

# Forestry Safety Guide



## **Safety Guidelines for Working in the Forestry Sector of Newfoundland and Labrador**

(Updated June 2020)

## Disclaimer

The following guide should be used as a reference to a company's forestry safety guide along side the OHS Acts and Regulations. This sample guide offers valuable information to be used when creating and revising policies and safe work procedures in a forestry workplace.

This guide is **NOT** site specific thus, it must be altered and revised to fit each individual site and job.

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## 1.0 Purpose

This Forestry Safety guideline was developed by the Forestry Safety Association of Newfoundland and Labrador, to increase awareness around health and safety issues within the forestry sector. The information contained in this document is intended to provide some guidance to the development of an employer's Occupational Health and Safety Program. Employers are to continue using a risk management approach to managing safety at their workplaces. Employees are still required to be diligent in their work.

## 2.0 General Safety

### 2.1 Responsibilities

While safety is everyone's responsibility, the ***Occupational Health and Safety Act*** section 4 states ***"An employer shall ensure where it is reasonably practicable, the health, safety and welfare of his or her workers."*** Employers, supervisors, workers, contractors, general contractors, and visitors must be aware of and follow safety procedures. It is the employer's responsibility to ensure all personnel are trained, visitors are briefed, general safety rules are posted, and a copy of the Occupational Health and Safety Act and Regulations are available on site.

#### 2.1.1 Employers

Before any forestry activity commences, an employer shall form an OHS field committee and/or appoint a representative to carry out and oversee safety responsibilities in the field, reporting regularly to the employer. An OHS Program is required for forestry companies given the nature of the work and the hazards. Refer to section 12 of the OHS Regulations.

Specific duties of the employer are outlined in the Occupational Health and Safety Act in section 5. The types of things to be considered include but are not limited to:

#### ***(a) The provision of safe equipment, systems, and tools***

Consider the hazards related to remote sites, camps, forestry equip, harvesters, forwarders, etc., snowmobiles, ATVs, UTVs, helicopters, uneven terrain, weather conditions, working alone, wildlife, etc. Mechanisms, such

as inspections, should be in place to ensure that the workplace and equipment is maintained in a safe condition.

***(b) Information, instruction, training and supervision***

All workers must be provided with: an orientation (including demonstrations); operational training on equipment (skidders, muskegs, ATVs, chain saws, snowmobiles, sleighs, satellite phones, etc.); and training in safe work procedures (lock-out/tag-out, operating equipment, maintaining equipment, wildlife awareness, accessing site, working at height, etc.).

***(c) Ensure workers and supervisors are aware of hazards***

Employers must ensure that site specific hazard assessments are conducted for all sites and that controls such as safe work procedures are in place. Hazard communication and hazard reporting systems must be in place and workers/supervisors must be made aware of the general and site-specific hazards.

***(d) Conduct work such that persons not employed are not exposed to health or safety hazards***

Employers must have a mechanism in place to warn the public of hazards related to your forestry activities.

### 2.1.2 Supervisors

Supervisors are responsible to ensure the health and safety of the workers under their supervision (section 5.1 and 5.2 of the OHS Act) For example, supervisors are required to:

- Advise workers of hazards.
- Provide proper instruction regarding precautions to take for protection; and,
- Ensure use of personal protective equipment (e.g. chainsaw pants/jackets, ensure that work boots suitable to the terrain and weather conditions, appropriate eye and face protection, hard hats, and gloves are worn by the workers and any other devices or apparel required for their protection).

### 2.1.3 Workers

Workers are responsible to protect their own safety and the safety of others at or near the workplace. They shall cooperate with the employer by following safe work procedures and make use of protective equipment and clothing provided for his/her protection. Workers shall immediately alert the supervisor of any potential or existing hazards and report any incident or injury (section 7 of the OHS Act).

### 2.1.4 Principal Contractor

The principal contractor shall ensure compliance with the Act and Regulations by all personnel including employers, contractors, workers and self-employed persons performing work in respect of project (section 10 of the *OHS Act* and sections 19, 20 and 21 of the OHS Regulations).

### 2.1.5 Self-employed person

If you are self-employed, you are still bound by the OHS Act with respect to the duties of employers or workers where these provisions are applicable. (Section 9 of the OHS Act).

## 2.2 Incident Reporting

Section 54(1) of the OHS Act requires Incident Reporting. The supervisor in the area where the incident occurred secures the scene and immediately notifies the appropriate authorities. Appropriate authorities to be considered shall be included in the emergency response plan (Reference s. 3.0 of this Guideline).

Procedures for accident reporting shall be communicated to and followed by workers and contractors. All incidents shall be reported to the site supervisor and the written record shall include:

- date/time and place of event.
- details of those involved; and,
- description of nature of event or injury.

The OHS Division has a 24-hour accident reporting line 709-729-4444. All serious incidents/accidents must be immediately reported to the OHS Division.

### **2.3 Hazard Assessment**

Employers shall ensure that hazard assessments are conducted for forestry work activities. The goal of the hazard assessment is to identify the hazard and determine the significance of the risk. A hazard assessment is best conducted by a team of individuals who consider the work activities, processes, and equipment utilized. The main personnel that should be involved include: a worker who faces the risk directly, a work supervisor who understands the implications of risks, someone trained in the hazard assessment process, and someone who has a specialized knowledge of identified workplace hazards, proper techniques and procedures. In some cases, external sources may need to be consulted to aid in the assessment process. For example, in determining the significance of worker exposure to extreme weather conditions (blizzard), an employer may need to consult with a company with expertise in this area.

### **2.4 Risk Control**

When determining appropriate controls for hazards identified, employers must consider the hierarchy of controls. The primary goal of risk control is to eliminate the risk. The best way of achieving this is to remove the hazard. If this is not possible, the risk must be minimized using one or more of the other hazard control options. The risk control measure selected must be the highest possible option in the hierarchy to minimize the risk to the lowest level as reasonably practicable.



***The hierarchy of controls includes:***

<i>Control</i>	<i>Example</i>
<b>Eliminate</b>	Removing the hazard, e.g. taking a hazardous piece of equipment out of service.
<b>Substitute</b>	Replacing a hazardous substance or process with a less hazardous one, e.g. substituting a hazardous chemical with a non-hazardous or less hazardous chemical.
<b>Isolation</b>	Isolating the hazard from the person at risk, e.g. using a guard or barrier.
<b>Engineering</b>	Redesign a process or a piece of equipment to make it less hazardous.
<b>Administrative</b>	Adopting safe work practices or providing appropriate training, instruction, or information.
<b>PPE</b>	The use of personal protective equipment could include using gloves, glasses, earmuffs, chainsaw pants, etc.

In many cases, it will be necessary to use more than one control method. Secondary controls, such as personal protective equipment, should only be used as a last resort or as a support to other control measures.

## **2.5 Personal Protective Equipment (PPE)**

All personal protective equipment is to be selected based upon the hazards identified during the risk assessment process of the activity to be undertaken. Personal protective equipment shall be fitted properly, be comfortable and provide the proper protection to the wearer. PPE that is not properly fitted to the individual worker is a hazard and will not provide the desired level of protection. When considering proper fit, the range of body shapes and sizes and gender need to be considered. One size does not "fit all".

### **2.5.1 Face and Eye Protection**

When exposed to hazards likely to injure or irritate the eye or face (such as flying objects and particles, splashing liquids, or when walking through brush) wear face and eye protection that is appropriate to the hazard. CSA certified safety glasses also come in prescription and non-prescription forms.

#### 2.5.2 Hearing Protection

Noise level assessments must be conducted to determine the level of hearing protection required (section 68 (2) of the OHS Regulations). Noise exposure to more than 85 dB over an eight-hour period is not permissible and prolonged exposure may permanently damage a worker's hearing. The employer shall reduce noise to acceptable levels or isolate workers from the noise. If neither of these options is viable, an employee shall wear CSA approved hearing protection. The best hearing protection for any worker is one that is comfortable and can be worn consistently. If noise exposures are greater than 85 dB then an employer will be required to develop a hearing conservation program.

#### 2.5.3 Protective Headgear

Upon arrival at any worksite, approved CSA Type II hard hats shall be worn. A comfortable fit is necessary. Painting, piercing, or altering a hard hat can weaken it and is not permitted. Side impact protection is a must in this province.

#### 2.5.4 Gloves

There are many types of gloves available, and it is important to match the glove to the hazard from which you need protection. Gloves protect the hands from temperature extremes, corrosive materials, chemicals and cuts and scrapes. Gloves must properly fit the wearer so as not to create additional hazards.

#### 2.5.5 Leg Protection

A worker operating a chainsaw shall wear a leg protective device (Chainsaw pants or chaps with ballistic nylon) with a label permanently affixed to the outer surface of the device indicating the standard it meets (Refer to section 79 of the OHS Regulations).

#### 2.5.6 Footwear

Safety footwear is designed to protect a worker's feet against injuries such as impact, compression, and puncture (section 80 (1) of the OHS Regulations). The employer shall ensure that footwear is CSA approved and suitable for the work, the terrain, and the weather conditions (snow, rain, etc.) likely to be encountered. Section 80 (2)(K) of the OHS Regulations state, "another recognizable hazard". Chainsaw users face a hazard of being cut by the chainsaw therefore they require forestry approved safety boots with ballistic nylon installed in the boots.

#### 2.5.7 Respiratory Protection

Various fumes and dusts may be produced and may have detrimental effects when inhaled. The proper respiratory protection equipment is chosen based on the hazard or specific contaminant and user factors that affect the performance and reliability must be considered. Section 83 of the OHS Regulations, requires a respiratory protection program to be implemented when workers are exposed to dust or other contaminants and required to wear respirators. (Fit testing is required at least every 2 years, or sooner if there is a change in the person's facial features that could impact a secure seal of a tight-fitting mask). Refer to CSA Standard Z94.4 Selection, Use and Care of Respirators. Figure 1 provides examples of respirator mask.

Figure 1: Respirator Masks



#### 2.5.8 High Visibility Apparel

High visibility apparel (HVA) is clothing that shall be worn to alert others of a worker's presence, especially in low light and dark conditions. HVA headwear can also be worn to alert others when a worker's body is obscured or not visible. Such situations may include when a helicopter is bringing in supplies, when using machinery, or during hunting season. When selecting HVA, size/coverage, fit, brightness, design, and color should be considered. Please refer to the High Visibility Apparel policy referenced in the OHS Guidance Document and section 81 of the OHS Regulations. Typically, CSA approved "Class 2 Level 2" is the optimum high visibility outerwear needed.

#### 2.5.9 Other PPE

Depending on the work environment and type of work being conducted, other PPE may be required but not limited to:

- waterproof clothing for when a worker is exposed to rain or snow conditions.
- personal flotation device (PFD) required if working over water or on ice; and,
- thermal clothing for extreme cold.

### 2.6 Sun Protection

Workers in the forest industry are at risk of over-exposure to UV radiation. Sun safety should be practiced in all seasons and is not exclusive to sunny conditions. Workers should also be protected when it is overcast, raining and snowing. Workers and employers need to be aware of the hazards of solar radiation and need to take measures to limit exposure, such as:

- using appropriate attire (i.e. broad brimmed hats, sunglasses, lip balm, and sunscreen);
- adjusting work schedules to avoid working during the hottest part of the day; and/or erecting shelters from the sun.

The Canadian Cancer Society recommends that for prolonged exposure, workers use a SPF 30+ sunscreen (UVA and UVB), being sure to follow the instructions on the bottle. If you are using both sunscreen and bug repellent, apply the sunscreen first so that it will be absorbed into your skin. It is also important to note that reflections can double the strength of UV rays.

## **2.7 Working Alone**

Before an employee is assigned to work alone (section 15 of the OHS Regulations), the following must be ensured:

- a risk assessment is completed which identifies the hazards, as well as the appropriate controls to eliminate, isolate or minimize the hazards; and,
- a procedure for checking the wellbeing of any worker working alone are developed, put in writing, and followed. The procedures shall include communication methods, time intervals between checks, record of checks and procedures to follow in the event the worker cannot be contacted. These are to be reviewed at least annually.
- If a person is required to work alone or in isolation, that person is required to have a valid 1-day Emergency First Aid training certificate along with an appropriate first aid kit, as well as any other provisions deemed necessary based on a proper risk assessment of the job.

## **2.8 Thermal Environment**

Exposure to and working for long periods in extreme heat or cold is a concern with workers in the forestry sector. Employers need to take steps to protect workers from exposure and temperature related illness by:

- adjusting work schedules and monitoring time worked in heat or cold.
- considering frequency of breaks.
- reducing physical demands.
- providing plenty of drinking water or warm liquids as appropriate.
- encouraging daily and frequent applications of sunscreen year-round.
- training workers how to dress and operate safely in extreme temperatures.
- providing appropriate clothing (waterproof, insulated), shelter, and special equipment.
- providing information on symptoms of hypothermia, heat exhaustion, etc. and additional first aid actions required.
- providing medical supervision, acclimatization procedures; and,
- other appropriate controls and measures that are practical to the situation.

A thermal environment includes aspects of the work environment such as temperature, humidity, air velocity and the presence of radiating surfaces.

## **2.9 Hazardous Substances**

Hazardous substances can be in the form of solids, liquids or gases and can be any material that poses a threat to humans, living organisms, the environment or property. Hazardous substances must be monitored, and where possible, must be substituted and/or replaced. If substitution is not an option, engineering and administrative controls must be implemented to ensure safe use and there is a good chance PPE will have to be used as well. To ensure the health and safety of employees and to meet legislative requirements, an inventory list is needed at the workplace for all hazardous substances, as well as Safety Data Sheets (SDS), proper labels on containers (Supplier Labels and/or Workplace Labels), along with proper training. The location of Safety Data Sheets must be communicated to workers. Employees must understand the information on the SDSs and follow the directions as indicated on the SDS. Depending on the type of hazardous substance and amount of substance kept on site, employees may be required to be trained in Workplace Hazardous Material Information Systems (WHMIS). Also refer to section 42 of the OHS Regulations.

### **3.0 Emergency Plan**

Section 38 (2) of the OHS Regulations requires that an emergency preparedness plan shall be established, communicated to, and understood by all employees, contractors, and visitors.

#### **3.1 Communications**

A dependable communication system must be established and communicated to employees before work begins. Access to constant two-way communication is important when personnel are working, especially in remote areas. A satellite phone is suggested for remote areas where cell phone service is limited.

#### **3.2 Firefighting Equipment**

Firefighting equipment must be suitable for the class of fire being contained. Each piece of heavy equipment must have a fire extinguisher as a minimum and workers must be trained in how to properly use it. All firefighting equipment should be clearly identified and kept in a visible area. A supply of water should be available and accessible for firefighting purposes on a forestry site. Emergency plan procedures are dependent on a reliable communications system to obtain the assistance of external fire response capability is needed. (Refer to the NL Forest Fire Regulations)

#### **3.3 First Aid**

The employer is responsible for providing appropriate first aid including first aid supplies and equipment, adequately trained first aiders, and equipment necessary to transport injured workers to medical treatment. The provision of first aid at forestry sites must be based upon an assessment of workplace conditions. At a minimum, the assessment shall include:

- the number of workers who may require first aid at any time.
- the nature and extent of the risks and hazards in the workplace.
- the types of injuries likely to occur.
- any barriers to first aid being provided to an injured worker; and,

- the time that may be required to obtain transportation and to transport an injured worker to medical treatment.

Depending on the results of the workplace assessment, first aid supplies, training and equipment requirements may range from a number 1 first aid kit with level 1 (emergency) training to needing a level 3 first aid kit, first aid room, an industrial ambulance and equipment along with one or more first aid attendants (level 3 training). See Appendix A for examples of first aid provisions based on a generic assessment of typical forestry sites.

Employers must ensure that there are enough persons at the work site location with first aid training. If a worker must work alone or in isolation that worker is required to have the 1-day Emergency First Aid course along with a #1 First Aid kit.

If there are more than 1 but less than 15 workers on a site for a shift, at least 1 person shall have the 1-day Emergency First Aid training.

If there are more than 15 but less than 200 workers on a site for a shift, at least 1 person shall have the 2-day Standard First Aid training, and in addition, there must be at least 1 worker with a valid 1-day Emergency First Aid training for each group of 25 workers or part of it in excess of 25 workers.

If there are more than 200 workers on a site for a shift, the employer shall provide a First Aid Room along with a First Aid Attendant, and in addition, shall ensure that there is a worker with a valid 1-day Emergency First Aid training for each group of 25 workers or part of it in excess of 25 workers.



First Aid kits needed may range from #1 First Aid kit, #2 First Aid kit, #3 First Aid kit, Pocket First Aid kit, etc. depending on the number of workers at a site and depending on isolation and other hazard factors. It should be noted that a Pocket First Aid kit is required to be supplied by the employer and carried by all forepersons engaged in logging and sawmill operations, as well as all supervisors of workers where the nature of the work or the location of the workplace would make it reasonable to be so equipped. (Refer to section 19 under the NL OHS First Aid Regulations)

Prior to commencement of forestry activity, it is the responsibility of the employer to ensure that a site-specific assessment is conducted including an assessment of the necessary first aid facilities. Further, the employer shall ensure that the workplace is reassessed when conditions change and at a minimum on an annual basis (where cutting/replanting continues beyond a year). The employer shall retain first aid registers for at least five years from the date of the last entry.

### **3.4 Emergency Ambulatory Services**

Forestry companies must ensure that all local emergency contact numbers (including police, fire department, hospitals and ambulance—including air ambulance) are determined, provided to employees and supervisors, posted in appropriate locations around the site and programmed into communication systems. Forestry companies should be aware that not all helicopter service providers can provide air ambulance service. A request for air ambulance service should either go directly to the Air Ambulance Coordinator or to the police or local ambulance service. Protocols must be developed, and, in some cases, arrangements must be made with helicopter service providers for emergency response services. The necessity for this would be determined in the assessment process.

Employers should also be aware that 911 services are now available province wide. It is best practice to make sure the service works in your work area and to establish emergency marshalling points at main road entrances. Consult Corner Brook Pulp & Paper and the NL Forest Service to see their list of marshalling points and confirm with local emergency services.

## **4.0 Transportation**

Forestry work requires several means of transportation in all seasons and weather conditions.

### **4.1 Foot Travel**

Prior to setting out on foot, always check equipment being used to ensure it is in good working condition. Carry usual items found in a day pack:

- compass/GPS.
- pocketknife.
- waterproof matches.
- food.
- water.
- extra clothing.
- waterproof clothing.
- flashlight.
- thermal reflective blanket.
- bear deterrents.
- rope.
- signal flares.
- small first aid kit.
- prescription medication; and,
- two-way communication device or satellite phone.

Precautions that should be taken to prevent mishaps from occurring include:

- planning the route of travel prior to setting out and communicate it to your supervisor.
- checking the forecast before travelling.

- marking the route travelled; if an emergency occurs along the route, response time may be greatly decreased if the route can be followed.
- travelling in pairs wherever possible; if there is some distance between partners, make sure both workers have a means of communication.
- using extra caution when travelling alone; make sure your supervisor knows your route, destination, and estimated return time; and,
- ensuring there is a process in place to initiate a search or search and rescue if you do not return by an agreed upon time.

## **4.2 Winter Travel**

Travelling by foot in remote locations at any time of the year can be dangerous. However, travelling in the winter can be especially dangerous. The weather will dictate the necessity for extra supplies and clothing along with detailed planning. Additional precautions taken when travelling in winter include but are not limited to:

- paying attention to hazardous areas such as stream crossings, pond/lake crossings and areas of thin ice. Changing weather conditions, particularly in the spring, make it necessary to periodically inspect the route for hazards.
- wearing appropriate winter clothing, dressing in layers to suit climate and condition.
- always taking snowshoes.
- pacing yourself to avoid heavy exertion that could cause sweating; and,
- wearing sunscreen and sunglasses.

## **4.3 Ice Safety**

Travelling over ice is dangerous and extra precautions need to be taken. It is the responsibility of the employer to determine whether ice conditions are safe for any intended scope of work activity. Water depths at given locations where workers may be travelling must be determined. Be sure to measure clear hard ice in several places. Records should be kept of all measurements including water depths and ice thickness, air, and water temperatures for comparison throughout the intended period of work.

Recommended minimum ice thicknesses are as follows:

- 3" (7.5 cm) or less - STAY OFF
- 4" (10 cm) - ice fishing, walking, cross country skiing
- 5" (12.5 cm) - one vehicle - snowmobile or ATV
- 8-12" (20-30 cm) - one vehicle - car or small pickup
- 12-15" (30-38 cm) - one vehicle - medium truck

It is critical that the ice quality or type of ice is evaluated before you travel. Clear, hard, new ice is the only kind of ice recommended for travel or work. Salt water and fresh water have obvious different characteristics that affect ice development and thickness.

STAY AWAY FROM:

- slushy ice.
- ice on or near moving water (i.e. rivers, currents).
- ice that has thawed and refrozen; and,
- layered or "rotten" ice caused by sudden temperature changes.

Other factors that weaken or "rot" ice:

- snow on ice that acts as a blanket to prevent hardening of ice; and,
- pressure ridges due to wind or current pressure.

Persons walking over ice must have on their ice cleats, ice picks, and wear a PFD over their outerwear. Avoid ice if travelling alone.

#### **4.4 Bridge Crossings**

Prior to travelling to a work site, the employer shall determine whether there are any bridge crossings along the proposed route. A bridge used to transport equipment and materials shall be capable of supporting the total weight being transported on the bridge. The inspection and maintenance of bridges installed along forest access roads comes under the jurisdiction of the NL Forest Service, Forest Engineering, and Industry Services Division. Some bridges installed along forest access roads remain in place but are closed to vehicular traffic. Other bridges are restricted to light vehicle use only. It is very important that the NL Forest Service be contacted prior to crossing bridges to determine any restrictions placed on them.

#### **4.5 Snowmobiles/All-Terrain Vehicles (ATV/UTVs)**

Before snowmobiles, ATVs and UTV's set out, a tool kit, spare parts, emergency equipment, and basic survival equipment must be carried on the vehicle. A throw bag should also be used when using a snowmobile for transportation. Materials or equipment transported on a vehicle in which a worker is riding shall be properly located and secured to prevent injury. Volatile or flammable products shall not be transported in the same enclosed compartment as workers. Snowmobiles and ATV/UTVs shall be maintained in accordance with manufacturers' specifications. Ensure that the drivers and passengers of snowmobiles and ATV/UTVs wear appropriately approved helmets, face masks and goggles. Drivers should use caution when crossing small streams and check conditions of the riverbanks as they may be muddy causing an ATV/UTV to become stuck or rollover.

#### **4.6 Mobile Equipment**

Mobile equipment requires inspection, repair and maintenance as specified in manufacturers' instructions. Maintenance and repair records must be kept and available for inspection. Rental equipment should also be inspected to ensure the equipment is in good working condition and has been properly maintained. Only licensed and qualified personnel may operate mobile equipment. Operators of heavy equipment must always remain aware of their surroundings. A formal communications system shall be established between the machine operator and those on foot or in light vehicles, and all personnel are to be instructed in this system. All mobile equipment must be equipped with fire extinguishers and passenger/operator restraint devices must be in good working order and used by personnel. To meet OHS Regulation requirements, mobile equipment is required to have Roll Overprotective Structures (ROPS) with a seatbelt, rearview mirrors, and backup alarm. Ensure that equipment using Power Off (PTO) has effective guarding as well. (Refer to Part XII of the OHS Regulations Powered Mobile Equipment)

#### **4.7 Aircraft**

The pilot of an aircraft is the captain and their instructions shall always be followed. They are personally responsible for the safety of the flight and should not be distracted while flying. An employer shall develop safe work procedures to be followed when around a helicopter, including proper helicopter approach by passengers and during slinging operations (see Figure 2), and ensure employees are trained in these procedures. The ground crew must always have direct communication with the pilot during slinging operations to ensure safe deposit of the materials. Transport Canada has developed a training video entitled "Keep Your Eyes on the Hook" that may be helpful in developing safe slinging procedures: <http://www.youtube.com/watch?v=eESeTQViOTY>. The pilot and ground crew must be aware of and familiar with slinging procedures and hand signals, and have clear communication that is absolutely understood by all involved. Refer to sections 346 through to 361 of the OHS Regulations.

Figure 2: Helicopter Slings a Load



#### **4.8 Water Travel**

Boating plans, including forecast, destination, and departure and return dates/times must be communicated to the appropriate supervisor. Personnel are required to wear a personal floatation device appropriate to the work environment and hazards. All boats or canoes are to be provided with equipment in accordance to the provincial and federal regulatory requirement. Follow Transport Canada's guidelines for certification of operators in boating safety.

### **5.0 Camp Management**

Some key components to managing a campsite are, fire prevention, identifying and assessing fire hazards, proper housekeeping, hygiene, electricity, and ventilation.

#### **5.1 Fire Prevention**

Fire safety is an important component of an emergency plan and fire safety and prevention is a key element to camp management. The removal of potential fire hazards and ignition sources and reducing quantities of fuel are proactive measures that will minimize the chances of a fire onsite.

Combustible dust such as fine particles of saw dust mixed in the right proportions in the air will explode with a single spark. If working in such conditions, ensure proper housekeeping and air purification is observed.

All employees must be trained in basic fire safety including use of fire extinguishers. For the design and occupancy of structures, installation of fire alarms, use of detection equipment and fire protection equipment, follow Fire Prevention Regulations under the ***Fire Prevention Act***.

## **5.2 Fire Hazards**

A fire hazard can be a solid, liquid or gas that poses a threat of igniting and/or feeding a fire. Workers should report any hazards to the site supervisor and/or ensure the hazard is removed or disarmed. All hazardous goods and flammable materials must be stored and used as per safety data sheets (SDS) and written safe work procedures developed and followed in the safe handling and use of hazardous materials.

Fire extinguishers should be kept near each tent or building and adequately marked for visibility. An adequate number of fire extinguishers should be located at each fueling point for vehicles, power saws, or pumps. A designated fire pump, a suitably sized reservoir from which water can be drawn and an adequate supply of hoses is required. Flammable liquids must be stored away from living and working quarters and overhanging trees. Buildings used to store flammable liquids must be adequately ventilated to prevent an accumulation of vapors. All ignition sources must be eliminated. Fuel drums must be clearly labeled, visibly listing the contents. Fuel storage containers must be CSA approved for that purpose and be properly grounded prior to the transfer of fuel. Fire Regulations prohibit smoking around flammable liquids and compliance must be ensured.

Tents can be a fire hazard if exposed to heat, spark or fire generated from heating apparatuses. Ensure that chimneys are adequately insulated from the tent wall with fire retardant material or metal inserts and separate the tents adequately to prevent the spread of fires.



When space heaters and water heaters are used in tents, they should be placed on metal stands and have clearance from flammable surfaces as specified by the manufacturer. To prevent burning through the metal bottom of an airtight heater, spread a thin layer of sand or sandy soil underneath heater. Avoid starting wood fires with flammable liquids. Plan and purchase solid-fuel fire starter if you intend to use wood fires. Lanterns should be situated (hung) so that they are not easily dislodged and to avoid spilling kerosene. To control and contain campfires, build a small fire pit.

### **5.3 Sanitation and Hygiene**

Remote work camps are subject to all provincial and federal legislation applicable to waste management practices. Please refer to [http://www.env.gov.nl.ca/env/env\\_protection/waste/guidancedocs/remote\\_exploration\\_camps.pdf](http://www.env.gov.nl.ca/env/env_protection/waste/guidancedocs/remote_exploration_camps.pdf).

Employers must ensure an adequate and accessible supply of potable water, which has been tested and approved by the appropriate health authority. If contamination is suspected and uncontaminated water is not available due to work location, the use of water purification tablets is suggested. Sufficient potable water including hot and cold running water should also be provided for hand washing, personal hygiene, cooking and cleaning purposes. Sufficient water for flushing toilets and laundry facilities should also be provided. Please refer to sections 61 through to 67 of the OHS Regulations.

Eating areas, separate from the work areas, are required to be kept clean and must have hand washing facilities close by in the event an employee comes into contact with a substance that could likely contaminate people, clothing or food. Refer to section 65 under the OHS Regulations.

Compressed air cannot be used to clean clothes, machinery, work benches or floors. Refer to section 37 under the OHS Regulations.

#### **5.4 Electricity/Generators**

Electrical supply to camps is typically provided by a generator. Before using a generator, the operator should read the manufacturer's instruction manual for proper use and safety of the machine (section 489(1) of the OHS Regulations). Any temporary electrical work must be completed by a competent person. Generators are to be grounded and must be adequately vented to the outdoors.

#### **5.5 Ventilation**

Ventilation is important in providing good air quality. When work gives off dust, fumes, vapor, mist, or other impurities that may impair worker health, the employer shall provide and maintain a proper ventilation system. The employer must ensure workers are trained and protected against the buildup of harmful gases from the burning of material in enclosed areas. Some of these concerns include:

- the buildup of carbon monoxide or other gases; and,
- the depletion of oxygen; etc.

Carbon monoxide monitors are required in all enclosed buildings where any petroleum product or wood is being used as a source of fuel. (Refer to section 45 of the OHS Regs).

#### **5.6 Smoking, Drugs, and Alcohol**

Smoking is not permitted in any workplace. An employer may, in accordance with the Smoke Free Environment regulations, designate one or more enclosed rooms that are under that employer's control as designated smoking rooms for employees. An employer shall post and keep posted signs prescribed under the regulations prohibiting smoking in a workplace as well as signs that identify designated smoking room. (Refer to the NL Smoke-Free Environment Regulations, 2005)

The possession or use of drugs and alcohol is strictly prohibited on a work site. A zero-tolerance policy is recommended and should be established, communicated, and posted around the site for employees and visitors (Refer to section 26 (2) of the OHS Regs).

## **5.7 Lightning**

The employer shall ensure that written procedures are developed, and workers are trained in the procedures for the hazards associated with lightning in the area. When in camp and outdoors, precautions should be taken to avoid this hazard during weather events likely to produce lightning including:

- staying indoors away from metal.
- avoiding standing under tall trees or in open spaces as they are susceptible to lightning strikes

## **5.8 Wildlife and Insects**

Working in remote areas increases the potential for wildlife encounters. Employers need to have a wildlife program, and this would include an education component covering topics like animal habitat and habits, avoidance practices, procedures to deal with animal encounters, and procedures to deal with animal attacks. Control measures include things like effective waste management practices, electric fencing, bear spray, noise deterrents and firearms. Always follow the Canadian Firearms Regulations and guidelines as outlined on <http://www.rcmp-grc.gc.ca/cfp-pcaf/pol-leg/act-loi-eng.htm> when using firearms. In general, the only firearms allowed for wilderness protection are non-restricted rifles and shotguns. The following individuals, provided they are Canadian residents and have a license that allows them to possess restricted firearms, may be authorized to carry a handgun or restricted long guns for wilderness protection:

- licensed professional trappers; and,
- individuals who need protection from wild animals while working at their lawful occupation, most often in remote wilderness location.

There is always a concern of an allergic reaction to insects and insect bites which can be fatal, especially while travelling or working in remote areas. To mitigate this concern, employees should be encouraged to complete a voluntary medical history questionnaire before arriving on site. Mosquitoes, black flies, and deer flies are found throughout the province and exposure can be managed through such measures as encouraging appropriately colored clothing, using insect repellents, and avoiding times of the day when insects are most active.

## **6.0 Machinery, Tools and Equipment**

Every worksite should contain equipment necessary to safely perform the intended scope of work. When using machinery or tools, employees should review, understand, and follow the manufacturer's operating and safety instructions and always inspect the tool and equipment prior to use to ensure safety devices are working and equipment is in good condition. Workers must always wear the appropriate PPE for the type of machinery or tools being operated.

### **6.1 Axes and Knives**

When selecting an axe or knife, the user should consider the condition, durability and for what it is being used. If travel is necessary while carrying the axe, always put the blade protector or sheath on the blade with the blade pointing away from your body.

### **6.2 Chainsaws**

Before using a chainsaw, an operator should review, understand, and follow the manufacturer's operating and safety instructions. Most chainsaw injuries are caused by "kick-back". A kick-back is when the saw bounces back out of the cut and the operator loses control of the saw. Wearing the appropriate PPE can help reduce the potential for and severity of an injury. (Refer to section 109 of the OHS Regulations)

The required PPE includes:

- leg protection – chainsaw pants or chaps with ballistic nylon must have a label permanently affixed to the outer surface of the device indicating the standard it meets.
- hard hat – with side impact protection must be CSA approved.
- hearing protection.
- safety glasses / goggles with face shield must be CSA approved.
- chainsaw boots must be CSA approved; and have the forestry green tree symbol
- non-slip gloves.

Standard guidelines for safe use include:

- ensuring the chain is properly sharpened, tensioned and all parts are tight.
- starting the saw on a stump or on the ground, not on your knee.
- not walking with the chainsaw while the chainsaw is running.
- use chain brake when saw running but not cutting.
- watch for kickback situations.
- never backsaw
- never use chainsaw above your shoulders.
- carry with blade facing behind; and,
- keeping a first aid kit nearby.

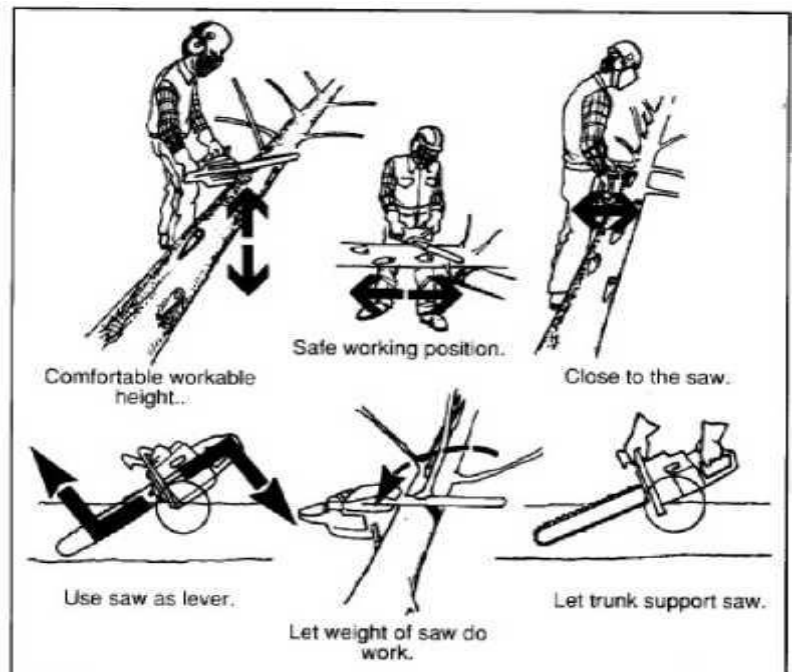


Figure 3: Chainsaw Safety

### 6.3 Explosives

Only personnel who have been trained and certified are authorized to handle and use explosives. Visibly mark the location of a loaded hole and never leave a loaded hole unattended. Prior to a blast, alert all personnel of blasting operation. Security procedures need to be implemented to prevent inadvertent access to loaded holes by unauthorized personnel. Vehicles or other mechanical equipment shall not be driven or moved over an explosive, a blasting accessory or a hole containing an explosive. A blasting operation should not be carried out on the approach of or during electrical storms and personnel must remain outside the danger area for the duration of the weather event. Display appropriate signage when blasting to alert personnel of existing dangers (Refer to section 417 of OHS Regulations).

Explosives should be stored in a day box marked “Explosives” or stored in an approved and licensed magazine. Only a person authorized by the employer should be permitted access to the explosives. This person is responsible to ensure accurate inventory records are maintained and available to an officer upon inspection. Records need to account for the quantity and type of explosive stored including detonators for at least three previous years. For security purposes, a copy of the inventory record should be kept at a place other than in the magazine. Theft or missing explosives is a serious matter and accurate inventories, security measures and regular inspection of magazines will help to mitigate this risk. For further details see sections 417(i), 420(1), 422(4), 425 of the OHS Regulations. See also the ***Explosives Act (Canada)***, the ***Fire Prevention Act*** and the ***Dangerous Goods Transportation Act*** for the handling and transport of explosives. For further details on storage, handling and transportation refer to sections 427 and 428 of OHS Regulations.



Figure 4: Clear, concise signage for Explosives

#### **6.4 Lock-out/ Tag-out**

Written lock-out/tag-out procedures must be developed, communicated to workers, and included in worker orientation, training, and toolbox talks. Locking and/or tagging machinery or systems lets others know the device or system is locked out and cannot be inadvertently started or energized, particularly while workers are working on them. Lockout procedures must be used while maintenance work is being done on machinery or systems and locks or tags can only be removed by the worker who affixed it. Refer to sections 127 through to137 of the OHS Regulations.

#### **6.5 Guarding**

Machinery, tools, and equipment with exposed moving parts, cutting or grinding edges and pinch points must have appropriate guarding in place. Guards must never be tampered with or modified. Never remove a safety guard. Operators should follow the manufacturer's safety manual for the proper use and maintenance procedures. Guards should only be removed for maintenance activities and only after proper lock-out/tag-out procedures have been implemented.

## **APPENDIX A**

### **FIRST AID**



## High Risk

This table is an example of first aid provisions for a workplace where the employer determined through the assessment of workplace conditions there is a **high** risk of injury and the worksite is more than 20 minutes surface travel time away from a hospital.

Item	Number of Workers Per Shift	Supplies, Equipment and Facility	Level of First Aid	Transportation
1	1	<ul style="list-style-type: none"> <li>Number 1 First Aid Kit</li> </ul>	Emergency	
2	2-5	<ul style="list-style-type: none"> <li>Number 2 First Aid Kit</li> <li>Stretcher, Blankets and Splints</li> </ul>	Standard	
3	6-10	<ul style="list-style-type: none"> <li>Number 2 First Aid Kit</li> <li>Stretcher, Blankets and Splints</li> <li>Emergency Transportation</li> <li>Vehicle (ETV) Equipment</li> </ul>	Standard	Emergency Transportation Vehicle (ETV)
4	11-30	<ul style="list-style-type: none"> <li>Number 3 First Aid Kit</li> <li>Stretcher, Blankets and Splints</li> <li>Dressing Station</li> <li>Emergency Transportation</li> <li>Vehicle (ETV) Equipment</li> </ul>	Advanced Medical First Responder (Level 1 - Attendant)	ETV
5	31-50	<ul style="list-style-type: none"> <li>Number 3 First Aid Kit</li> <li>Stretcher, Blankets and Splints</li> <li>First Aid Room</li> <li>Emergency Transportation</li> <li>Vehicle (ETV) Equipment</li> </ul>	Advanced Medical First Responder (Level 1 - Attendant)	ETV
6	51-200	<ul style="list-style-type: none"> <li>Number 3 First Aid Kit</li> <li>Stretcher, Blankets and Splints</li> <li>First Aid Room</li> <li>Industrial Ambulance Equipment</li> </ul>	Advanced Medical First Responder (Level 2 EMR - Ambulance)	Industrial Ambulance
7	201 or more	<ul style="list-style-type: none"> <li>Number 3 First Aid Kit</li> <li>Stretcher, Blankets and Splints</li> <li>First Aid Room</li> <li>Industrial Ambulance Equipment</li> </ul>	Two Advanced Medical First Responders (Level 2 EMR - Ambulance)	Industrial Ambulance

## **First Aid Facilities: Recommended Minimum Criteria**

The table gives examples of minimum levels of first aid for various workplaces. These tables indicate in column 3 whether a first aid facility is required, and, if a facility is required, what type (dressing station or first aid room). This document gives guidance on how to set up a first aid facility and some specific recommendations for dressing stations and first aid rooms. It also includes recommendations for portable oxygen therapy equipment and oxygen powered resuscitators which may be part of the necessary equipment in the facility.

Under section 13 of the Occupational Health and Safety-First Aid Regulations, a first aid facility must be kept clean, dry, ready for use, and must be readily accessible at any time a worker works in the workplace.

General recommendations for all first aid facilities

### **Location and access**

A first aid facility should be located as near as practicable to the work area or areas it is to serve. It should be a room within a building or, if this is not practicable, a tent, vehicle, or other suitable structure.

The first aid facility should be designed and located for easy entrance to and exit from the facility for a worker requiring stretcher transport. A stretcher should not have to be tipped or turned to enter or exit the first aid facility.

In remote areas, building a first aid facility may not be practicable. However, the facility should be at least of the same design and construction as workers' lodgings. If trailers are provided for workers' lodgings, a trailer should be provided for the first aid facility.

When a tent is used, it should:

- be of the same size and have the same equipment as a first aid room or dressing station, as appropriate.
- be fitted with a non-porous floor that can be cleaned with soap and water; and,
- have a source of heat that will provide sufficient warmth for good patient care (maintaining body temperature).

A first aid facility may be locked to prevent theft and vandalism or for other appropriate reasons. If so, there must be effective means of immediate access during all working hours.

### **Utilities**

The facility should be adequately illuminated, heated, and ventilated. It should have a sink plumbed with hot and cold running water or, if this is not practicable, an alternative system for supplying fresh, potable water. If showering may be a required treatment for chemical exposure, the facility should have a shower or have a shower facility as near as practicable.

It may be impracticable to plumb a first aid facility in certain situations, such as where the facility is a trailer on a construction site, or the work is at a remote location. In these cases, one of the following alternative sources of water, with means to heat it, may be considered until a permanent source of water can be connected:

- the facility has an internal tank able to hold a minimum of 45 liters (10 gallons) of fresh potable water which can be pumped into the facility's sink. The water in this tank must be changed daily or changed weekly if treated for the prevention of contamination.
- the facility is connected to a hose or water line from a fresh potable water outlet that can be pumped into the facility's sink.
- the facility has an insulated container able to hold about 20 liters (five gallons) of fresh potable water changed daily to prevent contamination; or,
- a fresh water supply company provides fresh water in a bottle or jug attached to a hot/cold dispenser.

### **Other recommendations**

Since the facility must be kept clean and sanitary, a non-porous floor covering is recommended.

The facility should have a notice displayed so that it can be obviously seen outside the door or in the area, indicating how to call and where to find the attendant.

Smoking is not permitted in a first aid facility, and "No Smoking" signs should be posted so that they are clearly obvious.

### **Additional recommendations for dressing stations**

In addition to the previous recommendations for a facility, a dressing station should be at least 4.3 square meters (48 sq. ft). It should have the following dressing station equipment:

- |   |  |
|---|--|
| 3 | blankets   |
| 6 | metal splints, minimum length 60 cm              |
| 1 | refuse pail with lid                             |
| 1 | package of paper towels                          |
| 1 | bifocal magnifier with head strap, 12.5 cm focus |
| 1 | eye cup  |
| 6 | safety pins                                      |
| 1 | 11.5 cm stainless steel sliver forceps           |
| 1 | 14 cm stainless steel bandage scissors           |
| 1 | oral thermometer                                 |

- 1 nail brush
- 1 penlight or flashlight with batteries
- 50 patient assessment charts
- 1 first aid record book, and pencil or pen
- 1 150 ml liquid antibacterial soap
- 3 cold packs
- 20 tongue depressors
- 50 cotton tip applicators
- 2 30-gram tubes water soluble burn treatment
- 1 100 ml liquid adhesive tape remover
- 100 sterile adhesive dressings, assorted sizes, individually packaged
- 24 sterile skin closures, individually packaged
- 6 20 cm x 25 cm sterile abdominal dressings, individually packaged
- 3 30 cm x 40 cm sterile abdominal dressings, individually packaged
- 4 sterile eye pads, individually packaged
- 100 7.5 cm x 7.5 cm gauze sponges
- 24 7.5 cm x 7.5 cm sterile gauze dressings, individually packaged
- 24 10 cm x 10 cm sterile gauze dressings, individually packaged
- 4 7.5 cm x 4.5 m crepe roller bandages
- 2 10 cm x 16.5 cm sterile pressure dressings, with crepe ties
- 1 7.5 cm x 4.5 m adhesive crepe bandage
- 2 2.5 cm x 4.5 m rolls of adhesive tape
- 2 5 cm x 4.5 m rolls of adhesive tape
- 1 7.5 cm x 4.5 m Esmarch gum rubber bandage
- 2 5 cm x 1.8 m conforming gauze roller bandages
- 2 7.5 cm x 1.8 m conforming gauze roller bandages
- 12 cotton triangular bandages, minimum length of base .25m
- 1 #01 - 4.5 m tubular finger bandage with applicator
- 1 500 ml sterile 0.9% sodium chloride solution (saline)
- 1 kidney basin
- 1 wash basin

- 1 cold instrument sterilizer
- 1 4.5-liter non-rusting germicidal solution for instrument tray
- 1 chair suitable for treating injured worker with non-porous surface or covered with non-porous material

### **Additional recommendations for first aid rooms**

See Schedule E of the Occupational Health and Safety-First Aid Regulations for furnishings and equipment requirements of a first aid room.

In addition, a first aid room should be at least 9.3 square meters (100 sq ft). It should have:

- storage cupboards.
- a counter; and,
- a toilet or have a toilet facility as near as practicable.

At a remote workplace (more than two hours surface travel time to a hospital), a first aid room should be equipped to provide reasonable overnight care for two injured workers and be used exclusively for first aid purposes.

### **Portable oxygen therapy equipment**

When an Advanced Medical First Responder is necessary at the workplace, portable oxygen therapy equipment should be available. The equipment should:

- be capable of supplying 15 liters per minute of oxygen; and,
- contain enough oxygen to supply this rate from the time of initial application to the arrival at medical treatment, plus 15 minutes.

Oxygen therapy equipment should comply with ***CSA Standard CAN/CSA Z305.3.M87, Pressure Regulators, Gauges, and Flow-Metering Devices for Medical Gases***, or a similar acceptable standard.

"No Smoking" signs or markings should be plainly visible on oxygen therapy equipment.

An oxygen cylinder should be hydrostatically tested on refilling if five years have elapsed since the previous test or, if there has been no previous test, since the date of manufacture. The test date should be marked on the cylinder.

### **Oxygen powered resuscitators**

An oxygen powered resuscitator may be used where a worker is injured and entrapped. An oxygen powered resuscitator should be maintained and operated in accordance with the manufacturer's specifications.

Only a person trained in the use of the specific equipment should operate it. This training should include a minimum of four hours training in the safe operation of the equipment from the supplier or other qualified person. The training must include all facets of the equipment's operation, handling, and storage. Refresher training or practice should take place every six months, and a training record of the initial and subsequent training should be maintained by the employer.

## **Emergency Vehicles and Equipment**

The table gives examples of minimum levels of first aid for various workplaces. It indicates whether an emergency vehicle is required, and, if an emergency vehicle is required, what type (emergency transportation vehicle or industrial ambulance) is to be available at the workplace. This document gives guidance on the use of emergency vehicles and the equipment needed. It also suggests when a mobile treatment center might be used in the place of a first aid facility and emergency vehicle. It also provides recommendations for air transport when that is the primary means to getting an injured worker to medical treatment.

Note that the Occupational Health and Safety Division does not approve of any makes or models of emergency vehicles and does not register vehicles.

### **General guidelines for emergency vehicles**

Emergency vehicles must be maintained and operated in accordance with the general requirements relating to Powered Mobile Equipment in the Occupational Health and Safety Regulations and with any other applicable statutes and regulations under the Motor Registration Division of Service NL.

Smoking is not permitted in a workplace vehicle including when it is used for transporting an injured worker and a plainly visible "No Smoking" sign should be posted in the vehicle.

### **Location and access**

Where a vehicle is needed to transport an injured worker, the vehicle should be immediately available for use and capable of being dispatched to the accident scene within three to five minutes of being required. It should be located where it will best serve the workers who are most likely to need an emergency vehicle.

The attendant should not operate the vehicle when this may interfere with the required first aid treatment.

### **Vehicle requirements**

Sometimes an employer may have different vehicles used for different parts of the journey to treatment. The following are recommended for each vehicle:

- the vehicle should be capable of traversing the area it is intended to serve.
- it should have minimum headroom of one meter (3.3 feet).
- it should provide protection from the natural elements and dust.

- it should provide warmth sufficient for good care for the injured worker, with the patient compartment heated enough to maintain normal body temperature when the injured worker is covered with three blankets. The source of heat must not be a hazard to the occupants of the vehicle when oxygen is in use.
- it should have effective voice communication between the operator and the attendant in the treatment area of the vehicle.
- it should have a means of effective communication with the scene of an accident. For example:
  - the driver has a two-way radio that has a direct link with another two-way radio at the scene of the injured or ill worker; or,
  - the driver has a two-way radio that has a link with the employer's central dispatch center, which has voice communication via a radio or radiotelephone with workers at the scene.
- it should have effective communication with the hospital. For example:
  - the driver has a two-way radio that has a direct link with the hospital.
  - a radiotelephone in the vehicle can contact the hospital directly.
  - a two-way radio or radiotelephone in the vehicle has a link with the employer's central dispatch center, which has voice communication via a telephone or radiotelephone with the hospital; or,
  - the emergency vehicle is accompanied to the hospital by another vehicle that is equipped with a radiotelephone or two-way radio that can contact the hospital directly and its driver can communicate with the emergency vehicle.
- Vehicles that transport injured or ill workers do not need to have mounted emergency lights or an audible signal (such as a siren). Before obtaining this type of equipment, the employer or the company supplying the vehicle should consult with the appropriate authority having jurisdiction.

**Additional recommendations for an emergency transport vehicle (ETV)**

In addition to the general recommendations for emergency vehicles, an ETV should be capable of transporting at least one worker on a stretcher. It should have a means of restraining a stretcher and have enough padding to prevent excessive jarring of the injured worker.

**An ETV should contain the following equipment:**

- 1 - set of hard cervical collars covering all adult sizes (or two adjustable hard cervical collars)
- 1 - spine board with handholds, no less than 44 cm x 1.8 m x 2 cm and seven 1.8 m x 5 cm heavy Velcro straps or equivalent to secure an injured worker
- 1 - stretcher (whenever an injured worker may require transport over rough terrain a basket stretcher or other carrying device must be used. The basket stretcher must have a spine board with handholds and retainer straps and a suitable mattress or padding)
- 6 - blankets (unless weather conditions at the workplace require more for the safe treatment or transport of injured workers, in which case suitable weather- resistant protection may also be needed)
- 2 - 4.5 kg sandbags
- 2 - vomitus bags

When an Advanced Medical First Responder is necessary, the following should be added:

- 1 set of splints, to include:
  - 2 splints (1 cm x 10 cm x 1 m notched with 2.5 cm padding)
  - 1 splint (1 cm x 10 cm x 1.5 m notched with 2.5 cm padding)

**Additional recommendations for an industrial ambulance**

In addition to the general recommendations for emergency vehicles, an industrial ambulance should:

- be used only for first aid treatment and transportation of injured workers, under the direction of the first aid attendant.
- be capable of accommodating at least two workers on stretchers.
- have adequate lighting in the patient compartment, allowing the attendant to see and assess the injured or ill worker and complete documentation, without the use of a flashlight; and,
- contain a roll cot or basket stretcher properly secured and cushioned against excessive jarring.

An industrial ambulance should contain the same equipment as an ETV plus a set of lower limb splints.



### **Mobile treatment center (MTC)**

An MTC is an industrial ambulance that also has:

- a sink with running water or, if this is not practicable, an alternative system for supplying fresh, potable water.
- minimum headroom of 1.8 meters (six feet) in the treatment area, sufficient for the attendant to treat the injured worker; and
- dressing station equipment.
- an MTC may be used in place of a first aid facility and emergency vehicle (ETV or industrial ambulance). This is recommended only when all the following circumstances apply:
  - the workplace does not provide overnight accommodation for workers.
  - where the workplace is more than two hours surface travel time from a hospital, air transport may be required.
  - vehicle suitable for transporting an injured worker is also provided; and,
  - when used in place of a first aid room, the MTC contains the necessary first aid room equipment.

### **Air transport**

If air transport is the primary or only means of transporting an injured worker to medical treatment, the following arrangements and equipment are recommended:

- make arrangements with an air service before the start of work, to ensure that an appropriate aircraft will be reasonably available during operations.
- the aircraft should be capable of transporting a stretcher patient and a first aid attendant, allowing the attendant sufficient room to provide emergency treatment en route, if required.
- a list of radio frequencies to be used between the air carrier and the workplace should be included in the written procedures required by section 38(2) of the Occupational Health and Safety Regulations. The coordinates of the workplace should be included in the written procedures.

- first aid equipment should be suitable for the aircraft to be used, including a stretcher or spine board that will fit in the aircraft and that does not allow movement or excessive jarring of the injured or ill worker during air transport. Employers are responsible for ensuring that attendants are properly trained in the use of the equipment; and,
- if weather or other factors could unreasonably delay the use of aircraft, alternative transportation options should be provided, where practicable.

The attendant has training to decide whether air or surface transportation is most appropriate for the injured or ill worker.

## **APPENDIX B**

### **Dealing With COVID-19 In the Forest Industry**

## Reducing the Risk of Exposure to COVID-19

The purpose of this document is to provide best practices to help reduce the transmission of COVID-19 illness in the forestry industry. This document is intended for employers and workers engaged in work in the forestry industry, including harvesting (pulpwood or firewood) operations, road/bridge building, sawmills, silviculture, or paper mills. This also includes public sector workers engaged in forestry work.

Please note that this document is intended as guideline. Recommendations for the prevention of COVID-19 are evolving as more becomes known about this illness. The information contained in this document is subject to change as the COVID-19 pandemic progresses.

### What are your Responsibilities

**Employers** are responsible to exercise every reasonable precaution to provide a healthy and safe work environment for their workers, as well as, anyone else who may be affected by their operations. They are also responsible to make sure that workers are provided with the necessary equipment, systems, tools, information, instruction, and supervision to safeguard against workplace hazards.

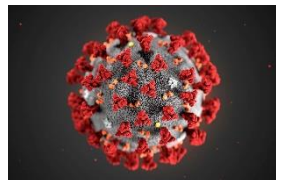
**Supervisors** are responsible to ensure workers are provided a healthy and safe work environment. That includes safe and sanitary tools and equipment. Be able to advise workers under his or her supervision of the health or safety hazards that may be met by them in the workplace. Provide proper written or oral instructions regarding precautions to be taken for the protection of all workers under his or her supervision. Ensure that a worker under his or her supervision uses or wears protective equipment, devices or other apparel that the Act, the regulations or the worker's employer requires to be used or worn.

**Workers** have a responsibility to protect their own health and safety, and that of other workers and people at or near the workplace. This may include, following the employers safe work practices and procedures.

**Contractors** are responsible to follow the Act and Regulations and any other rules set out by the employer or principal contractor.

### What is COVID-19?

Coronavirus Disease-2019 (COVID-19) is a new respiratory disease caused by the SARS-CoV-2 virus. COVID-19 emerged in the Chinese city of Wuhan in December 2019. The virus spread rapidly to other countries, with the first presumptive case in Canada confirmed in Toronto on January 25, 2020. On March 11, 2020, the World Health Organization (WHO) declared the outbreak a pandemic. This means that the viral infection has spread to several countries or continents and is affecting many people world-wide.



Coronaviruses are a family of viruses that have a crown-like shape, called a corona. These viruses infect people, as well as, many types of mammals and birds. Sometimes a strain of coronavirus will jump from one species to another. It is theorized that COVID-19 originated in bats, and then jumped to an unknown species before jumping to humans.

We are all impacted by COVID-19 and everyone must do their part to stop it from infecting those around us. Every person doing their part can have a powerful effect! The spread of this disease shows us how connected and how small our world really is.



The forest industry in Newfoundland and Labrador is an important part of our economy for many communities and it is important we protect it for those who rely on it. We are working together to build the industry in a time where renewable natural resources are critical to our economy. It has never been more important than now to follow safe work practices to prevent the spread of COVID-19 and keep our industry moving forward.

It is critical that everyone follow the recommendations of the Chief Medical Officer, create your own safe bubble around yourself and do not burst someone else's. One person infected with COVID-19 can spread the infection to everyone they encounter, whether it be family, friends, co-workers, or strangers on the street. This disease has no respect for person, place, or thing. Preventing the spread and flattening the curve is critical to putting an end to this pandemic.

To stop the spread of COVID-19, everyone must take seriously all attempts to limit the spread of the virus. One best practice to follow is to behave as though everyone around us, ourselves included, is a carrier of COVID-19 and has the potential to infect others.

### What are the symptoms of COVID-19?

COVID-19 illness affects different people in different ways. Most infected people will develop mild to moderate symptoms and recover without requiring medical intervention or hospitalization.

According to the CDC, symptoms of COVID-19 appear roughly 2 to 14 days after exposure and may include fever (body temperature at or above 38 C), cough and difficulty breathing. As we learn more about the disease new symptoms of unexplained loss of appetite, diarrhea, loss of taste and smell and purple spots on hands and feet have been discovered.

Unfortunately, some people may be infected with COVID-19 without experiencing symptoms. This means that they may unknowingly spread the illness to others.

### How can COVID-19 be spread?

Coronaviruses are most spread from an infected person through:

- Respiratory droplets that are spread when you cough or sneeze
- Close personal contact
- Touching something with the virus on it, then touching your mouth, nose or eyes

It is not certain how long the coronavirus can live on surfaces; however, scientists estimate it can survive between a few hours and several days, depending on the type of surface.

## Am I at Risk?

COVID-19 is extremely contagious. Anyone has the potential to become infected with COVID-19 if they are exposed to the virus. The elderly, children, people who have underlying medical conditions or compromised immune symptoms (ability to fight disease) have an increased risk of developing severe outcomes, but young and healthy people are also at **risk**.

## Is there a treatment or vaccine?

Currently, there is no specific treatment or vaccine for COVID-19. Treatment for mild to moderate cases is focused on managing symptoms, such as fluid replacement, cough suppressants and fever suppressants. For severe cases, hospitalization may be necessary.

## How are people diagnosed?

Testing to confirm a COVID-19 infection is done by collecting a nose swab, throat swab, or combination of both; and sending them to a laboratory for analysis.

## How to get help?

Anyone who has concerns about their symptoms should seek advice by calling 811, the Newfoundland and Labrador Health Line. **811** is a confidential and free telephone line available to all residents of the province, regardless of age that provides access to a Registered Nurse 24 hours a day, seven days a week. Wait times have been lengthy but the provincial government has added more registered nurses to the system to reduce these response times.

The Health Line also has a self-assessment tool which can be found on their website at:  
<https://www.811healthline.ca/covid-19-self-assessment/>

## The risk to forestry workers



There are many types of forestry work going on in the province. In some cases, an individual can work by themselves and maintain physical distancing with others. Others are required to work in groups, such as working at sawmills and pulp mills. For example, on some harvesting operations workers must commute to work together and live together during the week. Working together, sharing food, sleeping accommodations and washrooms can make physical distancing difficult.

On the work site there are issues with workers having to work near each other when it comes to making repairs to equipment as a lot of these repairs require 2 people to lift or move parts or other materials. Workers in both sawmills and paper mills must continue to maintain physical distancing while moving around the facilities.

Another issue facing forestry workers is dealing with the public in the woods. More and more people are taking to the woods because they have been laid off work and are taking advantage of that time to cut wood, ride ATV and fish. Some of these people come around the forestry operations as they have cabins or want to access to an area behind the forestry operation. Maintaining a physical distance due to COVID-19 is critically important, but also take into consideration other safety hazards the general public pose on these operations.

These are unprecedented times and information around COVID-19 is a constantly changing as we learn more about this virus. Continue to seek new developments concerning COVID-19 as it evolves. This disease is not like anything we have seen before in our lifetime and restrictions are being referred to as not seen since war time. This causes a lot of stress and anxiety too many people. If you are finding it difficult to deal with the stress of this pandemic reach out to loved ones through various social media outlets or give them a call. There are resources available through your public health services and you can call the health line at 811. You can also avail of online services at [www.bridgethegapp.ca](http://www.bridgethegapp.ca)

In the forest industry, given the nature of the work and the number of individuals and service providers involved in the supply chain and the existing challenges, it will be difficult to prevent the spread of COVID-19. Forestry workers will need to be focused on preventing the spread of COVID-19 and keeping themselves and each other, their families and the general population safe in the face of this outbreak. All other individuals including employers, contractors, service providers and workers who are engaged in work in or around the forest industry in any capacity will also need to be especially mindful of their responsibilities to work safely according to the specific occupational health and safety requirements for their work activities. In accordance with public health guidelines and recommendations for the prevention of COVID-19, this will also include practicing social and physical distancing, handwashing, personal hygiene, and environmental cleaning practices.



## Forestry Industry Best Practices

### Commuting Vehicle safety

The commuting vehicle driver will carry out pre-trip screening of all individuals (in one- on-one sessions) prior to their boarding of the work vehicle.

Pre-screening will consist of asking the following questions:

- a. Have you been diagnosed with COVID -19 or are you awaiting test results?
- b. Have you been in contact with anyone over the past 14 days who has or is awaiting test results for COVID-19?
- c. Do you have any symptoms of COVID-19 including cough, fever, shortness of breath etc.?
- d. Have you been in contact with anyone over the past 14 days who exhibited symptoms of COVID-19?
- e. Have you entered the province within the past 14 days?
- f. Have you been in close personal contact with anyone who has entered the province within the past 14 days?

Individuals who answer yes to any of the screening questions or who have an elevated temperature, will not be permitted in the vehicle and will be advised to go home and self-monitor and self-isolate as per public health recommendations outlined at [www.gov.nl.ca/COVID-19](http://www.gov.nl.ca/COVID-19).

Persons with questions or concerns about self-isolation should call the Canadian Red Cross Covid-19 Help Line at 1 800 863-6582. Individuals with symptoms should complete the Covid-19 Self-Assessment also available on the NL government website at [www.gov.nl.ca/COVID-19](http://www.gov.nl.ca/COVID-19)

### Commuting

**A maximum of 3 authorized persons** are permitted in the commuting vehicle at a time. Before anyone gets into commuting vehicle the driver must clean the interior touch surfaces in the vehicle.

**Everyone must wear a mask , eye protection and gloves in commuting vehicles.**

### Social distancing at home

All individuals seeking entry onto forestry operations are required to practice social distancing by limiting physical contact with other people when not engaged in forestry work. Following public health recommendations this means:

- a. Stay home unless it is otherwise necessary. (getting essentials)
- b. Avoid having people other than members of your household in your home.
- c. Avoid crowds and interact with as few people as possible when you do go out.
- d. Maintain 2 meters from other people.

### Physical distancing at work

At work, workers are required to make conscious effort to minimize close contact with others. To do this, workers should:

- a. Maintain a distance of at least 2 meters (6 feet).
- b. Avoid common greetings such as handshakes.
- c. Avoid handling each other's personal effects (hats, gloves, clothing, kit bags, tools,etc.)
- d. Only allow the minimum number of worker's onsite.
- e. Do not allow visitors or the public near forestry operations.
- f. During break times only allow the minimum numbers of workers in the lunchroom at a time to maintain physical distancing protocols.

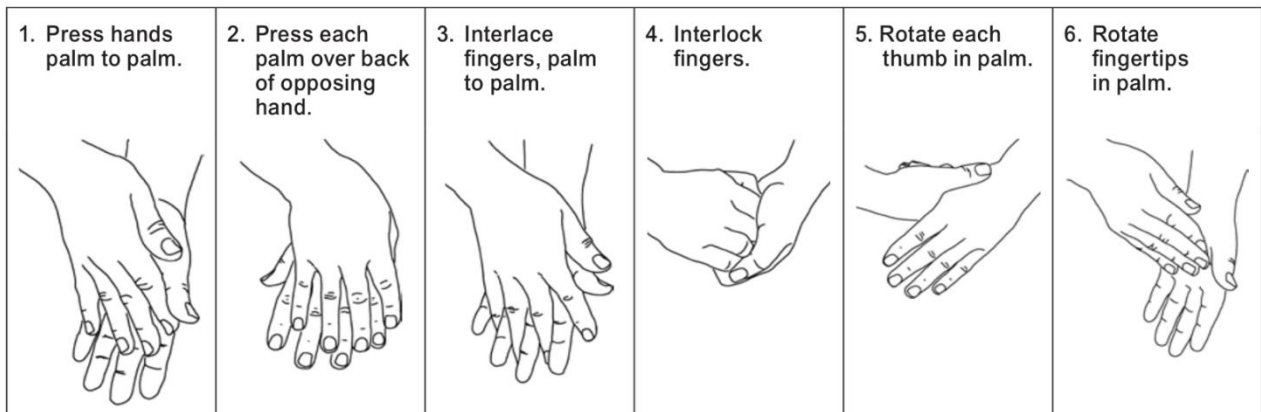


- g. Workers should be encouraged to take breaks in their personal vehicle or have their lunch at home, if possible.
- h. Machine operators need to clean common touch points in their shared equipment at the beginning and end of each shift.
- i. Report to your supervisor and go home, if you begin to feel unwell, even with mild symptoms, such as headache and runny nose.

### Personal Hygiene

Hand hygiene is one of the most effective ways to prevent or reduce the spread of germs. Practice personal hygiene to avoid contracting the virus. To do this:

- a. Wash your hands often with soap and water for at least 20 seconds, especially after going to the bathroom, touching dirty surfaces such as taps and doorknobs, when preparing food, before and after eating, after coughing and sneezing, handling contaminated waste, laundry, or whenever your hands look dirty.
- b. Use 60% alcohol-based [hand sanitizer](#) if soap and water are not available.
- c. Use disposal towels to dry your hands.
- d. Cough or sneeze into a tissue or the bend of your arm, not your hand.
- e. Dispose of any tissues you have used as soon as possible in a lined waste basket and wash your hands afterwards.
- f. Avoid touching your eyes, nose, or mouth with unwashed hands.
- g. Do not share personal items, toothbrushes, washcloths, cigarettes.
- h. Do not share phones, computers, and electronics unless they have been thoroughly cleaned. Refer to manufacturer recommendations before cleaning these items



### Workplace Hygiene

Increase the frequency of cleaning and disinfecting of high touch surfaces. Some commonly touched surfaces include door handles and railings, cupboard doors, tables, appliances, electronics, steering systems, engine and hydraulic systems controls, tools, light switches, phones, beds, washrooms, etc.

Clean high touched surfaces frequently with regular household cleaning products or a diluted bleach solution (0.5% hypochlorite). For a complete list of cleaners visit the Environmental Protection Agency at <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

All surfaces need to be sanitized between shifts if someone else will be using them. These include machinery, tools, vehicles, etc.

### Food Handling

Implement measures to minimize handling of shared food, dishes, and cutlery.

- a. Remove shared food containers, such as shared coffee cream dispensers, salt and peppershakers, etc.)
- b. Do not share food, unwashed eating utensils and beverage containers
- c. Have one designated person involved in food preparation and dispensing food onto plates
- d. Minimize handling of multiple sets of cutleries
- e. Use pre-packaged snacks
- f. Practice good hand hygiene
- g. Ensure that all food preparation, table, and counter surfaces are cleaned frequently.

### Sleeping Accommodations

Physical distancing of 2 meters (6 feet) between beds in some shared accommodations may be challenging given the layout and size of the rental unit.

- a. Assign personnel their own bed space, if practical
- b. Do not share linens, pillows and blankets, unless they have been previously laundered

### What to do for a worker that becomes ill

Workers are responsible to self-monitor their health before going to work.

Workers should notify the supervisor immediately if they start to feel unwell. Based on the condition of the worker and the presenting signs and symptoms, the supervisor will determine if emergency response is necessary.

- a. Isolate the ill worker along with their equipment and tools, if applicable. For workers, provided with accommodations see below for details.
- b. Notify the supervisor of possible COVID-19 case.
- c. Call the health line 811 to see if testing is required.
- d. The supervisor will arrange to transport the worker home or to the hospital, if applicable
- e. The supervisor will contact the rest of the crew, if self-isolation is required.
- f. The supervisor will arrange for the work area, equipment, and tools to be sanitized.

### **For workers living in sharing accommodations**

Whenever possible, the ill worker should be isolated from the rest of the workers to decrease the chance of person-to-person transmission of the virus. When doing this,

- a. Isolate the ill worker where possible to a private room, monitor and provide food, water, tissues and other necessary supplies.
- b. Clean and disinfect shared accommodations and bathrooms frequently.
- c. Place laundry, bedding and towels used by the ill worker in a waste bag and store securely away from other people.
- d. Use of masks (appendix c) as per public health recommendations are not recommended for preventing the spread of COVID-19 for healthy individuals.
- e. Use of a mask (appendix c) by ill individuals, however, may act as a barrier and helps stop the tiny droplets from spreading when you cough or sneeze.
  - i. Masks should not be touched or handled during use.
  - ii. If the mask gets wet or dirty with secretions, it must be changed immediately.
  - iii. Discard the mask in a household waste bag after use.
  - iv. Wash and dry your hands after removal of the mask.

### **Where COVID-19 testing is performed**

#### **If the test result is negative**

- a. The worker must notify the supervisor immediately.
- b. The supervisor will notify the remainder of the workers of the negative test result.
- c. Work can resume.

#### **If the test result is positive**

- a. The worker must notify the supervisor immediately.
- b. The supervisor will notify the remainder of the workers of the positive test result.
- c. The workers will be directed to self-isolate and follow directions of public health on self-isolation.

## **APPENDIX C**

### **Respiratory Protection for Covid-19**

## APPENDIX C

There is so much discussion around the availability of N95 masks. Here is some information provided by WorkplaceNL concerning the use of different respirators, if N95 masks are not available.

This is some general information on air-purifying respiratory protection. These are respirators that use a filtering media to remove contaminants from the air. This information does not apply to supplied air systems, such as SCBA (self-contained breathing apparatus).

This information is also specific to air-purifying respirators designed for particulate contaminants, including dusts, fibres, mists, fumes, bio-aerosols (i.e. filters). This information does not apply to air-purifying respirators designed for gas or vapour protection (i.e. cartridges or canisters).

### What are particulate filters?

Filters remove particulates (i.e. dusts, mists, fumes, fibres and bio-aerosols) from the air by pass the air through a woven material with an electrostatic charge. Filters are color-coded magenta (pink purple); however, the face piece of disposable respirators (i.e. dust mask) is often white (see images below for examples).



**Bottom line:** Particulate filters may take many forms, but they all protect from the same hazards.

### What types of particulate filters are available?

There are 9 possible types of particulate filter that are available (see table below).

Minimum Efficiency	N Class No Oil	R Class Oil Resistant	P Class Oil Proof
95%	<b>N95</b>	<b>R95</b>	<b>P95</b>
99%	<b>N99</b>	<b>R99</b>	<b>P99</b>
100%	<b>N100</b>	<b>R100</b>	<b>P100</b>

Three possible filter efficiencies:

- 95 - 95 per cent efficient
- 99 - 99 per cent efficient
- 100 - 99.97 per cent efficient

Three possible classes of oil resistance:

- N Series - not oil resistant
- R Series - oil resistant
- P Series - oil proof

**Bottom line:** The N95 is the lowest possible level of protection and the P100 is the highest.

## When should filters be replaced?

Filters must be replaced when:

- They become damaged, wet, soiled, or unhygienic
- They cause a noticeable increase in breathing resistance (i.e. they are hard to breathe through)
- R Series filters must be replaced after 8 hours of use or after the respirator has been exposed to 200 milligrams (mg) of the contaminant
- P Series filters must be changed every 40 hours or 30 days, whichever is first
- In accordance with an established change-out schedule (based on sampling and analysis)

## Do filters expire?

Filters don't typically have an expiry, but you should always double check your specific brand.

## Should I use a disposable or a reusable filtering respirator?

Particulate respirators may be in either a disposable (i.e. dust mask) or non-disposable (elastomeric face piece) form (see examples below). Both offer the same level of protection; however, there are some advantages and disadvantages to each type.



**Disposable respirators** (see image above, on the left), also called “dust masks”, are designed for particulates only. The primary advantage of these respirators is that they can be thrown away after each use. This is ideal when workers are in an environment with infectious contaminants, such as healthcare workers. The primary disadvantage is that they do not perform well in environments with high humidity or mists.

There are a variety of options offered by each brand name (3M, North, Honeywell, Miller, etc.). For example, folded and non-folded types often have a different fit. As another example, some makes include an exhalation valve (a valve on the front of the mask that lets air out, but not in) that reduces that amount of moisture that builds up inside the respirator. It is ideal for extended use.

**Non-disposable respirators** consist of an elastomeric face piece and straps, too which filters are attached (see example above, image on the right). These respirators come in two forms, half-face and full-face (see images below). When used in an environment containing infectious contaminants, the filters can be disposed; however, the face piece must be cleaned before and after use.



### **Are there standards for respirators used at work?**

Yes. All respirators used for the protection of workers in Canada must be approved by NIOSH (National Institute of Occupational Safety and Health). Beware of knock off brands that have no logo or modified logo (see example below).



## List of Links

### Service NL

Environmental Health Licenses <http://www.servicenl.gov.nl.ca/licenses/env health/> -

Fire Protection Services Act <http://assembly.nl.ca/Legislation/sr/statutes/f11-01.htm>

OHS Division, Service NL <http://www.servicenl.gov.nl.ca/ohs/index.html>

OHS Regulations <http://www.assembly.nl.ca/Legislation/sr/Regulations/rc120005.htm>

First Aid Regulations <http://assembly.nl.ca/Legislation/sr/regulations/rc961148.htm>

OHS Explanation Guide <http://www.servicenl.gov.nl.ca/ohs/guide/index.html>

Department of Environment and Conservation <http://www.env.gov.nl.ca/env/>

Application for Crown Land <http://www.env.gov.nl.ca/env/forms/lands/app crown lands.pdf>

Environmental Standards for Waste Management at Remote Camps  
<http://www.env.gov.nl.ca/env/env protection/waste/guidancedocs/remote exploration camps.pdf>

Department of Natural Resources <http://www.nr.gov.nl.ca/nr/>

Forestry Permits/ Licenses <http://www.nr.gov.nl.ca/nr/forestry/permits/licence.html#burn>

### Other Links

Workplace Health Safety and Compensation Commission (WHSCC) [www.whscc.nl.ca](http://www.whscc.nl.ca)

CSA Standards <http://shop.csa.ca/en/canada/products/icat/publications>

List of Ambulance Contacts for NL <http://www.health.gov.nl.ca/health/findhealthservices/road ambulance contacts.pdf>

Department of Justice, Canada: Explosives Act <http://laws-lois.justice.gc.ca/eng/acts/E-17/>

Dangerous Goods Transportation Act NL <http://assembly.nl.ca/legislation/sr/statutes/d01.htm>

"Keep Your Eyes on the Hook" Video - Transport Canada  
<http://www.youtube.com/watch?v=eESeTQViOTY>

Firearms Act & Regulations - RCMP <http://www.rcmp-grc.gc.ca/cfp-pcaf/pol-leg/act-loi-eng.htm>

Chainsaw Photo: <http://www.work.chron.com/list-forestry-jobs-13351.html>

Men Surveying Photo: <http://www.borealforestfacts.com/?p=30>