Guarding – Know The Laws of Your Province

Guarding regulations are essential for workplace safety, particularly in environments with machinery or equipment that could cause injury. Guarding refers to the installation of protective barriers or devices to prevent accidental contact with hazardous parts of machinery, such as moving belts, gears, or blades. Employers are obligated to adhere to guarding standards and regulations to protect workers from potential harm, reduce workplace injuries, and ensure compliance with occupational health and safety legislation. These regulations differ across provinces and territories in Canada, reflecting the unique requirements and priorities of each jurisdiction. By implementing proper guarding measures, employers contribute to a safer working environment and demonstrate their commitment to employee well-being.

FEDERAL

Under the **Occupational Safety and Health Standards – Section 1910.212**, **employers** must ensure that machinery and equipment are equipped with appropriate guards to prevent injury.

General Requirements for All Machines

(a) Machine guarding

1. **Types of guarding.** One or more methods of machine guarding **shall** be provided to protect the operator and

other employees in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips and sparks. Examples of guarding methods are—barrier guards, two-hand tripping devices, electronic safety devices, etc.

2. **General requirements for machine guards.** Guards **shall** be affixed to the machine where possible and secured elsewhere if for any reason attachment to the machine is not possible. The guard **shall** be such that it does not offer an accident hazard in and of itself.
3. **Point of operation guarding.**

(i) Point of operation is the area on a machine where work is actually performed upon the material being processed.

(ii) The point of operation of machines whose operation exposes an employee to injury, **shall** be guarded. The guarding device **shall** be in conformity with any appropriate standards therefore, or, in the absence of applicable specific standards, **shall** be so designed and constructed as to prevent the operator from having any part of his body in the danger zone during the operating cycle.

(iii) Special hand tools for placing and removing material **shall** be such as to permit easy handling of material without the operator placing a hand in the danger zone. Such tools **shall** not be in lieu of other guarding required by this section but can only be used to supplement protection provided.

(iv) The following are some of the machines which usually require point of operation guarding:

(a) Guillotine cutters.
(b) Shears.
(c) Alligator shears.
(d) Power presses.
(e) Milling machines.

(f) Power saws.
(g) Jointers.
(h) Portable power tools.
(i) Forming rolls and calendars. **Section 1910.212.**

Further details on the Occupational Safety and Health Standards can be found at Osha.go.

ALBERTA

In Alberta, the **Occupational Health and Safety (OHS) Code** – **Sections 310 to 322** requires **employers** to implement safeguards on machinery to prevent contact with dangerous parts. **Employers** must ensure that guards are securely attached, inspected regularly, and only removed during authorized maintenance with proper lockout procedures in place. Training for workers on guarding use is mandatory.

Safeguards

An **employer must** provide safeguards if a worker may accidentally, or through the work process, come into contact with:

(a) moving parts of machinery or equipment,

(b) points of machinery or equipment at which material is cut, shaped, or bored,

(c) surfaces with temperatures that may cause skin to freeze, burn, or blister,

(d) energized electrical cables,

(e) debris, material, or objects thrown from machinery or equipment,

(f) material being fed into or removed from process machinery or equipment,

(g) machinery or equipment that may be hazardous due to its operation, or

(h) any other hazard. **Sections 310(2).**

Subsection (2) does not apply to machinery that already has a safeguard that:

(a) automatically stops the machinery if a worker comes into contact with a moving part or a point at which material is cut, shaped, or bored,

(b) prevents a worker from coming into contact with a hazard referred to in subsection (2), or

(c) eliminates the hazards referred to in subsection (2) before a worker can be injured. **Section 310(3).**

If an **employer** determines that an effective safeguard cannot be provided in the circumstances, the **employer must** ensure that an alternative mechanism or system or a change in work procedure is put into place to protect workers from being exposed to hazards that exist if there is no safeguard. **Section 310(4).**

An alternative mechanism or system or a change in work procedure put into place under subsection (4) must offer protection to workers that is equal to or greater than the protection from a safeguard referred to in subsection (3). **Section 310(5).**

An **employer must** place warning signs on machinery that starts automatically:

(a) on a clearly visible location at a point of access to the machinery, and

(b) that give clear instructions to workers on the nature of the hazard. **Section 310(6).**

Tampering with safeguards

A **person must** not remove a safeguard from a machine that is operating if the safeguard is not designed to be removed when the machine is operating. **Section 311(1).**

A **person must** not remove a safeguard or make it ineffective unless removing it or making it ineffective is necessary to perform maintenance, tests, repairs, adjustments, or other tasks on equipment. **Section 311(2),**

If a **worker** removes a safeguard or makes it ineffective, the **worker must** ensure that:

> (a) alternative protective measures are in place until the safeguard is replaced,
>
> (b) the safeguard is replaced immediately after the task is completed, and
>
> (c) the safeguard functions properly once replaced. **Section 311(3).**

If a safeguard for machinery is removed or made ineffective and the machinery cannot be directly controlled by a worker, the **worker** who removes the safeguard or makes it ineffective **must** lock out or lock out and tag the machinery or render it inoperative. **Section 311(4).**

No safeguards

> (1) Despite other sections in this Part, an **employer may** allow the machinery to be operated without the safeguards if:
>
> > (a) safeguards are normally required by this Code for machinery, and
> >
> > (b) the machinery cannot accommodate or operate with these safeguards. **Section 312(1).**

If machinery in subsection (1) is operated without safeguards, the **employer must** ensure workers operating or in the vicinity of the machine wear personal protective equipment that:

(a) is appropriate to the hazard, and

(b) offers protection equal to or greater than that offered by the safeguards. **Section 312(2).**

For more information:

- Building Shafts. **Sections 313(1)(2)(3); Sections 314(1) to (3);** Guard Rails. **Section 315(1) to 315(3);** Protection from Falling Objects. **318(1) to 318(8);** Push Stick. **Section 319;** Safety Nets. **Sections 320(1) to 320(3);** Toe Boards. **Sections 321(1) to (5);** Wire Mesh. **Section 322.**

Further details on the Occupational Health And Safety Code can be found at ulethbridge.ca.

BRITISH COLUMBIA

The **Occupational Health and Safety Regulation – Part 12 Sections 12.2 to 12.44** in BC mandate **employers** to provide safeguards for all machinery and equipment with exposed moving parts. Guards must meet approved standards and be properly maintained. **Workers** must receive adequate training on the operation and risks of guarded equipment to ensure compliance.

Part 12 – Tools, Machinery, and Equipment – Safeguarding Requirement

Unless elsewhere provided for in this Occupational Health and Safety Regulation, the **employer must** ensure that machinery and equipment is fitted with adequate safeguards which:

(a) protect a worker from contact with hazardous power transmission parts,

(b) ensure that a worker cannot access a hazardous point of operation, and

(c) safely contain any material ejected by the work process which could be hazardous to a worker. **Section 12.2.**

Standards

The application, design, construction and use of safeguards, including an opening in a guard and the reach distance to a hazardous part, must meet the requirements of *CSA Standard Z432-94, Safeguarding of Machinery*. **Section 12.3.**

Effectiveness of safeguards

A safeguard **must** be capable of effectively performing its intended function. **Section 12.4.**

Fixed guards

A fixed guard **must** not be modified to be readily removable without the use of tools. **Sections 12.5.**

Lubrication

A guard **must** be designed, where practicable, to allow lubrication and routine maintenance without the removal of the guard. **Section 12.6.**

Identifying unsafe equipment

An unsafe tool, machine or piece of equipment **must** be removed from service and identified in a manner which will ensure it is not inadvertently returned to service until it has been made safe for use. **Section 12.10.**

Operating controls

(1) Powered equipment other than portable powered tools or mobile equipment **must** have:

(a) starting and stopping controls located within easy reach of the operator,
(b) controls and switches clearly identified to indicate the functions they serve,
(c) controls positioned, designed or shielded as necessary to prevent inadvertent activation,
(d) if two-hand controls are installed, controls designed to require concurrent use of both hands to operate the equipment, and to require both controls to be released before another machine cycle can be initiated, and
(e) control systems meeting the requirements of this Regulation.

(2) Portable powered tools and mobile equipment must have operating controls conforming to an appropriate standard acceptable to the Board.

(3) A remote-control device that operates mobile equipment **must** be equipped with a failsafe, or stop, mechanism that becomes operational if the remote control device fails. **Section 12.11.**

Machinery location

A machine must be located or safeguarded so that operation of the machine will not endanger workers using normal passage routes about the workplace or operating an adjacent machine. **Section 12.12.**

Marking physical hazards

A physical hazard must be marked in a manner that clearly identifies the hazard to the affected workers. **Section 12.13.**

Identification of piping

(2) A piping system containing substances other than hazardous products must be identified in a manner known to the affected

workers.

(3) The identification markings on a piping system **must** be maintained in a legible condition. **Section 12.14.**

Restraining devices

Effective means of restraint **must** be used:

> (a) on a connection of a hose or a pipe if inadvertent disconnection could be dangerous to a worker,
>
> (b) if unplanned movement of an object or component could endanger a worker, or
>
> (c) to secure an object from falling and endangering a worker. **Section 12.15.**

For more information:

- Guarding Mechanical Power Transmission Parts. **Section 12.16 to 12.21.**
- **Sections 12.22 to 12.28.**
- Power Presses, Brake Presses and Shears. **Sections 12.29 to 12.32.**
- Feed-Rolls and Metal-forming Rolls. **Sections 12.34 to 12.36.**
- Machine Tools. **Sections 12.37 to 12.43.**
- Abrasive Equipment. **Section 12.44.**

Further details on the Occupational Health and Safety Regulation can be found at *BClaws.gov.bc.ca*.

MANITOBA

In Manitoba, the **Manitoba Workplace Safety and Health Act and Regulation – 16.5, 16.6, 16.7, and 16.19 to 16.21** Section emphasizes that **employers** must ensure machinery is equipped with guards to protect workers from hazardous motion. **Employers** must provide regular maintenance of guarding systems

and ensure employees understand how to operate safely around equipment.

Safeguards required

Subject to section 16.6, an **employer must ensure** that a machine has safeguards on it that will prevent a worker from coming into contact with the following hazards:

(a) moving parts on the machine;

(b) points of the machine at which material is cut, shaped, or bored;

(c) surfaces with temperatures that may cause skin to freeze, burn, or blister;

(d) energized components;

(e) debris, material, or objects thrown from a machine;

(f) material being fed into or removed from the machine;

(g) any other hazard that may pose a risk to the safety or health of the worker. **Section 16.5(1).**

An employer must ensure that any safeguard required under this Part is designed, constructed, installed, used, and maintained in accordance with CSA Z432-16, Safeguarding of machinery. **Section 16.5(2).**

Alternative mechanism

When it is not reasonably practicable to provide a safeguard on a machine, an **employer must** ensure that an alternative mechanism, system or change in work procedure is put into place to protect the safety and health of a worker. **Section 16.6(1).**

An alternative mechanism, system, or change in work procedure **must** offer protection to a worker that is equal, or greater

to, the protection provided by a safeguard that meets the requirements of section 16.5. **Section 16.6(2).**

Removing a safeguard

No person may remove a safeguard or make it ineffective unless it is necessary to perform servicing, repairs, tests, cleaning, maintenance, or adjustments on or to the machinery that cannot be done with the safeguard in place. **Section 16.7(1).**

When a safeguard is removed or made ineffective for the purposes of subsection (1), **an employer must** ensure that:

> (a) alternative protective measures are in place until the safeguard is replaced;
>
> (b) the safeguard is replaced immediately after the task is completed; and
>
> (c) the safeguard functions properly once replaced. **Section 16.7(2).**

When a safeguard is removed or made ineffective for the purposes of subsection (1) by a worker who does not directly control the machine, an **employer must** ensure that the worker who removes the safeguard or makes it ineffective locks out the machine in accordance with the requirements of this Part. **Section 16.7(3).**

Emergency stopping system for conveyors

An **employer must** ensure that a conveyor has an emergency stopping system that is readily accessible to workers working at the conveyor unless worker access to the conveyor is prevented by guarding or other means. **Section 16.19(1).**

An **employer must** ensure that a conveyor emergency stopping system is designed and installed so that manual resetting is required before the conveyor can be restarted after an

emergency stop. **Section 16.19(2).**

An **employer must** ensure that a conveyor cannot be restarted after an emergency stop until an inspection has determined that the conveyor can be operated safely. **Section 16.19(3).**

Elevated conveyors

If an elevated conveyor crosses over a place where a worker may pass or work, an **employer must** ensure that a suitable guarding system is provided to prevent materials on the conveyor from falling on the worker. **Section 16.21.**

For more information:

- Emergency Pull Cords. **Section 12.20.**

Further details on the Manitoba Workplace Safety and Health Act and Regulation can be found at Gov.MB.ca.

NEW BRUNSWICK

Under New Brunswick's **Occupational Health and Safety Act – Part XVI Sections 236, 237, and 242 to 244**, **employers** are obligated to safeguard machinery to prevent access to hazardous areas. **Employers** must also perform routine safety checks, educate employees on guarding procedures, and ensure compliance through monitoring and enforcement practices.

Part XVI MECHANICAL SAFETY

An **employer shall** ensure that a machine is regularly inspected for defects and that a defective machine that may cause injury to an employee is removed from service until repaired. **Section 236.**

Starting and Stopping Machines

> (1) An **employer shall** ensure that the operational controls on a machine are:

(a) located and protected in such a manner as to prevent unintentional activation, and

(b) suitably identified so as to indicate the nature of each control mechanism.

(2) Where a pedal is used to activate a control device on a machine, an **employer shall** ensure that the pedal is guarded so that it cannot be struck accidentally and activate the machinery.

(3) An **employer shall** ensure that each pair of active and idler pulleys on a machine is equipped with a permanent belt shifter that has a mechanical means of preventing the belt from creeping from the idler pulley to the active pulley.

(4) Where there is not a clear view of a machine or parts of it from the control panel or operator's station and moving parts of the machine may endanger an employee when the machine is started, an **employer shall** ensure that:

(a) an alarm system is installed, and

(b) the alarm system gives an effective warning before start-up of the machine so that an employee is made aware of the imminent start-up.

(5) An **employer shall** ensure that an operator of a machine has unimpeded access in the operator's immediate work area to the means of stopping the machine.

(6) An **employer shall** ensure that a machine not driven by an individual motor or prime mover is equipped with a clutch, idler pulley or other means of quickly disengaging the power source. **Section 237.**

Safeguards

(1) Where an employee may come into contact with moving

drive or idler belts, rollers, gears, driveshafts, keyways, pulleys, sprockets, chains, ropes, spindles, drums, counterweights, flywheels, couplings, pinch points, cutting edges, or other moving parts on a machine that may be hazardous to the employee, an **employer shall** provide adequate safeguards to prevent such contact.

(2) Subsection (1) does not apply to a machine that is equipped with a device that stops the machine automatically before an employee comes into contact with the parts mentioned in subsection (1).

(3) Where there is a possibility of a failure of a machine that may result in an injury to an employee from a flying object, an **employer shall** install a safeguard strong enough to contain or deflect any flying object.

(4) No **employer or employee shall** alter the design of a machine where it has been designed with a safeguard that interlocks with the machinery control so as to prevent the operation of the machine unless the safeguard is in its proper place.

(5) Where an **employer** has determined that an adequate safeguard for a machine cannot be provided, the **employer shall** ensure that a physical modification of the machine is carried out or a change in work procedure is put into place to protect employees from being exposed to the hazards associated with the lack of an adequate safeguard. **Sections 242.**

(1) No **person shall** remove or render ineffective a safeguard for a machine unless the removal or rendering ineffective is necessary to enable the cleaning, maintenance, adjustment, or repair of the machine.

(2) Where a **person** removes or renders ineffective a safeguard for a machine, the **person shall** ensure that the safeguard is replaced and is functioning properly before

leaving the machine or that the machine is in a zero energy state.

(3) Where a safeguard for a machine is to be removed or rendered ineffective and the machine cannot be directly controlled by the person who removes or renders ineffective the safeguard, the **person shall** put the machine in a zero energy state and lock out the machine in accordance with section 239 or follow the code of practice in section 240 before removing or rendering ineffective the safeguard. **Section 243.**

For more information:

- Abrasive Wheels and Grinders. **Section 244(1) to (5).**

Further details on the WorkSafeNB can be found at Ohsguide.worksafenb.ca.

NEWFOUNDLAND & LABRADOR

The **OHS Regulations – Sections 17, 26, 87, 89 to 94, and 98 to 102** in Newfoundland and Labrador require **employers** to install guards on machinery that could pose a hazard. Guards must be inspected regularly, and workers must be trained on how to recognize and report guarding deficiencies. **Employers** are responsible for ensuring guards are in place during all operations.

General duties of workers

(1) A worker **shall** make proper use of all necessary safeguards, protective clothing, safety devices, lifting devices or aids, and appliances:

(a) designated and provided for the worker’s protection by the employer; or

(b) required under these regulations to be used or worn by a

worker.

(2) A worker **shall** follow the safe work procedure in which the worker has been instructed.

(3) A worker **shall** immediately report a hazardous work condition that may come to the worker's attention to the employer or supervisor. **Sections 17(1) to (3).**

Personal Conduct of Employers, Supervisors and Workers

(1) A worker with a medically documented physical or mental impairment shall not be assigned to work where those impairments endanger the health and safety of that worker or other workers.

(2) An **employer, supervisor, or worker shall** not enter or remain on the premises of a workplace or at a job site while the employer's, supervisor's or worker's ability to perform work responsibilities is impaired by intoxicating substances or another cause that endangers the health or safety of the employer, supervisor, or worker or that of other workers.

(3) A **person shall** not engage in horseplay, scuffling, unnecessary running or jumping, practical jokes or other similar activity or behaviour that may create or constitute a hazard to workers.

(4) Before tools, machinery or equipment is put into operation, the person responsible for doing so **shall** ensure that all guards are in place and that putting the equipment into operation does not endanger a person. **Section 26(1) to (4).**

General requirements

Except as otherwise provided in these regulations, an **employer shall** ensure that machinery and equipment is fitted with adequate safeguards that:

(a) protect an employee from contact with hazardous power transmission parts;

(b) ensure that an employee cannot access a hazardous point of operation; and

(c) safely contain material ejected by the work process that could be hazardous to an employee. **Section 89.**

Guards

(1) A fixed guard shall not be modified to be readily removable without the use of tools.

(2) A guard shall be designed, where practicable, to allow lubrication and routine maintenance without the removal of the guard. **Section 91.**

Operating controls

(1) Powered equipment other than portable powered tools or mobile equipment **shall** have:

(a) starting and stopping controls located within easy reach of the operator;

(b) controls and switches clearly identified to indicate the functions that they serve;

(c) controls positioned, designed or shielded to prevent inadvertent activation;

(d) where two-hand controls are installed, controls designed to require concurrent use of both hands to operate the equipment, and to require both controls to be released before another machine cycle can be initiated; and

(e) control systems meeting the requirements of these regulations.

(2) Portable powered tools and mobile equipment **shall** have

operating controls that conform to an appropriate standard acceptable to the minister. **Section 93.**

For more information:

- **Section 87.**
- **Section 90.**
- Identifying Unsafe Equipment. **Section 92.**
- Machinery Location. **Section 94.**
- Rotating hazards. **Section 98**; Flywheels and pulleys. **Section 99**; Conveyor standards. **Section 100**;
- Power Presses, brake presses, and shears. **Sections 101.**
- Exception for custom work. **Section 102.**

Further details on the OHS Regulations can be found at Ohsguide.workplaceNL.ca.

NOVA SCOTIA

Employers must consider the **Occupational Safety General Regulations**. **Section 87** deals with safeguards on machinery; specifically **subsection 87(6)** requires the **employer** to ensure that adequate safeguards are installed on a machine where a person may be injured by a flying object from a machine.

Contact with machines

An **employer shall** ensure that adequate space is provided around a machine to ensure the safety of a person while the machine is being:

(a) operated; or

(b) cleaned, adjusted, repaired, or otherwise maintained.

(2) No person **shall** be near a rotating shaft, spindle, gear, belt, or other possible source of entanglement:

(a) while wearing any article of clothing or jewelry that in the circumstances presents a hazard to a person in the

workplace; or

(b) with hair that is not confined closely to the head by suitable headwear. **Section 86(1)**.

Safeguards

(1) In this Section, **"safeguard"** means a guard, shield, guardrail, fence, gate, barrier, safety net, wire mesh, or other protective enclosure or device, but does not include personal protective equipment.

(2) Where a person may come in contact with a moving part of a machine or tool that may present a hazard to a person, an **employer shall** ensure that an adequate safeguard has been installed on the machine or tool to prevent contact.

(3) Despite subsection (2), an **employer** is not required to ensure that a safeguard is installed on a machine that is equipped with a device that stops the machine automatically before a person comes into contact with the moving parts.

(4) Despite subsection (2), where it is not reasonably practicable to use a safeguard on a cutting or shaping machine and there is a possibility of injury to a person, an **employer shall:**

(a) ensure that a push block, push stick or other adequate protective device is used; and

(b) establish a written procedure to ensure the safety of an operator of the machine.

(5) No person **shall** remove or render ineffective a safeguard on a machine, unless:

(a) the removal or rendering is necessary to enable the cleaning, maintenance, adjustment, testing, or repair of the machine;

(b) the machine is locked out; and

(c) the person replaces the safeguard and ensures the safeguard is functioning properly before leaving the machine.

(6) An **employer shall** ensure that adequate safeguards are installed on a machine where a person may be injured by a flying object from a machine.

(7) Where an object or material is to be applied to, fed into or supplied to a machine or tool and the object or material may shatter, splinter, vibrate, create a flying projectile, or otherwise cause hazardous movement because it is not secure, an **employer shall** ensure that the object or material is held by a restraining device or other means of providing an equivalent level of safety.

(8) Where opening an access door exposes the moving parts of a machine or tool, an **employer shall** ensure, where reasonably practicable, that the access door is fitted with interlocks that:

(a) prevent the access door from opening while the moving parts are in motion; or

(b) disconnect the power from the driving mechanism, causing the moving parts to stop immediately if the door is opened.

(9) Where it is not reasonably practicable to fit an access door with interlocks in accordance with subsection (8), an **employer shall**, in consultation with the committee or representative, if any, establish an adequate written work procedure. **Section 87(1) to (9).**

For more information:

- General Provisions. **Section 84(1) to (3).**

Further details on the Occupational Health and Safety Act can be found at Novascotia.ca.

NORTHWEST TERRITORIES & NUNAVUT

The **OHS Regulations** – **Sections 13 and 145** in Northwest Territories and Nunavut mandate that all machinery be safeguarded against worker contact with moving parts. **Employers must** ensure proper installation, maintenance, and employee training on guarding use and its importance.

General Duties of Workers

A worker **shall**, in respect of a worksite:

(a) use safeguards, safety equipment, and personal protective equipment required by these regulations; and

(b) follow safe work practices and procedures required by or developed under these regulations. **Section 13.**

Safeguards

(1) An **employer shall** provide an effective safeguard if a worker could come into contact with:

(a) a dangerous moving part of a machine;

(b) a pinch point, cutting edge or point of a machine at which material is cut, shaped, bored, or formed;

(c) an open flame;

(d) a steam pipe or other surface with a temperature that exceeds or could exceed 80ºC; or (e) a cooled surface that is or could be less than 80ºC.

(2) Subject to subsection (4), an **employer shall** ensure that a safeguard required by subsection (1) remains in place at all times.

(3) Subsection (1) does not apply to:

(a) a machine that is equipped with an effective safety device

that stops the machine automatically before any part of a worker's body comes into contact with a hazard referred to in paragraph (1)(a) or (b); or

(b) a belt, rope, or chain that is operated from a cathead or capstan.

(4) An **employer shall** ensure that a safeguard that is removed from a machine or made ineffective to permit maintenance, testing, repair, or adjustment of a machine is replaced or made effective before a worker is required or permitted to use the machine.

(5) If there is a risk of machine failure and of injury to a worker from the failure, an **employer shall** install safeguards strong enough to withstand the impact of debris from the machine failure and to contain any debris resulting from the machine failure. **Section 145.**

Further details on the Occupational Health and Safety Regulations can be found at Justice.gov.NT.ca.

ONTARIO

In Ontario, the **Occupational Health and Safety Act, Regulation 851 for Industrial Establishments** under **Sections 24 to 34**, requires **employers** to equip machinery with proper guards to protect workers from hazardous motions and other risks.

Machine Guarding

Where a machine or prime mover or transmission equipment has an exposed moving part that may endanger the safety of any worker, the machine or prime mover, or transmission equipment **shall** be equipped with and guarded by a guard or other device that prevents access to the moving part. **Section 24.**

An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker **shall** be

equipped with and guarded by a guard or other device that prevents access to the pinch point. **Section 25.**

A machine **shall** be shielded or guarded so that the product, material being processed, or waste stock will not endanger the safety of any worker. **Section 26.**

An emergency stop control on a power-driven machine **shall**:

(a) be conspicuously identified; and

(b) be located within easy reach of the operator. **Section 27.**

An operating control that acts as a guard for a machine not otherwise guarded shall:

(a) be in a location where the safety of the operator is not endangered by moving machinery;

(b) be arranged so that it cannot be operated accidentally; and

(c) not be made ineffective by a tie-down device or other means. **Section 28.**

A grinding wheel **shall** be:

(a) marked with the maximum speed at which it may be used;

(b) checked for defects before mounting;

(c) mounted in accordance with the manufacturer’s specifications;

(d) operated at a speed which does not exceed the manufacturer’s recommendations;

(e) provided with protective hoods that enclose the wheel as closely as the work will permit;

(f) operated only by workers protected by eye protection; and

(g) stored where it will not be subjected to:

(i) extreme heat or cold, or

(ii) damage from impact. **Section 29.**

A work rest for a grinding wheel **shall**:

(a) have a maximum clearance of three millimetres from the grinding wheel;

(b) be in a position above the centre line of the grinding wheel; and

(c) not be adjusted while the grinding wheel is in motion. **Section 30.**

A centrifugal extractor, separator or dryer **shall** have an interlocking device that will prevent:

(a) any lid or covering guard from being opened or removed while the rotating drum or basket is in motion; and

(b) the starting of the drum or basket while the lid or covering guard is open or removed. **Section 31.**

A tumbling mill or tumbling dryer **shall** have a locking device which prevents any movement of the mill or dryer that may endanger any worker during loading or unloading. **Section 32.**

Portions of conveyors or other moving machinery that are not visible from the control station, and where starting up may endanger any worker, shall be equipped with automatic start-up warning devices. **Section 33.**

Guards shall be provided beneath conveyors:

(a) that pass over any worker; or

(b) from which falling material, including broken conveyor parts, may be a hazard to any worker. **Section 34.**

Further details on the Occupational Health and Safety Act can be found at Ontario.ca.

PRINCE EDWARD ISLAND

The **OHS Act General Regulations – Part 30 Sections 30.1, 30.2, 30.9, 30.10, and 30.18** in PEI requires **employers** to safeguard workers from potential hazards posed by machinery. Guards must be installed to cover dangerous parts and maintained in good working order.

Part 30 – Mechanical Safety

Guarding moving parts

The **employer shall** ensure that all moving parts of machinery, equipment and tools **shall** be effectively safeguarded unless:

(a) they are so constructed or located as to prevent a person or object from coming in contact with them; or **Sections 30.2.**

Safeguards

(1) Subject to this section, an **employer shall** provide effective safeguards where a worker may come into contact with moving belts, rollers, gears, drive-shafts, keyways, pulleys, sprockets, chains, ropes, spindles, drums, counterweights, flywheels or couplings on machinery, pinch points, and cutting edges.

(2) Subsection (1) does not apply to machinery that is equipped with an effective device which stops the machinery automatically when a worker comes into contact with the parts of it mentioned in subsection (1) or prevents a worker from coming in contact with parts mentioned in subsection (1).

Screening workers

(3) Where there is a possibility of machine failure that may result in an injury to a worker from flying objects, the

employer shall install safeguards strong enough to contain or deflect the broken parts or particles of the machinery and flying particles of any product.

Alteration

(4) The **employer and worker shall** not alter the design where machines are designed with guards that interlock with the machinery control so as to prevent operation of the machine unless the guard is in its proper place.

Alternative protection

(5) Where it has been determined that an effective safeguard cannot be provided, the **employer shall** ensure that an alternative mechanism, system, or change in work procedure, approved by an officer, is put into place to protect workers from being exposed to the hazards associated with the lack of the safeguard. **Section 30.9.**

Removing and rendering ineffective safeguards

(1) A person **shall** not remove or render ineffective a safeguard, other than a removable guardrail or gate, that is required by these regulations unless the removal or rendering ineffective is necessary to enable the effecting of maintenance or adjustments.

(2) Where a person has removed or rendered ineffective a safeguard, he **shall** ensure that:

(a) the safeguard is replaced before he leaves the unguarded area; and

(b) the safeguard will function properly.

Lock-out

(3) Where a safeguard for machinery has been removed or rendered ineffective and the machinery cannot be directly

controlled by the **worker**, the worker who removes or renders ineffective the safeguard **shall** lock-out and tag the machine according to section 30.7. **Section 30.10.**

Guards

(1) Where there is danger of injury to a worker from material falling from a conveyer, the **employer shall** ensure that sheet metal or screen guards are installed under a conveyer which is not entirely enclosed. **Section 30.18.**

For more information:

- **Section 30.1.**

Further details on the Occupational Health and Safety Act General Regulations can be found at princeedwardisland.ca.

QUÉBEC

Quebec's **Regulation Respecting Occupational Health and Safety – Division XXI Sections 177 to 188** mandates that employers equip machinery with appropriate guards to prevent injuries. **Employers** must maintain guards, conduct regular safety inspections, and train workers on safe operations and procedures involving guarded machinery.

Division XXI – Machines

Choosing means of protection: A machine **must** be designed and manufactured in such a way as to render its danger zones inaccessible. If this is not possible, the resulting risks **must** be eliminated or reduced to the lowest possible level by installing at least one of the following **means of protection**, as the case may be:

(1) Where access to the danger zone is not required during normal operation of the machine:

(a) a fixed guard;

(b) a movable interlocking guard with or without a locking device;

(c) sensitive protective equipment;

(d) a self-closing guard;

(2) Where access to the danger zone is required during normal operation of the machine:

(a) a movable interlocking guard with or without a locking device;

(b) sensitive protective equipment;

(c) a self-closing guard;

(d) a two-hand control device;

(e) a guard with a start function;

(f) a manually adjustable guard.

Notwithstanding subparagraphs 1 and 2 of the first paragraph, access to a machine's movable energy transmission elements must be protected by a fixed guard or a movable interlocking guard with or without a locking device. **Section 177.**

Proper working condition: Machines and **means of protection** must be kept in proper working condition in accordance with the manufacturer's instruction manual or, where applicable, with the elements specified by an engineer pursuant to section 174 and with trade practice. **Section 180.**

Attributes of means of protection: A guard or protective device must be designed and installed in accordance with trade practice and must, in particular:

(1) be constructed in a sufficiently robust manner to

withstand the stresses to which it can be subjected;

(2) remain effective while the machine is being used by being held firmly in place while taking its environment into account;

(3) be located at a safe distance from the danger zone;

(4) not give rise to any additional risk or be in itself a source of danger because, for example, of sharp edges or angular parts;

(5) not be easily bypassed or rendered inoperative. **Section 181.**

Control devices: Control devices must be designed, installed and maintained so as to avoid the accidental start-up or shutdown of a machine. **Section 187.**

Control mode: Where, for setting, maintenance, inspection or other work on a machine, a guard has to be displaced or removed or a protective device has to be neutralized, and where it is necessary for the purpose of those operations for the machinery or part of it to be put into operation, worker safety must be ensured using a specific control mode which:

(1) disables all other control modes;

(2) allows operation of elements presenting a risk for worker health and safety only by continuous actuation of an enabling device, a two-hand control device or a hold-to-run control device;

(3) allows operation of the elements presenting a risk for worker health and safety only in reduced risk conditions for instance, at reduced speed, under reduced power or force or in a step-by-step mode, for example, with a limited movement device;

(4) prevents voluntary or involuntary action on the machine’s

sensors from triggering a function presenting a risk for worker health and safety. **Section 188.**

For more information:

- Residual Risks. **Section 178.**
- Safety Precautions. **Section 179.**
- Guard with a start function. **Section 182.**
- Electrosensitive protection equipment. **Section 183.**
- Active optoelectronic protective device used for cycle initiation. **Section 184.**
- Two – hand control advice. **Section 185.**

Further details on the Regulation Respecting Occupational Health and Safety can be found at legisquebec.gouv.qc.ca.

SASKATCHEWAN

The **OHS Regulations – Part 3 Section 3-2, Part 10 Section 10-2 to 10-4** in Saskatchewan require that machinery be equipped with guards to protect workers from potential hazards. **Employers** are responsible for inspecting guards, ensuring proper installation, and training employees on their importance and safe operation.

Part 10 Machine Safety – Operating Controls

(1) If reasonably practicable, an **employer, contractor, or supplier shall** ensure that operating controls on machines:

(a) are located within easy reach of the operator; and

(b) cannot be activated by accidental contact.

(2) If reasonably practicable, an **employer, contractor, or supplier shall** ensure that stopping devices on machines are:

(a) located in the direct view and within easy reach of the operator; and

(b) readily identifiable.

(3) If a worker is required to feed material into a material-forming press, punch, shear or similar machine, **an employer, contractor, or supplier shall**:

(a) if practicable, install a positive means to prevent the activation of the machine while any part of the worker's body could be injured by moving parts of the machine; or

(b) if it is not practicable to comply with clause (a), install safeguards to prevent the worker from contacting a moving part of the machine. **Section 10-2.**

Unattended and suspended machines

(1) An **employer or contractor shall** not require or permit a worker to leave unattended or in a suspended position any machine or any part of a machine unless the machine or part has been:

(a) immobilized and secured against accidental movement; or

(b) enclosed by a safeguard to prevent access by any other worker to the machine or part.

(2) A **worker shall** not leave unattended or in a suspended position any machine or any part of a machine unless the machine or part has been:

(a) immobilized and secured against accidental movement; or

(b) enclosed by a safeguard to prevent access by any other worker to the machine or part. **Section 10-3.**

Safeguards

(1) Except where otherwise provided by these regulations, an **employer or contractor shall** provide an effective safeguard when a worker may contact:

(a) a dangerous moving part of a machine;

(b) a pinch point, cutting edge, or point of a machine at which material is cut, shaped, bored, or formed;

(c) an open flame;

(d) a steam pipe or other surface with a temperature that exceeds or may exceed 80 Celsius; or

(e) a cooled surface that is or may be less than minus 80° Celsius.

(2) An **employer or contractor shall** ensure that a safeguard required by subsection (1) remains in place at all times.

(3) Subsection (1) does not apply to:

(a) a machine that is equipped with an effective safety device that stops the machine automatically before any part of a worker's body comes into contact with a hazard mentioned in clause (1) (a) or (b); or

(b) a belt, rope, or chain that is operated from a cathead or capstan.

(4) An **employer or contractor shall** ensure that a safeguard that is removed from a machine or made ineffective to permit maintenance, testing, repair, or adjustment of a machine is replaced or made effective before a worker is required or permitted to use the machine.

(5) If there is a possibility of machine failure and of injury to a worker resulting from the failure, an **employer or contractor shall** install safeguards that are strong enough to withstand the impact of debris from the machine failure and to contain any debris resulting from the failure. **Section 10-4(1) to (5).**

For more information:

- Part 3 General Duties. **Section 3-2.**

Further details on The Occupational Health and Safety Regulations can be found at saskatchewan.ca.

YUKON

Machine guarding requirements in Yukon are outlined in **Part 7 – Sections 7.01 to 7.03, 7.06, 7.09, 7.10, 7.11, and 7.14 to 7.20** of the **Workplace Health and Safety Regulations**. These regulations require that machinery and equipment be fitted with adequate safeguards to protect workers from hazards.

Safeguards – Where required

Machinery and equipment shall be fitted with proper and adequate safeguards that:

(a) protect a worker from contact with hazardous power transmission parts,

(b) ensure that a worker cannot access a hazardous point of operation,

(c) safely contain any material ejected by the work process, which could be hazardous to a worker, and

(d) meet all the requirements of CSA Standard Z432-04, Safeguarding of Machinery, or

(e) other similar standards acceptable to the board. **Section 7.02.**

Design

A safeguard provided on machinery or equipment **shall:**

(a) be capable of performing its intended function,

(b) be designed, where practicable, to allow lubrication and routine maintenance without the removal of the guard.

Lockout:

(c) be removed or made inoperable only after the machine is locked out as required by Part 3 Lockout.

Modification:

(d) be modified or readily removable only with the use of tools when it is a fixed guard.

Openings:

(e) when designed with an opening in the guard, have a reach distance to hazardous parts that meets the requirements of Appendix A of CSA Standard Z432-04, Safeguarding of Machinery, or other similar standard acceptable to the board. **Section 7.03.**

Guarding

Rotating parts

(1) Effective guards **shall** be in place wherever workers are exposed to or may contact:

(a) rotating parts on machines or transmission equipment, such as friction drives, shafts, coupling and collars, set screws and bolts, keys and key-ways, and projecting shaft ends,

(b) a crank, connecting rod, tail rod, extension piston rod, or other reciprocating or oscillating part, or

(c) the in-running nip point of a power transmission belt, rope or chain, and any portion of a flywheel or pulley located within 2.5 m (8 ft.) of a floor, walkway or platform.

Gear and chain

(2) Every gear and chain sprocket **shall** be completely enclosed, or where complete enclosure is not practicable, a band-type guard with flanges extending below the root of the

teeth shall be provided.

Spokes

(3) Where a hazard exists from rotating spokes, the spokes **shall** be guarded on their sides accessible to workers.

Overhead belts, ropes, chains

(4) All power transmission drive belts, ropes or chains located over any area used by workers **shall** have a guard that effectively protects workers from injury as a result of failure of the belt, rope, or chain.

Belts, ropes, chains

(5) Every belt, rope or chain used for transmission of power to gears, sprocket, clutches, cranks and connecting rods, except those operated from a cathead or capstan, **shall** be enclosed, screened or railed off to prevent contact with workers.

Pinch points

(6) All pinch points of any machine and the cutting edges of all power-driven tools **shall** be properly guarded or provided with a device to prevent accidental contact with workers.

Pulleys

(7) Driven pulleys on line shafts or counter shafts with no bearing between the pulley and the outer end of the shaft **shall** be equipped with appropriate safeguards to prevent the belt from slipping off the driven pulley.

Location

(8) Machinery or equipment **shall** be located or safeguarded to provide safe passage and working space to workers using normal routes or operating an adjacent machine. **Section 7.06 (1) to (8).**

For more information:

- Definitions – Machinery and Machinery Guarding – **Part 7.**
- **Section 7.09**; Grinding Wheels. **Section 7.10**; Power Presses. **Section 7.14**; Feed Rolls and Metal Forming Rolls. **Section 7.18**; Woodworking Equipment. **Section 7.20**

Further details on the Workplace Health and Safety Regulations can be found at wcb.yk.ca.