary) in accordance with medical best practices.

Nevertheless, if during any medical assessment there is a doubt or if clinically indicated, additional medical examinations, tests or investigations may also be conducted if considered necessary by the medical staff.

#### CLINICAL EXAMINATION AND INVESTIGATION

Clinical examination may include the following:

(a) Cardiovascular system

- (1) blood pressure measurement; and
- (2) a standard 12-lead resting ECG and report. An extended cardiovascular assessment (including an exercise ECG) should be required when clinically indicated.

(b) Respiratory system

- (1) Pulmonary function tests
- (2) Chest X-ray on clinical indication

(c) Musculoskeletal system

(d) ENT

- (1) a routine inspection of ears, nose and throat;
- (2) conversational hearing test during which the person should understand correctly conversational speech when tested with each ear at a distance of 2 metres from and with their back turned towards the medical staff; and
- (3) on clinical indication, pure tone audiometry measured at 500, 1 000, 2 000, 3 000, 4 000 Hz.



**(e) Visual system using standard techniques**

- (1) Distance vision;
- (2) Near vision;
- (3) Visual fields, on clinical indication;
- (4) Colour vision (initial only or on clinical indication);
- (5) Eye movements; and
- (6) Ocular inspection.

**(f) Urine tests for blood, protein and sugar****(g) Blood tests**

Persons should undergo a blood test, taking into account the medical history and following the physical examination of:

- (1) full blood count;
- (2) liver function;
- (3) kidney function;
- (4) blood sugar; and
- (5) serum lipids, including cholesterol.

**8. Medical report**

After the completion of each medical assessment, a written medical report should be provided by the medical staff to the person concerned, as well as to the organisation employing them.

The report should indicate the date of the medical assessment, whether the person has been assessed fit or unfit, the date of the next required medical assessment and, if applicable, any limitation(s). All other elements are subject to medical confidentiality; therefore, they should not be included in the report.

Each person shall hold at any time one medical report.

**9. Limitations**

If any person does not fully satisfy the established medical criteria, they may be allowed to exercise their tasks with some limitations. The limitations should be detailed by the medical staff and should be listed in the medical report.

Removal of the limitations is normally taking place following a re-assessment by the medical staff.

**EXAMPLES OF LIMITATIONS**

Depending on the case, operational limitations and/or use of aids may be imposed, as follows (list not exhaustive and based on the fit assessment and operational requirements):

- (a) Wearing of corrective lenses;
- (b) Wearing of hearing aids;



- (c) Reduction of the interval between consecutive medical examinations or assessments. In this case, the persons concerned should present themselves for re-examination when advised and should follow any medical recommendations;
- (d) Operational restrictions such as:
  - (1) use of breathing apparatus;
  - (2) work in confined spaces;
  - (3) ladder climbing;
  - (4) working at heights;
  - (5) driving;
  - (6) operating or carrying heavy equipment; and
  - (7) descending the pole; and
- (e) Working only in specific periods of the day (e.g. day shifts only).

## **GM2 ADR.OPS.B.010(a)(4) Rescue and firefighting services**

### **MEDICAL CRITERIA FOR RFSS PERSONNEL**

#### **1. CARDIOVASCULAR SYSTEM**

##### **(a) General**

- (1) Blood pressure
  - (i) Blood pressure should be within normal limits.
  - (ii) Rescue and firefighting personnel:
    - (A) with symptomatic hypotension; or
    - (B) whose blood pressure at examination consistently exceeds 140 mmHg systolic and/or 90 mmHg diastolic, with or without treatment; or
    - (C) have initiated a medication for the control of blood pressure, should require a period of suspension from the duties in order to assess the severity of the condition, impose or change the treatment and/or to establish the absence of significant side effects.
- (2) Rescue and firefighting personnel with any of the following conditions should be assessed as unfit:
  - (i) Aneurysm of the thoracic or supra-renal abdominal aorta, before or after surgery;
  - (ii) Significant functional abnormality of any of the heart valves;
  - (iii) Heart or heart/lung transplantation;
  - (iv) Symptomatic sinoatrial disease;
  - (v) Complete atrioventricular block;
  - (vi) A sub-endocardial pacemaker;



- (vii) Symptomatic channelopathies including QT prolongation and Brugada syndrome;
- (viii) An automatic implantable defibrillating system;
- (ix) A ventricular anti-tachycardia pacemaker; and
- (x) Pulmonary hypertension

(3) Rescue and firefighting personnel with a suspected or established diagnosis, of any of the following conditions should be assessed as unfit. Following satisfactory treatment and specialist review, a fit assessment can be considered.

- (i) Coronary arterial disease before or after intervention;
- (ii) Peripheral arterial disease before or after surgery;
- (iii) Aneurysm of the infra-renal abdominal aorta, before or after surgery;
- (iv) Functionally insignificant cardiac valvular abnormalities;
- (v) After cardiac valve surgery;
- (vi) Significant disorder of cardiac rhythm, including pacemakers and ablation therapy;
- (vii) Abnormality of the pericardium, myocardium or endocardium;
- (viii) Congenital abnormality of the heart, before or after corrective surgery;
- (ix) Recurrent vasovagal syncope;
- (x) Arterial or venous thrombosis;
- (xi) Pulmonary embolism; and
- (xii) Cardiovascular condition requiring systemic anticoagulant therapy.

**(b) Peripheral arterial disease**

Rescue and firefighting personnel with peripheral arterial disease, before or after surgery, should undergo satisfactory cardiological evaluation including an exercise ECG. Further tests may be required which should show no evidence of myocardial ischaemia or significant coronary artery stenosis. A fit assessment may be considered provided that:

- (1) a Doppler echocardiography of the affected area is satisfactory; and
- (2) there is no sign of significant coronary artery disease or evidence of significant atheroma elsewhere, and no functional impairment of the end organ supplied.

**(c) Aortic aneurysm**

Rescue and firefighting personnel:

- (1) with an aneurysm of the infra-renal abdominal aorta should be assessed as unfit;
- (2) may be assessed as fit after surgery for an infra-renal aortic aneurysm without complications and subject to being free of disease of the carotid and coronary circulation.



**(d) Cardiac valvular abnormalities****Rescue and firefighting personnel:**

- (1) with previously unrecognised cardiac murmurs should require cardiological evaluation. If considered significant, further investigation may be required subject to the recommendation of the cardiologist;
- (2) with minor cardiac valvular abnormalities may be assessed as fit. Regular cardiological follow-up, including at least 2D Doppler echocardiography, as determined by the cardiologist should be required;
- (3) with significant abnormality of any of the heart valves should be assessed as unfit.

**(4) Aortic valve disease****Rescue and firefighting personnel:**

- (i) with bicuspid aortic valve may be assessed as fit if no other cardiac or aortic abnormality is demonstrated and if their effort capacity is not adversely affected. Regular cardiological follow-up, including 2D Doppler echocardiography, should be required;
- (ii) with mild aortic stenosis may be assessed as fit if their effort capacity is not adversely affected. Annual cardiological follow-up should be required and should include 2D Doppler echocardiography;
- (iii) with aortic regurgitation may be assessed as fit only if regurgitation is minor and there is no evidence of volume overload. There should be no demonstrable abnormality of the ascending aorta on 2D Doppler echocardiography. Cardiological follow-up including 2D Doppler echocardiography should be required.

**(5) Mitral valve disease****Rescue and firefighting personnel:**

- (i) with rheumatic mitral stenosis may only be assessed as fit in favourable cases after cardiological evaluation including 2D Doppler echocardiography;
- (ii) with uncomplicated minor regurgitation may be assessed as fit if their effort capacity is not adversely affected. Regular cardiological follow-up including 2D Doppler echocardiography should be required;
- (iii) with mitral valve prolapse and mild mitral regurgitation may be assessed as fit if their effort capacity is not adversely affected;
- (iv) with evidence of volume overloading of the left ventricle demonstrated by increased left ventricular end-diastolic diameter should be assessed as unfit.

**(6) Valvular surgery****Rescue and firefighting personnel:**

- (i) with cardiac valve replacement/repair should be assessed as unfit. After a satisfactory cardiological evaluation, fit assessment may be considered;



- (ii) without any symptom may be assessed as fit 6 months after valvular surgery subject to:
  - (A) normal valvular and ventricular function as judged by 2D Doppler echocardiography;
  - (B) satisfactory symptom limited exercise ECG or equivalent;
  - (C) demonstrated absence of coronary artery disease unless this has been satisfactorily treated by re-vascularisation;
  - (D) no cardioactive medication being required;
  - (E) annual cardiological follow-up to include an exercise ECG and 2D Doppler echocardiography. Longer periods may be acceptable once a stable condition has been confirmed by cardiological evaluations.
- (iii) with implanted mechanical valves should be assessed as unfit. Persons with implanted biological valves may be assessed as fit subject to documented exemplary compliance with their anti-platelet therapy. Age factors should form part of the risk assessment.

(e) Thromboembolic disorders

Rescue and firefighting personnel with arterial or venous thrombosis or pulmonary embolism should be assessed as unfit during anticoagulation. Rescue and firefighting personnel with pulmonary embolism should also be evaluated by a cardiologist. Following cessation of anticoagulant therapy, for any indication, they should undergo a re-assessment before returning to duty.

(f) Other cardiac disorders

Rescue and firefighting personnel:

- (1) with a primary or secondary abnormality of the pericardium, myocardium or endocardium should be assessed as unfit. A fit assessment may be considered following complete resolution and satisfactory cardiological evaluation which may include 2D Doppler echocardiography, exercise ECG, 24-hour ambulatory ECG, and/or myocardial perfusion scan or equivalent test. Coronary angiography or equivalent test may be indicated. Regular cardiological follow-up may be required;
- (2) with a congenital abnormality of the heart, including those who have undergone surgical correction, should be assessed as unfit. Rescue and firefighting personnel with minor abnormalities that are functionally relevant and do not adversely impact their effort capacity may be assessed as fit following cardiological assessment. No cardioactive medication is acceptable. Investigations may include 2D Doppler echocardiography, exercise ECG and 24-hour ambulatory ECG. Regular cardiological follow-up may be required.





**(g) Syncope**

- (1) Rescue and firefighting personnel with a history of recurrent episodes of syncope should be assessed as unfit. A fit assessment may be considered after a sufficient period of time without recurrence provided cardiological evaluation is satisfactory.
- (2) A cardiological evaluation following a single episode of syncope should include at least:
  - (i) a satisfactory symptom exercise ECG. If the exercise ECG is abnormal, a myocardial perfusion scan or equivalent test should be required;
  - (ii) a 2D Doppler echocardiogram showing neither significant selective chamber enlargement nor structural or functional abnormality of the heart, valves or myocardium;
  - (iii) a 24-hour ambulatory ECG recording showing no conduction disturbance, complex or sustained rhythm disturbance or evidence of myocardial ischaemia; and
  - (iv) a tilt test carried out to a standard protocol showing no evidence of vasomotor instability.
- (3) Neurological review may be required.

**(h) Blood pressure**

- (1) The investigation of possible hypertension and confirmation of adequate control on medication should include a 24-hour blood pressure monitoring.
- (2) Anti-hypertensive medication may include:
  - (i) non-loop diuretic agents;
  - (ii) angiotensin converting enzyme (ACE) inhibitors;
  - (iii) angiotensin II receptor blocking agents;
  - (iv) long-acting slow channel calcium blocking agents; and
  - (v) certain (generally hydrophilic) beta-blocking agents.
- (3) Following initiation of medication for the control of blood pressure, rescue and firefighting personnel should be re-assessed to verify that the treatment is compatible with the safe exercise of their duties.

**(i) Coronary artery disease**

- (1) Rescue and firefighting personnel with chest pain should undergo a full investigation before a fit assessment may be considered. Rescue and firefighting personnel with angina pectoris should be assessed as unfit, whether or not it is abolished by medication.
- (2) Rescue and firefighting personnel with suspected asymptomatic coronary artery disease should undergo a cardiological evaluation including exercise ECG. Further tests (myocardial perfusion scanning, stress echocardiography, coronary angiography or

equivalent) may be required, which should show no evidence of myocardial ischaemia or significant coronary artery stenosis.

(3) After an ischaemic cardiac event, including revascularisation (PTCI/stent and CABG), rescue and firefighting personnel without symptoms should have reduced any vascular risk factors to an appropriate level. Medication, when used to control cardiac symptoms, is not acceptable. All rescue and firefighting personnel should be on acceptable secondary prevention treatment.

(i) A coronary angiogram or equivalent obtained around the time of, or during, the ischaemic myocardial event, and a complete, detailed clinical report of the ischaemic event and of any operative procedures should be available.

(A) There should 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 subtending a myocardial infarction. More than two stenoses between 30 % and 50 % within the vascular tree should not be acceptable.

(B) The whole coronary vascular tree should be assessed as satisfactory by a cardiologist, and particular attention should be paid to multiple stenoses and/or multiple revascularisations.

(C) An untreated stenosis greater than 30 % in the left main or proximal left anterior descending coronary artery should not be acceptable.

(ii) At least 6 months from the ischaemic myocardial event, including revascularisation, the following investigations should be completed:

(A) an exercise ECG showing neither evidence of myocardial ischaemia nor rhythm or conduction disturbance;

(B) an echocardiogram or equivalent test 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 equivalent test, which should 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 should also be required;

(D) further investigations, such as a 24-hour ECG, may be necessary to assess the risk of any significant rhythm disturbance.

(iii) Follow-up should be conducted annually (or more frequently, if necessary) to ensure that there is no deterioration of the cardiovascular status. It should include a cardiological evaluation, exercise ECG and cardiovascular risk assessment. Additional investigations may be required.

(iv) After coronary artery vein bypass grafting, a myocardial perfusion scan or equivalent test should be performed on clinical indication, and in all cases within 5 years from the procedure.



- (v) In all cases, coronary angiography, or an equivalent test, should be considered at any time if symptoms, signs or non-invasive tests indicate myocardial ischaemia.
- (vi) Rescue and firefighting personnel may be assessed as fit to undergo the physical fitness tests after successful completion of the 6-month or later review.

(j) Rhythm and conduction disturbances

(1) Rescue and firefighting personnel with any significant rhythm or conduction disturbance may be assessed as fit after cardiological evaluation and with appropriate follow-up. Such an evaluation should include:

- (i) exercise ECG to show no significant abnormality of rhythm or conduction, and no evidence of myocardial ischaemia. Withdrawal of cardioactive medication prior to the test should be required;
- (ii) 24-hour ambulatory ECG to demonstrate no significant rhythm or conduction disturbance; and
- (iii) 2D Doppler echocardiogram to show no significant selective chamber enlargement or significant structural or functional abnormality, and a left ventricular ejection fraction of at least 50 %.

Further evaluation may include:

- (iv) 24-hour ECG recording repeated as necessary;
- (v) electrophysiological study (EPS);
- (vi) myocardial perfusion imaging or equivalent test;
- (vii) cardiac magnetic resonance imaging (MRI) or equivalent test; and
- (viii) coronary angiogram or equivalent test.

(2) Rescue and firefighting personnel with supraventricular or ventricular ectopic complexes on a resting ECG may require no further evaluation, provided the frequency can be shown to be no greater than one per minute, for example on an extended ECG strip.

Rescue and firefighting personnel with asymptomatic isolated uniform ventricular ectopic complexes may be assessed as fit but frequent or complex forms require full cardiological evaluation.

(3) Ablation

- (i) Rescue and firefighting personnel who have undergone ablation therapy should be assessed as unfit for a minimum period of 2 months.
- (ii) A fit assessment may be considered following successful catheter ablation provided an EPS demonstrates satisfactory control has been achieved.
- (iii) Where EPS is not performed, longer periods of unfitness and cardiological follow-up should be considered.
- (iv) Follow-up should include a cardiological review.



**(4) Supraventricular arrhythmias**

Rescue and firefighting personnel with significant disturbance of supraventricular rhythm, including sinoatrial dysfunction, whether intermittent or established, should be assessed as unfit. A fit assessment may be considered if cardiological evaluation, including prospective risk of stroke, is satisfactory. Anticoagulation therapy should be disqualifying.

(i) For pre-employment assessments, for rescue and firefighting personnel with atrial fibrillation/flutter, a fit assessment should be limited to those with a single episode of arrhythmia which is considered to be unlikely to recur.

(ii) Rescue and firefighting personnel with asymptomatic sinus pauses up to 2.5 seconds on a resting ECG may be assessed as fit following a satisfactory cardiological evaluation. The cardiological evaluation should include at least the following: exercise ECG, 2D Doppler echocardiography and 24-hour ambulatory ECG.

(iii) Rescue and firefighting personnel with symptomatic sino-atrial disease should be assessed as unfit.

**(5) Mobitz type 2 atrio-ventricular block**

Rescue and firefighting personnel with Mobitz type 2 AV block may be assessed as fit after a full cardiological evaluation confirms the absence of distal conducting tissue disease.

**(6) Complete right bundle branch block**

Rescue and firefighting personnel with complete right bundle branch block should require cardiological evaluation on first presentation.

**(7) Complete left bundle branch block**

A fit assessment may be considered, as follows:

(i) At first assessment, rescue and firefighting personnel may be assessed as fit after full cardiological evaluation showing no pathology. Depending on the clinical situation, a period of stability may be required.

(ii) Rescue and firefighting personnel, during a periodic assessment of their medical fitness with a de-novo left bundle branch block may be assessed as fit after cardiological evaluation showing no pathology. A period of stability may be required.

(iii) A cardiological evaluation should be required after 12 months in all cases.

**(8) Ventricular pre-excitation**

Rescue and firefighting personnel with pre-excitation may be assessed as fit if they are asymptomatic, and an electrophysiological study, including an adequate drug-induced autonomic stimulation protocol, reveals no inducible re-entry tachycardia and the existence of multiple pathways is excluded. Cardiological follow-up should be required

including a 24 hour ambulatory ECG recording showing no tendency to symptomatic or asymptomatic tachy-arrhythmia.

(9) QT prolongation

Rescue and firefighting personnel with QT prolongation require cardiological evaluation. A fit assessment may be considered in asymptomatic persons.

## 2. RESPIRATORY SYSTEM

(a) Rescue and firefighting personnel with significant impairment of pulmonary function should be assessed as unfit. A fit assessment could be considered once pulmonary function has recovered and is satisfactory.

(b) Rescue and firefighting personnel with any sequelae of disease or surgical intervention in any part of the respiratory tract likely to cause incapacitation, should be assessed as unfit. A fit assessment could be considered after specialist evaluation.

(c) Following significant respiratory illness, physical fitness tests should be performed prior to a return to operational duty.

(d) Examination

(1) Spirometric examination is required for initial examination. An FEV1/FVC ratio less than 75 % should require evaluation by a specialist in respiratory disease before a fit assessment can be considered.

(2) Posterior/anterior chest radiography may be required at initial, revalidation or renewal examinations when indicated on clinical or epidemiological grounds.

(e) Chronic obstructive airways disease

Rescue and firefighting personnel with chronic obstructive airways disease should be assessed as unfit. Rescue and firefighting personnel with only minor impairment of their pulmonary function may be assessed as fit after specialist respiratory evaluation. Limitation of duties may be required. Rescue and firefighting personnel with pulmonary emphysema may be assessed as fit for limited duties excluding use of breathing apparatus following specialist evaluation showing that the condition is stable and not causing significant symptoms.

(f) Asthma

Rescue and firefighting personnel with asthma requiring medication may be assessed as fit if the asthma is considered stable with satisfactory pulmonary function tests and medication is compatible with the safe execution of the duties. Operational limitation may be appropriate.

(g) Inflammatory disease

(1) For rescue and firefighting personnel with active inflammatory disease of the respiratory system, a fit assessment may be considered following specialist evaluation when the condition has resolved without sequelae and no medication is required.

(2) Rescue and firefighting personnel with chronic inflammatory diseases may be assessed as fit following specialist evaluation showing mild disease with no risk of acute worsening with acceptable pulmonary function test, including bronchial challenge test,



and medication compatible with the safe execution of duties. Operational limitations may be required.

**(h) Sarcoidosis**

(1) Rescue and firefighting personnel with active sarcoidosis should be assessed as unfit. Specialist evaluation should be undertaken with respect to the possibility of systemic, particularly cardiac, involvement. A fit assessment may be considered if minimal medication is required, and the disease is limited to hilar lymphadenopathy and inactive.

(2) Rescue and firefighting personnel with cardiac or neurological sarcoid should be assessed as unfit.

**(i) Pneumothorax**

Rescue and firefighting personnel with a spontaneous pneumothorax should be assessed as unfit. A fit assessment may be considered:

(1) 6 weeks after the event provided full recovery from a single event has been confirmed in a full respiratory evaluation including a CT scan or equivalent;

(2) following surgical intervention in the case of a recurrent pneumothorax provided there is satisfactory recovery.

**(j) Thoracic surgery**

(1) Rescue and firefighting personnel requiring thoracic surgery should be assessed as unfit until such time as the effects of the operation are no longer likely to interfere with the safe exercise of their duties.

(2) A fit assessment may only be considered after satisfactory recovery and full respiratory evaluation including a CT scan or equivalent. The underlying pathology which necessitated the surgery should be considered in the assessment process.

**(k) Sleep apnoea syndrome/sleep disorder**

(1) Rescue and firefighting personnel with unsatisfactorily treated sleep apnoea syndrome and suffering from excessive daytime sleepiness should be assessed as unfit.

(2) Rescue and firefighting personnel with obstructive sleep apnoea should undergo cardiological and pneumological evaluation.

(3) A fit assessment may be considered subject to the extent of symptoms, and satisfactory treatment.

**3. DIGESTIVE SYSTEM**

(a) Rescue and firefighting personnel with any sequelae of disease or surgical intervention in any part of the digestive tract or its adnexa likely to cause incapacitation, should be assessed as unfit. A fit assessment may be considered after specialist evaluation.

**(b) Oesophageal varices**

Rescue and firefighting personnel with oesophageal varices should be assessed as unfit.



**(c) Pancreatitis**

- (1) Rescue and firefighting personnel with pancreatitis should be assessed as unfit pending assessment. A fit assessment may be considered if the cause (e.g. gallstone, other obstruction, medication) is removed.
- (2) Alcohol may be a cause of dyspepsia and pancreatitis. A full evaluation of its use/abuse should be required.

**(d) Gallstones**

Rescue and firefighting personnel:

- (1) with a single large gallstone may be assessed as fit after evaluation;
- (2) with multiple gallstones may be assessed as fit while awaiting assessment or treatment provided the symptoms are unlikely to interfere with duties.

**(e) Inflammatory bowel disease**

Rescue and firefighting personnel with an established diagnosis or history of chronic inflammatory bowel disease may be assessed as fit if the disease is in established stable remission, and only minimal, if any, medication is being taken. Regular follow-up should be required.

**(f) Hernia**

Rescue and firefighting personnel should be free of hernia.

**(g) Dyspepsia**

Rescue and firefighting personnel with recurrent dyspepsia requiring medication should be investigated by internal examination including radiologic or endoscopic examination. Laboratory testing should include haemoglobin assessment. Any demonstrated ulceration or significant inflammation requires evidence of recovery before a fit assessment may be considered.

**(h) Abdominal surgery**

Rescue and firefighting personnel who have undergone a surgical operation on the digestive tract or its adnexa, including a total or partial excision or a diversion of any of these organs, should be assessed as unfit. A fit assessment may be considered after full recovery, the applicant is asymptomatic, and the risk of secondary complication or recurrence is minimal.

**4. METABOLIC AND ENDOCRINE SYSTEMS**

(a) Rescue and firefighting personnel with metabolic, nutritional or endocrine dysfunction may be assessed as fit if the condition is asymptomatic, clinically compensated and stable with or without replacement therapy, and regularly reviewed by an appropriate specialist.

**(b) Obesity**

- (1) Rescue and firefighting personnel with a body mass index (BMI)  $\geq 35$  may be assessed as fit only if the excess weight is not likely to interfere with the safe exercise of duties. A



cardiovascular risk factor review and a pneumological examination by specialist should be considered. The presence of sleep apnoea syndrome should be ruled out.

- (2) Functional testing in the working environment may be necessary before a fit assessment may be considered.

**(c) Thyroid dysfunction**

Rescue and firefighting personnel with hyperthyroidism or hypothyroidism should attain a stable euthyroid state before a fit assessment may be considered. Follow-up should include periodic thyroid function blood tests.

**(d) Abnormal glucose metabolism**

Glycosuria and abnormal blood glucose levels require investigation. A fit assessment may be considered if normal glucose tolerance is demonstrated (low renal threshold) or impaired glucose tolerance without diabetic pathology is fully controlled by diet and regularly reviewed.

**(e) Diabetes mellitus**

Subject to at least annual specialist endocrinological assessment, absence of complications likely to interfere with performance of duties, evidence of control of blood sugar with no significant hypoglycaemic episodes, rescue and firefighting personnel with diabetes mellitus:

- (1) not requiring medication or requiring non-hypoglycaemic antidiabetic medications may be assessed as fit;
- (2) requiring the use of potentially hypoglycaemic medication(s) including sulphonyl ureas and insulin, may be assessed as fit with an operational limitation (or limitations), including documented testing whilst performing duties. For rescue and firefighting personnel treated with insulin, a review to include the results of operational blood sugar testing should be undertaken every 6 months;
- (3) other cardiovascular risk factors including cholesterol should be minimised. An exercise ECG should be performed when diagnosed every 5 years under 40 years of age, and annually thereafter;
- (4) should undergo HbA1c measurement every 3 months, with the exception of the rescue and firefighting personnel not requiring sulphonyl urea or insulin treatment where an extension of the testing to 6 months is acceptable; and
- (5) annual follow-up by a specialist should be required including demonstrating the absence of diabetic complications such as neuropathy, retinopathy, arteriopathy or nephropathy.

**5. HAEMATOLOGY**

- (a) Rescue and firefighting personnel with any significant hematological condition should be assessed as unfit. Following specialist evaluation, a fit assessment can be considered.

**(b) Anaemia**

- (1) Anaemia demonstrated by a reduced haemoglobin level should require investigation. A fit assessment may be considered in cases where the primary cause has been treated





(e.g. iron or B12 deficiency) and the haemoglobin or haematocrit has stabilised at a satisfactory level, for the required duties.

(2) Anaemia which is unamenable to treatment should be disqualifying.

**(c) Haemoglobinopathy and red cell enzyme defects**

Rescue and firefighting personnel with a haemoglobinopathy and red cell enzyme defects should be assessed as unfit. A fit assessment may be considered where minor thalassaemia, sickle cell disease or other conditions are diagnosed without a history of crises and where full functional capability is demonstrated.

**(d) Coagulation disorders**

(1) Rescue and firefighting personnel with significant coagulation disorders should be assessed as unfit. A fit assessment may be considered if there is no history of significant bleeding or clotting episodes and the haematological data indicate that there is no interference with the safe performance of duties.

(2) Rescue and firefighting personnel requiring anticoagulants should be assessed as unfit.

**(e) Disorders of the lymphatic system**

Lymphatic enlargement requires investigation. A fit assessment may be considered in cases of an acute infectious process which is fully recovered, or Hodgkin's lymphoma, or other lymphoid malignancy which has been treated and is in full remission. Regular follow-up should be performed.

**(f) Leukaemia**

(1) Rescue and firefighting personnel with acute leukaemia should be assessed as unfit. Once in established remission, applicants may be assessed as fit.

(2) Rescue and firefighting personnel with chronic leukaemia should be assessed as unfit. A fit assessment may be considered after remission and a period of demonstrated stability.

(3) Rescue and firefighting personnel with a history of leukaemia should have no history of central nervous system involvement and no continuing side effects from treatment likely to interfere with safe performance of duties. Haemoglobin and platelet levels should be satisfactory.

(4) Regular follow-up is required in all cases of leukaemia.

**(g) Splenomegaly**

Splenomegaly requires investigation. A fit assessment may be considered if the enlargement is minimal, stable and no associated pathology is demonstrated, or if the enlargement is minimal and associated with another acceptable condition.

**(h) Splenectomy**

Following splenectomy, a fit assessment may be considered if there is full recovery and the platelet level is acceptable.

## 6. GENITOURINARY SYSTEM

(a) The urine should not contain any abnormal element considered to be of pathological significance.

(b) Rescue and firefighting personnel with any sequelae of disease or surgical procedures on the genitourinary system or its adnexa likely to cause incapacitation, in particular any obstruction due to stricture or compression, shall be assessed as unfit. A fit assessment may be considered following specialist evaluation.

(c) Abnormal urinalysis

Any abnormal finding including proteinuria, haematuria and glycosuria on urinalysis requires investigation.

(d) Renal disease

(1) Rescue and firefighting personnel presenting with any signs of renal disease should be assessed as unfit. A fit assessment may be considered if blood pressure is satisfactory and renal function is acceptable and there are no significant lesions.

(2) Rescue and firefighting personnel requiring dialysis should be assessed as unfit.

(e) Urinary calculi

(1) Rescue and firefighting personnel with an asymptomatic calculus or a history of renal colic require investigation. A fit assessment may be considered after successful treatment for a calculus and with appropriate follow-up.

(2) Residual calculi should be disqualifying unless they are in a location where they are unlikely to move and give rise to symptoms.

(f) Renal and urological surgery

(1) Rescue and firefighting personnel who have undergone a major surgical operation on the genitourinary system or its adnexa involving a total or partial excision or a diversion of any of its organs should be assessed as unfit until recovery is complete, the person is asymptomatic and the risk of secondary complications is minimal.

(2) Rescue and firefighting personnel with compensated nephrectomy without hypertension or uraemia may be assessed as fit.

(3) Rescue and firefighting personnel who have undergone renal transplantation may be considered for a fit assessment after full recovery with evidence that it is fully compensated and tolerated with only minimal immuno-suppressive therapy. Limitation to duties should be considered.

(4) Rescue and firefighting personnel who have undergone total cystectomy may be considered for a fit assessment if there is satisfactory urinary function, no infection and no recurrence of primary pathology.

## 7. INFECTIOUS DISEASES

(a) Rescue and firefighting personnel diagnosed with or presenting symptoms of infectious disease such as:



- (1) tuberculosis;
- (2) HIV;
- (3) acute syphilis;
- (4) infectious hepatitis; and
- (5) tropical diseases,

should undergo specialist evaluation and may be considered fit after full recovery and providing that the therapy does not compromise the safe performance of their duties.

(b) In cases of infectious disease, consideration should be given to a history of, or clinical signs indicating, underlying impairment of the immune system.

(c) Tuberculosis

- (1) Rescue and firefighting personnel with active tuberculosis should be assessed as unfit. A fit assessment may be considered following completion of therapy.
- (2) Rescue and firefighting personnel with quiescent or healed lesions may be assessed as fit. Specialist evaluation should consider the extent of the disease, the treatment required and possible side effects of medication.

(d) HIV positivity

- (1) Rescue and firefighting personnel who are HIV positive may be assessed as fit if a full investigation provides no evidence of HIV associated diseases that might give rise to incapacitating symptoms. Frequent review of the immunological status and neurological evaluation by an appropriate specialist should be carried out. A cardiological review may also be required depending on medication.
- (2) Rescue and firefighting personnel with an AIDS defining condition should be assessed as unfit except in individual cases for limited duties after complete recovery and dependent on the review.
- (3) The assessment of individual cases under (1) and (2) should be dependent on the absence of symptoms or signs of the disease and the acceptability of serological markers. Treatment should be evaluated by a specialist on an individual basis for its appropriateness and any side effects.

(e) Syphilis

Rescue and firefighting personnel with acute syphilis should be assessed as unfit. A fit assessment may be considered in the case of those fully treated and recovered from the primary and secondary stages.

(f) Infectious hepatitis

Rescue and firefighting personnel with infectious hepatitis should be assessed as unfit. A fit assessment may be considered once the person has become asymptomatic after treatment and specialist evaluation. Regular review of the liver function should be carried out.



## 8. OBSTETRICS AND GYNECOLOGY

### (a) Gynaecological surgery

Rescue and firefighting personnel who have undergone a major gynecological surgery should undergo specialist assessment. A fit assessment can be considered subject to a satisfactory gynecological evaluation after successful treatment and/or full recovery after surgery.

### (b) Pregnancy

In the case of pregnancy, rescue and firefighting personnel should be assessed as unfit. A fit assessment may be considered after the 12th week of gestation provided obstetric evaluation continuously indicates a normal pregnancy. Such a fit assessment should be valid until the 30th week of gestation. Additional operational limitations may be imposed. A fit assessment may be considered following specialist assessment after full recovery following the end of the pregnancy.

## 9. MUSCULOSKELETAL SYSTEM

(a) Rescue and firefighting personnel must have satisfactory functional use of the musculoskeletal system to enable them to safely perform their duties.

(b) Rescue and firefighting personnel with static or progressive musculoskeletal or rheumatologic conditions or surgery likely to interfere with the safe performance of their duties should undergo further assessment. A fit assessment can be considered subject to a satisfactory workplace assessment after successful treatment or full recovery after surgery.

(c) Rescue and firefighting personnel with a limb prosthesis should have satisfactory functional use as demonstrated by a workplace assessment.

(d) Rescue and firefighting personnel with any significant sequelae from disease, injury or congenital abnormality affecting the bones, joints, muscles or tendons with or without surgery require full evaluation prior to a fit assessment.

(e) Abnormal physique, including obesity, or muscular weakness may require medical assessment and particular attention should be paid to an assessment in the working environment.

(f) Locomotor dysfunction, amputations, malformations, loss of function and progressive osteoarthritic disorders should be assessed on an individual basis in conjunction with the appropriate operational expert with a knowledge of the complexity of the tasks of the applicant.

(g) Rescue and firefighting personnel with inflammatory, infiltrative, or degenerative disease of the musculoskeletal system may be assessed as fit provided the condition is in remission and the medication is acceptable and does not adversely affect the discharge of their responsibilities and tasks.

(h) For rescue and firefighting personnel who have undergone reconstructive surgery or joint replacement procedures, particular attention should be paid to the risks associated with the particular implant or prosthesis and its functional operational range.



- (i) Where there is doubt about the operational fitness, rescue and firefighting personnel should undergo the operational physical fitness assessment prior to a return to full duties. A limitation (or limitations) may need to be applied.

## 10. PSYCHIATRY

- (a) Rescue and firefighting personnel with a mental or behavioural disorder due to alcohol or other use or misuse of psychoactive substances, including recreational substances with or without dependency, should be assessed as unfit until after a period of documented sobriety or freedom from psychoactive substance use or misuse and subject to satisfactory psychiatric evaluation after successful treatment.

- (b) Rescue and firefighting personnel with a psychiatric condition such as:

- (1) mood disorder;
- (2) neurotic disorder, e.g. claustrophobic or acrophobic symptoms;
- (3) personality disorder;
- (4) mental or behavioural disorder;
- (5) post-traumatic stress disorder;
- (6) significant stress-related symptoms; and
- (7) single or repeated acts of deliberate self-harm,

should undergo treatment, as necessary, and satisfactory psychiatric assessment before a fit assessment can be considered. Psychological evaluation may be required as part of, or complementary to, a specialist psychiatric or neurological assessment.

- (c) Disorders due to alcohol or other substance use

- (1) A fit assessment may be considered after successful treatment, a period of documented sobriety or freedom from substance use, and review by a psychiatric specialist. The occupational health medical practitioner (OHMP), with the advice of the psychiatric specialist, should determine the duration of the period to be observed before a fit assessment can be made.
- (2) Depending on the individual case, treatment may include in-patient treatment of variable duration.
- (3) Continuous follow-up, including blood testing and peer reports, may be required indefinitely.

- (d) Mood disorder

Rescue and firefighting personnel with an established mood disorder should be assessed as unfit. After full recovery and after full consideration of an individual case, a fit assessment may be considered, depending on the characteristics and gravity of the mood disorder. If stability on maintenance psychotropic medication is confirmed, a fit assessment may be considered. In some cases, an operational limitation may be required. If the dosage of the medication is changed, a further period of unfit assessment should be required. Regular specialist supervision should be required.



**(e) Psychotic disorder**

Rescue and firefighting personnel with a history, or the occurrence, of a functional psychotic disorder entails unfitness unless it can be confirmed that the original diagnosis was inappropriate or inaccurate, or was a result of a single toxic episode.

**(f) Deliberate self-harm**

A single self-destructive action or repeated overt acts entail unfitness. A fit assessment may be considered after full consideration of an individual case and should require psychiatric or psychological review.

**11. NEUROLOGY****(a) Rescue and firefighting personnel with an established history or clinical diagnosis of:**

- (1) epilepsy except in cases in (b)(1) and (2) below;
- (2) recurring episodes of disturbance of consciousness of uncertain cause;
- (3) conditions with a high propensity for cerebral dysfunction, should be assessed as unfit.

**(b) Rescue and firefighting personnel with an established history or clinical diagnosis of:**

- (1) epilepsy without recurrence after the age of 5;
- (2) epilepsy without recurrence and off all treatment for more than 5 years;
- (3) epileptiform EEG abnormalities and focal slow waves;
- (4) progressive or non-progressive disease of the nervous system;
- (5) a single episode of disturbances or loss of consciousness;
- (6) brain injury, affliction or inflammation;
- (7) spinal or peripheral nerve injury, affliction or inflammation;
- (8) disorders of the nervous system due to vascular deficiencies including haemorrhagic and ischaemic events; and
- (9) vertigo,

should undergo specialist evaluation before a fit assessment may be considered.

**(c) Electroencephalography (EEG)**

EEG should be carried out when indicated by the person's history or on clinical grounds.

**(d) Epilepsy**

- (1) Rescue and firefighting personnel who have experienced one or more convulsive episodes after the age of 5 should be assessed as unfit.
- (2) A fit assessment may be considered if:
  - (i) the rescue and firefighting personnel are seizure free and off medication for a period of at least 5 years;



(ii) full neurological evaluation shows that a seizure was caused by a specific non-recurrent cause, such as trauma or toxin.

(3) Rescue and firefighting personnel who have experienced an episode of benign Rolandic seizure may be assessed as fit provided the seizure has been clearly diagnosed including a properly documented history and typical EEG result and the rescue and firefighting personnel have been free of symptoms and off treatment for at least 5 years.

(e) Neurological disease

Rescue and firefighting personnel with any stationary or progressive disease of the nervous system which has caused or is likely to cause a significant disability should be assessed as unfit. A fit assessment may be considered in cases of minor functional losses associated with stationary disease after full neurological evaluation and workplace assessment. An operational limitation may be required.

(f) Disturbance of consciousness

Rescue and firefighting personnel with a history of one or more episodes of disturbed consciousness may be assessed as fit if the condition can be satisfactorily explained by a non-recurrent cause. Operational limitations may be imposed. A full neurological evaluation is required.

(g) Head injury

Rescue and firefighting personnel with a head injury which was severe enough to cause loss of consciousness should be evaluated by a consultant neurologist. A fit assessment may be considered if there has been a full recovery and the risk of post-traumatic epilepsy has fallen to a sufficiently low level. Behavioural and cognitive aspects should be taken into account where there is evidence of significant penetrating brain trauma or contusion.

## 12. VISUAL SYSTEM

(a) Distant and near visual acuity, with or without optimal correction, should be 6/9 (0.7) or better in each eye separately, and visual acuity with both eyes shall be 6/6 (1) or better.

(b) Rescue and firefighting personnel should have fields of vision and binocular function appropriate to the operational tasks.

(c) Rescue and firefighting personnel at the initial assessment having monocular or functional monocular vision, including eye muscle balance problems, may be assessed as fit provided that an ophthalmological examination and an operational evaluation are satisfactory. Operational limitations may be required.

(d) Rescue and firefighting personnel who have undergone eye surgery should be assessed as unfit until full recovery of the visual function. A fit assessment may be considered subject to satisfactory ophthalmologic evaluation.

(e) Rescue and firefighting personnel with a clinical diagnosis of keratoconus may be assessed as fit subject to a satisfactory examination by an ophthalmologist.

(f) Rescue and firefighting personnel with diplopia should be assessed as unfit.



**(g) Corrective lenses**

If satisfactory visual function for the rescue and firefighting duties is achieved only with the use of correction, the spectacles, inserts or contact lenses must provide optimal visual function, be well tolerated, and suitable for rescue and firefighting duties, including the wearing of breathing apparatus.

**(h) Eye examination****STANDARD TESTS FOR VISION**

- (1) At each medical examination, an assessment of vision should be undertaken and the eyes should be examined with regard to possible pathology.
- (2) All abnormal and doubtful cases should be referred to an ophthalmologist. Conditions which indicate ophthalmological examination include, but are not limited to, a substantial decrease in the uncorrected visual acuity, any decrease in best corrected visual acuity and/or the occurrence of eye disease, eye injury, or eye surgery.
- (3) The effect of multiple eye conditions should be evaluated by an ophthalmologist with regard to possible cumulative effects. Functional testing in the working environment may be necessary to consider a fit assessment.
- (4) Visual acuity should be tested using Snellen charts, or equivalent, under appropriate illumination. Where clinical evidence suggests that Snellen may not be appropriate, Landolt 'C' may be used.

**(i) Routine eye examination**

All abnormal and doubtful cases should be referred to an ophthalmologist. The routine eye examination should include:

- (1) history;
- (2) visual acuities — near and distant vision; uncorrected and with best optical correction if needed;
- (3) morphology by ophthalmoscopy; and
- (4) further examination on clinical indication.

**(j) Refractive error**

Rescue and firefighting personnel without symptoms with high refractive error in excess of +5.0/-6.0 dioptres, high anisometropia >3D, or high astigmatism >3D may be assessed as fit provided the visual standards are met in both eyes, optimal correction has been considered and no significant pathology is demonstrated. Risk of visual incapacitation arising from the refractive error or shape of the eye should be acceptable.

**(k) Substandard vision**

Rescue and firefighting personnel with reduced central vision in one eye may be assessed as fit if the binocular visual field is normal and the underlying pathology is acceptable according to ophthalmological evaluation. Testing should include functional testing in the appropriate working environment.





**(l) Heterophoria**

Rescue and firefighting personnel with heterophoria (imbalance of the ocular muscles) should undergo further ophthalmological evaluation before a fit assessment is considered.

**(m) Eye surgery****(1) Refractive surgery**

After refractive surgery or surgery of the cornea including cross linking, a fit assessment may be considered, provided:

- (i) the pre-operative refraction was less than +5 dioptres;
- (ii) satisfactory stability of refraction has been achieved (less than 0.75 dioptres variation diurnally);
- (iii) the examination of the eye shows no post-operative complications;
- (iv) the glare sensitivity is normal;
- (v) the mesopic contrast sensitivity is not impaired; and
- (vi) the specialist evaluation is undertaken by an ophthalmologist.

**(2) Cataract surgery**

Rescue and firefighting personnel who have undergone cataract surgery may be assessed as fit after 6 weeks provided the visual requirements are met either with corrective lenses, or with intraocular lenses which should be non-tinted.

**(3) Retinal surgery/retinal laser therapy**

- (i) After retinal surgery, rescue and firefighting personnel may be assessed fit around 6 months after successful surgery. Annual ophthalmological follow-up may be necessary. Longer periods may be acceptable after 2 years on recommendation of the ophthalmologist.
- (ii) After successful retinal laser therapy, rescue and firefighting personnel may be assessed as fit provided an ophthalmological evaluation shows stability.

**(4) Glaucoma surgery**

After glaucoma surgery rescue and firefighting personnel may be assessed as fit around 6 months after successful surgery. Ophthalmological examinations undertaken every 6 months to follow-up secondary complications caused by the glaucoma may be necessary.

**(5) Extraocular muscle surgery**

A fit assessment may be considered not less than 6 months after surgery and after a satisfactory ophthalmological evaluation.

**(6) Visual correction**

Spectacles, contact lenses and mask inserts should permit the rescue and firefighting personnel to meet the visual requirements at all distances.



**COLOUR VISION**

- (a) Rescue and firefighting personnel who fail to correctly identify 9 or more of the first 15 plates of the 24-plate edition of Ishihara pseudoisochromatic plates should undergo further specialist evaluation. A fit assessment may be considered if the results of the evaluation and/or operational testing demonstrate that the duties can be performed safely.
- (b) Advanced or fictional colour vision testing should be assessed using means able to demonstrate acceptable colour vision.

**13. OTORHINOLARYNGOLOGY**

- (a) Rescue and firefighting personnel should not have a hearing loss of more than 35 dB at any of the frequencies 500, 1 000 or 2 000 Hz, and 50 dB at 3 000 Hz, in either ear separately.
- (b) Rescue and firefighting personnel who do not meet the hearing criteria above should undergo a specialist assessment before a fit assessment may be considered. In these cases, the rescue and firefighting personnel should undergo a functional hearing test in the operational environment or for initial candidates shall undergo a speech discrimination test.
- (c) Hearing aids

A fit assessment may be considered if the use of a hearing aid (or aids) or of an appropriate prosthetic aid improves the hearing to achieve a normal standard as assessed by fully functional testing in the operational environment.

- (d) Rescue and firefighting personnel with:
  - (1) an active chronic pathological process of the internal or middle ear;
  - (2) unhealed perforation or dysfunction of the tympanic membrane(s);
  - (3) disturbance of vestibular function;
  - (4) significant malformation or significant chronic infection of the oral cavity or upper respiratory tract;
  - (5) significant disorder of speech or voice reducing intelligibility,should undergo further specialist examination and assessment to establish that the condition does not interfere with the safe performance of their duties.

**(e) Examination**

- (1) An otorhinolaryngological examination includes:
  - (i) history;
  - (ii) clinical examination including otoscopy, rhinoscopy, and examination of the mouth and throat; and
  - (iii) clinical assessment of the vestibular system.
- (2) ENT specialists involved in the assessment of rescue and firefighting personnel should have an understanding of the functionality required.



(3) Where a full assessment and functional check is needed, due regard should be paid to the operating environment in which the operational functions are undertaken.

**(f) Hearing**

(1) The follow-up of a rescue and firefighting personnel with hypoacusis should be decided by the medical staff. If at the next annual test there is no indication of further deterioration, the normal frequency of testing may be resumed.

(2) Full functional and environmental assessments should be carried out with the chosen prosthetic equipment in use.

**(g) Ear conditions**

Rescue and firefighting personnel with perforation should be considered unfit. A fit assessment can be made following specialist evaluation, treatment and full recovery.

**(h) Vestibular disturbance**

The presence of vestibular disturbance with vertigo (e.g. Menieres Disease), and spontaneous or positional nystagmus requires complete vestibular evaluation by a specialist and should entail unfitness until successful treatment and/or full recovery.

**(i) Speech disorder**

Rescue and firefighting personnel with a speech disorder should be assessed with due regard to the operational environment in which the operational functions are undertaken. Rescue and firefighting personnel with significant disorder of speech or voice should be assessed as unfit.

**14. DERMATOLOGY**

(a) Rescue and firefighting personnel should have no established dermatological condition likely to interfere with the safe performance of their duties and the wearing of protective equipment. A fit assessment could be considered following specialist dermatological assessment.

(b) Systemic effects of radiation or pharmacological treatment for a dermatological condition should be evaluated before a fit assessment can be considered.

(c) Rescue and firefighting personnel with a skin condition that causes pain, discomfort, irritation or itching may only be assessed as fit if the condition can be controlled and does not interfere with the safe performance of the duties and with wearing of personal protective equipment.

(d) In cases where a dermatological condition is associated with a systemic illness, full consideration should be given to the underlying illness before a fit assessment may be considered.

**15. ONCOLOGY**

(a) After diagnosis of primary or secondary malignant disease, rescue and firefighting personnel should be assessed as unfit.



- (b) After completion of primary treatment and full recovery, the rescue and firefighting personnel should undergo specialist assessment before a fit assessment could be considered.
- (c) Rescue and firefighting personnel with an established history or clinical diagnosis of a malignant intracerebral or pulmonary tumor should be assessed as unfit.
- (d) Rescue and firefighting personnel who have been diagnosed with malignant disease may be assessed as fit provided that:
  - (1) after primary treatment there is no evidence of residual malignant disease likely to interfere with the performance of duties;
  - (2) time appropriate to the type of tumour has elapsed since the end of primary treatment;
  - (3) the risk of incapacitation from a recurrence or metastasis is sufficiently low;
  - (4) there is no evidence of short- or long-term sequelae from treatment. Special attention should be paid to cardiac risk in persons who have received anthracycline chemotherapy; and
  - (5) satisfactory oncology follow-up reports are provided to the medical staff.
- (e) Rescue and firefighting personnel receiving ongoing chemotherapy (other than adjuvant preventative therapy) or radiation treatment should be assessed as unfit.
- (f) Rescue and firefighting personnel with a benign intracerebral tumour may be assessed as fit after satisfactory specialist and neurological evaluation and provided the condition does not compromise the safe performance of duties.
- (g) Rescue and firefighting personnel with pre-malignant conditions may be assessed as fit if treated or excised as necessary and there is a regular follow-up.

#### **GM3 ADR.OPS.B.010(a)(4) Rescue and firefighting services**

##### **PHYSICAL FITNESS EVALUATION PROGRAMME**

The physical fitness of rescue and firefighting personnel should be evaluated at regular intervals. For this reason, a physical fitness evaluation programme is necessary.

The evaluation should be conducted by a suitably qualified person and should be anti-discriminatory, not-punitive or non-competitive. The results of the evaluation should be used to establish the person's baseline or measured against the person's previous assessments.

A physical fitness evaluation should also be considered following significant absence, illness or injury prior to a return to operational duty.

The physical fitness evaluation should include:

- (a) a pre-evaluation health questionnaire;
- (b) an evaluation of aerobic capacity; and
- (c) an evaluation of muscular strength, endurance and flexibility.



## PRE-EVALUATION PROCEDURE

- (a) Rescue and firefighting personnel should complete a pre-assessment screening questionnaire to identify contraindications for participation in the fitness assessment.
- (b) If rescue and firefighting personnel have an incapacitating medical problem or a newly acquired chronic medical condition, the physical fitness assessment should be postponed until the rescue and firefighting personnel have been assessed as fit by the medical staff. In such circumstances, the rescue and firefighting personnel should be assessed as unfit.

## FITNESS TESTS

Individual physical fitness should be tested as follows:

### (a) Operational fitness tests

Physical fitness should be evaluated using appropriate standard protocols. The physical fitness tests should ensure that the rescue and firefighting personnel should be able to effectively demonstrate the following representative operational competencies:

- (1) Stair or ladder climbing while carrying an additional load;
- (2) Ladder raise and extension;
- (3) Equipment carry;
- (4) Rescue drag;
- (5) Operating in an enclosed space;
- (6) Hose drill and operations;
- (7) Operating in a high temperature environment with breathing apparatus; and
- (8) Aerobic fitness assessment:
  - (i) For full operational duties, a  $VO_2$  Max of at least the firefighters' average or better for age and gender and not less than 35 ml/kg/min is required.
  - (ii) The estimation of  $VO_2$  Max may be performed using the following tests
    - (A) Shuttle run;
    - (B) Validated step test, e.g. Cooper, Chester;
    - (C) Cycle ergometer;
    - (D) Treadmill; and
    - (E) Full spiro-ergometry

The above functions may be included as part of an operational exercise or carried out separately.

### (b) Simulated operational physical fitness tests

Tests conducted in an appropriate facility may be used as an alternative for new recruits, untrained personnel or where the operational test is unavailable and where there is evidence that the simulated tests are a reasonable representation of operational tasks. The choice of the appropriate test depends on various aspects such as ease of administration, safety, cost



and predictive value. The following methods may be used for the fitness evaluation of rescue and firefighting personnel:

(1) Muscular strength

- (i) Handgrip dynamometer;
- (ii) Static bicep curl with dynamometer;
- (iii) Lat pull;
- (iv) Static leg press with dynamometer;
- (v) Bench press; and
- (vi) Leg press.

(2) Muscular endurance

- (i) Push-ups, modified push-ups;
- (ii) Pull-ups;
- (iii) Bent knee sit-ups; and
- (iv) Crunches in a given time, crunches to cadence.

(3) Flexibility

- (i) Sit and reach, modified sit and reach;
- (ii) Trunk extension; and
- (iii) Shoulder elevation.



## 4. Impact assessment (IA)

### 4.1. What is the issue

Refer to Section 2.1 above.

#### 4.1.1. Safety risk assessment

Currently, EASA is not aware of any safety data which confirms that the medical and physical fitness condition of rescue and firefighting personnel has contributed negatively to rescue operations following an accident. Nevertheless, any safety data received by EASA in the future will be evaluated in order to identify any potential for improvement.

#### 4.1.2. Who is affected

##### 4.1.2.1 Rescue and firefighting personnel

Common medical and physical fitness requirements would apply to rescue and firefighting personnel required to act in aviation emergencies at aerodromes. This includes well over 550 aerodromes falling under the scope of the Basic Regulation; however, the exact number of the affected rescue and firefighting personnel cannot be easily assessed because it depends on many variables, such as:

- aerodrome rescue and firefighting category;
- number of vehicles attending an emergency situation;
- number of fire stations at the aerodrome;
- operating hours of the aerodrome; and
- shift plan and maximum working hours according to labour legislation.

A rough estimate shows that more than 15 000 firefighters would be affected by the common medical and physical fitness requirements.

##### 4.1.2.2 National aviation authorities

A transition from national requirements to common European requirements may necessitate additional effort to ensure compliance with the new requirements. This burden may not necessarily fall on the national aviation authorities but also on other authorities, depending on the arrangements in each State.

##### 4.1.2.3 Aerodrome operators

As explained, medical and physical fitness requirements are presently different amongst the EASA Member States, thus leading to different costs incurred to aerodrome operators in order to comply with them. The current situation does not ensure a level playing field for aerodrome operators.

### 4.1.3. How could the issue/problem evolve

Without common rules for the EASA Member States, the requirements to demonstrate RFFS medical fitness will continue to differ from one country to another, resulting in level playing field issues.



#### 4.2. What we want to achieve — objectives

The objective is to promote a level playing field across EASA Member States for the medical requirements for rescue and firefighting personnel at aerodromes by providing additional guidance for the Member States and the aerodrome operators.

#### 4.3. How it could be achieved — options

In order to achieve the objectives mentioned in Section 2.2, the following options have been envisaged:

<b>Option No</b>	<b>Short title</b>	<b>Description</b>
0	Do nothing	No policy change (no change to the rules)
1	Provide guidance	Issuance of GM concerning the medical and physical fitness requirements
2	Flexible approach	Minimum requirements at implementing rule level and possibility of different implementation using the AMC concept
3	Full harmonisation	All requirements at implementing rule level

##### **Option 0 (do nothing)**

The situation will remain unchanged. Aerodrome operators will continue to implement the national regulations or the established corporate policies.

##### **Option 1 (Provide guidance)**

EASA to provide guidance material concerning the medical and physical fitness criteria for rescue and firefighting personnel. The guidance will support a comparison with existing national and/or corporate requirements and adjust accordingly, if considered necessary. EASA will follow up the issue during standardisation inspections in order to collect information regarding the applicable practices and decide on further actions when the first cycle of standardisation inspections to States is completed.

##### **Option 2 (Flexible approach)**

EASA to propose changes to Regulation (EU) No 139/2014 by establishing minimum medical and physical fitness requirements that have to be met by rescue and firefighting personnel at implementing rule level with the possibility of different implementation at AMC level. The approach is similar to that followed for the cabin crew and air traffic controllers' medical requirements.

##### **Option 3 (Full harmonisation)**

EASA to propose changes to Regulation (EU) No 139/2014 by establishing medical and physical fitness requirements for rescue and firefighting personnel following an approach similar to that for the flight crew and air traffic controllers' medical requirements. The proposal will ensure full harmonisation across the Member States, establish a level playing field and facilitate standardisation by EASA.





## 4.4. Methodology and data

### 4.4.1. Methodology applied

During the development of the material under the task, EASA issued three questionnaires to the Member States and the industry, to collect data about the current requirements at national level, as well as to assess the impact of the different options.

The first questionnaire was sent to the Member States on 9 July 2013. The purpose of the questionnaire was to assess the current situation in the Member States concerning the application of medical and physical fitness requirements for rescue and firefighting personnel. The questionnaire was addressed to the 29 members of the ADR RAG (Aerodromes Rulemaking Advisory Group) at that time and EASA received in total 18 responses. The responses represented a satisfactory mix of large, medium- and small-sized countries covering different geographical locations in the EASA region.

The second questionnaire was sent to the committees representing the national aviation authorities, the ADR TAG (Aerodromes Thematic Advisory Group), and the committee representing the industry, ADR Sub-SSCC (Safety Standards Consultative Committee) on the 26 January 2015. The purpose of the questionnaire was to collect detailed information concerning the applicable medical and physical fitness requirements in order to support the drafting of the rules. EASA received 45 responses mainly from aerodrome operators from different States.

The third questionnaire was sent on 27 October 2017 to the members of the successor committees of the ones above, the ADR TeB (Technical Body from the national aviation authorities) and the TeC (Technical Committee representing industry). The questionnaire was supplemented with the draft regulatory material that EASA intended to propose and the objective was to assess more precisely the impact of the proposal. Shortly after EASA received 48 responses from national aviation authorities and aerodrome operators.

### 4.4.2. Data collection

The responses to the first two questionnaires can be summarised as follows:

The Member States have medical requirements for rescue and firefighting personnel. The requirements are in the form of national regulations or policies. In most of the cases, these requirements do not differentiate between firefighters working on an aerodrome or on municipal or city fire services.

The responsibility for the definition of the medical and physical fitness requirements varies between the States. In some Member States, the rescue and firefighting service is responsible to define the requirements, while in some other States they are defined by the national aviation authority, the ministry, aerodrome operators or municipalities.

The level of detail of the said requirements is different between the Member States. Some of them have detailed requirements, while other States have very generic requirements.

The oversight of the implementation of the medical and physical fitness requirements is conducted in different ways. Depending on the national arrangements, it is conducted by the rescue and firefighting services themselves, the national aviation authority, ministries, local authorities or labour inspection bodies.



Medical examinations are conducted by different entities, depending on the Member State. This includes specialised departments within the rescue and firefighting services, governmental services, labour inspection bodies, national health services, hospitals, etc.

The number of standard medical examinations is also different among the Member States. Some States require an exhaustive list of medical examinations while some other States follow a more risk-based approach depending on the medical history and health profile of each individual firefighter.

Finally, Member States apply a different approach concerning the periodicity of medical examinations. The majority of the States require periodic medical examinations, while other States either do not have such requirements or no information was provided. States apply different policies in regard to the periodicity of medical examinations. Some States require medical examinations at fixed intervals, irrespective of the age and some others at intervals depending on the age (less frequently for younger firefighters).

The responses to the last questionnaire, where the respondents had the opportunity to provide information based on the draft rules, were the following:

There were some respondents who did not see the need for medical requirements for rescue and firefighting personnel at European level, since their current regulatory framework covers this subject.

Some respondents supported a balance between implementing rules and AMC & GM level.

The majority of the respondents consider that any medical requirements at European level will have a safety benefit, because they ensure that rescue and firefighting personnel will be able to respond effectively in aircraft accidents at aerodromes. Some respondents however expressed concerns that safety maybe degraded if the requirements are very low compared to the existing requirements currently applying in their own States.

There were various views concerning the economic impact. Some of the respondents consider that the economic impact will be high because the cost of medical assessments will increase and because aerodrome operators need to compensate with additional staff to cover absences due to medical reasons. Other respondents, consider the economic impact negligible because a better monitoring of the medical and physical condition of rescue and firefighting personnel will detect issues at an earlier stage, reducing in this way the recovery period.

In regard to the social impact, all respondents agree that the issue has to be approached in a delicate manner to ensure that unfit personnel remain part of the team. Furthermore, many respondents expressed their concern that wage reductions or even dismissals may take place for unfit personnel.

## **4.5. What are the impacts**

### **4.5.1. Safety impact**

#### **Option 0 (do nothing)**

Currently, rescue and firefighting personnel are subject to different national regulations, policies or company procedures. There is no data to demonstrate that the medical and physical fitness of rescue and firefighting personnel has contributed negatively to the handling of an aircraft accident occurred at an aerodrome; therefore, it can be assumed that there will be no impact on safety.



Nevertheless, the lack of adequate data cannot exclude the probability of an accident where the performance of the rescue and firefighting personnel is impaired due to medical reasons.

**Option 1 (provide guidance)**

Additional guidance material will support aerodrome operators to assess the appropriateness of their current requirements and if necessary improve them. This may have a slight positive impact on safety.

**Option 2 (flexible approach)**

By ensuring that rescue and firefighting personnel comply with the minimum medical requirements, it is expected that their response during an aircraft accident at an aerodrome will not be impaired due to medical reasons. This will have a positive impact on safety.

**Option 3 (full harmonisation)**

The impact will be positive because medically fit rescue and firefighting personnel are not likely to underperform and impede the rescue efforts due to medical reasons when responding to an accident.

**4.5.2. Environmental impact**

There is no environmental impact.

**4.5.3. Social impact****Option 0 (do nothing)**

If the current system is maintained, there will be no additional social impact.

**Option 1 (provide guidance)**

Additional guidance will not change the current system in each State; however, it may include additional disqualification criteria which potentially may have a minor negative social impact.

**Option 2 (flexible approach)**

For States, which are currently having medical requirements above the minimum that EASA is going to propose, there will not be any social impact. Nevertheless, if a State has very low medical requirements, then there may be cases where existing firefighters may not be qualified for operational tasks or limitations to their tasks could be applied. This could result in job losses or wage reductions depending on how aerodrome operators will handle these cases. This will have a negative social impact.

**Option 3 (full harmonisation)**

When strict medical requirements are adopted, it is likely that many firefighters will have to leave their job if they cannot demonstrate compliance with the medical requirements, leading to a significant negative social impact for the affected employees.



#### 4.5.4. Economic impact

##### Option 0 (do nothing)

Aerodrome operators will continue to apply the existing national or company requirements; therefore, no additional economic impact is foreseen.

##### Option 1 (provide guidance)

Additional guidance, where adopted, may lead to additional and more frequent medical tests, which will entail additional costs, although not significant.

##### Option 2 (flexible approach)

If a State already applies medical requirements above the minimum, there will be no additional economic impact. In the opposite case, aerodrome operators will confront additional costs due to more demanding and/or more frequent medical examinations.

##### Option 3 (full harmonisation)

The transition from the national or company requirements to common European requirements will impose financial burden to the Member States and the aerodrome operators. The administrative cost will increase and the need to conduct more detailed and more frequent medical examinations will also increase the cost for the aerodrome operators.

#### ICAO and third countries references relevant to the content of this RMT

References considered for alignment of the content of this RMT with ICAO SARPs, Federal Aviation Regulations (FARs), etc.

ICAO Doc 9137 – Part 1 ‘Rescue and firefighting services’

References to differences between the content of this RMT and ICAO SARPs, FARs, etc.

There is no difference to ICAO Annexes and Documents

EU requirement not having yet relevant reference — stemming from a comparison between the intended content of this RMT with ICAO SARPs, FARs, etc.

Not applicable

*Question to stakeholders on economic impacts*

*Stakeholders are invited to provide quantified justification elements on the possible economic impacts of the options proposed, or alternatively to propose another justified solution to the issue.*

#### 4.5.5. General Aviation and proportionality issues

There is no impact on General Aviation and proportionality.

### 4.6. Conclusion

#### 4.6.1. Comparison of options

Option 0 is taken as reference for the comparison of other options, and is therefore considered neutral in the table below.



	Option 0 (Reference option)	Option 1 Provide guidance	Option 2 Flexible approach	Option 3 Full harmonisation
Safety impact	0	+	++	+++
Environmental impact	0	0	0	0
Social impact	0	0	--	---
Economic impact	0	0 to -	-	--
Proportionality	0	0	0	0
Overall	0	0 to +	-	--

The selection of the best option results from a comparison between the potential safety benefit against the associated costs and social impact for impacted stakeholders.

**Option 0 (do nothing)** is neutral. It satisfies to some extent the intention of the Basic Regulation, but does not ensure harmonisation across the Member States. However, there is no data to prove that the current system is inadequate and contributes negatively to rescue operations.

**Option 1 (provide guidance)** provides an overall positive safety impact without the need to change the current national regulations or policies, allowing aerodrome operators to focus on areas not covered by the national regulation or policies.

**Option 2 (flexible approach)** establishes minimum medical and physical fitness requirements for rescue and firefighting personnel. It provides some flexibility to the Member States as to how to comply with these requirements; however, it may entail some economic and social impacts that override the potential safety benefits.

**Option 3 (Full harmonisation)** achieves full harmonisation and raises the confidence in the response of rescue and firefighting personnel; however, the cost for the implementation and the social impact will be disproportionate with the safety benefit.

**Option 1** is the preferred option.

*Question to stakeholders*

*Stakeholders are also invited to provide any other quantitative information they may find necessary to bring to the attention of EASA.*

*As a result, the relevant parts of the RIA might be adjusted on a case-by-case basis.*

#### 4.7. Monitoring and evaluation

Monitoring is a continuous and systematic process of data collection and analysis about the implementation/application of a rule/activity. It generates factual information for future possible evaluations and impact assessments and helps identifying actual implementation problems. With respect to this proposal, EASA would suggest to monitor:



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What to monitor	How to monitor	Who should monitor	How often to monitor
Application of medical requirements by aerodrome operators	Through standardisation inspections	EASA	On a recurrent basis



## 5. Proposed actions to support implementation

- Focused communication during advisory body meeting(s) (TeB, TeC)  
*(Advisory body members)*
- Dedicated thematic workshop/session  
*(Industry, competent authorities)*



## 6. References

### 6.1. Related regulations

- Commission Regulation (EU) No 139/2014 of 12 February 2014 laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council

### 6.2. Affected decisions

- Decision 2014/012/R of the Executive Director of the Agency of 27 February 2014 adopting Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014 'AMC/GM for Aerodromes – Initial Issue'

### 6.3. Other reference documents

- ICAO Doc 9137 'Airport Services Manual Part 1 – Rescue and Firefighting' Fourth Edition, 2015

