

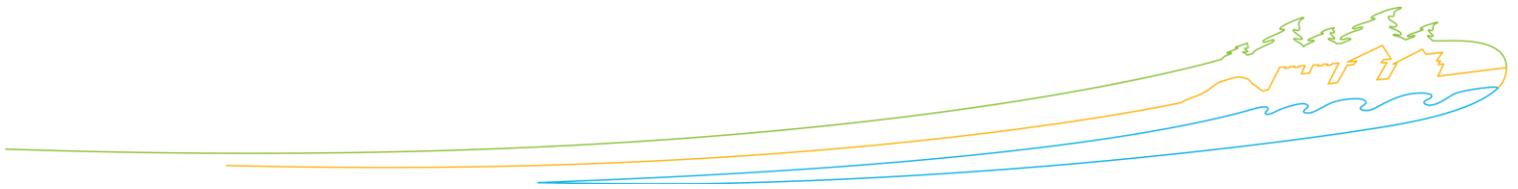
APPENDIX D

Parks Canada:

- Hazard Prevention Standard
- Risk Estimator
- Reference Guide on the Selection of Personal Protective Equipment
- SAFE WORK PRACTICE - USE OF FIXED LADDERS
- SAFE WORK PRACTICE - USE OF PORTABLE LADDERS
- SAFE WORK PRACTICE - WORKING AT HEIGHTS
- SAFE WORK PRACTICE - HIGH ANGLE RESCUE



Parks Canada
Parcs Canada



Hazard Prevention Standard

Effective Date: June 2013

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1. PURPOSE

Parks Canada Agency (PCA) is committed to providing and maintaining a healthy and safe work place for all its staff, by preventing accidents and illnesses, and eliminating or reducing occupational risks and potential dangers. This commitment is based on the Internal Responsibility System philosophy of shared responsibility between employees and employers for work place safety. Both employees and employers have an important role to play in making the work place safe.

The purpose of the Hazard Prevention Standard, in conjunction with the Hazard Prevention Directive, is to facilitate PCA's commitment to occupational health and safety by providing information and tools to implement and monitor a program for the prevention of occupational hazards in accordance with [Part II of the Canada Labour Code](#) (CLC) and the *Canada Occupational Health & Safety Regulations* (COHSR), particularly [Part XIX, Hazard Prevention Program](#).

2. CONTEXT

PCA has developed and implemented a national program for the prevention of occupational hazards. It has focused on the operation of national critical tasks and conditions collectively performed by most employees using the [task safety analysis \(TSA\) process](#) and the creation of generic documents called Safe Work Practices (SWP). The process was facilitated through the establishment of national working groups of functional expertise with technical support from occupational health and safety (OHS) coordinators or advisors. The result of the national implementation of the TSA process is the [national inventory of generic Safe Work Practices](#) (SWP), which lists the generic SWP by functional group. National generic SWP clearly identify the hazards and all of the corrective measures to be implemented when performing a specific critical task or being exposed to certain conditions. As new critical tasks and conditions are identified, or existing tasks are modified locally, and as these present different or more critical hazards, SWP will be updated and added as needed to the national generic list.

A managed program for the prevention of occupational hazards includes other hazard prevention activities in addition to task safety analysis, such as work place inspections, ergonomic assessments and hazardous occurrence investigations. This standard will serve to provide each business unit with the information and tools to implement the integrated program for the prevention of occupational hazards at the local level.

3. ROLES AND RESPONSIBILITIES

3.1 Parks Canada Executives

- Report to the regional occupational health and safety (OHS) coordinator hazards specific to the work place not previously identified in the national inventory of hazards;
- Ensure the identification and assessment of work place hazards in their area of responsibility;
- Approve locally created Safe Work Practices (SWP) or generic SWP that have been adapted locally;
- Ensure the regional OHS coordinator is provided with locally created SWP or generic SWP that have been adapted locally;
- Ensure the implementation of preventive measures in work places in their area of responsibility;
- Ensure consultation with the local OHS committee or representative on managing hazard prevention locally; and
- Collaborate with the regional OHS coordinator to find solutions for managing hazard prevention.



Note: Although Parks Canada Executives (PCX) hold the accountability for OHS within their business unit, local OHS responsibilities may be delegated, as required, to managers or supervisors and, where available, to the Local OHS Coordinator or Advisor.

3.2 Managers and Supervisors

- Identify all positions in their area of responsibility that perform critical tasks;
- Identify all critical tasks performed;
- Ensure that SWP are prepared for all such critical tasks;
- Ensure that appropriate training is provided to their employees;
- Educate employees on the specific hazards related to the tasks they perform and acknowledge this in writing;
- Provide appropriate personal protective equipment; and
- Consult with employees, the local occupational health and safety (OHS) committee or representative, and the regional OHS coordinator.

3.3 Employees

- Identify occupational hazards and take appropriate action, such as correcting the hazard or reporting the hazard to their supervisor to implement corrective measures;
- Participate with managers, supervisors and local occupational health and safety committees or representatives in the hazard identification and assessment processes associated with task safety analysis and work place inspections;
- Review and attest in writing all safe work practices SWP that apply to critical tasks undertaken as part of their duties;
- Use and follow the SWP with respect to controlling all hazards related to the critical tasks;
- Follow all instructions, participate in, and confirm in writing their participation to all mandatory training, and as prescribed in the SWP;
- Use the personal protective equipment as prescribed in the SWP.

3.4 Local Occupational Health and Safety Committees or Representatives

- Participate with management in the implementation and monitoring of hazard prevention locally;
- Review and monitor local inventories of identified positions, as well as participate in the local implementation of adopted or adapted generic SWP and locally created SWP;
- Conduct work place inspections and monitor technical inspections performed by qualified persons;
- Review and monitor records of work place investigations and testing, such as levels of sound;
- Participate in investigations of hazardous occurrences and refusals to work;
- Review and monitor all other hazard identification and assessment techniques;
- Raise relevant implementation issues to the attention of the management team; and
- Report identified hazards, inquiries or investigations and monitored measures or procedures by completing the annual Occupational Health and Safety Committee Report ([Human Resources and Skills Development Canada LAB 1058 Form](#)).



3.5 Regional Occupational Health and Safety Coordinators

- Ensure information and guidance is provided to local levels;
- Assist in validating generic Safe Work Practices (SWP) or creating new ones;
- Collect locally created SWP or generic SWP that have been adapted, and conduct an annual review for possible inclusion in the national inventory;
- Collect data from the local levels for program evaluation purposes;
- Consult with the Manager, National Occupational Health and Safety and Disability Management Program and the National Occupational Health and Safety Policy Committee, to develop preventive measures and educational materials and monitor local implementation; and
- Liaise between the national office and the local levels.

3.6 Human Resource Managers

- Collaborate as necessary with the local OHS committee, as represented by the employer co-chair, or the OHS representative to bring forward information and issues as necessary to the management team;
- Keep records of training, education, personal protective equipment and certification for each employee including documentation such as the [Safe Work Practice Attestation Form](#); and
- Contribute information as necessary to the local OHS committee or representative and to the regional OHS coordinator for data collection and reporting purposes.

3.7 Manager, National Occupational Health and Safety and Disability Management Program

- Establish and maintain the national inventory of generic Safe Work Practices;
- Provide direction, guidance, coordination and tools to regional occupational health and safety (OHS) coordinators and management;
- Liaise with the National Occupational Health and Safety (NOHS) Policy Committee and senior management;
- Develop an OSH training program and educational materials in collaboration with the regional OHS coordinators and ensure implementation of an educational program; and
- Conduct a program evaluation periodically (at least every three (3) years as required by the regulation) in consultation with the NOHS Policy Committee, and making recommendations to the Chief Human Resources Officer for improvements.

4. HAZARD PREVENTION METHODOLOGY

4.1 Hazard Identification

The methodical identification of hazards in the work place is an essential component of a program to prevent occupational hazards. PCA has developed an [inventory of occupational health and safety hazards](#) with suggested preventive measures as part of the national program for the prevention of occupational hazards. Business units may identify many of these hazards unique to the work place within their integrated program for the prevention of occupational hazards at the local level.



4.2 Hazard Assessment

Hazard assessment is the assignment of a level of risk and priority to make decisions on preventive measures and takes into account:

- a) The nature of the hazard;
- b) The employees' level of exposure to the hazard;
- c) The frequency and duration of employees' exposure to the hazard;
- d) The effects, real or apprehended, of the exposure on the health and safety of employees;
- e) The preventive measures in place to address the hazard;
- f) Employee reports; and
- g) Any other relevant information.

Once hazards have been identified, the risks associated with exposure to the hazard must be assessed before the hazard can be controlled in an appropriate fashion. Hazard assessment relies on the reasoned judgment and expertise of individuals familiar with the work and the risks associated with tools, machinery, processes and conditions. The Parks Canada [Risk Estimator](#) should be used to assign a level of risk to identified hazards. With this information, the manager or supervisor can then make decisions to prevent or control the hazard.

4.3 Hazard Prevention Measures

Once work place hazards have been identified and assessed, the employer must implement preventive measures to address such hazards.

The national [inventory of occupational health and safety hazards](#) includes suggested preventive measures. However, the employer must select the preventive measure based on level of risk assigned from the assessment process and the hierarchy of control.

4.3.1 Hierarchy of Control

Preventive measures mean all useful, practical and effective methods that make it possible to avoid the occurrence of a hazardous situation. There are multiple methods to help you find solutions to a given problem and Part XIX of the COHSR has established a hierarchal order:

Most effective	Control	Example
	a) Elimination The machine, thing, condition or activity, that constitutes the hazard, is replaced by another machine, thing, condition or activity that eliminates the original hazard, and which does not create a new hazard. It is the preferred way to control a hazard and should be used whenever possible.	<ul style="list-style-type: none"> • Eliminate human interaction • Automate process • Substitution
	b) Reduction If you cannot eliminate the hazard, you can attempt to reduce it through control techniques that aim to diminish the intensity of the hazard should it occur,	<ul style="list-style-type: none"> • Engineering Controls (safeguarding technology to separate hazard from employee)



<p>prevent the hazardous situation from occurring, or eliminate hazardous tasks.</p> <p>Administrative measures are considered only after the preceding preventive measures have been considered, not because they are without value, but because technical solutions are more effective than solutions that focus on individuals.</p>	<ul style="list-style-type: none"> ○ Barriers ○ Presence-sensing devices ○ Interlocks ● Awareness Means <ul style="list-style-type: none"> ○ Lights, beacons ○ Computer warnings ○ Signs, labels ○ Beepers, horns ● Administrative controls <ul style="list-style-type: none"> ○ Safe Work Practices ○ Safety equipment inspections ○ Training ○ Job rotation
<p>c) Protection of Employees</p> <p>The protection of employees mainly involves providing employees with protective equipment or clothing that make it possible to counter a hazardous occurrence or diminish the scope of potential damage. Please refer to the Parks Canada Agency Personal Protective Equipment Standard for detailed requirements.</p> <p>The protection of employees may also include immunizations. Please refer to the Parks Canada Agency Occupational Health Monitoring Program for more details.</p>	<ul style="list-style-type: none"> ● Safety glasses ● Ear plugs ● Face shields ● Gloves ● Sun block ● Immunizations (i.e. hepatitis, tetanus)
<p>Least Effective</p>	

4.3.2 Preventive Maintenance

PCA’s asset portfolio is wide-ranging and includes a variety of assets such as bridges, dams, roadways, canals, fortifications, buildings, campgrounds, waste water treatment plants and potable water distribution systems. In order to protect the health and safety of staff and visitors, the management of these assets is under the responsibility of professional engineers, who apply principles of portfolio, life-cycle and risk management as prescribed in overarching government policies, as well as due diligence care. The operation, maintenance, inspection and construction of assets and their components are executed in accordance to federal codes and regulations, local legislated requirements (where applicable), as well as to the Agency's internal directives, standards and guidelines. The management of our assets serves to achieve the preventive maintenance program that is mandatory under the *Canada Labour Code* for equipment whose failure can result in an occupational hazard.



5. HAZARD PREVENTION ACTIVITIES

5.1 Proactive Activities

The purpose of Part II of the Canada Labour Code is to prevent injuries and illness related to work. The primary intention of all prevention activities is to ensure hazards are identified, assessed and prevented before an employee is exposed to those hazards. Such activities are carried out on a planned or scheduled basis or in response to a report of a potential hazard.

5.1.1 Task Safety Analysis and Safe Work Practices

The program for the prevention of occupational hazards focuses on the operations of critical tasks and the exposure to conditions that pose significant risks to employees using the process of the task safety analysis (TSA). The purpose of hazard identification by means of a TSA is to break down the steps of each critical task as well as highlight those hazards pertaining to equipment, energy sources, working conditions or activities performed. The hazards are then assessed and preventive measures considered using the previously mentioned methodology.

It is the responsibility of the Parks Canada Executives (PCX) to ensure the TSA process is implemented in consultation with employees and the local (OHS) committee. The [Task Safety Analysis Process](#) includes all information and tools necessary to develop and implement this element at the local level.

An outcome of the task safety analysis process is an inventory of critical tasks. For each critical task, there must be a Safe Work Practice (SWP) that documents all of the hazards and the preventive measures selected to control the hazards as per the TSA. The preventive measures identified on SWP must be implemented and complied with if the employee may be exposed to the hazard for which that measure is intended to prevent or control. For training and other administrative controls that may require additional resources to implement, the employer must demonstrate that the employee is qualified to perform the critical task safely and must also develop and implement a plan to achieve the training, etc.

a) National Generic Safe Work Practices

[National generic Safe Work Practices](#) (SWP) developed as a component of the national program for the prevention of occupational hazard include all the preventive measures deemed appropriate for employees while performing those specific critical tasks. These SWP are considered to be the national employer standard.

b) Adapting Safe Work Practices

A national generic SWP may be adapted or modified if that particular critical task is performed within a specific business unit in a manner or under conditions that expose the employee to additional or different hazards. For example, a task with a potential hazard of heavy objects falling onto the foot will require CSA-approved safety boots. However, if the task is performed in an extremely cold environment, where heavy footwear is already being worn, the hazard associated with the falling object is assessed at a lower criticality than one associated with temperatures where lighter footwear is worn. In these circumstances, different footwear would be provided to control the greater hazard. Overall, the adapted SWP will generally incorporate a local employer standard that is of a higher level than the national standard.



c) Creating Safe Work Practices

The inventory of critical tasks developed by the business unit may include tasks for which a national generic SWP does not exist. In these cases, a local SWP must be created or developed using the [Task Safety Analysis process](#).

5.1.2 Work Place Inspections

The *Canada Labour Code*, Part II requires the local occupational health and safety committee or representative to conduct a monthly work place inspection so that every part of the work place is inspected at least once a year. The main purpose of such inspections is to identify and assess hazards present in the work place and to facilitate preventive measures implemented by the manager or supervisor..

5.1.3 Hazardous Substances

Part X of the *Canada Occupational Health and Safety Regulations* ([Section 10.3](#)) requires the manager or supervisor to keep and maintain a record of all hazardous substances that are used, produced, handled, or stored for use in the work place. As part of the identification and inventorying of hazardous substances, they must also be labelled and associated to a Material Safety Data Sheet (MSDS) as per the [requirements of the Work place Hazardous Materials Information System \(WHMIS\)](#).

5.1.4 Work Place Investigations or Assessments

Work place investigations should be used proactively by managers or supervisors to assess a suspected or potential hazard. Please refer to the document [Work Place Investigation Procedure](#) for a detailed description of the Work Place Investigation Process.

The following are common work place investigations that have assessment methodologies prescribed by the Regulation:

a) Hazardous Substances Assessment

Part X of the *Canada Occupational Health and Safety Regulations* ([Section 10.4](#)) requires the responsible manager to appoint a qualified person (internal or external resource) to investigate if there is a likelihood that the health or safety of an employee is or may be endangered by exposure to a hazardous substance, including extreme temperatures, humidity, vibration and the presence of mould that may affect indoor air quality. The qualified person may be an industrial hygienist who would assess the exposure(s) and provide recommendations to the employer on preventive or corrective measures.

b) Confined Spaces Assessment

Part XI of the *Canada Occupational Health and Safety Regulations* ([Section 11.2\(1\)](#)) requires the responsible manager to appoint a qualified person when it is likely that an employee will enter a confined space under certain circumstances to identify and assess the hazards the employee may be exposed to and to specify tests necessary to determine the level of exposure. The qualified person who conducts this prescribed assessment would then provide recommendations to the employer.

c) Noise Hazard Investigations

Part VII of the *Canada Occupational Health and Safety Regulations* ([Section 7.3](#)) requires the responsible manager to appoint a qualified person to investigate noise hazards where an employee may be exposed to sound levels of 84 dBA or more for a duration that is likely to endanger the employee's hearing. Please refer to the Parks Canada Agency [Hearing Conservation Standard](#) (coming soon) for further information.

5.1.5 Work Place Violence Assessment



Part XX of the *Canada Occupational Health and Safety Regulations* ([Sections 20.4 and 20.5](#)) requires the responsible manager to identify factors contributing to work place violence and conduct an assessment. Please refer to the Parks Canada Agency [Workplace Violence Prevention Standard](#) and [Workplace Violence Prevention Standard](#) for more details.

5.1.6 Ergonomic Assessments

Part XX of the *Canada Occupational Health and Safety Regulations* ([Section 19.4](#)) requires managers or supervisors to identify and assess ergonomic-related hazards, including factors such as:

- i. The physical demands of the work activities, the work environment, the work procedures, the organization of the work and the circumstances in which the work activities are performed, and
- ii. The characteristics of materials, goods, persons, animals, things and work spaces and the features of tools and equipment.

Based on ergonomic principles, the assessment includes recommendations to modify or redesign these system components to maximize the employee's health, well-being and productivity. A [procedure to request an office ergonomic assessment](#) and [office ergonomic tools](#) are currently available. Information and tools to help business units intervene proactively before there is a medical need, and develop their own Internal Ergonomics Program, are also under development. Please consult [your Occupational Health and Safety Advisors](#) for current ergonomic training needs.

5.2 Reactive Activities

The following are types of activities conducted under circumstances where a hazard has already manifested itself and thus requires formal identification and assessment.

5.2.1 Hazardous Occurrence Investigations

In the context of a hazardous occurrence investigation, the manager or supervisor, the qualified person appointed to investigate and the local occupational health and safety committee or representative may identify a hazard (or potential hazard) that has caused or contributed to the hazardous occurrence and recommend its assessment. Please refer to the [Parks Canada Agency Policy and Procedures on Hazardous Occurrence Investigation, Reporting and Recording](#) for further information.

5.2.2 Investigations of OHS Complaints or Refusals to Work

In the context of an investigation following a formal internal complaint or a refusal to work, the manager or supervisor, the qualified person appointed to investigate, the local health and safety committee or representative or the Human Resources and Skills Development Canada Health & Safety Officer may identify a hazard (or potential hazard) and recommend its assessment. Please refer to the Parks Canada Intranet for further information on the [Internal Complaint Resolution Process and Right to Refuse Dangerous Work](#).

5.2.3 Situation of Violence Investigation

If a work place violence incident cannot be resolved initially by the employer, the employer must appoint a competent person to investigate the incident, who, at the completion of the investigation, will provide to the employer a written report with conclusions and recommendations. Such a report may help the employer identify and assess work place hazards related to violence. Please refer to the Parks Canada Agency [Violence Prevention Directive](#) (coming soon) and [Workplace Violence Prevention](#) (coming soon) for more details.

6. EMPLOYEE EDUCATION AND TRAINING



6.1 Basic Requirements

Managers and supervisors must ensure that each employee be informed and educated on the following program components before performing their tasks and before being exposed to a hazard:

- i. Safe Work Practices (SWP) for the critical tasks the employee will be expected to perform as part of the local program for occupational hazard prevention.
- ii. Nature of work and other associated hazards that may not be in the SWP.
- iii. Employee's duty to report as per Part II of the *Canada Labour Code* (CLC) and the pursuant regulations:
 - Anything or circumstance that is likely to be hazardous
 - Every accident that has caused injury
 - Accident or other occurrence that has caused or is likely to cause injury.
- iv. Overview of Part II of the CLC and of the *Canada Occupational Health and Safety Regulations*, as delivered in the PCA mandatory OHS training course: [Level 1: For employees](#)
- v. Specific training requirements related to the nature of work and associated hazards.

6.2 New Information

Each employee must be informed and educated every time new information is received about the hazards to which they are exposed.

6.3 Review

Managers and supervisors must review their education program accordingly in consultation with the local OHS committee or representative. If there is no change in the hazards, the program must be reviewed every three years.

6.4 Confirmation of Education

Whenever an education session is given, the employer must acknowledge in writing that the education took place and employees must also acknowledge in writing that they have received such education (i.e. [Safe Work Practice Attestation Form](#) as part of the [Task Safety Analysis Process](#), signed [Record of Attendance](#)).

6.5 Education Record

For each employee, the Human Resources Manager must ensure that a record is maintained of all occupational health and safety education provided. This record must be kept for two years following the end of his or her employment with the Agency. Please note that the Human Resources Management System *PeopleSoft* is the electronic system that must be used to record the completion of all courses for which a course code exists.

6.6 Follow-up on Validity of Training

For each employee requiring refresher training or re-certification at a specific time interval, the manager or supervisor will ensure that such training or re-certification takes place within the specified time interval and records are provided to the Human Resources Manager.

7. EVALUATION



PCA, in consultation with the National Occupational Health and Safety Policy Committee, will evaluate the effectiveness of the program for the prevention of occupational hazard periodically (at least every 3 years as required by Part XIX of the *Canada Occupational Health and Safety Regulations* (COHSR)) and will implement improvements as required based on the evaluation. The evaluation will be conducted in compliance with [Section 19.7 of the CCOHS Regulation](#) and shall be based on the following documents and information:

- Any work place inspection reports;
- Any hazardous occurrence investigation reports;
- Any safety audits;
- First aid records and any injury statistics, including records and statistics relating to ergonomics;
- Annual reports, activity reports and internal surveys;
- Any observations of the policy and work place committees or representatives, on the effectiveness of the prevention program; and
- Any other relevant information.

The evaluation will take into account data gathered from the business units on the various activities conducted locally as well as training, qualifications and educational data. The data will be measured against the established performance indicators. The [Hazard Prevention Evaluation and Checklist](#) (coming soon) should be used by business units to ensure that appropriate documentation on program activities is maintained and reported as required. In addition, all new hazards that are not currently identified in the [inventory of occupational health and safety \(OHS\) hazards](#) must be identified to the local OHS committee or representative. They will then report the hazards on the annual OHS committee report.

8. REVISIONS

This standard shall be reviewed and updated as required at least every three years. Revisions shall be approved by the Chief Human Resources Officer upon recommendation by the National Occupational Health and Safety Policy Committee.

9. RELATED DOCUMENTS



1. [Inventory of Occupational Health and Safety Hazards](#)
2. [Inventory of National Generic Safe Work Practices](#)
3. [Safe Work Practice Attestation Form](#)
4. [Risk Estimator](#)
5. [Task Safety Analysis Process](#)
6. [Work Place Investigation Procedure](#)
7. Hazard Prevention Evaluation and Checklist (coming soon)
8. [Parks Canada Agency Policy and Procedures on Hazardous Occurrence Investigation, Reporting and Recording](#)
9. [Parks Canada Agency Occupational Health and Safety Policy](#)
10. Parks Canada Agency Personal Protective Equipment Standard (coming soon)
11. Parks Canada Agency Work Place Violence Prevention Standard
12. Parks Canada Agency Work Place Violence Prevention Directive (coming soon)
13. [Parks Canada Agency Guidelines on the Prevention of Exposure to Solar Radiation](#)

10. Applicable Legislation, Standard and Policies

1. [Canada Labour Code, Part II](#)
2. *Canada Occupational Health and Safety Regulations:*
 - a. [Part VII Levels of Sound](#)
 - b. [Part X Hazardous Substances](#)
 - c. [Part XI Confined Spaces](#)
 - d. [Part XV Hazardous Occurrence Investigation Reporting and Recording](#)
 - e. [Part XIX Hazard Prevention Program](#)
 - f. [Part XX Violence Prevention in the Work Place](#)
3. [Human Resources and Skills Development Canada Hazard Prevention Program Guide](#)
4. CSA Z1000-06 Occupational Health and Safety Management System
5. [Human Resources and Skills Development Canada Inspection Means Prevention](#)

Appendix 1: Definitions



“**Condition**” (« *Condition* ») means the attributes of the work place where a task may be conducted that expose the employee to additional hazards not specific to the task such as extreme heat, UV rays or disease from insect bites.

“**Confined Space**” (« *Espace clos* ») means an enclosed or partially enclosed space that:

- a) Is not designed or intended for human occupancy except for the purpose of performing work,
- b) Has restricted means of access and egress, and
- c) May become hazardous to any person entering it owing to.
 - i. Its design, construction, location or atmosphere,
 - ii. The materials or substances in it, or
 - iii. Any other conditions relating to it.

“**Critical Task**” (« *Tâche critique* ») means a task with an assessed risk of moderate or higher.

“**Employee**” (« *Employé* ») means a person employed by the Agency.

“**Employer**” (« *Employeur* ») means the Agency or any person authorised to act on behalf of the Agency, including managers and supervisors.

“**Hazard**” (« *Danger* ») means a condition, device or substance that has the potential to cause harm to an employee. There are several types of hazards.

- “**Chemical Hazards**” (« *Risques chimiques* ») are generally associated with “controlled products” such as mercury, arsenic and insecticides but also include all raw materials and by-products generated by the product, process or service through mechanical action, evaporation, combustion, decomposition, chemical reaction, etc. Chemical hazards take the form of solids, liquids, aerosol (dust, fumes, mists), gases and vapours, including combustion products from fires and chemical explosions. The routes of entry are inhalation, absorption, ingestion and injection.
- “**Biological Hazards**” (« *Risques biologiques* ») are living organisms with the potential for toxicological effect and include venomous bites or stings, mould, viruses, bacteria, etc.
- “**Physical Hazards**” (« *Risques physiques* ») include energy hazards (vibration and electrical hazards); environmental hazards (radiation, noise and extreme temperatures) ergonomic hazards, including working posture, repetitive motion, excessive physical effort etc.
- “**Safety Hazards**” (« *Risques pour la sécurité* ») are those hazards that may result in an injury such as mechanical hazards (stuck by, caught in or pinched by equipment), tripping and falling as well as those resulting from falling objects, fires and explosions, motor vehicle accidents and drowning.
- “**Psychological Hazards**” (« *Risques psychologiques* ») are mainly hazards related to violence which includes any action, conduct, threat or gesture from another source (visitor, employees) towards an employee that can reasonably be expected to cause harm, injury or illness.

“**Hazard Assessment**” (« *Évaluation des risques* ») means a systematic evaluation for potential injury or damage to health.

“**Local Occupational Health and Safety (OHS) Committee**” (« *Comité local de santé et sécurité au travail (SST)* ») means a work place health and safety committee as prescribed in CLC Part II 135.(1). In a work place with less than 20 employees the OHS committee is replaced by a Health and Safety Representative as prescribed in CLC Part II 136.(1).



“**National Occupational Health and Safety (NOHS) Policy Committee**” (« *Comité national d’orientation en santé et sécurité au travail (CNOSSST)* ») means the National Policy Health and Safety Committee established pursuant to the [CLC, s. 134.1](#).

“**Participation**” by committees and representatives (« **Participation** » des comités et des représentants) is determined by each committee in their terms of reference (either at local or national level). However, committees and representatives must perform activities that achieve program monitoring and reporting objectives as identified in “roles and responsibilities”.

“**Remote Work Place**” (« **Lieu de travail isolé** ») means a work place for which the ambulance response time is more than two hours ([Part XVI of the Canada Occupational Health and Safety Regulations, s. 16.1](#)).

“**Risk**” (« **Risque** ») means a measure of potential harm that considers both the magnitude of harm and the probability of occurrence. “Significant Risk” is assessed as moderate or higher.

“**Safe Work Practice (SWP)**” (« *Pratique de travail sécuritaire (PTS)* ») means the document that contains the findings reported by a task safety analysis and communicates those findings to the employee. It includes all known or foreseeable hazards and preventive measures that should be taken to prevent the hazards. It may include qualifications, training requirements and personal protective equipment. It will also reference any applicable codes, standards or other SWP that may apply.

- “**Generic SWP**” (« *PTS générique* ») means a SWP for a task that has been previously assessed and validated by functional advisors and Occupational Health and Safety coordinators (regional and national) and approved by the most senior manager for that function and is available and accessible in the [national inventory of generic Safe Work Practices](#).
- “**Adopted SWP**” (« *PTS adoptée à l’échelle locale* ») means a generic SWP that has been reviewed at the local level and accurately identifies hazards and preventive measures for the employee(s) performing that task. The generic SWP is then “adopted” locally and must be validated by the most senior manager.
- “**Adapted SWP**” (« *PTS adaptée à l’échelle locale* ») means a generic SWP that has been reviewed at the local level and must be modified to accurately identify hazards and preventive measures for the employee(s) performing that task. The generic SWP is “adapted” locally, in consultation with local OHS committee, and must be approved by the most senior manager for the area of responsibility.
- “**Developed SWP**” (« *PTS créée à l’échelle locale* ») means a SWP developed locally when no national generic SWP exists. This safe work practice must be approved by the local senior manager and the Regional OHS coordinator must be consulted.

“**Task**” (« **Tâche** ») means an activity that contributes a specified end result to the accomplishment of an objective and includes the use and or operation of tools, equipment and machines.

“**Task Safety Analysis (TSA)**” (« *Analyse sécuritaire des tâches (AST)* ») means a tool or work sheet to facilitate the systematic examination of a critical task or condition in order to identify and prevent hazards associated with the task or condition. The TSA breaks the task or condition down into steps or major elements and then identifies all potential and known losses (hazards) associated with each step or element as well as recommended preventive measures to control the loss, including training and personal protective equipment, etc. In the absence of a Safe Work Practice, the TSA may be used to communicate hazards and control measures to employees.

“**Work Place**” (« **Lieu de travail** ») means any place where an employee is engaged in work for the employee’s employer.

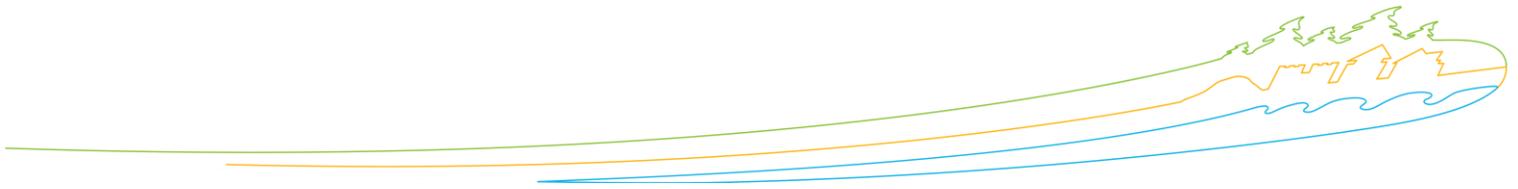


“Work Place Violence” (« Violence en milieu de travail ») constitutes any action, conduct, threat or gesture of a person towards an employee in their work place that can reasonably be expected to cause harm, injury or illness to that employee ([Part XX of the *Canada Occupational and Safety Regulations*, s. 20.2](#)).



Appendix 2: Acronyms

CLC	Canada Labour Code
COHSR	Canada Occupational Health and Safety Regulation
NOHS	National Occupational Health and Safety
OHS	Occupational Health and Safety
PCX	Parks Canada Executives
SWP	Safe Work Practice
TSA	Task Safety Analysis
WHMIS	Work place Hazardous Materials Information System



Risk Estimator

Effective Date: June 2013



Risk Estimator

Hazard assessment is a key component of any hazard prevention program. Once hazards have been identified, the risks associated with exposure to the hazard must be assessed before the hazard can be controlled in an appropriate fashion. The purpose of the “Risk Estimator” is to provide a tool for assessing hazards that have been identified through various prevention programs such as task safety analysis, hazardous occurrence investigations, work place inspections, toolbox meetings, and the report of hazards from employees.

To assess the risk of an identified hazard, one must ask:

- How likely is it that an employee will be exposed to the hazard (probability)?
 - Likely: Incidents have been recurrent, more or less on a routine basis. Future incidents are expected and probable.
 - Unlikely: Incidents have been infrequent or seldom happen but are possible.
 - Highly Unlikely: Incidents have not occurred and would be unusual, unexpected, but not impossible.
- What is the consequence of exposure (severity)?
 - Extremely Harmful: Exposure is likely to cause permanent disability, loss of life or body part, or loss of structure, equipment or material.
 - Harmful: Exposure is likely to cause an injury or illness resulting in temporary disability or minor property damage.
 - Slightly Harmful: Exposure may cause a minor injury (professional medical attention required but no time loss) or an injury requiring first aid.

The following is a simplified chart to describe the determination of risk levels.

Remember, RISK = PROBABILITY X SEVERITY.

SEVERITY	PROBABILITY		
	Likely	Unlikely	Highly Unlikely
Extremely Harmful	Intolerable Risk	High Risk	Moderate Risk
Harmful	High Risk	Moderate Risk	Tolerable Risk
Slightly Harmful	Moderate Risk	Tolerable Risk	Trivial Risk

Risk-Based Control Plan

- Trivial: No action
- Tolerable: No action; consider cost-effective solution and monitoring
- Moderate: Effort to reduce
- High: Work will not start until risk is reduced. It may be necessary to take temporary measures to immediately reduce the risk until permanent measures can be implemented.
- Intolerable: “Immediately Dangerous to Life and/or Health” (IDLH). Work is prohibited until immediate measures are taken to reduce the risk.



Task Safety Analysis Process

National Occupational Health and Safety and Disability
Management Program

Effective Date: June 2018



The purpose of hazard identification by means of a task safety analysis is to highlight the steps to conduct an effective critical task analysis - those tasks posing significant risks to the health and safety of employees - as well as highlight those hazards pertaining to equipment, energy sources, working conditions or activities performed¹.

Task Safety Analysis Process

The fundamental Task Safety Analysis (TSA) process involves three main steps:

1. Identify employees who are most likely performing critical tasks and/or working in critical conditions and inventory those tasks/conditions. Target or high-risk positions include those performing:
 - a) Any task where there is a risk of drowning or asphyxiation.
 - b) Any task requiring the use of self-contained underwater breathing apparatus (SCUBA), or self-contained breathing apparatus (SCBA).
 - c) Any task that requires entry into a confined space.
 - d) Any task requiring the use of watercraft, aircraft, specialized motor vehicles and motorized equipment.
 - e) Any task requiring the use of automated machinery or equipment, including material handling equipment.
 - f) Any task that involves the direct handling or use of explosive, toxic, reactive, oxidizing, poisonous, infectious, radioactive or corrosive substances.
 - g) Any task involving the use of compressed gases, cryogenics or other substances and laboratory or garage equipment.
 - h) Any task where an employee is required to climb towers, ship masts or industrial stacks, or any activities involving technical climbing.
 - i) Any task where an employee is required to work on or near a high-voltage electrical source (>220 volts).
 - j) Any task with a risk of falling.
 - k) Any task with a risk of being crushed.
 - l) Any task with a risk of amputation.
 - m) Any task with a risk of temperature extremes.
 - n) Any other task, risk, equipment or work place identified by a Parks Canada management.
2. For each critical task/condition, conduct a systematic examination to identify all hazards associated with the task and make recommendations for preventive measures.
3. Prepare documentation that identifies all of the hazards and the measures that are in place (such as Personal Protective Equipment, qualifications, etc.) or the procedures/practices that are to be followed by the employee to control the hazards.

As part of an on-going review cycle, the Agency has already implemented this fundamental process at a national level, while considering critical tasks collectively performed by most employees and has created generic documents (called Safe Work Practices (SWP) available for agency-wide use. The process was facilitated by a national working group of functional and operational expertise with technical support from OHS coordinators/advisors. The result of the national implementation of the TSA process is the [national inventory of generic safe work practices](#) (SWP), which lists the generic SWP in alphabetical order.

¹ Wording from the Human Resources and Skills Development Canada Labour Program [Hazard Prevention Program Guide](#)



Local Implementation

[Appendix 1](#) visually explains the local implementation of the task safety analysis process.

Although the generic documentation is available and accessible, managers and supervisors must complete the following, with the ongoing collaboration of the local Occupational Health and Safety (OHS) committee/representative:

- a) Identify positions within the work place that involve performing critical tasks or working in critical conditions.
- b) Identify the critical tasks performed by these positions and verify which tasks might correspond to an already developed generic Safe Work Practice (SWP) (see the [national inventory of generic safe work practices](#) and [Appendix 2: List of Tasks by Position](#)).
- c) Ensure there is appropriate documentation (SWP) for each critical task/condition. Each generic SWP retrieved from the national inventory must be reviewed to ensure that it is applicable to the duties, operations and activities under the manager's or supervisor's area of responsibility.
 - If the generic SWP is appropriate for local circumstances, it may then be validated by the Parks Canada Executive (PCX) or his/her designate and adopted without any changes.
 - If minor modifications are required, the generic SWP may be adapted to local circumstances, approved by the PCX or his/her designate, and forwarded to the OHS Advisor.
 - If there is no generic SWP for a critical task performed in the work place, one must be locally created by following these steps:
 - i. Assessing the risk associated to the task (see [Appendix 3: Inventory/Risk assessment for tasks not covered by generic safe work practices](#) and the [Risk estimator](#)),
 - ii. Completing the task safety analysis (TSA), by identifying the hazards and the appropriate preventive measures to be taken (see the [Inventory of Occupational Health and Safety Hazards](#) and [Appendix 4: Task safety analysis for critical tasks not covered by generic safe work practices](#)),
 - iii. Preparing a local SWP to be approved by the PCX or his/her designate (see [Appendix 5: Locally developed safe work practice template](#)),
 - iv. Forwarding a copy of this locally created SWP to the OHS Advisor.

Employee Education on Safe Work Practices

To demonstrate that employees have been appropriately educated with respect to hazards associated with their tasks, the employee must acknowledge that he/she has read and understood the Safe Work Practice (SWP) (see the [Safe Work Practice Attestation Form](#)). This must be done annually, with new employees and every time a SWP has been locally created or modified.

Safe Work Practices Monitoring and Improvement

All locally adapted and created Safe Work Practices forwarded to the National Occupational Health and Safety program will be reviewed for program quality and improvement purposes.



Appendixes

[Appendix 1 – Local Implementation of the Task Safety Analysis Process](#)

[Appendix 2 – List of Tasks by Position](#)

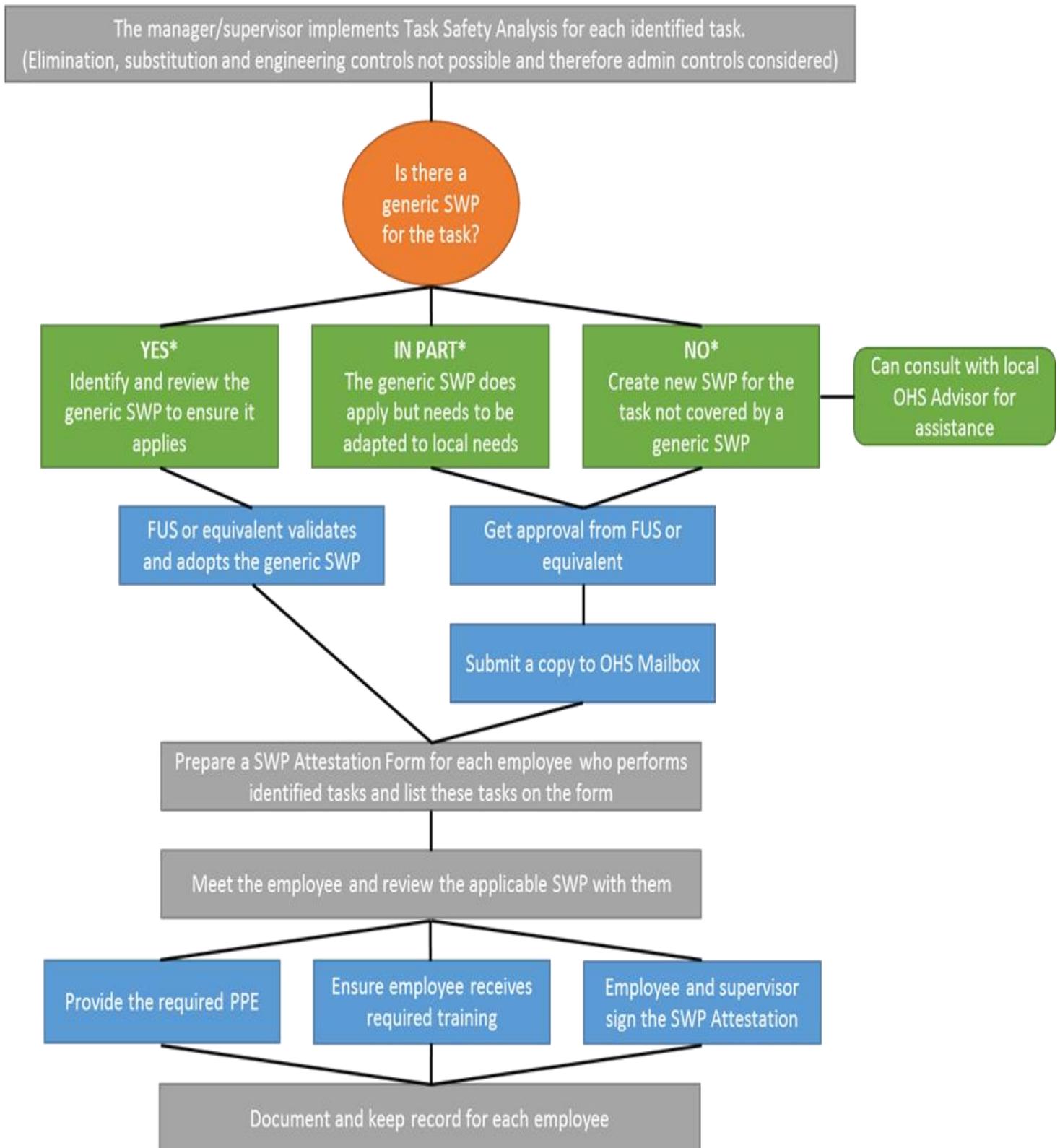
[Appendix 3 – Inventory/Risk Assessment for Tasks Not Covered by Generic Safe Work Practices](#)

[Appendix 4 – Task Safety Analysis for Critical Tasks Not Covered by Generic Safe Work Practices](#)

[Appendix 5 – Locally Developed Safe Work Practice Template](#)



Appendix 1 – Local Implementation of the Task Safety Analysis Process





Appendix 2 – List of Task by Position

Business Unit: _____ **Date:** _____

Position: _____

Tasks	May Adopt Existing Generic SWP	Need to Adapt Generic SWP	Need to Locally Create New SWP
i.e. Operating a chainsaw	x		

Legend

SWP = Safe Work Practice



Appendix 3 – Inventory/Risk Assessment for Tasks Not Covered by Generic Safe Work Practices

Business Unit:	Position Title:			
Tasks not Covered by Generic SWP	Loss Exposures (see Inventory of OHS Hazards)	Risk Assessment (See Risk Estimator)		
i.e.: List all tasks normally done or that might be done by this position	Consider health, safety, damage, fire, etc. Consider people, equipment, materials and environmental interactions.	Probability Rating	Severity Rating	Criticality/Risk Level Rating
Approved by:	Initials:		Date:	

Legend
SWP = Safe Work Practice



Appendix 4 – Task Safety Analysis for Critical Tasks Not Covered by Generic Safe Work Practices

Task Safety Analysis for Critical Tasks		
Task:		Business Unit:
Basic Steps/Elements	Potential Hazards (Refer to 'Loss Exposure' column of Appendix 3)	Preventive Measures
1.	a) b) c)	a) b) c)
2.	a) b) c)	a) b) c)
3.	a) b) c)	a) b) c)
4.	a) b) c)	a) b) c)
5.	a) b) c)	a) b) c)
6.	a) b) c)	a) b) c)
7.	a) b) c)	a) b) c)
Qualifications:		
Personal Protective Equipment :		
Equipment/Materials :		
References:		
Miscellaneous :		



Approved by:	Initials:	Date:
---------------------	------------------	--------------



Appendix 5 - Locally Developed Safe Work Practice Template

SAFE WORK PRACTICE (TITLE)

PURPOSE

To ensure the health and safety of all employees while [REDACTED].

This SWP also specifies all required training, standards, and personal protective equipment.

POTENTIAL HAZARDS (pick from the list below)

- ⚠ Animal attacks (kicks, and scratches)
- ⚠ Burns from exposure to hot surfaces, flames, sparks, liquids, gasses or chemicals
- ⚠ Caught in/under/between, pinched or crushed by material, equipment, or objects
- ⚠ Capsizing
- ⚠ Cuts or abrasions
- ⚠ Drowning
- ⚠ Electric shock from unplanned contact with energized object or electrical system(s)
- ⚠ Entangled, entrapped or buried
- ⚠ Excessive noise
- ⚠ Exposure to infectious disease or bio hazardous materials
- ⚠ Exposure to radiation
- ⚠ Fall from height
- ⚠ Fire and/or explosion
- ⚠ Inhalation, ingestion, absorption or injection of hazardous substance
- ⚠ Oxygen deprivation
- ⚠ Heavy and improper lifting, working in awkward posture, repetitive movement and vibration
- ⚠ Poisonous plants and insects or infectious animal bites
- ⚠ Physical/verbal assault
- ⚠ Physical strain/overexertion and fatigue
- ⚠ Stress
- ⚠ Slips, trips, and falls
- ⚠ Falling or flying objects, materials or debris
- ⚠ Struck by moving objects (vehicle, vessel, mobile equipment)
- ⚠ Suffocation/asphyxiation
- ⚠ Vehicular accident
- ⚠ Wildlife encounters
- ⚠ Exposure to extreme temperatures



MANDATORY REQUIREMENTS

Qualification and Training (pick from the list below)

- Aircraft Safety Briefing (from pilot)
- Appropriate Capture certification
- Arduous Level Work Capacity Fitness Test (WCFT)
- Articulated Crane Operator
- Asbestos Awareness
- ATV Operator Safety
- Avalanche Awareness/Safety
- Backcountry Travel
- Basic Construction Site Safety
- Canadian Avalanche Association Level 1
- Canadian Avalanche Association Level 2
- Cave School
- Certified Carpentry Journeyman or Apprentice
- Chainsaw Training Standards
- Coast Guard
- Confined Spaces
- Crevasse Rescue
- Demolition Codes of Practice
- Fisheries and Oceans Canada provided training
- Electrical Safety
- Electrofishing
- Emergency Responder First-Aid and CPR
- Environmental Emergencies
- First-Aid and CPR
- Glacier Travel
- Helicopter Safety Briefing (from pilot)
- Helicopter types
- Heli-Sling Rescue
- High Angle Rescue
- Historic Weapons Certification
- Hoisting and Rigging
- Horsemanship
- Incident Command System (ICS)
- Journeyman – Electrician or apprentice
- Level 3 International Swift Water
- Lift truck Operator
- Lock Out/Tag Out (LOTO)
- Marine Emergency Duties A3 (MEDA3)
- Methods of Climbing
- Moderate Level Work Capacity Fitness Test (WCFT)
- Mountaineering/Climbing
- National Historic Weapons Technical Proficiency
- National Historic Weapons Supervisors
- Navigation Techniques
- Necropsy Techniques
- Operation of a Back Hoe
- Operation of a Garbage Truck
- Operating a Remote Operating Vehicle
- Parks Canada Agency Basic Longarms Training
- Parks Canada Agency Basic Wildland Fire Management
- Parks Canada Agency Basic Firearms Training
- Parks Canada Agency Intermediate Wildland Fire Management



- Personal Emergency Response System (PERS)
 - Possession and Acquisition license(PAL)
 - Procedures for Handling and Transporting Cash
 - Provincial Blasting Certification
 - Quality Visitor Experience Training – Level 1/2/3
 - Registered Chainsaw Proficiency (RCP)
 - Response to a Motor Vehicle Accident (MVA)
 - Rope Skill
 - Snake Handling Techniques
 - Safe Lifting Techniques
 - Training appropriate to the mode of travel
 - Training in Watercraft being used
 - Transport Technique
 - Transportation of Dangerous Goods (TDG)
 - Tubing, Sexing, Tagging and Measurement
 - Use and Maintenance of Fall Protection Equipment
 - Use and Storage of Chemicals
 - Use of Communications Equipment and Emergency Procedures
 - Use of Snowmobile
 - Valid Driver's License
 - Valid Pleasure Craft Operators Card or a Small Vessel Operators Proficiency (SVOP) Certificate
 - Welding Procedures and Equipment
 - Wilderness Survival
 - Wilderness First Aid and CPR
 - Wildlife Handling
 - Working at Heights
 - Working with Aircraft on the Fireline
 - Workplace Hazardous Materials Information System (WHMIS)
 - Violence in the Workplace
-



Approved Personal Protective Equipment (PPE) (pick from the list below)

When choosing PPE, keep in mind both the task and the environment in which the work is conducted.

	Hearing protection when noise levels exceeds 84 dBa		Protective eyewear		Fall protection when working above 2.4 m
	Protective hand wear (dielectric for live electrical work)		NIOSH certified respiratory protection as per MSDS/SDS		Protective footwear
	Protective headwear		Protective hand wear		High visibility vest when outside transport vehicle
	High visibility vest when working on public roadways		High visibility vest when working in high traffic areas intense		Welding helmet with Visor
	Approved pants/chaps when using a chainsaw		Protective face shield when using a chainsaw		Face protection
	Protective apron as per MSDS/SDS		Life jacket		Protective safety helmet
	Protective clothing as per MSDS requirement		Protective safety bicycle helmet		
	Protective face mask		One-way valve mask with face-shield		

Other Required Equipment (Other equipment that is not PPE is to be identified whereby the employee's protection will be enhanced and the hazards reduced). These may include:

- Communication equipment (2 way radio, satellite radio, cell phone etc.)
- First Aid kit
- Chest waders and wading belt
- Bear spray
- Kneepads
- Barricades, signs, cones and/or tape to restrict access
- Weather- appropriate clothing
- Safety equipment/ personal pack with gear to spend 24-48 hours in the field
- Winter survival kit (as appropriate to specific site)
- Road signage and location plan (as defined by provincial standards)
- Flag/traffic control paddle



✓ DO

Prior to commencing any work related to this task, Plan the work by:

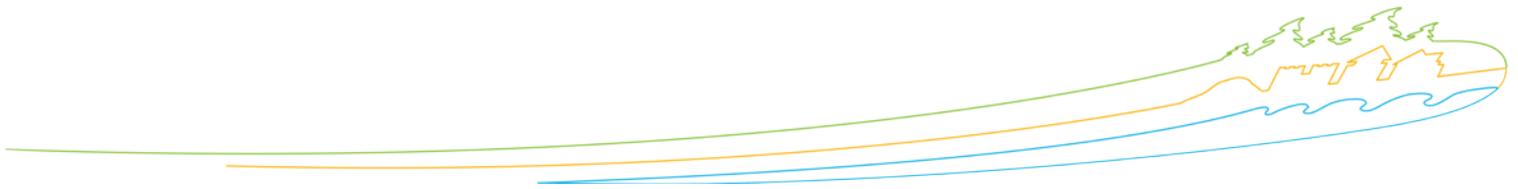
- Reviewing the sequence of operations, required equipment, material list and training necessary:
- Ensure that the work is performed by a knowledgeable person possessing skills and/or training as determined by the employer. Where provincial/territorial requirements apply, they shall be respected.
- Consult the Manual Material Handling SWP. Ensure that you have received training on appropriate lifting and bending techniques (back injury prevention), where required.
- Ensure that all required PPE is inspected prior to use.
- Ensure that all tools & equipment used are in good condition. All found defects or damage are to be repaired prior to use.
- Identifying all potential hazards, preventive measures and training required.
- Reviewing emergency procedures and verbally communicating them to all workers. Procedures need to specify the steps to be followed, each workers role and the location of all emergency equipment available on site.
- Assigning roles and responsibilities ensuring that adequate numbers of staff are available to complete the task and those participating have the required training, certification or adequate field experience as determined by the supervisor.
- Read and understand the Owner/Operator Manual before starting and operating tools or equipment. Ensure that you understand the functions of all controls and how to operate them, and how to STOP in an emergency.

✗ DO NOT

-

Related Safe Work Practices that may apply to this task and other documents

Field Unit Superintendent/ Director (or Equivalent) : _____	_____ <small>Name</small>	_____ <small>Signature</small>	_____ <small>Date</small>
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Reference Guide on the Selection of Personal Protective Equipment

Effective Date: March 13, 2014



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1. INTRODUCTION

The purpose of this *Reference Guide on the Selection of Personal Protective Equipment*, based primarily on [Part XII of the Canada Occupational Health and Safety Regulations](#) (COHSR), is to assist managers, supervisors and health and safety committee members in the selection of personal protective equipment (PPE).

This document identifies potential hazards, as well as the most appropriate type of corresponding PPE, to be supplied by the employer to control each applicable hazard. Each section summarizes relevant information taken from the standards of the Canadian Standards Association (CSA) defining standards of quality for each piece of equipment. Please note that the most recent versions of these standards have been referenced under each section, even though they may not be mandatory, to provide the most up to date information and tools available. Only the versions of the standards that are mentioned in excerpts of the COHSR (excerpts indicated as the first reference of each section) are mandatory.

For further details on a specific CSA standard, search for it through the following Web site:

<http://www.ccohs.ca/legislation/csa.html>

User name: PARKHS

Password: LEGAL

For guidance in selecting PPE, you may also consult the other documents referenced in this Appendix (policy, regulations, Web page) as well as the [Safe Work Practice \(SWP\)](#) for relevant work activities.

2. PROTECTIVE HEADWEAR

2.1. Applicable References and Standards

- COHSR [s. 12.4](#);
- [CSA Z94.1-05 Industrial Protective Headwear: Performance, Selection, Care, and Use](#).

2.2. Hazards and Types of PPE

Hazards:

- Impact;
- Penetration;
- Electricity.

Types of Protective Headwear:

There are two types and three classes of protective headwear:

- ⇒ Type 1: protection from impact and penetration at the crown (top) only;
- ⇒ Type II: protection from impact, penetration at the crown and laterally (sides);
- ⇒ Class C: protection from impact but no electrical rating;
- ⇒ Class G: protection from impact with maximum electrical rating of 2,200 ± 20 volts for one minute;
- ⇒ Class E: protection from impact with maximum electrical rating of 20,000 ± 100 volts for one minute.



2.3. Selection Criteria

The protective headwear selected must meet CSA Standard Z94.1. Before selecting the protective headwear appropriate for a job, a qualified person should assess the hazards associated with that job. Follow these seven steps to determine the appropriate headwear model (see enclosed table).

Selecting the Appropriate Headwear for the Job	
Step 1: Determine level of impact protection required Is type 1 (crown only protection) or type 2 (crown and lateral protection) protective headwear required? Type: _____	See CSA Z94.1-05 ss. 5.2.2 and 5.2.3
Step 2: Determine level of electrical protection required Select a class: Class E – protection up to 20,000 V Class G – protection up to 2,200 V Class C – no electrical protection Class: _____	See CSA Z94.1-05 s. 5.2.4
Step 3: Determine headwear orientation Is the headwear to be worn with the point facing forward or backward in order to accommodate other PPE, e.g., a welding helmet or face shield, or to improve visibility? Front <input type="checkbox"/> Back <input type="checkbox"/>	See CSA Z94.1-05 s. 5.2.6
Step 4: Determine headwear style Does the user require protection from the sun, rain, etc.? If so, broad-brimmed headwear may be required. Broad-brimmed <input type="checkbox"/> Cap-style. <input type="checkbox"/>	
Step 5: Determine whether user requires protection in order to execute special procedures or control specific hazards Specify: _____	See CSA Z94.1-05 s. 5.2.5
Step 6: Determine whether a chin-strap must be used Is a chin-strap necessary? Yes <input type="checkbox"/> No <input type="checkbox"/>	See CSA Z94.1-05 s. 5.7.7
Step 7: Determine whether user needs to be highly visible Does the user need to be highly visible? Yes <input type="checkbox"/> No <input type="checkbox"/> Additional information:	See CSA Z94.1-05 s. 5.7.9



3. PROTECTIVE FOOTWEAR

3.1. Applicable References and Standards

- COHSR [s. 12.5](#);
- [CSA Z195-02 Protective Footwear](#);
- [CSA Z195.1-02 Guideline on Selection, Care, and Use of Protective Footwear](#);
- [Parks Canada Protective Footwear Guidelines](#).

3.2. Hazards and Types of PPE

Hazards:

- Compression and impact (falling objects or objects rolling over the feet);
- Punctures and tearing (pointed or sharp objects that could puncture the sole, the side or the top of the foot);
- Exposure to corrosive substances or irritants;
- Static discharge (potential cause of explosion in an explosive atmosphere or damage to sensitive electronic components);
- Electric discharge (contact with conductors);
- Friction, abrasion (e.g., exposure to rotating machine);
- Extreme heat or cold;
- Slippery surfaces.

Types of Protective Footwear:

Protective footwear may have the following features:

- ⇒ Toe protection (Grade 1, Grade 2);
- ⇒ Protective sole;
- ⇒ Metatarsal protection;
- ⇒ Shock-resistant soles;
- ⇒ Static-dissipative soles;
- ⇒ Conductive soles;
- ⇒ Footwear providing protection when using chainsaws;
- ⇒ Other specialized footwear.

3.3. Selection Criteria

Select CSA Z195-approved protective footwear. Before selecting the protective footwear appropriate for a job, a qualified person should assess the hazards associated with the job.

The procedures for distributing and replacing protective footwear are defined in the Parks Canada Agency Protective Footwear Guidelines. The following table may also be used to determine the appropriate footwear model. Note that where the employee is required to climb a ladder, footwear with a heel is recommended.



Selection of Protective Footwear by Type of Hazard

Type of Protection	Type of Hazard							
	Falling Objects	Objects That Could Roll	Pointed Objects	Hot Objects	Electric Shock	Static Discharge Microcircuits	Static Ignition	Chainsaw Cuts
Toe protection	✓✓	✓✓	✓✓	✓				✓✓
Protective sole			✓✓	✓				✓
Metatarsal protection	✓✓	✓✓	✓✓	✓				✓
Shock-resistant soles					✓✓	×	×	
Static-dissipative soles					×	✓✓		
Conductive soles					×		✓✓	
Footwear for chainsaw operators								✓✓

Legend:

- ✓✓ Strongly recommended
- ✓ Recommended (depending on degree of hazard)
- × To be avoided

Comments

Falling Objects: Metatarsal protection if risk of heavy object falling

Objects That Could Roll: Grade 1 protective toe recommended

Pointed Objects: Footwear with protection against pointed objects that could puncture sole and top of foot

Hot Objects: Insulating footwear if high-temperature environment

Electric Shock: Static-dissipative and conductive soles offer no protection against shock

Static Discharge – Microcircuits: Shock-resistant soles pose risks for circuits

Static Ignition: Also make sure that all containers/ equipment are grounded

Chainsaw Cuts: Select footwear appropriate to workplace conditions



4. EYE AND FACE PROTECTION

4.1. Applicable References and Standards

- COHSR [s. 12.6](#);
- [CSA Z94.3-07 Eye and Face Protectors](#);
- [CSA Z94.3.1-09 Selection, Use, and Care of Protective Eyewear](#);
- [Parks Canada Agency Guidelines on Prevention of Exposure to Solar Radiation](#).

4.2. Hazards and Types of PPE

Hazards:

- Flying objects;
- Flying particles, dust, wind;
- Heat, sparks and splash from molten materials;
- Acid splash and chemical burns;
- Abrasive blasting materials;
- Glare, stray light;
- Injurious optical radiation.

Types of Safety Glasses and Face Protectors:

1. Spectacles

- 1a) Spectacles with side protectors;
- 1b) Spectacles with side protectors and radiation protection.

2. Goggles

- 2a) Direct ventilated;
- 2b) Non-ventilated;
- 2c) Direct and non-ventilated with radiation protection.

3. Welding helmet

4. Welding hand shields

5. Hood

- 5a) Non-rigid hood with impact-resistant window;
- 5b) Non-rigid hood with dust, splash, abrasive material protection;
- 5c) Non-rigid hood with radiation protection;
- 5d) Non-rigid hood for high heat application.



6. Face shields

- 6a) Face shield with impact and splash protection;
- 6b) Face shield with radiation protection.
- 6c) Face shield for high heat application

7. Respirator face pieces

- 7a) Face piece with impact and splash protection;
- 7b) Face piece with radiation protection;
- 7c) Face piece with loose-fitting hood and helmet;
- 7d) Loose-fitting respirator with radiation protection.

Examples of Class 1 – Spectacles



Class 1A
Spectacles with side protection

Class B
Spectacles with side radiation protection

Examples of Class 2 – Goggles



Class 2A Direct ventilated goggles Class 2B Indirect ventilated goggles Class 2C Direct/non-ventilated goggles with radiation protection

Examples of Class 3 and 4 – Welding Helmets and Hand Shields



Class 3
Welding Helmets

Class 4
Welding Hand Shields



4.3. Selection Criteria

All eye and face protection must be CSA Standard Z94.3-approved. Before selecting the eye and face protection appropriate for a job, a qualified person should assess the hazards associated with the job.

In the case of spectacles, choose safety glasses with a firm but not too tight fit as close to the eye as possible without hitting the eyelashes. For employees who wear corrective lenses, safety glasses should be chosen to be worn over the corrective lenses. Contact lenses are not recommended for employees who are regularly exposed to irritating fumes, intense heat, liquid splashes, molten metals or similar environments or who must wear a respirator regularly.

Employees who work outdoors on days when the UV index is high are advised to wear sunglasses to protect their eyes against UV solar radiation and to wear a hat. For employees who work near reflective surfaces (e.g., water, sand, snow, cement, etc.), non-prescription sunglasses, safety sunglasses or clip-ons may be supplied by the employer. For further information, consult Parks Canada's procedure for protection from exposure to the sun.

For occasional users of safety glasses or sunglasses, shared glasses may be made available to employees, as long as they answer the hazard description. Employees may also be provided with disinfectant wipes.

As a general standard, Parks Canada does not supply prescription safety glasses or sunglasses to employees unless their work makes it hazardous or impossible to wear overglasses. If wearing safety glasses over corrective lenses produces distortion that could interfere with the employee's performance of his duties, the local health and safety committee should analyse the situation and recommend an appropriate solution to the employer.



Risks vs. Recommended Eye and Face Protection

Risk	Hazardous Activity	Spectacles (Class 1)		Goggles (Class 2)			Welding Helmet (Class 3)	Welding Hand Shield (Class 4)	Face Shield (Class 6)			Non-Rigid Hood (Class 5)			
		A	B	A	B	C			A	B	C	A	B	C	D
Flying objects	Chipping, drilling, scaling, grinding, polishing, buffing, riveting, punching, shearing, hammer mills, crushing, heavy sawing, planing, wire and strip handling, hammering, unpacking, nailing, punch press, lathe work.														
Flying particles, dust, wind, etc.	Woodworking, sanding, light metal working and machining, exposure to dust and wind, resistance welding (no radiation exposure), sand, cement, aggregate handling, painting, concrete work, plastering, material batching and mixing.														
Heat, sparks and splash from molten materials	Babbiting, casting, pouring molten metal, brazing, soldering, spot welding, stud welding, hot dipping operations														



Risks vs. Recommended Eye and Face Protection

Risk	Hazardous Activity	Spectacles (Class 1)		Goggles (Class 2)			Welding Helmet (Class 3)	Welding Hand Shield (Class 4)	Face Shield (Class 6)			Non-Rigid Hood (Class 5)					
		A	B	A	B	C			A	B	C	A	B	C	D		
Acid splash, chemical burns	Acid and alkali handling, degreasing, pickling and plating operations, glass breakage, chemical spray, liquid bitumen handling																
Abrasive blasting materials	Sand blasting, shot blasting, shotcreting																
Glare, stray light (for reduction of visible radiation)	Reflecting, bright sun and lights, reflected welding flash, photographic copying																
Injurious optical radiation (moderate reduction of optical radiation)	Torch cutting, welding, brazing, furnace work, metal pouring, spot welding, photographic copying																
Injurious optical radiation (large reduction of optical radiation)	Electric arc welding, heavy gas cutting, plasma spraying and cutting, inert gas shielded arc welding, atomic hydrogen welding																



5. HEARING PROTECTION

5.1. Applicable References and Standards:

- COHSR [s. 7.7](#);
- [CSA Z94.2-02 Hearing Protection Devices – Performance, Selection, Care and Use](#);
- [Canadian Centre for Occupational Health & Safety \(CCOHS\) - OSH Answers: Hearing Protectors](#).

5.2. Hazards and Types of PPE

Hazards:

- Continuous noise;
- Impact noise.

Types of Hearing Protection:

There are three main types of hearing protectors.

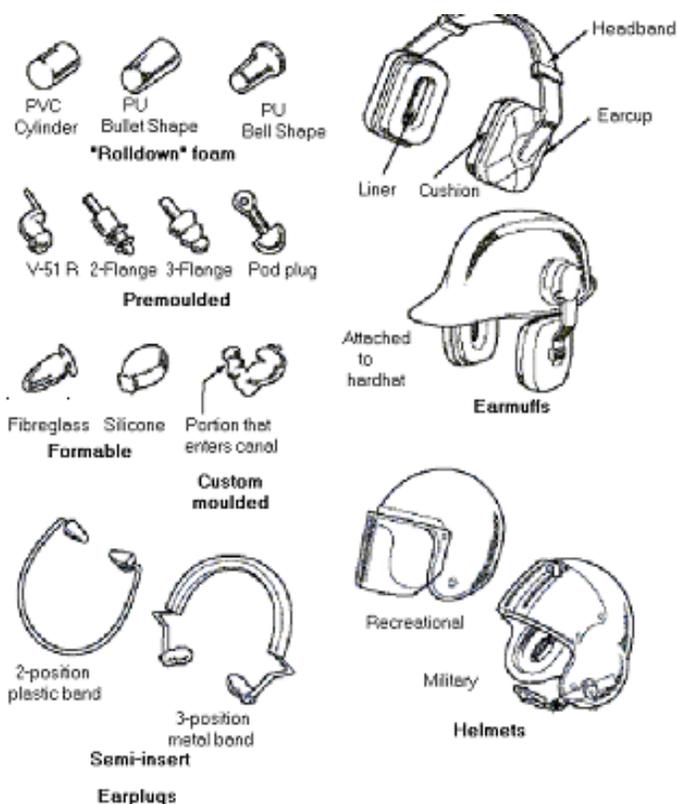
⇒ Earplugs

- Foam earplugs;
- Premoulded earplugs;
- Formable earplugs;
- Custom-moulded earplugs;
- Earplugs for occasional wear.

⇒ Earmuffs

- Regular earmuffs;
- Helmet-mounted earmuffs.

⇒ Protective helmets



Note: Taken with permission from the AIHA Noise Manual.

Figure 4
Examples of Hearing Protection Devices



5.3. Selection Criteria

The hearing protector selected must:

- Be CSA Z94.2-approved;
- Protect the employee wearing it from noise exposure levels exceeding the maximum set out in COHSR, s. 7.4.

Before selecting the hearing protection appropriate for a job, a qualified person should assess the hazards associated with the job. Exposure to noise must be assessed at each work station that may be exposed to a noise level equal to or greater than 84 dBA (COHSR, Part VII, s. 7.3). Once the ambient noise level has been assessed, the choice of hearing protector must be based initially on the **noise reduction rating (NRR)**. This rating is based on the noise reduction obtained under laboratory conditions and must be derated to reflect real-world conditions.

The National Institute for Occupational Safety and Health (NIOSH) recommends that the manufacturer-supplied NRRs be derated as follows:

- Earmuffs – subtract **25%** from the manufacturer's labelled NRR;
- Formable earplugs – subtract **50%** from the manufacturer's labelled NRR;
- All other earplugs – subtract **70%** from the manufacturer's labelled NRR.

Example: For a worker exposed 8 h daily to chainsaw noise at 100 dB, let's evaluate two types of protection: earplugs A and earmuffs B, both with a manufacturer's NRR label of 30 dB.

Effective NRR of earplugs A:

$$\text{Effective NRR} = 30 - (30 \times .70) = 9 \text{ dB}$$

Effective NRR of earmuffs B:

$$\text{Effective NRR} = 30 - (30 \times .25) = 22.5 \text{ dB}$$

Exposure of worker with earplugs A:

$$(100 \text{ dB}) - \text{effective NRR of earplugs (9)} \\ = 91 \text{ dB, an **unacceptable level**, as it is} \\ \text{greater than the standard of 87 dB}$$

Exposure of worker with earmuffs B:

$$(100 \text{ dB}) - \text{effective NRR of earmuffs (22.5)} \\ = 77.5 \text{ dB, an **acceptable** protection level}$$

When selecting a type of hearing protector, it is also important to assess the need for oral communication and audibility, the specific needs of individuals suffering hearing loss, conditions of use, comfort and compatibility with other PPE. For exposure to noise in excess of 105 dBA, use of a single hearing protector will not reduce the noise level below the recommended limit of 85 dBA. For this reason, double protection should be used (earmuffs and earplugs worn together).

If hearing protection is required, then a complete hearing conservation program should be instituted, including noise assessment, hearing protection selection, employee training and education, audiometric testing, maintenance and inspection of hearing protectors. For additional information, consult CSA Standard Z94.2-02.



6. RESPIRATORY PROTECTION

6.1. Applicable References and Standards

- COHSR [s. 12.7](#);
- [CSA Z94.4-02 Selection, Care and Use of Respirators](#);
- The respirators selected must be listed on the [NIOSH Certified Equipment List](#).

6.2. Hazards and Types of PPE

Hazards:

- Airborne **contaminants** such as:
 - Dusts;
 - Fumes;
 - Gases;
 - Mists;
 - Vapours.
- **Oxygen-deficient** atmosphere (i.e., O₂ concentration less than 19.5%)

The nature of the hazard shall be determined as follows:

- Identify what **contaminants** may be present in the workplace;
- Identify the **physical states** of all airborne contaminants;
- Measure or estimate the **concentration** of the contaminant(s);
- Determine whether the atmosphere is potentially **oxygen-deficient**;
- Identify an appropriate occupational **exposure limit** for each airborne contaminant;
- Determine whether an **Immediately Dangerous to Life or Health (IDLH)** atmosphere is present;
- Determine whether there is an applicable health **regulation** or **standard** for the contaminants;
- Determine whether a known odour, taste or irritation concentration exists;
- Determine for particulate hazard(s) if there is **oil** present;
- Determine whether the contaminant can be **absorbed** through, or is **irritating** to the skin or eyes.

Types of Respirators:

⇒ Air-Purifying

These devices are used to filter out contaminants. They must be used in an atmosphere with normal oxygen concentration. There are three classes of air-purifying respirators:

- Particulate respirators (N-, R- or P-type filters, offering 95, 99 or 99.97% efficiency respectively);
- Vapour- and gas-eliminating respirators, equipped with a filter cartridge or canister. Offered as quarter-facepiece, half-facepiece, full facepiece, mouthbit respirator;
- Combination particulate-, gas- and vapour-removing respirators.



⇒ Supplied-Air

- Self-contained breathing apparatus; closed or open circuit, on-demand or on-demand-positive-pressure;
- External supply devices: on-demand, on-demand-positive-pressure and continuous-flow;
- Combination supplied-air respirators with independent air supply;

⇒ Combination supplied-air and air-purifying respirators

6.3. Selection Criteria

Workers should use respirators for protection from contaminants in the air only if other hazard control methods are not practical or possible under the circumstances. In the absence of adequate engineering or administrative respiratory hazard protection controls, the employer shall prepare and implement a written respiratory protection program consisting of the following components:

- a) Roles and responsibilities;
- b) Hazard assessment;
- c) Selection of the appropriate respirator;
- d) Respirator fit-testing;
- e) Training;
- f) Use of respirators;
- g) Cleaning, inspection, maintenance and storage of respirators;
- h) Health surveillance of respirator users;
- i) Program evaluation;
- j) Record keeping.

For details on the respirator selection process, please refer to [CSA Standard Z94.4-02 Selection, Use and Care of Respirators](#). Choosing a respirator is complicated and may, in some cases, require the assistance of workplace health and safety professionals, such as occupational hygienists. They can help evaluate all the relevant factors and choose a suitable respirator.



7. SKIN PROTECTION

7.1. Applicable References and Standards

- COHSR [s. 12.9](#);
- Material Safety Data Sheet for the hazardous product(s) used (where applicable);
- [Parks Canada Agency Guidelines on Prevention of Exposure to Solar Radiation](#);
- [CGSB-155.1-2001 Firefighters' Protective Clothing for Protection Against Heat and Flame](#).

7.2. Hazards and Types of PPE

Where there is a hazard of injury or disease to or through the skin in a workplace, the employer shall provide to every person granted access to the workplace:

- A shield or screen;
- A cream to protect the skin; or
- An appropriate body covering.

Hazards to the skin include the following:

- Contact with a chemical;
- Contact with bodily fluid;
- Cold;
- Heat;
- Vibration;
- Abrasion, tearing;
- Electricity;
- Radiation;
- Sparks;
- UV radiation (welding);
- UV radiation (sun);
- Bites from insects that may be carrying infectious diseases;
- Severe soiling of skin or clothing.



Types of PPE

- Gloves (disposable or reusable)
- Protective clothing (disposable or reusable):
 - Protective apron;
 - Bib overalls;
 - Outer garments.
- Sunscreen
- Mosquito repellent

7.3. Selection Criteria

In order to determine the appropriate type of PPE, begin by obtaining a description of the task and identifying any associated hazards. This should include a list of the chemicals involved, as well as physical hazards such as abrasion, tearing, punctures, radiation and extreme temperatures. The type of material used in the PPE must provide protection against the hazards identified.

In the case of **gloves**, choose a type that adequately protects against the hazards and still addresses the specific tasks involved in the job (i.e., still provides flexibility or dexterity). Be aware that some materials (e.g., latex) may cause allergic reactions in some workers. Offer alternatives where possible. Many manufacturers provide charts and computer software to help in selecting the appropriate gloves when working with a chemical or a specific mixture.

In the case of **protective clothing**, the employer shall provide protective clothing if the employee is exposed to a contaminant through his skin, hair or clothing. Protective clothing may also be supplied if the employee's personal clothing or uniform may become heavily soiled as a result of his work. It is important not to spread contamination when caring for and disposing of protective clothing. Such clothing is supplied, maintained and cleaned by the employer.

In the case of **sunscreens**, select a cream that protects against UV-A and UV-B radiation and has an SPF of 15 or more.

For effective worker protection against bites from insects that may carry contagious diseases (e.g., West Nile Virus, Lyme disease), provide a **mosquito repellent** containing at least 20 to 30% DEET.

Type of Skin Protection to Control Hazards			
Type of protection	Hazard Types		
	Flames and Embers	Electricity	Hazardous Substance
Coverall or 2-piece pant and shirt	✓✓	✓	✓
Flame Resistant (FR) Clothing CGSB-155.1	✓✓	✓✓*	
Flash suit hood		✓	
Rubber insulated gloves with leather protectors CSA Z259.4		✓	

Legend:

- ✓✓ Strongly recommended
 - ✓ Recommended (according to the criticality of the hazard)
- *min. arc rating of 8 cal/cm²



8. FALL PROTECTION

8.1. Applicable References and Standards

- COHSR [s. 12.10](#);
- [CSA Z259.1-05 Body belts and saddles for work positioning and travel restraint](#);
- [CSA Z259.2.1-98 Fall Arresters, Vertical Lifelines, and Rails](#);
- [CSA Z259.2.2-98 Self-Retracting Devices for Personal Fall-Arrest Systems](#);
- [CSA Z259.1-05 Body belts and saddles for work positioning and travel restraint](#);
- [CSA Z259.10-06 Full Body Harnesses](#);
- [CSA Z259.11-05 Energy absorbers and lanyards](#).

8.2. Hazards and Types of PPE

Hazards:

- Accidental falls by worker from a height of more than 2.4 m:
 - From an unguarded structure;
 - On a vehicle;
 - Above any moving parts of machinery or any other surface or thing that could cause injury to a person on contact; or
 - From a ladder where, because of the nature of the work, that person is unable to use at least one hand to hold onto the ladder.
- Accidental falls from a temporary structure at a height of more than 6 m above the nearest permanent safe level.

8.3. Selection Criteria

If the worksite presents an accidental fall hazard as defined above, fall protection equipment must be worn. The employer must:

- Ensure that employees receive training on the equipment;
- Prepare written instructions for the safe installation or removal of the fall protection system;
- Keep a copy of the instructions readily available for the information of the employee.

A fall protection system is composed of the following:

- An anchor point capable of withstanding a force of 17.8 kN;
- A full body harness;
- One of the following devices to connect the harness to the anchor point:
 - A lanyard no longer than 1.2 m, equipped with a shock absorber and slider on a rail, rope or cable;
 - A self-retracting lanyard that includes a shock absorber.

CSA Standard Z259.10 defines five classes of harness by function. While a harness may belong to more than one class, it must always, at a minimum, meet the standards set for Class A harnesses.



Harness Classifications (according to CSA Standard Z259.10)

Class A – Fall arrest	
Class D- Suspension and controlled descent	
Class E – Limited access (entry and exit)	
Class L – Ladder climbing	
Class P – Work positioning (elevated work locations)	

Use the right equipment for the job. Refer to CSA Standard [Z259.1-05 Body belts and saddles for work positioning and travel restraint](#) or [Z259.10-06 Full Body Harnesses](#). It is advisable to use shock absorbers if the arresting force of the lanyard alone can cause injury.

A fall-protection system used to arrest the fall of a person shall prevent that person:

- From being subjected to a peak fall arrest force greater than 8 kN;
- From falling freely for more than 1.2 m.



9. PROTECTION AGAINST DROWNING

9.1. Applicable References and Standards

- COHSR [s. 12.11](#);
- [CAN/CGSB-65.7-2007 Life Jackets](#);
- Transport Canada's [Small Vessel Regulations](#).

9.2. Hazards and Types of PPE

Hazard:

- Drowning

Types of PPE:

Either a life jacket or flotation device that meets one of the following standards:

- [CAN/CGSB-65.7-2007 Life Jackets](#).

Or a safety net or fall protection system.

Types of Life Jackets:

- ⇒ Safety of Life at Sea (SOLAS) life jackets: foam-filled or inflatable;
- ⇒ Standard-type life jackets;
- ⇒ Small-vessel life jackets.

Types of Personal Flotation Devices (PFDs):

- ⇒ Inherently buoyant PFDs (foam panels)
- ⇒ Inflatable PFDs:
 - Manual (vest-type or suspender-type);
 - Manual (pouch-type));
 - Automatic (jacket-type only).

9.3. Selection Criteria

Life jackets were developed for professional mariners in the event of emergencies at sea. They are now designed to keep the wearer's head above water and to automatically turn it face up if necessary. However, these life jackets are bulky and uncomfortable. PFDs were subsequently developed as a compromise between buoyancy and comfort. Before purchasing a flotation device, it is important to understand the requirements and legislation governing the wearing of such PPE, in order to select the best product.

The *Small Vessel Regulations* require that there be a sufficient number of Canadian approved flotation devices of appropriate size for each person on board a pleasure craft. Commercial small vessels must have **life jackets** on board. For further information on the Regulations, visit [Transport Canada's Web site](#) (Marine Safety section).

The following is a brief description of the different types of flotation devices and their respective instructions for use.



Life Jackets

Life jackets meeting the standard set out in CAN2-65.7-M80 must enable the user, whose size is indicated on the label, to float but must not tend to turn him to a face down position. The life jackets must be designed so that they can be adjusted readily and must be reasonably comfortable. They must also support the sides and back of the user's head.

- *SOLAS Lifejackets*

They are approved for all vessels and are mandatory onboard commercial vessels, i.e., fishing vessels, ferries and ocean-going vessels. (Option to carry either standard lifejacket or SOLAS lifejacket.)

When worn correctly, these devices will turn you on your back to keep your face out of the water, whether conscious or unconscious. Due to these requirements, foam filled SOLAS lifejackets are bulky and less comfortable than any other devices. However SOLAS inflatable lifejackets are a lot more comfortable and compact. They inflate automatically on immersion but can also be inflated manually or by mouth. In the event of loss of buoyancy in any compartment, they still meet the performance criteria described above.

Red, orange or yellow are the only Canadian-approved colours for these kinds of devices. They are available in two sizes: for persons weighing over 32 kg (70 lb) and for persons weighing less than 32 kg.

- *Standard-Type Lifejacket*

Standard-type lifejackets are approved for all vessels on Canadian waters and mandatory onboard commercial vessels (i.e., fishing vessels, ferries and ocean-going vessels). (Option to carry either standard lifejackets or SOLAS lifejackets.)

When worn correctly, these devices will turn you on your back to keep your face out of the water, whether conscious or unconscious. They must be worn loose to allow the water to flow under the device in order to turn your face up.

They have retroreflective tape and a whistle. Red, orange or yellow are the only approved colours for these kinds of devices in Canada. They are available in two sizes: less than 32 kg (70 lb) and greater than 32 kg.

- *Small-Vessel Lifejackets*

Small-vessel lifejackets have less flotation than standard lifejackets. When worn correctly, these devices will turn you on your back initially but may not do so every time.

They must be worn loose to allow the water to flow under the device in order to turn you face up.

They **may not** have retroreflective tape or a whistle. Red, orange and yellow are the only approved colours for these kinds of devices. They are available in two models: keyhole-type and vest-type.





Personal Flotation Devices

PFDs are designed primarily for recreational boating. They are generally smaller, less bulky and more comfortable than lifejackets. They have less buoyancy and turning capability than lifejackets but are available in several sizes and colours.

- Inherently Buoyant PFDs (Foam Panels)**

Inherently buoyant PFDs are approved for recreational boating only. They have less flotation than standard, SOLAS and *Small Vessel Regulations* lifejackets and have very limited turning capability. However, they are more comfortable than lifejackets and are designed for constant wear. They must be worn snug in order to be effective. They are available in any colour but bright colours are preferable. Some models help protect the wearer against hypothermia. They are available in several sizes.



- Inflatable PFDs**

Inflatable PFDs are another possibility but, in order for them to do their job, you the wearer must do yours by ensuring that you are familiar with the operation and maintenance requirements of your inflatable PFD. You must also know which boating activities they are approved for under the *Small Vessel Regulations*. For example, they are prohibited for children under 16 years of age, for persons weighing less than 36.3 kg (80 lb) and for personal watercraft use. Inflatable PFDs are not for weak swimmers. The inflation time for these devices, although relatively short, may not be appropriate for persons who are not confident in water.

There are three types of inflatable PFDs:

Manual (vest or suspender-type)	Manual (pouch-type)	Automatic (jacket-type only)
<p><i>avant</i></p> 	<p><i>avant</i></p> 	 <p data-bbox="1068 1654 1354 1717"><i>[Translation: avant before; après – after]</i></p>
<p><i>après</i></p> 	<p><i>après</i></p> 	

Manual PFDs can be quickly inflated (usually in less than five seconds) by simply pulling on a tab. Automatic PFDs inflate automatically when immersed in water.



10. PROTECTION AGAINST MOVING VEHICLES

10.1. Applicable References and Standards

- COHSR [s. 12.13](#);
- [CSA Z96-09 High-Visibility Safety Apparel \(HVSA\)](#);
- [CSA Z96.1-08 Guideline on selection, use, and care of high-visibility safety apparel](#).

10.2. Hazards and Types of PPE

Hazard:

- Being hit by moving vehicles

Types of High-Visibility Apparel:

⇒ High-visibility vest or similar clothing:

- Basic harness;
- Stripes/bands over the shoulder(s) and encircling the waist;
- Vest, jacket, coat;
- Bib overalls.

⇒ High-visibility headwear

CSA Standard Z96-09, *High-Visibility Safety Apparel*, lists three classes of garments based on body coverage provided. Each class covers the torso (waist to neck) and/or limbs, according to the minimum body coverage areas specified for each class.

While the standard is not mandatory under the *Canada Labour Code*, it provides a better assessment of the equipment required in terms of the hazard involved. Moreover, equipment in compliance with this standard must meet high quality standards.

There are three classes of apparel for protection against moving vehicles:

- **Class 1** provides the lowest recognized coverage and good visibility. It consists of a *basic harness or stripes/bands* over the shoulder(s) and encircling the waist;
- **Class 2** provides moderate body coverage and superior visibility in the form of a *vest, jacket, coat or bib overall*;
- **Class 3** provides the greatest body coverage and visibility under poor light conditions and at a great distance. Apparel meets the same requirements as Class 2 apparel but offers better visibility under poor light conditions and at a great distance.



10.3. Selection Criteria

Class 1

The centre portion of the front torso band between the two vertical bands is optional.

Examples of situations where you may use Class 1:

- Workers in activities that permit full and undivided attention to approaching traffic;
- When work backgrounds are not complex, allowing for optimal visibility;
- When workers on foot are separated from traffic (e.g., by barriers);
- When vehicles are moving slowly (e.g., less than 40 km/h (25 m/h)).

Examples of jobs include:

- Workers directing vehicle operators to parking or service locations;
- Workers in warehouse operations;
- “Right-of-way” or sidewalk maintenance workers;
- Workers in shipping or receiving operations.

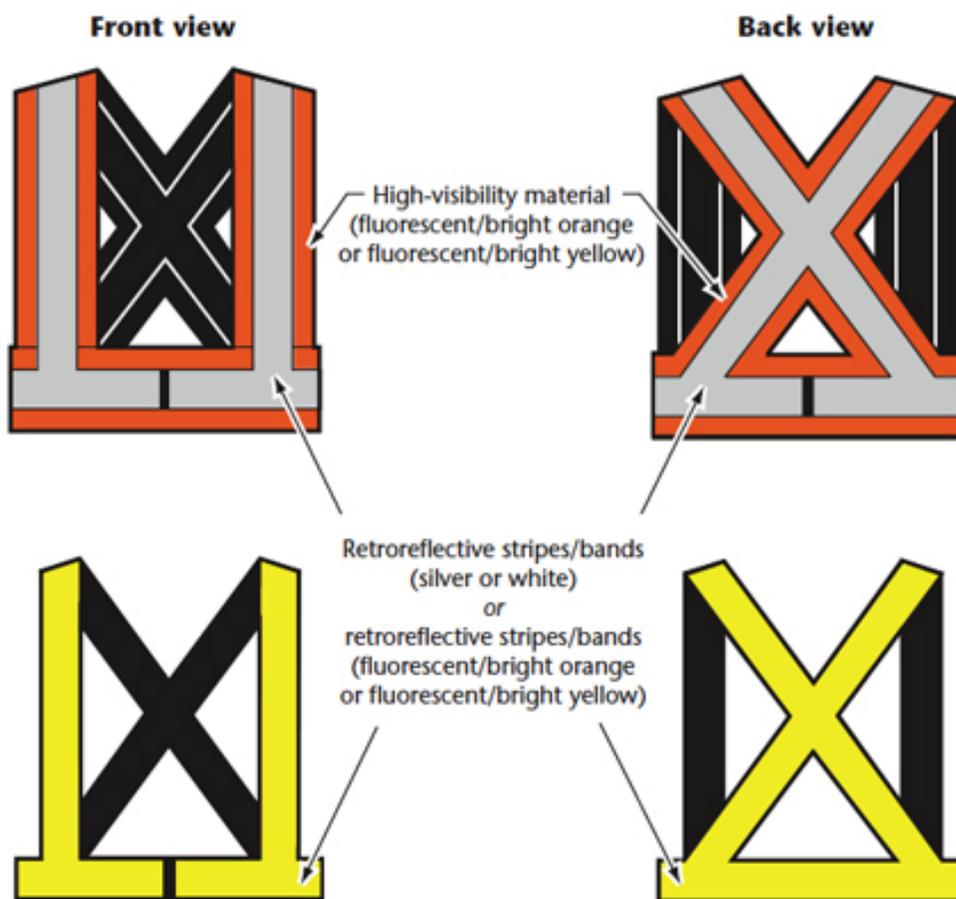


Figure 1: Examples of Class 1 Apparel, Harness or Colour/Retroreflective Stripes on Other Clothing



Class 2

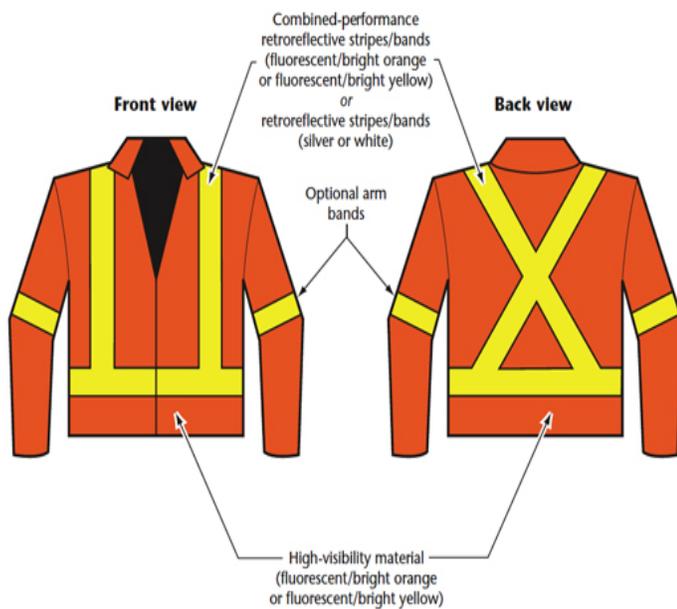
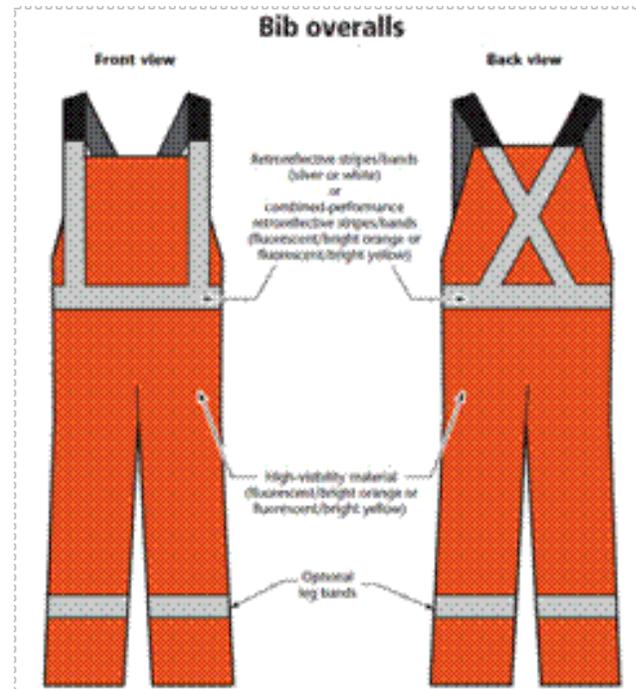
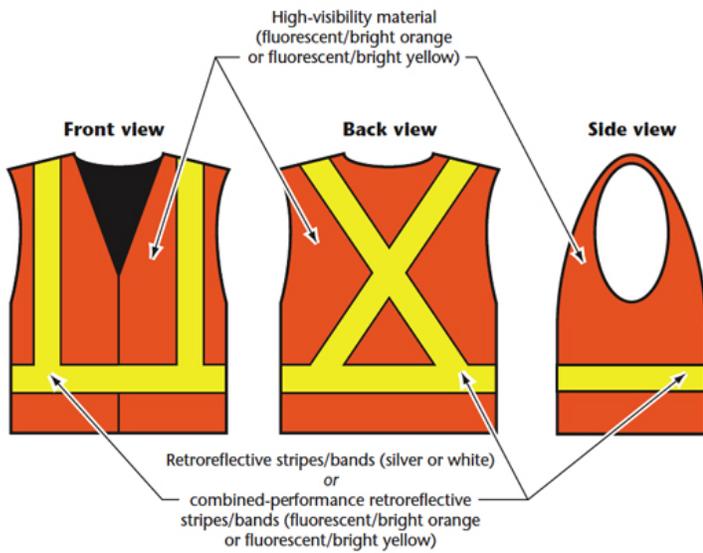
Class 2 apparel provides the wearer with more visibility than Class 1. Apparel has full coverage of the upper torso (front, back, sides, and over the shoulders) and includes bib-style overalls. Stripes/bands are composed of retroreflective or combined performance materials.

Examples of situations where you may use Class 2:

- When vehicles or equipment are moving between 40-80 km/h (25-50 mph);
- Workers who require greater visibility under inclement weather conditions or low light;
- When work backgrounds are complex;
- When workers are performing tasks that divert attention from approaching vehicle traffic;
- When work activities are in closer proximity to vehicles (in or near flowing vehicle traffic).

Examples of jobs include:

- Roadway construction, utility, forestry or railway workers;
- Survey crews;
- School crossing guard;
- High-volume parking and/or toll gate workers;
- Emergency responders in flagging operations;
- Members of law enforcement;
- Accident site investigators;
- Tow truck operators;
- Roadside vehicle maintenance workers.



**Figure 2: Examples of Class 2 Apparel
Vests, Jackets, Coats and Bib Overalls**



Class 3

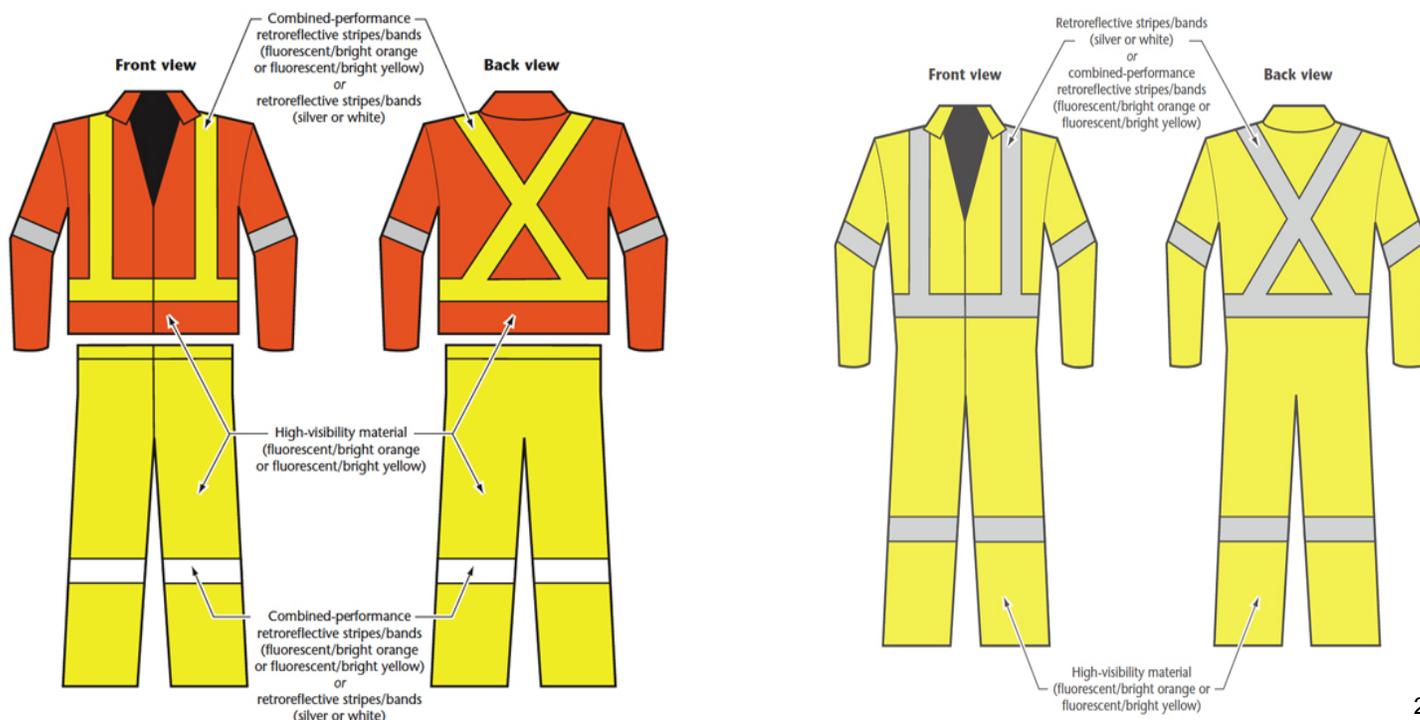
This apparel meets the same requirements as Class 2 with the addition of bands around both arms and legs. These bands are made up of combined performance stripes/bands or a combination of retroreflective and background material. Background material can cover the whole garment or a portion of the garment.

Examples of situations where you may use Class 3:

- Vehicle speeds exceeding 80 km/h (50 mph);
- High-volume traffic and unmonitored equipment movement;
- Workers on foot and vehicle operators with multi-task loads that divert attention and increase risk;
- Complex backgrounds;
- Work activities taking place in or near to flowing vehicle traffic;
- When the wearer must be conspicuous through the full range of body motions at a minimum of 390 m (1,280 ft);
- Work activities taking place under icy or snowy conditions;
- Work activities taking place in low light or at night-time.

Examples of jobs include:

- Roadway construction workers in inclement weather, road closures, complex lane shifts, etc.;
- Utility workers;
- Survey crews;
- High-volume parking and toll-gate workers;
- Emergency responders in flagging operations;
- Law enforcement officers;
- Flaggers in night operations and/or high congestion areas.





Regardless of the equipment class, bear in mind the following when selecting HVSA.

- Large, bright garments are more visible than small ones. Coverage all around the body (360° full body coverage) provides better visibility in all viewing directions;
- Stripes of colours that contrast (have a distinct colour difference) with the background material provide good visibility. Stripes on the arms and legs can provide visual clues about the motion of the person wearing the garment;
- When background material is bright-coloured or fluorescent material, it is intended to be highly visible, but is not intended to provide retroreflective performance;
- Other requirements such as flame resistance, thermal performance, water resistance, durability, comfort, tear-away features, material breathability and flexibility that are applicable to the job.

Employers should select the colour and stripe combination that provides the preferred contrast and visual indication of movement.

Fit:

- For safety and best performance, garments should be fitted to the person. Don't forget to consider the bulk of clothing that might be worn underneath the HVSA, and how the garment should be worn (i.e., done up properly around the body with no loose or dangling components). The garments should sit correctly on your body and stay in place during your work;
- The apparel should be comfortable to wear, i.e., the parts of the apparel that come into direct contact with the worker should not be rough, have sharp edges, or projections that could cause excessive irritation or injuries. The apparel should also be lightweight;
- Garments should be selected and worn so that no other clothing or equipment covers the high-visibility materials (e.g., glove gauntlets, equipment belts, and high-cut boots).

Brightness:

- Daylight: Bright colours are more visible than dull colours under daylight conditions (e.g., fluorescent materials are suitable for daylight);
- Low light conditions: Fluorescent colours are more effective than bright colours under low light (e.g., dawn and dusk). Under these conditions, reflective materials are also suggested;
- Dark conditions/worksites: Greater retroreflectivity provides greater visibility under low light conditions. Retroreflective materials provide high-visibility conditions and are preferred over bright colours. Fluorescent materials are ineffective at night and less visible than white fabrics.

Colour:

CSA Standard Z96-09, *High-Visibility Safety Apparel*, specifies three colours for background materials and contrasting-colour stripes to provide options that are intended to create visibility against most work environments. The stripes should be either retroreflective or combined-performance.

- **Background material:** should be fluorescent yellow-green, fluorescent orange-red or fluorescent red, or bright yellow-green, bright orange-red or bright red;
- **Combined-performance retroreflective material** (i.e., stripes): should be fluorescent yellow-green, fluorescent orange-red or fluorescent red - and must be in contrast (that is, have a distinct colour difference) to the background material.



High-Visibility Headwear:

- Should include both retroreflective materials and fluorescent or brightly coloured background materials and should be attached to the headwear to provide full (360°) visibility;
- Ensure that materials attached to a hard hat, for example, do not affect the hat's ability to protect the head.

11. PROTECTIVE OUTER CLOTHING

11.1. References and standards :

- [National Joint Council Occupational Health and Safety Directive Part XIII “Personal Protective Equipment & Clothing”, sections 13.2, 13.3, 13.5](#)
- American Conference of Governmental Industrial Hygienists (ACGIH): 2007 Threshold Limit Values and Biological Exposure Indices
- [Canadian Centre for Occupational Health & Safety – OSH Answers: Cold Environments](#)

11.2. Hazards and types of PPE

Hazards:

- Cold environment (may lead to hypothermia, frostbite and dehydration);
- Wet environment;
- High wind.

Types of protection:

- Insulated outerwear;
- Gloves/Mitts;
- Boots;
- Protection to head due to heat loss.

11.3. Selection Criteria

Many Parks Canada employees receive a uniform that is used while performing tasks in particular work environments. However, sometimes the furnished uniform does not provide adequate protection under specific conditions. Protective outer clothing should be considered for assigned tasks:

- a. In hazardous environmental conditions (including cold, rain, and high wind) where the type of personal or uniform outer clothing normally worn while working outdoors is inadequate to properly protect the employee from physical and health harm in the particular working environment;
- b. In conditions or environments in which an employee may not be easily identifiable (i.e. blizzard, mountainous or barren terrain);
- c. With a significant risk of total immersion in cold water.



Protective outer clothing should have design qualities and be constructed to provide protection from the elements encountered (wind, heat, cold, wet weather, snow, sun). It should be designed with breathable materials and sized to be layered with uniform pieces. The garments should allow sufficient mobility for performing assigned tasks such as taking large steps up and down slopes and not provide a “snag risk” when travelling through rough and heavily vegetated terrain. It should not retain moisture (hypothermia hazard), unless used in hot and dry conditions (i.e. no 100% cotton fabrics except for hot, dry conditions).

The purpose of cold weather clothing is to maintain layers of warm air around the body to maintain core temperatures above 36°C. Clothing should be worn in a number of layers, so that one or more items of clothing can be discarded when doing heavy work. The outer layer should be windproof. Gloves should also be in layers, again with a windproof outer layer. Mitts are warmest, but a pair of gloves should be carried for more exacting work. Felt-lined, rubber bottomed boots with removable felt insoles and appropriate traction are best for heavy work in the cold. Protection of the head is essential as this is where most heat loss occurs. In extremely cold conditions where face protection is used, eye protection must be separated from the nose and mouth (this may not apply when wearing full face shield helmets while using over-snow vehicles which present other hazards).

Selection of Protective Outer Clothing to Control Hazards

Type of protection	Hazard Types			
	Cold Environment	Wet Environment (Rain)	High Wind	Additional Hazard of Low Visibility
Insulated and windproof jacket	✓✓		✓	
Insulated or fleece vest	✓			
Insulated and windproof over- pants	✓		✓	
Felt-lined, rubber bottomed boots	✓✓			
Rubber boots		✓		
Hat /toque / balaclava (ski mask)	✓		✓✓	
Mitts / gloves	✓✓		✓	
Waterproof, breathable Jacket and over-pants		✓✓		
Windproof , breathable jacket and over-pants			✓✓	
High-visibility jacket or high-visibility vest worn over the jacket				✓✓
Comments	If the specific hazard of total immersion in cold water is present, a floater suit or survival suit is strongly recommended.			Jackets should be: a) of a color that increases visibility, or b) be worn with a high-visibility vest (section IX)

Legend:

- ✓✓ Strongly recommended
- ✓ Recommended (according to the criticality of the hazard)

Notes:

- Jackets should be waist or just below waist length, so as not to impede mobility.
- Headwear is normally issued as part of the uniform. If the issued headwear does not provide adequate protection in some particular environments, the employee will be provided with appropriate headwear.
- All outerwear should have the approved Parks Canada PPE identifier on shoulders, or in case of a vest, on the front chest panel.



SAFE WORK PRACTICE USE OF FIXED LADDERS

PURPOSE

To ensure the health and safety of all employees while using fixed ladders.

This SWP also specifies all required training, standards, and personal protective equipment.

POTENTIAL HAZARDS

-  **Fall from height**
-  **Heavy and improper lifting, working in awkward posture, repetitive movement and vibration**
-  **Falling or flying objects, materials or debris**
-  **Electric shock from unplanned contact with energized object or electrical system(s)**



MANDATORY REQUIREMENTS

Qualification and Training

- Working at Heights
- Use and Maintenance of Fall Arrest Equipment

Approved Personal Protective Equipment (PPE)

When choosing PPE, keep in mind both the task and the environment in which the work is conducted.

	Protective headwear		Protective footwear		Fall protection when working above 2.4 m
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✓ DO

- Ensure proper use, care and maintenance of personal protective equipment (PPE).
- Prior to use, inspect fixed ladders for:
 - Loose, worn and damaged rungs or side rails and extensions.
 - Damaged or corroded cage guard, bolts and rivet heads, handrails and brackets on platforms.
 - Broken or loose anchorages.
 - Defects in climbing devices, including loose or damaged carrier rails or ropes.
 - Slippery surfaces from oil and ice.
- Remove oil, grease, mud, snow, ice or other foreign substance from hands, shoe-soles, steps and rungs, before climbing any fixed ladder or antenna.
- Wear fall protection equipment attached to a ladder safety device when climbing an unguarded fixed access ladder at a height of more than 2.4 m above the nearest permanent safe level.
- Wear fall protection equipment at all times when ascending and descending towers and antennas, including when at rest or at the working level. Use the proper trolley for the type of fall arrest vertical lifeline, cable or rail installed and in use on the structure.
- Carry small tools in a tool pouch or a backpack.
- Maintain a firm grip and 3-point contact by keeping two hands and one foot, or two feet and one hand on ladder at all times.
- Keep body centered between side rails at all times.
- Place feet firmly on each rung.
- Clean muddy or slippery boot soles before mounting ladder.
- Ensure energized electrical sources in proximity to work being done are de-energized as per Lock-Out / Tag-Out policy.



✗ DO NOT

- Attach a fall arrest system to a lightning rod or to any other attachment not designed for the purpose of fall arrest.
- Climb from one ladder to another.
- Use in high winds, or during an electrical storm.
- Carry tools or materials in your hand while climbing.
- Access/work on fixed ladders, towers, water tanks, chimneys or similar structures, unless it is equipped with a fall protection system.
- Climb too quickly, jump from or slide down ladder.

Related Safe Work Practices and other documents that may apply to this task

Manual Material Handling

Lock-Out and Tag-Out

Working at Heights

Field Unit Superintendent/
Director (or Equivalent) : _____
Name Signature Date



SAFE WORK PRACTICE USE OF PORTABLE LADDERS

PURPOSE

To ensure the health and safety of all employees while carrying, assembling, installing and using portable ladders such as step ladders and extension ladders.

This SWP also specifies all required training, standards, and personal protective equipment.

POTENTIAL HAZARDS

-  **Fall from height**
-  **Falling or flying objects, materials or debris**
-  **Heavy and improper lifting, working in awkward posture, repetitive movement and vibration**
-  **Caught in/under/between, pinched or crushed by material, equipment, or objects**
-  **Electric shock from unplanned contact with energized object or electrical system(s)**



MANDATORY REQUIREMENTS

Qualification and Training

- Use and Maintenance of Fall Arrest Equipment
- Working at Heights

Approved Personal Protective Equipment (PPE)

When choosing PPE, keep in mind both the task and the environment in which the work is conducted.

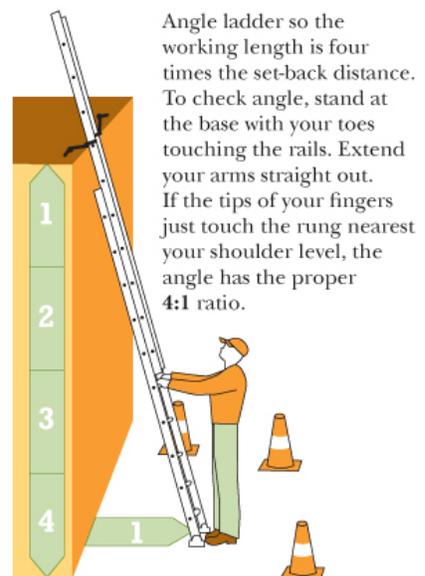
	Protective footwear		Fall protection when working above 2.4 m
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Other Required Equipment

- Signalling flags, cones, barriers or tape used to mark off the work area in high traffic area.
- Rope/straps to secure extension ladders when used for prolonged access to elevations

✓ DO

- Ensure the safe and proper use, inspection, and maintenance of tools, machinery, and equipment (on the job training).
- Ensure proper use, care and maintenance of personal protective equipment (PPE).
- Select the correct ladder, as to type, size, material of construction and duty rating (CSA Grade), for the task at hand.
- Inspect ladders for defects/damage prior to each use. If found to be damaged, take out of service immediately and replace.
- Read, and then follow, all warnings, labels and manufacturer's instructions specific to that ladder.
- Always place ladders on level footing.
- Remove oil, grease, mud, snow, ice or other foreign substance from hands, shoe-soles, steps and rungs, before climbing any ladder.
- Place ladder where access is not obstructed.
- When climbing up or down, always face a ladder; maintain a firm grip and 3-point contact by keeping two hands and one foot, or two feet and one hand on ladder at all times.
- Keep body centered between side rails.
- Carry ladders in a horizontal position, with the feet to the rear and the top of the ladder to the front and slightly higher than the back. Use a partner to help carry long or heavy ladders.
- Ensure to lay ladders on the ground at a perpendicular angle to the wall or object to be climbed. One person should brace the foot end of the ladder to prevent movement. The second person lifts the top end and walk underneath the ladder, raising it while moving forward to the other person.
- Untreated wooden ladders should be stored in dry areas to prevent moisture or water absorption.
- Open step ladders completely and ensure spreaders are locked and ladder is stable before climbing. Keep fingers and hands away from pinch points.
- Use a 2-way or trestle ladder, with one person per side, when a job requires two people.
- Ensure that locking mechanisms are secured on combination type ladders.
- Set extension ladder to not more than 4:1 slope or not less than 3:1 slope (refer to picture).
- When using an extension ladder, ensure ladder extends at least 3 feet above structure and is secured against accidental movement by either ropes / straps or held by co-worker.



✘ DO NOT

- Exceed the labelled duty rating.
- Climb from one ladder to another.
- Use metal ladders where they may contact electrical wires.
- Use in high winds, or during an electrical storm.
- Leave a ladder set up and unattended.
- Use as, or on, scaffolds. Do not straddle.
- Store materials on ladders.
- Place in front of unlocked doors.
- Overreach while working on ladder or “Walk” or “Shift” ladder while on it.
- Paint any ladder.
- Use damaged or altered ladders.
- Stand higher than the third rung of a step ladder.
- Climb, stand, or sit on spreaders, rear braces, ladder top, or pail shelf.
- Place on unstable, loose, or slippery surfaces.
- Extend an extension ladder less than 1 m (3 –ft) and nor more than 1.2 m (4 ft) above the upper support point.
- Climb too quickly, jump from or slide down ladder.

Related Safe Work Practices and other documents that may apply to this task

Manual Material Handling

Working at Heights

Field Unit Superintendent/
Director (or Equivalent) :

_____ Name

_____ Signature

_____ Date



SAFE WORK PRACTICE WORKING AT HEIGHTS

PURPOSE

To ensure the health and safety of all employees while working at heights. Working at heights means working in a place where there is a risk of a fall liable to cause personal injury. You are working at height if you: work above ground/floor level, could fall from an edge, through an opening or fragile surface, or could fall from ground level into an opening in a floor or hole in the ground.

This SWP also specifies all required training, standards, and personal protective equipment.

POTENTIAL HAZARDS

- ⚠ **Fall from height**
- ⚠ **Electric shock from unplanned contact with energized object or electrical system(s)**
- ⚠ **Falling, flying, or moving objects, materials or debris**
- ⚠ **Heavy and improper lifting, working in awkward posture, repetitive movement and vibration**



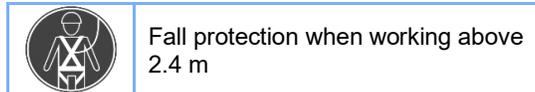
MANDATORY REQUIREMENTS

Qualification and Training

- Working at Heights
- Use and Maintenance of Fall Arrest Equipment

Approved Personal Protective Equipment (PPE)

When choosing PPE, keep in mind both the task and the environment in which the work is conducted.



✓ **DO**

- Try to find alternative ways to perform the task other than climbing heights.
- Properly plan the most appropriate material for the type of work to be performed (scale, scaffolding, platform or lifting platform in order to reduce the risks at the source.
- Ensure that all required PPE is thoroughly inspected prior to use and properly fitted.
- Report any defects or concerns to the supervisor immediately.
- Survey the scene to identify hazards (eg. power lines) and to choose the correct type of fall protection equipment required.
- Ensure access to help is available in the event of an emergency and a rescue plan is established to prevent suspension trauma.
- Wear fall protection equipment in the following situations:
 - o Working from an unguarded structure more than 2.4 m above the nearest permanent safe level.
 - o Working above any moving parts of machinery or any other surface or thing that could cause Injury.
 - o Working on a temporary structure that is more than 6 m above a permanent safe level.
 - o Working in a mobile unit (power elevated work platform).
- Ensure that guardrails are installed with accordance to Canadian Occupational Health and Safety Regulations 2.12(1) Every guardrail shall be highly visible and consist of:
 - o A horizontal top rail not less than 900 mm but not more than 1100 mm above the base of the guardrail;
 - o A horizontal intermediate rail spaced midway between the top rail and the base; and
 - o Supporting posts spaced not more than 3 m apart at their centres.
- Ensure good housekeeping practices are in place when working at heights to prevent tripping and falling.
- Secure tools and equipment to prevent falling objects.
- Ensure that lifelines are protected by padding where the lifeline passes over sharp edges.
- Ensure that lifelines are protected from heat, flame, abrasive and corrosive materials during use.
- Ensure that lifelines have a lower end extending to the ground or to a safe landing and that are protected from damage from other equipment.
- Ensure that tie-off points are inspected by a competent person prior to use.
- Ensure only 1 worker is allowed per tie-off.
- Follow manufacturer instructions to assemble, maintain, inspect, use and disassemble a fall protection system.
- Tie off using a travel restraint or fall arrest system prior to removing guardrails. Cordon off and post warning signs at least 2 m from either side of the opening and at least 2 m back from the open work surface.
- Ensure adequate guardrails or protective covers are provided at open floor or roof openings.
- Use a travel restraint system if guardrails or protective covers are not possible.
- Ensure anchor points on fixed structures have been thoroughly inspected by a competent person.

✘ DO NOT

- Work at heights during severe weather conditions such as thunderstorms or high winds.
- Use fall arrest equipment or a tie-off point presenting a deformation or any damage to the steel.
- Anchor to roof vents, roof hatches, small pipes or ducts, metal chimneys, TV antennas, stairs or balcony railings, permanent access ladders or any other structures that do not guarantee resistance.
- Store lanyards around chemicals, sharp objects or in wet places. Never leave them exposed to direct sunlight for long periods of time.

Related Safe Work Practices and other documents that may apply to this task

Use of Fixed Ladders

Use of Articulated Cranes

Erecting and Use of Scaffolding

Use of Portable Ladders

Field Unit Superintendent/
Director (or Equivalent) :

Name

Signature

Date



SAFE WORK PRACTICE HIGH ANGLE RESCUE

PURPOSE

To ensure the health and safety of all employees while involved in either high angle and/or crevasse rescue. High angle is the variety of technical methods used to rescue injured persons on terrain at slopes greater than 60°. It involves hoisting victims from one level to another using ropes, pulleys, harnesses, belay devices and various hauling implements. Crevasse rescue is the retrieval of an individual from a crevasse in a glacier.

POTENTIAL HAZARDS

- ⚠ Slips, trips, and falls
- ⚠ Falling or flying objects, materials or debris
- ⚠ Fall from height
- ⚠ Entangled, entrapped or buried
- ⚠ Physical strain/overexertion and fatigue
- ⚠ Stress



MANDATORY REQUIREMENTS

Qualification and Training

- Wilderness First Aid and CPR
- High Angle Rescue (based on industry best practices)

Approved Personal Protective Equipment (PPE)

When choosing PPE, keep in mind both the task and the environment in which the work is conducted.

	Fall protection when working above 2.4 m		Protective headwear (climbing helmet)		Protective footwear – purpose designed
	Protective hand wear				

Other Required Equipment

- Connecting components and self-rescue equipment (prussic cords, carabineers, pulleys, anchors, etc.)
- First-aid kit
- Communication equipment (2 way radio, satellite phone, cell phone etc.)

✓ DO

- Obtain weather forecasts and prepare task according to expected conditions.
- Ensure that appropriate communication with dispatch or other contact is available throughout the task.
- Ensure all equipment required for the task is properly maintained and inspected.
- Ensure proper body mechanics and footing when walking in difficult terrain.
- Visually assess rock, snow or ice conditions prior to proceeding onto rescue site to assure safety of personnel.
- Prior to working un-roped during a rescue operation, probe out and clearly mark the safe area.
- Debrief and seek psychological support as required.

✘ DO NOT

- Perform task if you are untrained or unexperienced in technical climbing.

Related Safe Work Practices and other documents that may apply to this task

Technical Climbing

Avalanche Rescue

Travel Over Glaciers and Crevasses

Assessing Avalanche Conditions

Working in a Cold Environment

Rendering First Aid and CPR

Field Unit Superintendent/
Director (or Equivalent) :

_____ Name

_____ Signature

_____ Date