



**Health Screening, Medical Surveillance Work Capacity Testing for Veld and Forest Fire Fighting in the Western Cape**

**Guideline: For implementation after adoption**



## **1. Purpose:**

- a) Set the parameters of medical surveillance and screening for veld and forest fire fighters in the Western Cape
- b) Define the physical work capacity standards for Veld and Forest fire Fighters in the Western Cape
- c) Outline the guidelines, procedures and forms for management to implement the standards.

## **2. Background:**

The Occupational Health and Safety Act (Act No. 85 of 1993), as amended, obligates the employer to provide a Health Programme for its employees, which should be aligned with the core organizational operational activities which present the most significant risks to its employees during the course and scope of fulfilling their duties.

Taking into consideration the fact that without medical surveillance, the merits of any claims by employees (even after having left an organization) cannot be determined, and if necessary defended without this medical information.

Furthermore, particularly in conservation departments and forestry companies more senior staff may have pre-existing medical conditions and when injured during the course of their work activities, ascribe this to an Injury on Duty, whereas the injury may well be escalation of an existing medical condition. Every compensation claim for a disabling injury has a cost which is ultimately carried by the various organizations and the more claims submitted, the higher our risk rating factor as determined by the Compensation Fund, as also affecting our merit rebate which we receive every 3 years (similar to a no-claims bonus) for good claims management.

Considering the daily work environment of field staff in particular, there are considerable risks to individuals as well as any organization should individuals with medical conditions or physically unfit people enter the rugged terrain that veld and forest Fire Fighters work in.

Thus conservation organizations, forestry companies and other organizations involved with veld fire suppression have little choice but to



develop fitness standards, work capacity test and medical pre-screening and surveillance.

### 3. Scope:

This programme is applicable to all firefighters, fire officers, contract staff, Extended Public Works Programme staff, Students Volunteers, firefighting contractors, conservation staff, FPA staff, Forestry staff, private land owners and any new recruits in any one of the above mentioned fields.

### 4. Work Capacity Testing: (Fitness)

Studies of wildland firefighting clearly show the link between fitness and work performance. Fit workers can do more work with less fatigue and still have a reserve to meet unforeseen emergencies. It better protects the firefighter's personal safety and health as well as the safety of co-workers. It also improves the firefighting operation and function.

Fit fire fighters perform better in a hot environment and recover faster from adverse conditions, such as long shifts and reduced rest. In short, fitness is the most important factor in work capacity.

Work capacity tests are used to ensure that persons assigned to activities are physically capable of performing the duties in field.

Currently, besides the Working on Fire fitness standards, for individuals who are not full time fire fighters, there are no obtainable standards within the veld and forest fire fraternity in South Africa .

The South Africa Incident Management System Veld, Forest and Prescribed Fire Qualification System Guide, prescribes what levels of fitness are required for each level of an Incident Command Structure. In addition in 2013 the provincial fire work group approved the ground team standards which included fitness levels of teams based on the US Forestry department's categorization of fitness. There is but little choice but to adhere to these standards.

**Table 1: ICS South Africa Fitness standards:**

<b>Position</b>	<b>Standard</b>
Incident Commander type 3	Moderate
Incident Commander type 4	Arduous
Incident Commander type 5	Arduous



Safety Officer	Moderate
Public Information Officer	Light
Operations section chief	Moderate
Division/group supervisor	Arduous
Staging area manager	Light
Helicopter Safety Leader	Moderate
Crew Boss	Arduous
Bakkie Sakkie Boss	Arduous
Fire fighter	Arduous
Planning Section Chief	Light
Finance and administrations Section chief	Light
Fire investigator	Light

## 5. Work capacity Test (fitness test or Pack test)

The testing method should be a measurable evaluation process. The United States of America has utilized a work capacity test for several years as a measure to evaluate firefighter physical fitness. The "pack test" is intentionally stressful and is a good indicator of aerobic capacity, muscular strength and muscular endurance. The test rates workers according to the duties they perform.

Beginning in 1975, in the United States Federal agencies used a 5-minute step test and an alternative 1.5-mile run to screen candidates for wildland firefighting and task related to arduous work. In 1994, the Missoula Technology and Development Centre (MTDC) began reviewing alternative ways of testing work capacity. The centre conducted a comprehensive job task analysis and extensive laboratory and field studies of proposed tests. The result is a family of job-related field tests to determine a worker's capacity to meet the requirements of forestry services field workers.

Tests were developed for workers with arduous, moderate, or light duties.

### 5.1. Arduous.

Duties involve fieldwork requiring physical performance calling for above-average endurance and superior conditioning. These duties may include an occasional demand for extraordinarily strenuous activities in emergencies under adverse environmental conditions and over extended periods of time. Requirements include running, walking, climbing, jumping, twisting, bending and lifting more than 22 kilograms; the pace of work typically is set by the emergency situation. The pack test is a job-related test of the capacity for arduous work. The passing score for the test approximates an



aerobic fitness score of 45, the established standard for wildland firefighters. The energy cost of the test is similar to the energy cost demanded on the job. The test is correlated to measures of performance in field tasks such as working with hand tools or carrying loads over rough terrain and with measures of aerobic and muscular fitness. The test's length ensures that successful participants will have the capacity to perform prolonged arduous work under adverse conditions, with a reserve to meet emergencies.

### **5.2. Moderate**

Duties involve field work requiring complete control of all physical faculties and may include considerable walking over irregular ground, standing for long periods, lifting 11- 22 kilograms, climbing, bending, stooping, squatting, twisting, and reaching. Occasional demands may be required for moderately strenuous activities in emergencies over long periods. Individuals usually set their own work pace. The field test is a job-related test of work capacity designed for those with moderately strenuous duties. The passing score for the test approximates an aerobic fitness score of 40.

### **5.3. Light.**

Duties mainly involve office type work with occasional field activity characterized by light physical exertion requiring basic good health. Activities may include climbing stairs, standing, operating a vehicle and long hours of work, as well as some bending, stooping or light lifting. Individuals can usually govern the extent and pace of their physical activity. The walk test is designed to determine the ability to carry out light duties. The passing score for the test ensures the ability to meet emergencies and evacuate to a safety zone. The instructions for the pack test also apply to the field and walk tests. Test requirements for a given position may change.

### **5.4. None Required.**

Positions designated for people with disabilities

## **6. Integrating Fitness Levels Required For Fire Suppression into Existing Posts**

Positions within an organization can be classified according to the role they usually play at wildfires. Thus the risk they carry is related to the position they will normally fill within an incident using the Incident command system and is directly related to fitness.

The table below is an example or guideline that can be used when determining work capacity testing standards, within an organization, if



there are specific posts that require specific detail. This is to be incorporated into the employee's contract of employment.

**Table 2: Example of Cape Nature Organizational fitness levels:**

<b>Organization Position</b>	<b>Fire/IC Positions</b>	<b>Occupational Category</b>	<b>Fitness Category</b>	<b>Risk Category</b>
Conservation Assistants(including FTE operators)	Fire fighter Crew leader	Labourer and related worker	Arduous	Risk
Field Ranger and Snr Field ranger	Fire fighter Crew leader, Division chief IC up to Type 4	Service Worker	Arduous	Risk
Quality Controller	Fire fighter Crew leader,	Skilled Agricultural & Fishery Workers	Arduous	Risk
Nature Conservators	Fire fighter Crew leader, Division chief IC up to Type 3	Technicians & Associate Professionals	Arduous	Risk

Conservation Services Officer	Fire fighter Crew leader, Division chief IC up to Type 3	Technicians & Associate Professionals	Moderate	Risk
Project Managers	Fire fighter Crew leader, Division chief IC up to Type 4	Technicians & Associate Professionals	Moderate	Risk
Ecological co-ordinator	Fire fighter Crew leader, Division chief IC up to Type 3	Professional	Moderate	Risk
Conservation-Services manager	Crew leader, Division chief IC up to Type 3	Manager	Moderate	Risk



Conservation- Manager	Crew leader, Division chief IC up to Type 2	Manager	Moderate	Risk
Area manager	Division chief IC up to Type 2	Manager	Moderate	Risk
Catchment Managers	Any and all positions	Manager	Moderate	Risk

## 7. Health Screening and Surveillance:

Individuals are responsible for their physical condition and their health. No amount of health screening or medical examination can ensure an individual's safety during a work capacity test or during their required duties. Individuals who are uncertain about the condition of their health, have been inactive, or are seriously under or overweight, should consult their personal physician before beginning training, taking a work capacity test, or engaging in field duties that are arduous or in firefighting duties.

Before, taking the test, training for the test or assuming the duties of the job, an individual must first complete a health screening questionnaire (or medical history) Appendix B 1 and 2. Once individuals have received medical clearance, they may begin training for the work capacity test or take the test.

Those who have been regularly active may begin training (appendix E) as soon as they receive medical clearance.

Managers recruiting or administering tests are required to ensure that a candidate has received medical clearance before the candidate takes the work capacity test.

Individuals applying for posts that require a fitness level above light fitness standards will be excluded from any further process should they have any of the conditions as per each organizations recruitment standards **Appendix A is a basic guideline as to exclusions used in the US Forestry Service, this will be adapted for use in the Western Cape.**

Each current and prospective employee will complete a health screening questionnaire (or medical history) **(Appendix B1 and B2)**. The questionnaire and medical history contain confidential information and



must be handled accordingly and filed in the individual's confidential personnel folder.

Should any individual not pass the medical screening test they will be required to do a full medical examination (**Appendix C**).

## **7.1. Completing the Health Screening Questionnaire and Full Medical Examination**

### **7.1.1. Completing the Health Screening Questionnaire (Appendix B)**

The responsible supervisor or recruiting officer must explain in writing or verbally the purpose of the medical screening and surveillance as well as fitness standards.

#### **Prospective employees:**

- The health screening questionnaire must be filled in by the applicant and submitted with their CV.

#### **Current Employees:**

- For posts classified as light: Medical screening must be completed during annual performance appraisals or prior to the work capacity test.
- For Posts requiring moderate or arduous fitness levels medical screening must be completed 3 weeks prior to the work capacity tests, full medical examinations must be completed 2 weeks prior to the work capacity tests

#### **Instructions:**

**Complete sections A and B of the health screening questionnaire (HSQ). Mark all true statements and provide the information requested.**

#### **To accurately assess your health risk:**

- In section A, list the prescription medications you currently take.
- In section B, in order to determine if you are more than 10 kilograms overweight, consult the body mass index (BMI) chart following the HSQ APP B1. If your height and weight yield a BMI score above 25, you are more than 10 kilograms overweight.
- If you check one or more boxes in section A, or two or more in section B, you are required to have a full medical examination **before** you participate in training or take the work capacity test.

## **7.2. Medical Examination:**





- Instructions will be provided to the examining physician including a description of work (**Appendix D**) and Full Medical Examination Form( **Appendix C**)
- When the physician cannot clear an individual for testing and field work, the individual has the right to seek an outside medical opinion that might clarify a medical condition.

## 8. Frequency of Medial Surveillance and Work Capacity Testing:

### 8.1. Health Screening:

Health screening must be completed before any work capacity testing is done annually 3 weeks prior to the pack test. For prospective employees medical screening must be done prior to work capacity testing.

### 8.2. Work Capacity tests:

All new recruits will pass work capacity test as part of the recruitment process

Work Capacity tests are generally effective for **one year** after the employee passed the test. All staff will complete their tests in August prior to the CapeNature Pre Fire Season Audits. Medical surveillance occurs should a person not pass the health screening.

## 9. Administering the Work Capacity Test

### 9.1. Work Capacity Test Standards

Work category	Test	Distance km	Pack Weight (KG)	Time
<b>Arduous</b>	Pack	4.8	20 kg	45 minutes
<b>Moderate</b>	Field	3.2	11 kg	30 minutes
<b>Light</b>	Walk	1.6	0	16 minutes

#### **WARNING:**

Individuals who have not been involved in regular physical activity are at an elevated risk for cardiovascular complications during exertion. They should not begin training for a work capacity test until they have participated in a gradual transition from inactivity to regular physical activity. Previously sedentary individuals should engage in 4 or more weeks of moderate activity (walking 30 to 60 minutes, 3 to 5 days per week) before they begin more vigorous training for test or the job. Training for the Work capacity test Appendix: E



## 9.2. Safety

For safe and accurate test administration, the test administrator must become familiar with these instructions that apply to the pack, field, and walk tests.

- A job hazard analysis and an emergency medical evacuation plan (Appendix F) must be prepared for the course. These must be updated annually.
- Test administrators must be familiar with the job hazard analysis and the medical emergency plan.
- A trained and qualified first aider must be onsite during the test.
- Avoid conducting the test on roads and intersections where traffic is a concern. When testing on roads use traffic-control devices and have persons wearing high-visibility vests control traffic as needed.
- Require candidates to read and sign the health screening questionnaire (or medical history) and an informed consent form (if applicable). (Appendix F)
- Check to see that candidates are wearing footwear suitable for athletic activity or hiking—footwear with ankle support is recommended for the pack and field tests.
- Encourage participants to stretch and warm up adequately before the test.
- Do not test anyone who is tired or has been injured.
- Do not conduct tests during conditions that could compromise health or safety.
- Monitor participants to identify those having difficulties. Terminate their test, if necessary.
- At the midpoint, consider terminating candidates who are substantially behind the required pace (22.5 minutes for the pack test, 15 minutes for the field test, 8 minutes for the walk test) and those who are having difficulty maintaining the pace.
- Participants cannot jog or run to make up time.
- Encourage fluid intake and replacement. Provide fluids along the route when conditions contribute to heat stress.
- Encourage cooling down with an easy walk after the test. Monitor the recovery of participants, especially those who appear distressed.
- Recommend several weeks of training before participants retake the test.



### **9.3. Test Personnel**

The number of individuals needed to administer the test will depend on the course layout, testing conditions, and the number of candidates being tested. In some cases, the person will fill multiple roles (administrator, timer, first aid specialist, course monitor). All persons involved in the test must understand the instructions and safety considerations, as well as their individual roles and responsibilities. A briefing for everyone involved is recommended before the test. The following personnel may be needed for safe and effective testing.

#### Test Administrator

The person in charge of administration at the test site must understand test procedures, the job hazard analysis, and the local emergency medical and evacuation plan.

#### **First Aider**

A qualified level 3 first aider (or someone with equivalent qualifications) will be onsite to observe candidates during and after the test, and to provide emergency medical assistance, if it is needed.

#### **Course Monitor**

The test administrator will determine the number of persons needed to monitor participants during the test.

#### **Lap Counter**

The person who records the laps completed by each candidate (if needed).

#### **Timer**

Someone who keeps the time during the test.

Two persons may be able to administer the test for small groups of candidates. For larger groups, or when the course is difficult to monitor, three or more persons will be needed.

### **9.4. The Course**

- The course must be essentially level, have a firm, relatively smooth walking surface, and allow access for emergency vehicles.



- The course length must be accurate, so use a measuring wheel or a calibrated bicycle computer to measure double check distances. **Vehicle odometers are not accurate enough.**
- Loop or out-and-back courses are preferable. Try to avoid one way courses.
- A moderate grade (2 to 3 percent) is acceptable if the course starts and finishes at the same place.
- Have lap counters available for courses that will require more than one lap.
- Use course monitors when needed.
- Participants must be informed of the course layout (use a map or sketch of the course).
- Use distance markers to help candidates pace themselves.
- Use hazard and traffic markers as needed.

#### **9.5. Equipment**

- Packs—use a comfortable, well-fitted pack, with sandbags, water, or other materials to achieve the required weight. The test administrator must ensure the correct weight of the pack.
- Safety vests—as needed.
- Route markers—as needed.
- Distance markers—use mile and midpoint markers to help participants maintain the proper pace.
- Stop watches—have two watches to provide backup timing.
- Vehicles—bicycle, all-terrain vehicle, or other vehicle to monitor participants on the course.
- Radios—use radios and cell phones for monitoring and safety.
- Scale—an accurate, hanging-style spring scale is recommended for weighing packs.

#### **9.6. Testing Tips**

- Weigh packs before and after the test a group start but discourage competition.
- Use colour coded numbers on packs to differentiate between the various tests.
- Group or stagger starts. Some participants will benefit from the support provided.

#### **9.7. Environmental Conditions**

- Administer the test during moderate environmental conditions.
- Do not test new recruits when the temperature is high or when the temperature and humidity combine to create high heats tress conditions.



- If necessary, test early in the day to avoid combinations of high temperature and high humidity.
- Avoid high winds that may affect performance.

#### 9.8. Hydration

- Encourage participants to drink fluids before the test and provide fluid replacement at the midpoint of the course.
- Participants must carry a water bottle.

#### 9.9. Forms

- A health screening questionnaire (appendix B), or an medical history form (Appendix C)
- Informed consent form (Appendix F). To be signed before the test.
- A data collection form (appendix G).

### 10. Providing Instructions To Candidates:

Distribute work capacity testing information and the health screening questionnaire (Appendix B) well before the test date. Managers are to fill in the health screening questionnaire with the candidates or employees as far as possible. Applicants for jobs must submit their Medical screening questionnaire with their CV when applying for a post.

All candidates must sign the medical screening questionnaire indicating that they have completed it truthfully.

Prior to taking the test all candidates must sign the informed consent form. ( Appendix F)

**Clothing**—Recommend to the participants that they choose footwear that provides ankle support, such as hiking boots or ankle-high sport shoes. Wearing T-shirts and shorts is acceptable.

**Safety**—Brief participants on the test, the course, and safety considerations. Tell them they are **free to stop at any time for any reason**, and that they should seek help if they experience physical problems.

**Warmup**—Encourage candidates to stretch (calves, lower back, hamstrings) and to warm up adequately before the test.

**Pace**—Show participants how they should hike the course at a fast pace, without jogging. The heel of one foot must make contact before the



opposite toe leaves the ground. Jogging or running will result in disqualification. Discourage competition.

**Accommodations**—Inform participants that a walking staff may be used.

**Hydration**—Encourage participants to drink 1 to 2 cups of water before the test. Participants may carry a water bottle, but the extra weight is not counted as part of the pack weight.

**Script**—Read the instruction script (appendix H) to ensure that participants are informed about the test, the course, safety, and other site-specific information.

## 11. Essentials of Good Testing

- An accurately measured flat course with a good surface.
- Packs of the proper weight. Verify pack weight with a calibrated scale.
- Participants are responsible for ensuring their packs are properly adjusted before the test begins.
- Accurate timing that is verified by backup timing. Give split times along the course
- Participants should be rested and well informed about the course and the need to maintain a pace that will allow them to complete the test successfully.
- Favourable environmental conditions. Avoid adverse conditions.
- A completed health screening questionnaire (or medical history) and medical exam (if indicated) and a signed informed consent form (if applicable).
- When completed, these forms are considered confidential records that must be safeguarded from unauthorized access or release.
- Follow agency policy for handling these forms.

## 12. The Carding system for Firefighting:

Progress is currently under way in the provincial fire Work group to develop a carding system that all fire management staff is signed off before fire season in terms of:

- Fitness
- Training
- PPE
- Suitable deployment position.



Once this is completed at provincial level it will be included in this document.

### **13. Appendices:**

**Appendix A: Medical Standards For Arduous Work Candidates**

**Appendix B: Health Screening Questionnaire (HSQ)**

**Appendix B 1: Body Mass Index Calculator**

**Appendix C: Full Medical Examination Form**

**Appendix D: Instructions to Medical Physician**

**Appendix E: Training For Work Capacity Test**

**Appendix F: Informed Consent Form**

**Appendix G: Work Capacity Test Data Sheet**

**Appendix H: Test Script**

**Appendix I: Flow Chart for Testing**

**Appendix J: Job hazard Assessment**

### **14. References:**

- i. South African ICS Working Team. (2009) South Africa Incident Management System Veld, Forest and Prescribed Fire Qualification System Guide. Unpublished report
- ii. Whitlock, Chuck; Sharkey, Brian. 2003. Work capacity test: Administrator's guide. NWCG PMS 307 NFES 1109. Boise, ID: National Wildfire Coordinating Group, National Interagency Fire Center.
- iii. Federal\_Interagency\_Wildland\_Firefighter\_Medical\_Standards\_Job\_A id\_20091014\_v1\_: Federal Interagency Wildland Firefighter Medical Standards: Arduous Duty Wildland Fire fighter.
- iv. Ground crew Standards and typing Provincial government of the Western Cape: Veld Fire Ground Operations Work Group.

### **Appendix A:**



## MEDICAL STANDARDS FOR ARDUOUS DUTY WORK CATEGORIES

In the United States of America the Federal Interagency Wildland Firefighter Medical Standards establish the levels of minimum medical fitness for arduous duty that the agencies have determined to be necessary for safe and efficient job performance based on **5 CFR Part 339 Medical Qualifications Determinations**. These medical standards demonstrate the interagency fire community's strong commitment to public and employee health and safety, while maintaining mission integrity.

The **Essential Functions and Work Conditions of a Wildland Firefighter** are identified on page 2. They are the basis for the interagency wildland firefighter medical standards and quantify the expectation that the firefighter can perform the full range of duties at any time and at any place, maintaining continuity of operations at all times.

Medical examinations are required for arduous duty wildland firefighters. Each of the medical standards listed in this document are subject to clinical interpretation by a designated physician. Listed with the standards are examples of medical conditions and/or physical impairments that may be found to be disqualifying. Assessments will be made on a case-by-case basis to determine the individual's ability to meet the medical standards.

### **PSYCHIATRIC STANDARD**

*The PSYCHIATRIC standard relates (A) the firefighter's need for judgment, mental functioning, and social/behaviour skills with (B) the essential functions and work conditions of a wildland firefighter, including working on small and large teams, flying in helicopters and fixed wing aircraft, and rapid pull out to safety zones under conditions that may include isolated or remote sites, snakes, close quarters with large numbers of other workers, limited and disrupted sleep, and long work hours. Some psychiatric conditions, including those listed in the standards, may not be compatible with safe and efficient performance of wildland firefighter duties under these conditions.*





The applicant/incumbent must have judgment, mental functioning, and social interaction/behaviour that will provide for the safe and efficient conduct of the requirements of the job. This may be demonstrated by:

- No evidence by physical examination and medical history of psychiatric conditions (including alcohol or substance abuse) likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 4).

**CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:**

(All diagnoses must be consistent with the diagnostic criteria as established by the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, DSM-IV.)

1. **AMNESTIC** disorders
2. **DELIRIUM** (depending upon etiology and duration)
3. **DEMENTIAS** (depending upon etiology)
4. **DISSOCIATIVE DISORDERS**
5. **KLEPTOMANIA**
6. **PANIC DISORDER** and **OTHER ANXIETY DISORDERS** (depending upon etiology, duration and severity of clinical expression)
7. **PYROMANIA**
8. **SCHIZOPHRENIA** (Exceptions may be in cases of a single episode of schizophrenic reactions associated with an acute illness capable of causing such reaction.)
9. **ANTISOCIAL PERSONALITY DISORDER**
10. **PARANOID PERSONALITY DISORDER**
11. **SCHIZOID PERSONALITY DISORDER**
12. **ORGANIC BRAIN SYNDROME**



13. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-case basis.

### **PROSTHETICS, TRANSPLANTS, AND IMPLANTS STANDARD**

*The PROSTHETICS, TRANSPLANTS, AND IMPLANTS standard relates (A) the firefighter's need to work safely and efficiently despite medical conditions that have led to the need for a prosthesis, transplant or implant with (B) the essential functions and work conditions of a wildland firefighter, including using shovels or other hand tools to construct fire lines, using personal protective equipment, engaging in arduous exertion, carrying heavy loads, walking and climbing, kneeling and stooping, and pulling out rapidly to safety zones, and doing so under conditions that may include very steep terrain, rocky, loose or muddy surfaces, wet leaves and grasses, isolated and remote sites, and very long assignments. For individuals with transplants, prosthetics, or implanted pumps or electrical devices, the examinee will have to provide **for agency review** documentation from his/her surgeon or physician that the individual (and, if applicable, his/her prosthetic or implanted device) is considered to be fully cleared for the specified functional requirements of wildland firefighting.*

The presence or history of organ transplantation or uses of prosthetics or implants are not of themselves disqualifying. However, the applicant/incumbent must be able to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- No evidence by physical examination and medical history that the transplant, the prosthesis, the implant, or the conditions that led to the need for these treatments are likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 2).



Note: For individuals with transplants, prosthetics, or implanted pumps or electrical devices, the examinee will have to provide **for agency review** documentation from his/her surgeon or physician that the individual (and, if applicable, his/her prosthetic or implanted device) is considered to be fully cleared for the specified functional requirements of wildland firefighting.

### **IMMUNE SYSTEM/ALLERGIC DISORDERS STANDARD**

*The IMMUNE SYTEM/ALLERGIC DISORDERS standard relates (A) the firefighter's need to be free of infectious disease, immune system, or allergy conditions likely to present a safety risk to self or others with (B) the essential functions and work conditions of a wildland firefighter, including arduous exertion, driving or riding for many hours, and providing rescue or evacuation assistance under conditions that may include isolated or remote sites, allergens, close quarters with large numbers of other workers, and long assignments. Some immune system/allergic conditions, including those listed in the standards, may not be compatible with safe and efficient performance of wildland firefighter duties under these conditions.*

The applicant/incumbent must be free of communicable diseases, have a healthy immune system, and be free of significant allergic conditions in order to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A general physical exam of all major body systems that is within the range of normal variation, including:
  - no evidence of current communicable disease that would be expected to interfere with the safe and effective performance of the requirements of the job; and
  - no evidence of current communicable disease that would be expected to pose a threat to the health of any co-workers or the public; and
- Normal complete blood count, including white blood count and differential; and
- Current vaccination status for tetanus; and



- No evidence by physical examination and medical history of infectious disease, immune system, or allergy conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 2).

**CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:**

1. **HEREDITARY ANGIOEDEMA**
2. **GOODPASTURE'S SYNDROME**
3. **AUTOIMMUNE HEMOLYTIC ANEMIA**
4. **VASCULITIS**
5. **HASHIMOTO'S THYROIDITIS**
6. **MYASTHENIA GRAVIS**
7. **SYSTEMIC LUPUS ERYTHEMATOSUS**
8. **CHRONIC OR ACUTE ACTIVE HEPATITIS B OR HEPATITIS C** A finding of unexplained elevated liver transaminases may require additional diagnostic studies before a final medical recommendation is rendered.
9. **TUBERCULOSIS** A history of TB that has been appropriately treated for longer than 6 months is not disqualifying, provided that documentation supports the treatment history and the person has a current chest x-ray showing no active disease. A person with a positive PPD or Mantoux skin test will be required to have a chest X-ray and, if indicated, a sputum culture.
10. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-case basis.

## **MEDICATION STANDARD**



*The MEDICATION standard relates (A) the firefighter's need for full physical and mental function and attention and a low risk of sudden or subtle incapacitation with (B) the essential functions and work conditions of a wildland firefighter under conditions that may include open holes and drop offs, isolated and remote sites, irregular meals, dehydration, and long work assignments. Some medications may not be compatible with safe and efficient performance of wildland firefighter duties under these conditions.*

The need for and use of prescribed or over-the-counter medications are not of themselves disqualifying. However, there must be no evidence by physical examination, laboratory tests, or medical history of any impairment of body function or mental function and attention due to medications that are likely to present a safety risk or to worsen as a result of carrying out the specified functional requirements. Each of the following points should be considered:

1. Medication(s) (type and dosage requirements)
2. Potential drug side effects
3. Drug-drug interactions
4. Adverse drug reactions
5. Drug toxicity or medical complications from long-term use
6. Drug-environmental interactions
7. Drug-food interactions
8. History of patient compliance

### **VISION STANDARD**

*The VISION standard relates (A) the firefighter's need to be able to see (including binocular vision, visual acuity, depth perception, peripheral vision, and color vision) with (B) the essential functions and work conditions of a wildland firefighter, including driving, walking, climbing, constructing fire lines, and rapid pull out to safety zones under conditions that may include very steep terrain, rocky, loose or muddy ground surfaces, open holes or drop offs, and dim light or darkness. The limit for uncorrected far vision is set at 20/100 binocular, consistent with the National Fire Protection Association's Standard on Medical Requirements for Fire Fighters (NFPA 1582, 1997 Edition), and with a field assessment by the medical standards team in which different levels of*



*acuity were considered in an operational setting related to the need for rapid or emergency movement under the conditions noted above. Long-term users of soft contact lenses are not subject to the uncorrected far vision standard. Corrected far vision is set at 20/40, and the colour vision requirement is for red/green/amber (yellow), consistent with Department of Transportation regulations for commercial driving and the need for safe and efficient function under expected firefighting conditions. Peripheral vision is set as 85° laterally, which is generally considered to be normal. Some vision conditions, including those listed in the standards, may not be compatible with safe and efficient performance of wildland firefighter duties under these conditions.*

The applicant/incumbent must be able to see well enough to safely and efficiently carry out the requirements of the job. This requires binocular vision, far visual acuity, depth perception, peripheral vision, and colour vision, which may be demonstrated by:

- Far visual acuity uncorrected of at least 20/100 in each eye for wearers of hard contacts or spectacles; and
- Far visual acuity of at least 20/40 in each eye corrected (if necessary) with contact lenses or spectacles; and
- Colour vision sufficient to distinguish at least red, green, and amber (yellow); and
- Peripheral vision of at least 85° laterally in each eye; and
- Normal depth perception; and
- No ophthalmologic condition that would increase ophthalmic sensitivity to bright light, fumes, or airborne particulates, or susceptibility to sudden incapacitation.

Note: Contact lenses and spectacles are acceptable for correction of visual acuity, but the user must be able to demonstrate that the corrective device(s) can be worn safely and for extended periods of time without significant maintenance, as well as being worn with any necessary personal protective equipment. Successful users of long-wear soft contact lenses are not required to meet the “uncorrected” vision guideline.

**CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:**



1. **CHRONIC CONJUNCTIVITIS**
2. **CORNEAL ULCERS** This condition must be treated and cleared by an Ophthalmologist before a medical clearance can be granted.
3. **RETINAL DETACHMENT**
4. **NIGHT BLINDNESS**
5. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

### **HEAD, NOSE, MOUTH, THROAT AND NECK STANDARD**

*The HEAD, NOSE, MOUTH, THROAT AND NECK standard relates (A) the firefighter's need to be able to move the head without restriction, breath freely, wear personal protective equipment, and communicate clearly with (B) the essential functions and work conditions of a wildland firefighter, including working on small and large teams, flying in helicopters and fixed wing aircraft, and fighting fire under conditions that may include high (and changing) altitudes, allergens, varied climates, and isolated and remote sites. Some head, nose, mouth, throat, and neck conditions, including those listed in the standards, may not be compatible with safe and efficient performance of wildland firefighter duties under these conditions*

The applicant/incumbent must have structures and functions of the head, nose, mouth, throat, and neck that are sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A physical exam of the head, nose, mouth, throat, and neck that is within the range of normal variation, including:
  - normal flexion, extension, and rotation of the neck; and
  - open nasal and oral airways; and
  - unobstructed Eustachian tubes; and
  - no structural abnormalities that would prevent the normal use of a hard hat and protective eyewear; and
- Normal conversational speech; and



- No evidence by physical examination and medical history of head, nose, mouth, throat, or neck conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 2).

**CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:**

1. **MUTISM/APHONIA**
2. **NASAL POLYPS THAT SIGNIFICANTLY OBSTRUCT BREATHING**
3. **RESTRICTED RANGE OF MOTION IN THE NECK**
4. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-case basis.

**HEARING STANDARD**

*The HEARING standard relates (A) the firefighter's need to hear verbal communications and both natural and manmade warning sounds with (B) the essential functions and work conditions of a wildland firefighter, including working on small and large teams, driving, rapid pull out to safety zones, and providing rescue or evacuation assistance under conditions that may include isolated and remote sites, falling rocks and trees, trucks and other large equipment. The hearing standard is set at an average threshold of no greater than 40 dB at 500, 1000, 2000, and 3,000 Hz in each ear, consistent with the DOT regulations for commercial drivers. This level is more lenient than that allowed by the NPFA 1582 standards (30 dB average threshold at these frequencies), or what is considered to be "normal" hearing (25 dB), but is felt to provide a reasonable hearing threshold level where louder than normal communications may be expected. Hearing aides are not permitted in meeting this standard, due both to the limitation in directional hearing afforded by hearing aids, and to the risk of dislodging of a hearing aid during critical or emergency periods when hearing must be acute. Some ear and hearing conditions, including those listed in the standards, may not be*





*compatible with safe and efficient performance of wildland firefighter duties under these conditions.*

The applicant/incumbent must be able to hear well enough to safely and efficiently carry out the requirements of the job. This requires binaural hearing (to localize sounds) and auditory acuity, which may be demonstrated by:

- A current pure tone, air conduction audiogram, using equipment and a test setting which meet the standards of the American National Standards Institute (see 29 CFR 1910.95); and
- Documentation of hearing thresholds of no greater than 40 dB at 500, 1000, 2000, and 3000 Hertz in each ear; and
- No evidence by physical examination and medical history of ear conditions (external, middle, or internal) likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job.

Note: The use of a hearing aid(s) to meet this standard is **not** permitted.

**CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:**

1. **MENIERE'S DISEASE**
2. **ACOUSTIC NEUROMA**
3. **OTOSCLEROSIS**
4. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-case basis.

**DERMATOLOGY STANDARD**

*The DERMATOLOGY standard relates (A) the firefighter's need for intact and healthy skin with (B) the essential functions and work conditions of a wildland firefighter, including use of personal protective equipment, extensive walking and climbing, under conditions that may include highly variable climates, extreme ultraviolet light exposure, extreme heat, allergens, and isolated or remote sites. Some dermatologic conditions, including those listed in the standards, may not be compatible with safe and efficient performance of wildland firefighter duties under these conditions.*



The applicant/incumbent must have skin that is sufficient for the individual to safely and efficiently carry out the requirements of the function. This may be demonstrated by:

- A physical exam of the skin that is within the range of normal variation; and
- No evidence by physical examination and medical history of dermatologic conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 2).

**CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:**

1. **ALBINISM**
2. **KAPOSI'S SARCOMA**
3. **CHRONIC DERMATITIS**
4. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

**VASCULAR SYSTEM STANDARD**

*The VASCULAR SYSTEM standard relates (A) the firefighter's need for a healthy vascular system (including a lack of phlebitis, thrombosis, venous stasis, or arterial insufficiency) with (B) the essential functions and work conditions of a wildland firefighter, including arduous exertion, driving or riding for extensive periods, flying in helicopters and fixed wing aircraft, and extensive walking and climbing under conditions that may include isolated or remote sites, and long work assignments. Some vascular conditions, including those listed in the standards, may not be compatible with safe and efficient performance of wildland firefighter duties under these conditions.*

The applicant/incumbent must have a vascular system that is sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A physical exam of the vasculature of the upper and lower extremities that is within the range of normal variation, including:



- no evidence of phlebitis or thrombosis; and
- no evidence of venous stasis; and
- no evidence of arterial insufficiency; and
- No evidence by physical examination and medical history of peripheral vasculature conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 2).

**CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:**

1. **CHRONIC VENOUS INSUFFICIENCY**
2. **DEEP VEIN THROMBOSIS**
3. **CHRONIC THROMBOPHLEBITIS**
4. **INTERMITTENT CLAUDICATION**
5. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-case basis.

**CARDIAC STANDARD**

*The CARDIAC standard relates (A) the firefighter's need for a healthy cardiovascular system and a low risk of sudden or subtle incapacitation with (B) the essential functions and work conditions of a wildland firefighter, including arduous exertion, lifting and carrying heavy loads, extensive walking and climbing, and rapid pull out to safety zones under conditions that may include very steep terrain, isolated and remote sites, extreme heat, dehydration, and long work assignments. Some cardiac conditions, including those listed in the standards, may not be compatible with safe and efficient performance of wildland firefighter duties under these conditions. The standard for blood pressure was set at 140/90 or below (with or without medication). Above this level is considered to be hypertension (high blood pressure), a condition associated with increasing risk of cardiovascular morbidity and mortality.*



The applicant/incumbent must have a cardiovascular system that is sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A physical exam of the cardiovascular system that is within the range of normal variation, including:
  - blood pressure of less than or equal to 140 mmHg systolic and 90 mmHg diastolic; and
  - a normal baseline electrocardiogram (minor, asymptomatic arrhythmias may be acceptable); and
  - no pitting oedema in the lower extremities, and
  - Normal cardiac exam.
- No evidence by physical examination and medical history of cardiovascular conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 2).

**CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:**

1. **PACEMAKERS or PROSTHETIC VALVES** may be disqualifying. Documentation from the individual's cardiologist, stating that the individual is stable and can safely carry out the specified requirements of the function, under the specified conditions, will be necessary before a clearance can be granted.
2. **CORONARY ARTERY DISEASE** A successful completion of an exercise stress test, or documentation from the individual's cardiologist acknowledging the requirements of the function and the work conditions, may allow a clearance despite this diagnosis.
3. **HYPERTENSION** that cannot be controlled to a level of 140/90 or less, or requires the use of any medication that affects the ability of the individual to safely and effectively carry out the requirements of the function, may be disqualifying.
4. **LEFT BUNDLE BRANCH BLOCK.**
5. **MYOCARDITIS/ ENDOCARDITIS/ PERICARDITIS** (Active or recently resolved cases).
6. History of **MYOCARDIAL INFARCTION.** Documentation from the individual's cardiologist, stating that the individual is stable and can safely carry out the specified requirements of the function, under the specified conditions, will be necessary before a clearance can be considered.



7. **VALVULAR HEART DISEASE** such as mitral valve stenosis, symptomatic mitral valve regurgitation, aortic stenosis etc. Exceptions may be granted depending upon the current clinical findings and diagnostic studies.
8. **DYSRHYTHMIAS**: such as ventricular tachycardia or fibrillation, Wolff-Parkinson-White syndrome, and Paroxysmal Atrial Tachycardia, with or without block.
9. **ANGINA PECTORIS** or chest pain of unknown etiology.
10. **CARDIOMYOPATHY** from any cause.
11. **CONGESTIVE HEART FAILURE**
12. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-case basis.

### **CHEST AND RESPIRATORY SYSTEM STANDARD**

*The CHEST AND RESPIRATORY SYSTEM standard relates (A) the firefighter's need for a healthy respiratory system and residual aerobic capacity with (B) the essential functions and work conditions of a wildland firefighter, including arduous exertion, carrying heavy loads, and extensive walking and climbing under conditions that may include very steep terrain, high altitudes, airborne particulates, and allergens. Some chest and respiratory conditions, including those listed in the standards, may not be compatible with safe and efficient performance of wildland firefighter duties under these conditions. The stated standards of 70% of predicted values for forced vital capacity (FVC), forced expiratory volume at 1 second (FEV<sub>1</sub>), and the ratio of FEV<sub>1</sub>/FVC are intended as screens for further evaluation, not mandatory values. The requirement for agency review when inhalers are used is based on both the general incompatibility of inhalers and high heat or fire (according to guidance from inhaler manufacturers) and concern regarding the degree of respiratory sensitivity an individual may bring to a setting of high irritant exposure.*



The applicant/incumbent must have a respiratory system that is sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A physical exam of the respiratory system that is within the range of normal variation; and
- A pulmonary function test (baseline exam) showing:
  - forced vital capacity (FVC) of at least 70% of the predicted value; and
  - forced expiratory volume at 1 second (FEV1) of at least 70% of the predicted value; and
  - the ratio FEV1/FVC of at least 70%; and
  - No evidence by physical examination and medical history of respiratory conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 2).

Note: The requirement to use an inhaler (such as for asthma) requires agency review.

**CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:**

1. **SIGNIFICANT OBSTRUCTIVE OR RESTRICTIVE PULMONARY DISEASE.**
2. **ASTHMA** must be considered on a case-by-case basis.
3. **ACTIVE PULMONARY TUBERCULOSIS (TB):** A history of confirmed TB that has been treated for longer than 6 months is acceptable provided that documentation supports the treatment history.
4. **HISTORY OF CHRONIC BRONCHITIS ASSOCIATED WITH DECREASED PULMONARY FUNCTION**
5. **LUNG ABSCESS**
6. **SPONTANEOUS PNEUMOTHORAX** (if recurrent)
7. **EMPHYSEMA** (if associated with impaired pulmonary function test results)
8. **SARCOIDOSIS** (if associated with an impaired pulmonary function test results)
9. **PULMONARY EMBOLISM**
10. **PULMONARY INFARCTION**



11. **PNEUMONECTOMY** (if associated with impaired pulmonary function)
12. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-case basis.

### **ENDOCRINE AND METABOLIC SYSTEM STANDARD**

*The ENDOCRINE AND METABOLIC SYSTEM standard relates (A) the firefighter's need for normal body function and maintenance and a low risk of sudden or subtle incapacitation with (B) the essential functions and work conditions of a wildland firefighter, including arduous exertion under conditions that may include isolated and remote sites, hunger and irregular meals, dehydration, irregular hours, and long assignments. Some endocrine and metabolic conditions, including those listed in the standards, may not be compatible with safe and efficient performance of wildland firefighter duties under these conditions.*

Any excess or deficiency in hormonal production can produce metabolic disturbances affecting weight, stress adaptation, energy production, and a variety of symptoms or pathology such as elevated blood pressure, weakness, fatigue and collapse. The applicant/incumbent must have endocrine and metabolic functions that are sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A physical exam of the skin, thyroid, and eyes that is within the range of normal variation; and
- Normal fasting blood sugar level; and
- Normal blood chemistry results; and
- No evidence by physical examination (including laboratory testing) and history of endocrine/metabolic conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 2).

**CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:**



1. **ADRENAL DYSFUNCTION** (in the form of Addison's disease or Cushing's syndrome).
2. **THYROID DISEASE** (uncontrolled or associated with current complications).
3. **PITUITARY DYSFUNCTION**
4. **INSULIN DEPENDENT DIABETES MELLITUS**
5. **HYPERGLYCEMIA** without a history of diabetes will require additional tests, including, but not limited to a glycohemoglobin (or hemoglobin A<sub>1</sub>C) and fasting glucose before a final medical determination is made.
6. **DIABETES INSIPIDUS.**
7. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-case basis.

### **THE CONDITION OF PREGNANCY**

*The CONDITION OF PREGNANCY does not become an issue under most circumstances since the condition is not a disability, and is a time-limited condition. If a female applicant or incumbent raises the issue of pregnancy as the basis for a request for a special benefit, a change in duty status, or job restrictions, then justification and clarifying information for that request must be provided by the woman's obstetrician or primary care physician, along with the estimated time period the special conditions are expected to apply.*

If a female applicant or incumbent raises the issue of pregnancy as the basis for a request for a special benefit, a change in duty status, or job restrictions, then justification and clarifying information for that request must be provided by the woman's obstetrician or primary care physician, along with the estimated time period the special conditions are expected to apply.

### **HEMATOPOIETIC SYSTEM STANDARD**





*The HEMATOPOIETIC SYSTEM standard relates (A) the firefighter's need for a healthy blood and blood producing system and a low risk of sudden or subtle incapacitation with (B) the essential functions and work conditions of a wildland firefighter, including arduous exertion under conditions that may include high altitudes, isolated and remote sites, extreme heat, close quarters with large numbers of other workers, dehydration, and long assignments. Some blood and blood producing conditions, including those listed in the standards, may not be compatible with safe and efficient performance of wildland firefighter duties under these conditions.*

The applicant/incumbent must have a hematopoietic (blood and blood-producing) system that is sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A physical exam of the skin that is within the range of normal variation; and
- A complete blood count (including hemoglobin, hematocrit, platelets, and white blood count, with differential) that is within the normal range; and
- No evidence by physical examination (including laboratory testing) and medical history of hematopoietic conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 2).

**CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:**

1. **ANEMIA**-- Generally considered as:

hematocrit of less than 39% and a hemoglobin of less than 13.6 gm/dl for males

hematocrit of less than 33% and a hemoglobin of 12 gm/dl for females

(If anemia does exist but physical performance levels and pulmonary function are normal, this condition may be acceptable.)

2. **HEMOPHILIA**

3. **CHRONIC LYMPHANGITIS**

4. **THROMBOCYTOPENIA OR CLOTTING DISORDER**



5. **SICKLE CELL ANEMIA**

6. **SPLENOMEGALY**

7. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-case basis.

### **MUSCULOSKELETAL SYSTEM STANDARD**

*The MUSCULOSKELETAL SYSTEM standard relates (A) the firefighter's need for strength, flexibility, range of motion, and joint stability with (B) the essential functions and work conditions of a wildland firefighter, including arduous exertion, extensive walking and climbing, kneeling and stooping, lifting and carrying heavy loads, and rapid pull out to safety zones under conditions that may include rocky, loose, or muddy ground surfaces, thick vegetation, wet leaves and grass, and falling rocks and trees. Some musculoskeletal conditions, including those listed in the standards, may not be compatible with safe and efficient performance of wildland firefighter duties under these conditions.*

The applicant/incumbent must have a musculoskeletal system that is sufficient for the individual to safely and efficiently carry out the functional requirements of the job. This may be demonstrated by:

- A physical exam of the upper and lower extremities, neck, and back that is within the range of normal variation for strength, flexibility, range of motion, and joint stability; and
- No evidence by physical examination and medical history of musculoskeletal conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 2).

Note: For individuals who require the use of a prosthetic device, the examinee will have to provide **for agency review** documentation from his/her surgeon or physician that the individual (and, if applicable, his/her prosthetic device) is considered to be fully cleared for the essential functions of the job.



**CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:**

1. **ARTHRITIS** (any etiology) if there is a limitation of major joint motion, and/or pain that prevents the full range of required performance activities.
2. **AMPUTATIONS OF AN EXTREMITY OR DIGITS** will be evaluated on a case-by-case basis.
3. **ANKYLOSING SPONDYLITIS.**
4. **MUSCULAR DYSTROPHY**
5. **LUMBOSACRAL INSTABILITY:** pain or limitations of flexibility and strength causing an inability to stand, bend, stoop, carry heavy objects or sit for long periods of time.
6. **SCIATICA OR OTHER NEUROPATHIES**
7. **CHRONIC LOW BACK PAIN** (by medical history) without demonstrable pathology must be considered on a case-by-case basis. Each case will be reviewed in context of the original history or etiology, the response to therapeutic regimes, frequency of recurrence, exacerbating factors, and lengths of disability associated with the recurrences combined with the current clinical presentation.
8. A history of a **CHRONIC SPRAIN OR STRAIN OF THE NECK** limiting mobility or causing recurring cephalgia (headaches).
9. Any evidence of a **CERVICAL NEUROPATHY**, including numbness, tingling or loss of motor strength in the upper extremities.
10. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-case basis.

**CENTRAL AND PERIPHERAL NERVOUS SYSTEM AND VESTIBULAR SYSTEM STANDARD**

*The CENTRAL AND PERIPHERAL NERVOUS SYSTEM and VESTIBULAR SYSTEM standards relate (A) the firefighter's need for balance, sensation of surroundings and self, and a low risk of sudden or subtle incapacitation with (B) the essential functions and work conditions of a wildland firefighter, including use of hand and power tools, flying in helicopters and fixed wing*



*aircraft, and extensive walking and climbing under conditions that may include isolated and remote sites, very steep terrain, rocky, loose, or muddy ground surfaces, wet leaves and grass, heights, open holes and drop offs, falling rocks and trees, trucks and other large equipment, and high heat. Some sensory conditions, including those listed in the standards, may not be compatible with safe and efficient performance of wildland firefighter duties under these conditions.*

The applicant/incumbent must have a nervous system that is sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A physical exam of the cranial and peripheral nerves and the vestibular and cerebellar system that is within the range of normal variation, including:
  - intact cranial nerves, I-XII; and
  - normal vibratory sense in the hands and feet; and
  - normal proprioception of the major joints; and
  - normal sensation of hot and cold in the hands and feet; and
  - normal sense of touch in the hands and feet; and
  - normal reflexes of the upper and lower extremities; and
  - normal balance (e.g., heel-toe walk; Romberg; balance on one foot); and
- Normal basic mental status evaluation (e.g., person, place, time, current events); and
- No evidence by physical examination and medical history of nervous, cerebellar, or vestibular system conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 2).

**CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:**

1. **ATAXIA** from any etiology
2. **VESTIBULAR NEURONITIS**



3. **VERTIGO & PAROXYSMAL FUNCTIONAL VERTIGO**
4. **CEREBROVASCULAR ACCIDENT** or **TRANSIENT ISCHEMIC ATTACKS**
5. **EPILEPSY\***
6. **MULTIPLE SCLEROSIS**
7. **MUSCULAR DYSTROPHY**
8. **NARCOLEPSY**
9. **NEUROFIBROMATOSIS**
10. **PARKINSON'S DISEASE**
11. **CEREBROVASCULAR ACCIDENT (STROKE)**
12. **TRANSIENT ISCHEMIC ATTACKS**
13. **SENSORY DYSFUNCTION** (smell, touch, taste, proprioception)
14. **MIGRAINE**
15. **CEPHALGIA**
16. **SEIZURE DISORDERS\***
17. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-case basis.

\*In order to be considered for a medical clearance to perform arduous duty wildland firefighting, an individual with a history of one or more seizures must provide the following written information from a physician who is board certified in neurology. This information is to be provided on the physician's own letterhead, and must include:

1. the physician's printed or typed name (i.e., legible), signature, and date;
2. confirmation that the physician has reviewed and is familiar with the Essential Functions And Work Conditions Of A Wildland Firefighter (the job table developed for arduous duty wildland firefighters);



3. a summary of all current medications, along with any known side effects experienced or expected to be experienced by the firefighter;
4. the known or suspected triggers or factors that may lead to seizure activity for the firefighter;
5. the results of the most recent diagnostic testing, such as an EEG,
6. the firefighter's overall medical prognosis, related to his/her seizure disorder; and
7. the estimated risk or likelihood of future seizure activity the firefighter might experience, of any degree of severity.

### **GASTROINTESTINAL SYSTEM STANDARD**

*The GASTROINTESTINAL SYSTEM standard relates (A) the firefighter's need to be able to consume adequate nutrition and calories, and to have a low risk of sudden or subtle incapacitation, with (B) the essential functions and work conditions of a wildland firefighter, including arduous exertion, driving or riding for many hours, and flying in helicopters and fixed wing aircraft under conditions that may include isolated or remote sites, close quarters with large number of other workers, hunger and irregular meals, and long assignments. Some gastrointestinal conditions, including those listed in the standards, may not be compatible with safe and efficient performance of wildland firefighter duties under these conditions.*

- The applicant/incumbent must have a gastrointestinal tract that is sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:  
A physical exam and evaluation of the gastrointestinal tract that is within the range of normal variation; and
- Normal liver function and blood chemistry laboratory tests; and
- No evidence by physical examination (including laboratory testing) and medical history of gastrointestinal conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 2).

**CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:**



1. **ACUTE AND CHRONIC ACTIVE HEPATITIS**
2. **ACUTE VIRAL HEPATITIS** (After being asymptomatic for three (3) months an applicant may be re-evaluated).
3. **CROHN'S DISEASE / ULCERATIVE COLITIS / REGIONAL ENTERITIS/SPRUE or IRRITABLE BOWEL SYNDROME** (these conditions, controlled with surgical and/or medication treatments, will be reviewed on a case-by-case basis).
4. **COLOSTOMIES**, unless the precipitating condition has stabilized and the applicant/incumbent demonstrates successful management of the colostomy, considering the requirements of the function and the work conditions.
5. **ILEITIS**, either recurrent or chronic.
6. **CHOLECYSTITIS** (chronic or recurring).
7. **DIVERTICULITIS** (symptomatic).
8. **CIRRHOSIS OF THE LIVER** (depending upon the degree of severity and the etiology).
9. **INTESTINAL OBSTRUCTION** from any cause.
10. **ESOPHAGEAL VARICES**
11. **PANCREATITIS**
12. **UNTREATED (OR UNSUCCESSFULLY TREATED) INGUINAL, INCISIONAL OR VENTRAL HERNIA** that is associated with symptoms
13. **ACTIVE GASTRIC OR DUODENAL ULCER**
14. **GASTRIC OR BOWEL RESECTION**, if there is any evidence (historical or physical) of pain, hemorrhage, fainting episodes or dietary restrictions that could interfere with the performance of the job.
15. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-case basis.

### **GENITOURINARY SYSTEM STANDARD**

*The GENITOURINARY SYSTEM standard relates (A) the firefighter's need for a healthy genitourinary system and a low risk of sudden or subtle*



*incapacitation with (B) the essential functions and work conditions of a wildland firefighter, including arduous exertion, driving or riding for long periods, and flying in helicopters and fixed wing aircraft under conditions that may include isolated or remote sites, hunger and irregular meals, dehydration, and long assignments. Some genitourinary conditions, including those listed in the standards, may not be compatible with safe and efficient performance of wildland firefighter duties under these conditions.*

The applicant/incumbent must have a genitourinary system that is sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A normal clean catch urinalysis; and
- No evidence by physical examination and medical history of genitourinary conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 2).

**CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:**

1. **POLYCYSTIC KIDNEY DISEASE**
2. **ACUTE or CHRONIC RENAL FAILURE**
3. **NEPHROTIC SYNDROME**
4. **SYMPTOMATIC URINARY CALCULI**
5. **NEUROGENIC BLADDER**
6. **HISTORY OF RENAL VEIN THROMBOSIS**
7. **UNCORRECTED OBSTRUCTIVE UROPATHIES**
8. **RENAL TOXICITY FROM ANY CAUSE**
9. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-case basis.





## Appendix B—Health Screening Questionnaire (HSQ)

### HEALTH SCREENING QUESTIONNAIRE (HSQ)

Assess your health needs by marking all true statements.

#### SECTION A—HISTORY

YOU HAVE HAD:

- |   |   |
|---|---|
| <input type="checkbox"/> A heart attack disease   | <input type="checkbox"/> Heart valve              |
| <input type="checkbox"/> Heart surgery  | <input type="checkbox"/> Heart failure            |
| <input type="checkbox"/> Coronary angioplasty (PTCA) transplantation  | <input type="checkbox"/> Heart                    |
| <input type="checkbox"/> Pacemaker/implantable cardiac defibrillator/rhythm disturbance   | <input type="checkbox"/> Congenital heart disease |
| <input type="checkbox"/> Personal experience or a doctor's advice of any other physical reason that would prohibit you from carrying out your duties. |   |

SYMPTOMS:

- You experience chest discomfort with exertion
- You are pregnant
- You experience unreasonable breathlessness
- You take prescription or over-the-counter medication(s), list: \_\_\_\_\_
- You experience dizziness, fainting, blackouts
- You have musculoskeletal problems, spine, knees, etc.
- You take heart medications

#### SECTION B—CARDIOVASCULAR RISK FACTORS

- You are a man 45 years of age or older
- Your blood cholesterol level is greater than 240 g/dl, or you have had a you don't know your cholesterol level, or you take cholesterol medication
- You are a woman over 55 years old, hysterectomy, or you are postmenopausal
- Your blood pressure is greater than 140/90, or you don't know your blood pressure, or you take blood or you take blood pressure medication



- You have a close blood relative who had a heart attack before age 55 (father or brother), or age 65 (mother or sister)
- You are more than 10 kilogram overweight
- You are a diabetic or take medicine to control your blood sugar
- You are physically inactive (i.e., you get less than 30 minutes of physical activity at least 3 days per week)

**PRIVACY STATEMENT**—The information obtained in the completion of this form is used to help determine whether an individual being considered for wildland firefighting and field work can carry out those duties in a manner that will not place the candidate unduly at risk due to inadequate physical fitness and health

NAME EMPLOYEE/PROSPECTIVE  
EMPLOYEE \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE

DATE: \_\_\_\_\_

NAME OF TESTING OFFICER/MANAGER:

\_\_\_\_\_  
SIGNATURE: \_\_\_\_\_

\_\_\_\_\_

DATE: \_\_\_\_\_

\_\_\_\_\_



## Appendix : C

Agency design



**Appendix D:**

Date:

Dear Physician

\_\_\_\_\_ is a \_\_\_\_\_ employee or prospective employee with the \_\_\_\_\_ .

This employee may be involved in Veld and Forest firefighting and fire management activities as well as work requiring high levels of fitness and is required to pass a monitored Work Capacity Test (WCT). The Employer requires clearance from a licensed physician or other qualified medical provider before this individual takes the test. Once that has been completed, the individual will be required to pass the WCT at the level noted below. Upon successfully passing the WCT, this employee must be physically capable of performing the requirements of this level of activity required in his/her position in environmental conditions.

\_\_\_\_\_ **Arduous level** - requires the individual to complete a 4.8 km walk/hike within 45 minutes while carrying a 20kg pack.

\_\_\_\_\_ **Moderate level** - requires the individual to complete a 3.2km walk/hike within 30 minutes while carrying a 11kg pack.

\_\_\_\_\_ **Light level** - requires the individual to complete a 1.6 km walk within 16 minutes.

Please review the following prior to completing the MEDICAL SURVEILLANCE AND CONTROL OF CN STAFF WHO REQUIRE FITNESS TESTS

- "The Pack Test" information sheet
- "Essential Functions and Work Conditions of a Wildland Firefighter"

Please evaluate this individual's physical condition in regard to the duties and physical requirements of the conditioning for and taking the WCT at the level indicated above. Please complete, sign and date the MEDICAL SURVEILLANCE AND CONTROL OF CN STAFF WHO REQUIRE FITNESS TESTS In the "Conclusions" block, please note any limiting factors for the individual in meeting the physical requirements of the job and/or the WCT. If there are limiting factors, the employee will not be cleared for taking the WCT or performing veld and forest firefighting duties.



\_\_\_\_\_ authorizes you to bill for the customary and reasonable costs incurred for a standard physical examination. If additional testing is needed beyond the customary examination, please contact \_\_\_\_\_, at \_\_\_\_\_ for prior approval.

Please forward the bill to:

Thank you for your assistance.

Sincerely,



What is a Work Capacity Test:

The Work capacity test refers to work capacity tests used to qualify individuals for the three levels of work duty:

- Arduous
- Moderate
- Light

The Work Capacity Test measures:

Aerobic capacity

Muscular strength

Muscular endurance

**All workers must meet minimum levels of fitness requirements for the type of duties they are assigned:**

### **1. Arduous.**

Duties involve fieldwork requiring physical performance calling for above-average endurance and superior conditioning. These duties may include an occasional demand for extraordinarily strenuous activities in emergencies under adverse environmental conditions and over extended periods of time. Requirements include running, walking, climbing, jumping, twisting, bending and lifting more than 22 kilograms; the pace of work typically is set by the emergency situation. The pack test is a job-related test of the capacity for arduous work. The passing score for the test approximates an aerobic fitness score of 45, the established standard for wildland firefighters. The energy cost of the test is similar to the energy cost demanded on the job. The test is correlated to measures of performance in field tasks such as working with hand tools or carrying loads over rough terrain and with measures of aerobic and muscular fitness. The test's length ensures that successful participants will have the capacity to perform prolonged arduous work under adverse conditions, with a reserve to meet emergencies.

### **2. Moderate**

Duties involve field work requiring complete control of all physical faculties and may include considerable walking over irregular ground, standing for long periods, lifting 11- 22 kilograms, climbing, bending, stooping, squatting, twisting, and reaching. Occasional demands may be required for moderately strenuous activities in emergencies over



long periods. Individuals usually set their own work pace. The field test is a job-related test of work capacity designed for those with moderately strenuous duties. The passing score, approximates an aerobic fitness score of 40.

### 3. Light.

Duties mainly involve office type work with occasional field activity characterized by light physical exertion requiring basic good health. Activities may include climbing stairs, standing, operating a vehicle and long hours of work, as well as some bending, stooping or light lifting. Individuals can usually govern the extent and pace of their physical activity. The walk test is designed to determine the ability to carry out light duties. The passing score for the test, ensures the ability to meet emergencies and evacuate to a safety zone. The instructions for the pack test also apply to the field and walk tests. Test requirements for a given position may change.

Work category	Test	Distance km	Pack Weight (KG)	Time
<b>Arduous</b>	Pack	4.8	20 kg	45 minutes
<b>Moderate</b>	Field	3.2	11 kg	30 minutes
<b>Light</b>	Walk	1.6	0	16 minutes







**ESSENTIAL FUNCTIONS AND WORK CONDITIONS OF A  
ARDUOUS CATEGORY WORKER**

<b>Time/Work Volume</b>	<b>Physical Requirements</b>	<b>Environment</b>	<b>Physical Exposures</b>
<b>May include:</b>			
<ul style="list-style-type: none"> <li><input type="checkbox"/> long hours (minimum of 12 hour shifts)</li> <li><input type="checkbox"/> irregular hours</li> <li><input type="checkbox"/> shift work</li> <li><input type="checkbox"/> multiple and consecutive assignments</li> <li><input type="checkbox"/> pace of work typically set by emergency situations</li> <li><input type="checkbox"/> ability to meet "arduous" level performance testing (the "Pack Test"), which includes carrying a 20kg pound pack for 4.8km in 45 minutes, approximating an oxygen consumption (VO<sub>2</sub> max) of 45 mL/kg-minute</li> <li><input type="checkbox"/> typically 14-day assignments <i>But may extend up to 21-day assignments</i></li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> use fire beaters, rake-hoes, and other hand tools to construct fire lines and beat fires</li> <li><input type="checkbox"/> lift and carry more than 22 kg</li> <li><input type="checkbox"/> lifting or loading boxes and equipment</li> <li><input type="checkbox"/> drive or ride for many hours</li> <li><input type="checkbox"/> fly in helicopters and fixed wing airplanes</li> <li><input type="checkbox"/> work independently, and on small and large teams</li> <li><input type="checkbox"/> use PPE (includes hard hat, boots, eyewear, and other equipment)</li> <li><input type="checkbox"/> arduous exertion</li> <li><input type="checkbox"/> extensive walking, climbing</li> <li><input type="checkbox"/> kneeling</li> <li><input type="checkbox"/> stooping</li> <li><input type="checkbox"/> pulling hoses</li> <li><input type="checkbox"/> running</li> <li><input type="checkbox"/> jumping</li> <li><input type="checkbox"/> twisting</li> <li><input type="checkbox"/> bending</li> <li><input type="checkbox"/> rapid pull-out to safety zones</li> <li><input type="checkbox"/> provide rescue or evacuation assistance</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> very steep terrain</li> <li><input type="checkbox"/> rocky, loose, or muddy ground surfaces</li> <li><input type="checkbox"/> thick vegetation</li> <li><input type="checkbox"/> down/standing trees</li> <li><input type="checkbox"/> wet leaves/grasses</li> <li><input type="checkbox"/> varied climates (cold/hot/wet/dry/humid/ snow/rain)</li> <li><input type="checkbox"/> varied light conditions, including dim light or darkness</li> <li><input type="checkbox"/> high altitudes</li> <li><input type="checkbox"/> heights</li> <li><input type="checkbox"/> holes and drop offs</li> <li><input type="checkbox"/> very rough roads</li> <li><input type="checkbox"/> open bodies of water</li> <li><input type="checkbox"/> isolated/remote sites</li> <li><input type="checkbox"/> no ready access to medical help</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> light (bright sunshine, UV)</li> <li><input type="checkbox"/> burning materials</li> <li><input type="checkbox"/> extreme heat</li> <li><input type="checkbox"/> airborne particulates</li> <li><input type="checkbox"/> fumes, gases</li> <li><input type="checkbox"/> falling rocks and trees</li> <li><input type="checkbox"/> allergens</li> <li><input type="checkbox"/> loud noises</li> <li><input type="checkbox"/> snakes</li> <li><input type="checkbox"/> insects/ticks</li> <li><input type="checkbox"/> poisonous plants</li> <li><input type="checkbox"/> trucks and other large equipment</li> <li><input type="checkbox"/> close quarters, large numbers of other workers</li> <li><input type="checkbox"/> limited/disrupted sleep</li> <li><input type="checkbox"/> Hunger/irregular meals</li> <li><input type="checkbox"/> dehydration</li> </ul>



## Appendix E—Training for the Work Capacity Test

**WARNING:**

If you have not been involved in regular physical activity, you are at an elevated risk for cardiovascular complications during exertion. You should not begin training for a work capacity test until you have made a gradual transition from inactivity to regular physical activity. If you have been sedentary, you should engage in 4 or more weeks of moderate activity (walking 30 to 60 minutes, 3 to 5 days per week) before you begin more vigorous training for a test or the job.

You are responsible for your physical condition and your health. No amount of health screening or medical examination can ensure your safety during a work capacity test or during fire duties. If you are uncertain about the condition of your health, have been inactive, or are seriously under or overweight, you should consult your personal physician before beginning training, taking a work capacity test, or tasks related to arduous standards. Begin training at least 6 to 8 weeks before you report for duty. Train by hiking or power walking, using the footwear you will use in the test. Increase the distance until you can hike 4.8 km without a pack. When you can cover 4.8 km in less than 45 minutes, wear a pack with about 11 kilograms on your training hikes. Increase the pack's weight until you can hike 4.8 km in 45 minutes with a 22 kg pack.

Also:

- ✦ Hike hills (with a pack) to build leg strength and endurance.
- ✦ Jog the flat course (without a pack) to build aerobic fitness.
- ✦ Hike or jog longer distances for stamina.
- ✦ Cross-train (mountain biking, weight lifting).

Finally, do job-specific tasks and training to prepare for the coming season. Wear work boots on extended hikes. Work with hand tools to prepare your trunk and upper body muscles for prolonged work. This job-specific work hardening ensures that the hands, feet, muscles, tendons, and ligaments you use on the job are tough and ready to go.



**Appendix F:**

<b>Work Capacity Test: Informed Consent FOR WORK CAPACITY TESTS</b>	
<p><input type="checkbox"/> I have read the information on this form, the brochure “Work Capacity Test” and understand the purpose, instructions, and risks of the job related to work capacity test.</p> <p><input type="checkbox"/> I have, understood, and truthfully answered the HSQ.</p> <p><input type="checkbox"/> I have no personal or medical knowledge of any physical reason that would prohibit me from safely carrying out the assigned duties of the position.</p> <p><input type="checkbox"/> I believe I have the physical ability to complete the test and carry out the assigned duties .</p> <p><b>Test to be Taken (check one) Pack test</b> <input type="checkbox"/> <b>Field Test</b> <input type="checkbox"/> <b>Walk Test</b> <input type="checkbox"/></p> <p>Date _____</p> <p>Print name _____</p> <p>Signature _____</p> <p>Witness _____</p> <p>Location _____</p>	
<p><b>Arduous test ( Pack Test):</b>            Distance: 4.8 km            Pack weight: 20 kg            Time: 45 minutes</p> <p><b>Moderate test ( Field test )</b>            Distance: 3.2 km            Pack weight: 11 kg            Time: 30 minutes</p>	<p><b>Risks</b></p> <ul style="list-style-type: none"> <li>• <b>There is a slight risk of injury (blisters, sore legs, sprained ankles) especially for those who have not practiced the test. If you have been inactive and have not practiced or trained for the test, you should engage in several weeks of specific</b></li> </ul>



**Light test ( Walk test)**

Distance: 1.6 km

Pack weight: 0 kg

Time: 16 minutes

**WARNING:**

If you have not been involved in regular physical activity, you are at an elevated risk for cardiovascular complications during exertion. You should not begin training for a work capacity test until you have made a gradual transition from inactivity to regular physical activity. If you have been sedentary, you should engage in 4 or more weeks of moderate activity (walking 30 to 60 minutes, 3 to 5 days per week) before you begin more vigorous training for a test or the job.

training before you take the test. Be certain to warm up and stretch before taking the test, and to cool down after the test. The risk of more serious consequences (such as respiratory or heart problems) is diminished by completing the (HSQ) physical activity readiness questionnaire.





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**\*Candidates signature indicates that they have completed the health screening test.**

<b>Remarks:</b> (Document test site conditions such as temperature relative humidity wind speed etc.)



## Appendix H: Test Script

**To be read to participants before they take the pack, field, or walk tests:**

Welcome. You are about to take a job-related work capacity test to determine your fitness for duty. The test you are taking has been determined by the requirements of the job. You will be taking the [ ] test, intended for [ ] duties.

**(Read the following description for the appropriate test.)**

You should have completed the health screening questionnaire (or medical history) before taking the test. Some agencies may require that you sign an informed consent form. It is your responsibility to discuss any health concerns with your physician before taking the test. The test and the work of post you fill/are applying for require individuals who are healthy and physically fit.

**The pack test is intended for those involved in arduous duties, defined as requiring an aerobic fitness score of 45, lifting more than 22 kilograms, and an occasional demand for extraordinarily strenuous activities. The 4.8 km test with a 20 kg pack in 45 minutes is strenuous, but no more so than the duties that will be carried out in your post.**

**The field test is intended for those with moderately strenuous duties, defined as requiring an aerobic fitness score of 40, lifting up to 15 kg, and an occasional demand for moderately strenuous activity. The 3.6 km test with a 11 kg pack in 30 minutes is fairly strenuous, but no more so than field duties.**

**The walk test is intended for those whose duties involve light work with occasional field activity, defined as requiring an aerobic fitness score of 35. The 1.6 km walk in 16 minutes is moderately strenuous, but no more so than the duties assigned.**

If you have doubts about your health, you should talk to your physician. If you are not in good physical condition, you should undertake a training program before you take the test.

You are free to wear clothing that suits the activity and environmental conditions. Your footwear should provide good support for your feet and ankles. Ankle-high hiking boots or athletic shoes are recommended for the pack and field tests.



The course is [ ]. **(Describe local course and any safety issues, such as traffic and heat. Encourage candidates who are not acclimatized to the heat to delay testing until conditions are more favourable, or until they have become acclimated by exercising for at least 1 week in the heat.)**

You should stretch and warm up before the test, and cool down after the test. **(If heat stress conditions exist, explain that water will be available at the [ ] point on the course.)**

The test begins when I say go and finishes when you complete the required distance. We will announce the elapsed time when you pass the [ ] half way mark ) of the course.

**You are free to stop the test at any time, for any reason.**

Simply notify the course monitor that you have decided to stop. The course monitor will have you stop the test if you are having difficulties or if you are substantially behind the pace required to pass the test.

The test requires a fast walking pace. **Jogging or running is not allowed** and will lead to disqualification.

When you finish the course, remove your pack and keep moving until you cool down. Pack weight will be checked after the test.

Your test score is the time required to complete the course.

If you do not pass, you are encouraged to train before you retake the test. Retests will be possible [ ] **(indicate when).**

Before we begin, do you have any questions about the test, the course, or related matters? **(Answer questions.)**

Complete your warm up. The test will begin in 5 minutes.