Cranes - Know The Laws of Your Province



Cranes regulations are vital for ensuring the safe operation of lifting equipment in workplaces. These regulations require employers to ensure that cranes are properly maintained, inspected, and operated by qualified personnel. Safety measures include load capacity limits, the use of signaling systems, and the implementation of emergency stop protocols. Workers must be trained in safe crane operation and the hazards associated with lifting activities. While general safety principles are consistent across Canada, specific regulations vary by province and territory to address unique operational and environmental conditions. Compliance with these regulations minimizes risks, prevents accidents, and promotes a culture of safety in the workplace.

FEDERAL

Under the Occupational Safety and Health Administration (OSHA), Tittle 29 CFR 1918.55, employers are required to ensure cranes are properly maintained, regularly inspected, and operated by qualified personnel. Specific provisions include load testing, safe operation procedures, and the use of signaling and communication systems. Compliance with these federal standards is essential to minimizing risks, preventing workplace accidents, and ensuring the safe operation of cranes in various industries.

The following requirements **shall** apply to the use of cranes forming part of a vessel's permanent equipment.

(a) **Defects.** Cranes with a visible or known defect that affects safe operation **shall** not be used. Defects **shall** be reported immediately to the officer in charge of the vessel.

(b) Operator's station.

- (1) Cranes with missing, broken, cracked, scratched, or dirty glass (or equivalent) that impairs operator visibility **shall** not be used.
- (2) Clothing, tools, and equipment **shall** be stored so as not to interfere with access, operation, or the operator's view.

(c) Cargo operations.

- (1) Accessible areas within the swing radius of the body of a revolving crane or within the travel of a shipboard gantry crane **shall** be physically guarded or other equally effective means **shall** be taken during operations to prevent an **employee** from being caught between the body of the crane and any fixed structure, or between parts of the crane. Verbal warnings to **employees** to avoid the dangerous area do not meet this requirement.
- (2) Limit switch bypass systems **shall** be secured during all cargo operations. Such bypass systems **shall** not be used except in an emergency or during non-cargo handling operations such as stowing cranes or derricks or performing repairs. Any time a bypass system is used, it **shall** be done only under the direction of an officer of the vessel.
- (3) Under all operating conditions, at least three full turns of rope **shall** remain on ungrooved drums, and two full turns on grooved drums.
- (4) Crane brakes **shall** be monitored during use. If crane brakes are unable to hold the load, the crane **shall** not be

used.

- (5) Cranes **shall** not be used if control levers operate with excessive friction or excessive play.
- (6) When cranes are equipped with power down capability, there shall be no free fall of the gear when a load is attached.
- (7) When two or more cranes hoist a load in unison, a designated person **shall** direct the operation and instruct personnel in positioning, rigging of the gear and movements to be made.
- (d) *Unattended cranes.* When cranes are left unattended between work periods, 1918.66(b) (4)(i) through (v) shall apply. Sections 1918.55 and 1918.11.

Further details on the Occupational Safety and Health Administration can be found at ecfr.gov.

ALBERTA

Under Alberta's <u>Occupational Health and Safety (OHS) Code</u>, Part 6: Cranes, Hoists, and Lifting Devices, Section 59(1) to 113(3), employers are required to ensure cranes are properly maintained, regularly inspected, and operated by competent personnel. Specific provisions include the use of accurate load charts, clear identification of rated load capacities, and proper documentation in logbooks. Employers must also implement measures to prevent unsafe lifts, provide standardized hand signals, and ensure repairs and modifications are conducted under professional guidance.

Rated load capacity

An **employer must** ensure that a lifting device has a plate or weatherproof label permanently secured to it that legibly shows:

- (a) The manufacturer's rated load capacity.
- (b) The manufacturer's name.
- (c) The model, serial number, and year of manufacture or shipment date. **Section 62(1)**.

If a lifting device is not commercially manufactured, an **employer must** ensure that it has a plate or weatherproof label permanently secured to it that legibly shows the rated load capacity according to the professional engineer's certification. Section **62(2)**.

Subsections (1) and (2) do not apply to A-frames and gin poles. **Section 62(3).**

Load Charts - Operator Requirements

An **employer must** ensure that a lifting device is only operated by a competent worker authorized by the **employer** to operate the equipment. **Section 64(1)**.

At the employer's request, an operator, before operating a lifting device, must be able to demonstrate that the worker is competent in the equipment's operation and knowledgeable about load charts and the code of signals for hoisting operations. Section 64(2).

No worker other than the competent worker authorized by the **employer** may operate a lifting device. **Section 64(3).**

Before operating a particular lifting device, the operator **must** be familiar with all recent entries in its log book. **Section 64(4).**

Log Books

An **employer must** set up a paper or electronic log book for each lifting device at a work site. **Section 65(1).**

Despite subsection (1), the log book requirement does not

apply to manually operated hoists. Section 65(1.1).

The employer must ensure that:

- (a) the log book is readily available for inspection by an officer at any time,
- (b) the most current log book of a mobile crane accompanies it or is available to the operator at all times, and
- (c) if ownership of a lifting device is transferred, the log book is transferred with the equipment. **Section 65(2)**.

The **employer must** ensure that the following details are entered into the log book:

- (a) The date and time when any work was performed on the lifting device;
- (b) The length of time in lifting service:
- (i) recorded as hours of service if the lifting device is equipped by the manufacturer with an hour meter, or
- (ii) if required by the manufacturer's specifications;
- (c) All defects or deficiencies and when they were detected;
- (d) Inspections, including examinations, checks, and tests that are performed, including those specified in the manufacturer's specifications;
- (e) Repairs or modifications performed;
- (f) A record of a certification under Section 73;
- (g) Any matter or incident that may affect the safe operation of the lifting device;
- (h) Any other operational information specifically identified by the employer;

(i) In the case of a tower crane, whether or not the weight testing device was lifted for that working day, before the work of lifting loads began. **Section 65(3).**

The **employer must** ensure that each entry in a paper log book is signed by the person doing the work. **Section 65(4).**

The **employer must** ensure that each entry in an electronic log book identifies the person doing the work. **Section 65(5).**

For more information:

- General Requirements Application Sections 59(1), 59(1.1), 59(2), 59(2.1), 59(3), 59(4) Part 6 Cranes, Hoists, and Lifting Devices.
- Cantilever Hoists Section 76; Chimney Hoists Section 77; Hand—Operated Hoists Section 80; Material Hoists Section 81; Mobile Crane and Boom Trucks Section 88; Overhead Cranes Section 93; Personnel Hoists Section 96; Roofer's Hoists Section 97(1)(2)(3)(4); Tower and Building shaft Hoists Section 98; Tower Cranes Section 100; Underground shaft Hoists Section 108(1); Hoist Cage Section 110(2); Vehicle Hoists Section 112.

Further details on the Occupational Health and Safety (OHS) Code can be found at alberta.ca.

BRITISH COLUMBIA

Under British Columbia's Occupational Health and Safety Regulation, Part 14: Cranes and Hoists — Section 14.1.1 to 14.93, employers are required to ensure cranes and hoists are properly maintained, inspected, and operated by qualified personnel. Specific provisions include ensuring equipment is operated within its rated load capacity, implementing effective signaling systems, and maintaining clear documentation of inspections and maintenance. Employers must also provide workers with training in safe operation

procedures and ensure compliance with design and performance standards.

Rated Capacity Indication

- (1) The rated capacity of a crane or hoist, other than a crane or hoist to which subsection (2) or (3) applies, must be permanently indicated on each of the following:
- (a) The superstructure.
- (b) The hoist.
- (c) The load block.
- (2) The rated capacity of a monorail crane must be permanently indicated on each of the following:
- (a) The hoist.
- (b) The load block.
- (c) The monorail beam, at intervals not exceeding 10 m (33 ft).
- (3) If the rated capacity of a crane or hoist is affected by:
- (a) The vertical or horizontal angle of a boom or jib.
- (b) The length of a boom or jib.
- (c) The position of a load supporting trolley, or
- (d) The use or position of outriggers to increase the stability of the structure, a load chart must be permanently posted on the crane or hoist or must be issued to the crane or hoist operator who must always keep it available when operating the crane or hoist.
- (4) A load chart under subsection (3) must indicate the rated capacity for the crane or hoist for the working positions and configurations in use and must be in a legible condition.

Section 14.5.

Inspection, Maintenance, and Repair

- (1) Each crane and hoist must be inspected and maintained at a frequency and to the extent required to ensure that every component is capable of carrying out its original design function with an adequate margin of safety.
- (2) A crane or hoist must not be used until any condition that could endanger workers is remedied.
- (3) Any repair to load bearing components of a crane or hoist must be certified by a professional engineer or the original equipment manufacturer as having returned the component to a condition capable of carrying out its original design function with an adequate margin of safety.
- (4) Maintenance or repair of a crane or hoist must be done by or under the direct supervision of a qualified person. **Section 14.13.**

Inspection and Maintenance Records

Records of inspection and maintenance meeting the requirements of Part 4 (General Conditions) must be kept by the equipment operator and other people inspecting and maintaining the equipment, for:

- (a) A crane or hoist with a rated capacity of 900 kg (2 000 lbs) or more.
- (b) A crane or hoist used to support a worker.
- (c) A tower crane.
- (d) A mobile crane, boom truck, or sign truck.
- (e) A side boom tractor or pipe layer.
- (f) A construction material hoist.

- (g) A chimney hoist.
- (g.1) A logging truck trailer reload hoist.
- (h) Any other type of hoisting equipment specified by the Board. **Section** 14.14

Signals.

- (1) When the **operator** of a crane or hoist does not have a clear and unobstructed view of the boom, jib, load line, load hook, and load throughout the whole range of the hoisting operation, the operator **must** act only on the directions of a qualified signaler who has a clear view of the things the operator cannot see.
- (2) The operator of the crane or hoist **must** stop the operation of the equipment on receiving a stop signal from any person. **Section 14.47.**

Alternative to Hand Signals

- (1) Two-way radio or other audio or video systems acceptable to the Board **must** be used if distance, atmospheric conditions, or other circumstances make the use of hand signals hazardous or impracticable.
- (2) Audio and video communication systems used in a hoisting operation **must** be designed, installed, operated and maintained according to a standard acceptable to the Board. **Section 14.48.**

Dedicated Radio System

(1) A two-way radio system used for communications between the operator of a tower crane or a self-erecting tower crane and the riggers and signalers working with that operator, **must** operate on a frequency and at a transmitter power assigned and coordinated by the Board or by a person acceptable to the Board.

- (2) Multi-channel radios are not permitted for use to direct crane or hoist movement.
- (3) Only the operator of the crane and the riggers and signalers working with the operator may have the capability to transmit on the radio frequency assigned under subsection (1). **Section 14.49.**

Communication between equipment operators

- If, during the operation of a crane or hoist, another piece of equipment is operating in the vicinity and has the reach to interfere with the movement of the crane or hoist, or the load being handled:
- (a) Each operator **must** have effective voice communication with every other operator, and
- (b) written procedures **must** be developed and implemented to ensure coordination of the operation of the equipment to prevent any contact between a component or suspended load of the equipment and a component or suspended load of the crane or hoist. **Section 14.49.1.**

For more information:

- General Requirements Standards. Section 14.2.
- Section 14.3.
- Manual Instructions. Section 14.12.
- Certification following misadventure. Section 14.16.1.
- Equipment Operations. Sections 14.34 to 14.58.
- Pneumatically powered hoists. Section 59.
- Manually Powered Hoists. Sections 14.61 and 14.62.
- Mobile Cranes, Boom Trucks and Sign Trucks. Sections14.63 to 14.73.
- Tower Cranes. Sections 14.73.2 to 14.93.

Further details on the Occupational Health and Safety Regulation can be found at worksafebc.com.

MANITOBA

Under Manitoba's Workplace Safety and Health Act & Regulation, Part 23: Cranes and Hoists — Sections 23.1 to 23.38(4), employers must ensure that cranes and hoists are routinely maintained, thoroughly inspected, and operated by competent personnel.

Part 23 Cranes and Hoists

Application

This Part applies to every workplace where a crane or hoist is used. **Section 23.1.**

Safe work procedures

An employer must:

- (a) Develop and implement safe work procedures respecting the use of cranes and hoists;
- (b) Train workers in the safe work procedures; and
- (c) ensure that workers comply with the safe work procedures. Section 23.2(1).

The safe work procedures **must** deal with the installation, removal, or replacement of the mast or boom section of a crane or hoist and all related parts. **Section 23.2(2).**

Operator Requirements

An **employer must** ensure that only a person who is authorized to practice the trade of crane and hoist operator under the Trade of Crane and Hoisting Equipment Operator Regulation, Manitoba Regulation 91/2000. is allowed to operate:

- (a) A mobile crane with a rated load of 7,300 kg or more;
- (b) A boom truck hoist with a rated load of 7,300 kg or more;

(c) a tower crane. Section 23.3(1).

An **employer must** ensure that the operator of a crane or hoist does not leave the controls of the crane or hoist unattended while a load is being hoisted. **Section 23.3(2).**

Applicable standards

An employer and a supplier must ensure that:

(a) A commercially manufactured crane or hoist is designed, constructed, erected, used, maintained, examined, inspected, operated, and repaired in accordance with the manufacturer's specifications and the applicable standards set out in **Section 23.4**.

Repairs and modifications

An **employer must** ensure that structural repairs or modifications to the components of a crane or hoist are:

- (a) Made only under the direction and control of a professional engineer; and
- (b) certified by the professional engineer that the workmanship and quality of the materials used has restored the components to not less than their original capacity. **Section 23.5.**

Maintenance and inspection schedule

An **employer** and a supplier **must**, while a crane or hoist is in their possession:

(a) Develop and implement a maintenance and inspection schedule for a crane or hoist in accordance with the manufacturer's specifications or the specifications of the applicable standard under clause 23.4(a) where no manufacturer's specifications exist; and

(b) maintain the crane or hoist in a safe operating condition. **Section 23.6.**

Duty to inspect

An **employer must** ensure that a crane or hoist is inspected by the operator before the start of each work shift in order to detect any defect, malfunction or hazardous condition. **Section 23.7(1)**.

A supplier **must** ensure that a crane or hoist is inspected for any defect, malfunction or hazardous condition before the crane or hoist is supplied to any person. **Section 23.7(2).**

Logbook for cranes

When a crane with a rated load capacity of 907 kg (one ton) or more is in the possession of an **employer or a supplier**, the **employer or supplier must** provide and maintain a logbook for the crane that records the following information:

- (a) The date and time when any work was performed on the crane.
- (b) The length of time in hoisting service.
- (c) All defects or deficiencies and when they were detected.
- (d) All inspections performed on the crane, including examinations, checks, and tests.
- (e) A record of any certification of repairs or modifications under **Section** 23.5.
- (f) A description of the work performed by the crane each day.
- (g) In the case of a tower crane:
- (i) Whether or not the weight testing device was lifted for each working day, before the work of lifting loads began, and

- (ii) a record of certification under **Section** 23.25.
- (h) Any matter or incident that may affect the safe operation of the crane. **Section 23.8(1)**.

An **employer** and **supplier must** ensure that a logbook is signed by the person performing the work. **Section 23.8(2).**

When a **supplier** provides a crane to a person, the supplier **must** ensure that the most current version of the logbook accompanies the crane. **Section 23.8(3)**.

When ownership of a crane is transferred, the person transferring ownership **must** ensure that all logbooks for the crane are transferred to the new owner. **Section 23.8(4).**

Temperature and weather conditions

An **employer must ensure** that a crane or hoist does not operate:

- (a) When the temperature is at or below the temperature for the safe loading conditions recommended in the manufacturer's specifications;
- (b) When the wind velocity exceeds the limit recommended in the manufacturer's specifications for safe operation; and
- (c) when weather conditions or other circumstances are such that the operation of the crane or hoist creates a risk to the safety or health of any person. **Section 23.19.**

For more information:

- Tower Cranes. **Sections 23.22(1) to 23.25(3).**
- Overhead Cranes. Sections 23.26 to 23.29.
- Material Hoists. Sections 23.30 to 23.31(2).
- Roofer's Hoists. Sections 23.32(1) to 23(3).
- Sections 23.33(1) to 23.37.
- Vehicle Lifts. Sections 23.38(1) to 23.38(4).

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 <u>General Regulation — Occupational Health</u> <u>and Safety Act</u> and <u>Part XV — Sections 207, 209, 211 to 215, 229 and 233</u> for mobile cranes, <u>employers</u> are responsible for ensuring cranes are safely maintained, regularly inspected, and operated by qualified individuals. Key requirements include adherence to load capacities, proper rigging procedures, and the implementation of effective signaling and communication systems.

Code of practice

- (1) For every critical lift, an **employer** and a **contractor shall** each ensure that a code of practice is established that contains the following information:
- (a) Rigging details.
- (b) Wind speed limitations.
- (c) Maximum hoist line speed.
- (d) Maximum crane travel speed, if applicable.
- (e) Details concerning load distribution.
- (f) The need for and position of signalers, if applicable; and
- (g) a description of an effective communications system that **employees** involved in the critical lift **shall** use.
- (2) Before commencing a critical lift, an **employer** or a contractor **shall** inform the **employees** involved in the critical lift of the content of the code of practice and the supervisor **shall** document the communication of the information.

- (3) The requirements of subsection (2) apply whenever there is a change in the **employees** involved in a critical lift.
- (4) Whenever there is a change in the equipment involved in a critical lift, an **employer** and a **contractor shall** each ensure that a new code of practice is established for the equipment that contains the information set out in subsection (1).
- (5) An **employer shall** ensure that a copy of the code of practice is readily available to **employees** involved in the critical lift.
- (6) An **employee shall** comply with the code of practice and an **employer shall** ensure that **employees** comply with the code of practice. **Section 212.1.**

Mobile Cranes

- (1) An employer shall ensure that a mobile crane:
- (a) Has a cab, screen, canopy guard, or other adequate protection for the operator of the crane if the operator may be exposed to the hazard of falling material,
- (b) is equipped with load limit brakes capable of effectively braking the load being lifted,
- (b.1) has a two-blocking damage prevention mechanism or an audible device that warns the operator of an impending two-block condition,
- (c) has safety devices and limit switches installed and used as specified by the manufacturer, and
- (d) has a boom angle indicator clearly visible to the operator.
- (1.1) Paragraph (1)(a) does not apply to mobile cranes with controls that are externally mounted outside the cab.
- (2) Where a mobile crane is being operated in an area where

the swing clearance of any obstruction is less than 600 mm, an **employer shall** ensure that barriers are installed to prevent a person from entering the area. **Section 213**.

An **employer shall** ensure that a load chart from the manufacturer of a mobile crane is kept with the crane and is accessible to the operator when operating the crane. **Section 213.1.**

An employer shall ensure that a mobile crane,

- (a) is used only for the purposes for which it is designed and equipped,
- (b) is operated by,
- (i) if the mobile crane is a wheel- or crawler-mounted lattice boom crane with a lifting capacity of over 25 t or a wheel- or crawler-mounted hydraulic boom crane with a lifting capacity of over 25 t, an operator who holds an appropriate certificate of qualification issued under the Apprenticeship and Occupational Certification Act, or
- (ii) if the mobile crane is of a type other than the type referred to in subparagraph (i), a competent person,
- (c) is equipped with adequate chassis brakes,
- (d) is equipped with a manually operated horn,
- (e) has a rear-view mirror or other means of ensuring that the equipment can be safely maneuvered back and forth,
- (f) when wheel mounted, is equipped with an audible back-up alarm that operates automatically when the equipment is in reverse and that is clearly audible above the background noise,
- (g) when crawler mounted, is equipped with an audible motion detector that operates automatically when the crane is in

motion and that is clearly audible above the background noise,

- (h) is equipped with adequate headlights and tail lights when used after dark or in dimly lit areas,
- (i) has gears and moving parts adequately guarded,
- (j) has controls that cannot be operated from outside the cab unless the controls are designed to be operated from outside the cab,
- (k) has any load on it adequately secured, and
- (l) is provided with a three point contact to access the operator's cab. **Section 213.11.**

For more information:

- Hoisting apparatus. Section 207, 207(1), Section 209,Section 211.
- Operator responsibilities. Section 213.2 and Section 213.31.
- Mobile crane inspections. Section 213.21.
- Employer responsibilities with logbook requirements.
 Section 213.4.

Further details on the General Regulation — Occupational Health and Safety Act can be found at worksafenb.ca.

NEWFOUNDLAND & LABRADOR

Under Newfoundland and Labrador's Occupational Health and Safety Regulations, 2021 — Section 122 and 2009 — Section 332 to 345, employers are required to ensure that cranes and hoists are properly maintained, regularly inspected, and operated by competent personnel. Specific provisions include adhering to load limits, maintaining accurate records of inspections and repairs, and ensuring the use of effective signaling systems during crane operations. Employers must also

provide workers with appropriate training and ensure all equipment meets established safety standards.

Cranes and hoists — Employer Responsibilities

- (1) An **employer shall** ensure, with respect to each lift by a crane or hoist that is carried out at a workplace under its control, that:
- (a) A competent person inspects the load before the lift to ensure that it is adequately secured by means of appropriate loose lifting gear.
- (b) Tag lines or similar devices are used to control the load's swing unless their use poses a hazard to the safety of any person.
- (c) The person operating the crane or hoist does not leave the load suspended from the equipment while they are not at the controls.
- (d) The load is safely landed and stabilized before being detached.
- (e) Only people who are essential to the conduct, supervision or safety of the lift are, while it is in progress, in the area in which it is being carried out.
- (2) For the purpose of paragraph (1)(e), the **employer shall** ensure that all approaches to the area in which the lift is being carried out are posted with universally recognized warning signs prohibiting access by unauthorized people and are secured to prevent inadvertent access.
- (5) An **employer shall** ensure that, when a helicopter is landing or taking off, any crane at a workplace under its control that could pose a physical or visual hazard to the helicopter or its crew remains stationary and, where feasible, has its boom stowed.

- (6) An **employer shall** ensure that every offshore pedestal crane used at a workplace under its control
- (a) is equipped with:
- (i) appropriate travel limiting devices for its boom, hoist, blocks, and slewing mechanism,
- (ii) a device for measuring and indicating the weight of its load,
- (iii) a device for measuring and indicating its boom extension or load radius, where its rated capacity varies on that basis,
- (iv) a device for accessing anemometer readings, where the load that it is able to safely handle or support is susceptible to being reduced by wind, and
- (v) a gross overload protection system, where it is used to move persons or things to or from a supply vessel; and
- (b) has posted conspicuously and, where feasible, inside the crane control cab, the location of all approved laydown areas and restricted areas, the limitations indicated under subsection 120(2) and the chart referred to in paragraph 121(1)(d).
- (7) An **employer shall** ensure, with respect to any manually operated hoist used at a workplace under its control, that:
- (a) it is equipped with a mechanism to hold the load at the desired height; and
- (b) where it is equipped with a crank handle and not equipped with automatic load brakes,
- (i) it is equipped with a means of preventing the crank handle from slipping off the crank shaft while in use, and
- (ii) a load is not lowered on it unless the crank handle has been removed from the shaft or the hoist has otherwise been

designed to eliminate the risk of a person being struck by the handle. **Section 122.**

For more information:

• Cranes on floating supports Section 332; Level turntable Section 333; Outriggers Section 334; Tires Section 335; Supporting surface Section 336; Travelling with a load Section 337; Boom inspection Section 338; Tower cranes Section 339; Verification before use Section 340; Identification Section 341; Structural inspection Section 342; Structures kept clean Section 343; Communication Section 344; Wind limitations Section

Further details on the Occupational Health and Safety Regulations can be found at assembly.nl.ca and assembly.nl.ca.

NOVA SCOTIA

Under Nova Scotia's <u>Workplace Health and Safety Regulations</u> – Sections 23.1 and 23.14, and <u>Occupational Safety General Regulations</u> – Part 7 – Sections 58, 69, 72 to 79, employers are responsible for ensuring cranes are maintained, inspected, and used according to manufacturer guidelines. Only trained and competent workers may operate cranes. **Employers** must also enforce load limit restrictions and provide clear communication procedures during crane use.

Part 7 Hoists and Mobile Equipment

Safety Equipment and Precautions

An **employer shall** ensure that a mobile crane, lift truck or powered mobile equipment is equipped with,

- (a) an audible back-up alarm that,
- (i) operates automatically when the vehicle is in reverse gear, and

- (ii) is clearly audible above the background noise at the workplace, or that another means of protection or warning that provides an equivalent level of safety is used;
- (b) a manually operated horn, unless such a horn was not installed at the time of manufacture;
- (c) adequate front and rear lights when the equipment is used after dark or in dimly lit areas;
- (d) an adequate braking system; and
- (e) a screen, shield, grill, deflector, guard or other adequate protection for the operator, where the operator may be exposed to the hazard of flying or intruding objects. **Section 58.**

Operating precautions

An operator of a mobile crane, where applicable, a lift truck or powered mobile equipment **shall:**

- (a) Not set equipment in motion until all air and hydraulic pressures are fully built up at specified operating pressures;
- (b) When leaving the equipment unattended,
- (i) park it on level ground, if reasonably practicable,
- (ii) set the parking brake,
- (iii) lower the blades, bucket or other attachment or safely block the attachment,
- (iv) where applicable, disengage the master clutch, and
- (v) shut off the engine or take other precautions to ensure the equipment is not inadvertently set in motion;
- (c) Not carry containers of gasoline, diesel oil or other flammable substances, classified as Class B substances under

the *Hazardous Products Act* (Canada), in the part of the equipment where a person rides; and

(d) ensure that there are no loose articles that may present a hazard in the part of the equipment where a person rides. **Section 69.**

Mobile cranes

An employer shall ensure that a mobile crane has:

- (a) Installed and maintained in an adequate condition a device that warns the mobile crane operator when continued movement may cause the load attached to a mobile crane to strike the upper sheaves of the mobile crane; and
- (b) if equipped with a boom that is not articulating, a boom angle indicator. **Section 77.**

An **employer shall** ensure that barriers or equivalent means are used to prevent a person from entering within the swing radius of the body of the mobile crane where a mobile crane is being operated in an area where the clearance between any obstruction and the swing radius of the body of the mobile crane creates a hazard. **Section 78.**

While a mobile crane is moving from one location to another under its own power, no operator **shall** permit the boom to swing in an uncontrolled manner. **Section 79**.

For more information:

- Scaffolds and other elevated work-platforms Part 23.Section 23.1.
- Crane-supported work platforms. Section 23.14.
- Sections 72, 73 and 74 of Occupational Safety Regulation
 Part 7.

Further details on Workplace Health and Safety Regulations and Occupational Safety General Regulations, can be found at

NORTHWEST TERRITORIES & NUNAVUT

Under the <u>Northwest Territories Official Consolidation of Occupational Health and Safety Regulations</u>, Part 13: Hoists, Cranes, and Lifting Devices (Sections 205 to 232), employers are required to ensure cranes and lifting devices are safely operated, regularly inspected, and properly maintained.

Part 13 - Hoists, Cranes and Lifting Devices

General Requirements

- (1) An **employer shall** ensure that every hoist, crane and lifting device, including rigging, used at a work site is designed, constructed, installed, maintained, and operated to perform safely those tasks for which it is used.
- (2) A supplier **shall** ensure that every hoist, crane and lifting device, including rigging, supplied for use at a work site is designed, constructed, installed, maintained, and operated to perform safely those tasks for which it is intended to be used. **Section 207.**

Standards

- (1) An **employer shall** ensure that every hoist, crane and lifting device is constructed, inspected, tested, maintained, and operated in accordance with an approved standard.
- (2) A supplier **shall** ensure that every hoist, crane and lifting device is constructed, inspected, tested, and maintained in accordance with an approved standard. **Section 208.**

Load Ratings

(1) An employer shall ensure that a hoist, crane, or lifting device is provided with a durable and clearly legible

indication of its load rating and that the indication is readily accessible to its operator at the control station.

- (2) A supplier **shall** ensure that the indication of the load rating of a hoist, crane or lifting device contains:
- (a) Accurate load ratings for the hoist, crane or lifting device;
- (b) A warning, if applicable, that no allowance is made in the load ratings for such factors as the effects of swinging loads, tackle weight, wind, ice, degree of machine level, ground conditions, inflation of tires, and operating speeds; and
- (c) restrictions, if applicable, on operating in low temperatures. **Section 209.**

Operating Procedures

- (1) Subject to subsection (2), an **employer shall** ensure that:
- (a) A copy of the manufacturer's specifications for a hoist or crane is readily accessible to the operator of the hoist or crane; and
- (b) an operator of a hoist or crane is thoroughly trained in and implements the manufacturer's specifications.
- (2) If a manufacturer's specifications for a hoist or crane cannot be obtained, an **employer shall** develop an operating manual for the hoist or crane and ensure that:
- (a) A copy of the manual is readily accessible to the operator; and
- (b) an operator of the hoist or crane is thoroughly trained in and implements the operating procedures set out in the manual. **Section 211.**

Raising and Lowering Workers

- (1) If a crane or hoist will be used to raise or lower workers, an **employer shall:**
- (a) develop and implement work practices and procedures that will provide for the safe raising and lowering of the workers;
- (b) train the workers in those work practices and procedures;
- (c) ensure that hoisting equipment and personnel lifting units are inspected by a competent individual before use and daily when in use; and
- (d) ensure that the competent individual referred to in paragraph (c) records the details of the inspection in the log book referred to in section 221.
- (2) An **employer shall** not require or permit an operator of a crane or hoist to use, and an operator of a crane or hoist **shall** not use, a crane, or hoist to raise or lower workers unless:
- (a) the personnel lifting unit meets the requirements of section 198;
- (b) the suspension members of the personnel lifting unit are securely attached to the crane, hoist line or hook by a shackle, weldless link, ring, or other secure rigging attachment:
- (c) there is a secondary safety device that attaches the suspension members of the personnel lifting unit to the crane or hoist rigging above the point of attachment referred to in paragraph (b);
- (d) the load line hoist drum has a system or device on the power train, other than the load hoist brake, that regulates the lowering rate of speed of the hoist drum mechanism; and
- (e) workers in the personnel lifting unit each use a full body harness attached to the personnel lifting unit. **Section**

213(1)(2).

For more information:

- Interpretation Definitions. Section 205.
- Designated Operator. Section 210.
- Determining Weight of Load. Section 214.
- Overload Switches. Section 215.
- Designated Signaler. Section 216.
- General Requirements for Cranes and Hoists. Section 217
 to 232.

Further details on Official Consolidation Of Occupational Health And Safety Regulations, can be found at canlii.org.

ONTARIO

Under Ontario's <u>Regulation 213/91: Construction Projects</u>, Part: Cranes, Hoisting, and Rigging (Sections 149.1 to 156), employers are required to ensure cranes and hoisting equipment are operated safely and effectively. These regulations mandate regular maintenance, inspections, and adherence to load capacity limits.

- (1) Subject to subsection (2), no worker **shall** operate a crane or similar hoisting device unless the worker holds a certificate of qualification or a provisional certificate of qualification issued under the *Building Opportunities in the Skilled Trades Act, 2021*, that is not suspended, or the worker is an apprentice and is working pursuant to a training agreement registered under that Act, that is not suspended, in the trade of:
- (a) **Hoisting engineer mobile crane operator 1**, if the worker is operating a mobile crane or similar hoisting device capable of raising, lowering or moving any material that weighs more than 30,000 pounds;
- (b) Hoisting engineer mobile crane operator 1 or hoisting

- engineer mobile crane operator 2, if the worker is operating
 a mobile crane or similar hoisting device capable of raising,
 lowering or moving only material that weighs more than 16,000
 pounds but no more than 30,000 pounds; or
- (c) **Hoisting engineer tower crane operator**, if the worker is operating a tower crane. 0. Reg. 88/13, s. 1; 0. Reg. 885/21, s. 1; 0. Reg. 241/23, s. 6 (1).
- (2) No worker **shall** operate a crane or other hoisting device, other than one described in subsection (1), unless:
- (a) The worker is trained in the safe operation of the crane or other hoisting device; or
- (b) the worker is being instructed in the operation of the crane or other hoisting device and is accompanied by a person who meets the requirements of clause (a). 0. Reg. 241/23, s. 6 (3).
- (3) A worker **shall** carry the worker's written proof of training while operating a crane or other hoisting device. 0. Reg. 241/23, s. 6 (3). **Section 150(1)**.
- (1) No crane or similar hoisting device **shall** be subjected to a load greater than its rated load-carrying capacity, other than during load tests required by the manufacturer. O. Reg. 241/23, s. 7 (1).
- (2) The manufacturer of a crane or similar hoisting device or an engineer **shall** determine its rated load-carrying capacity in accordance with:
- (a) For a mobile crane, CSA Standard Z150-16 or CSA Standard Z150.3-17; and
- (b) For a tower crane, CSA Standard Z248-17. 0. Reg. 213/91, s. 151 (2); 0. Reg. 375/22, s. 5; 0. Reg. 241/23, s. 7 (2).
- (3) Every crane or similar hoisting device **shall** have affixed

to it:

- (a) A load rating chart that the operator can read while at the controls that contains enough information for the operator to determine the load that can be lifted for each configuration of the crane or hoisting device; or
- (b) A plate with the crane model and serial number or other traceable method that can be used in conjunction with cranespecific load charts that the operator can read while at the controls of the crane while it is in use. O. Reg. 241/23, s. 7 (3).
- (3.1) If an operator is using a remote-control device, they **shall** have access to a load rating chart at all times. 0. Reg. 241/23, s. 7 (3).
- (4) A luffing boom crane **shall** have a boom angle indicator that the operator can read while at the controls. O. Reg. 241/23, s. 7 (4). **Section 151.**
- (1) The owner of a crane or similar hoisting device shall keep an owner's crane log consisting of a record of all inspections of, tests of, repairs to, modifications to and maintenance of the crane or similar hoisting device. O. Reg. 241/23, s. 8.
- (2) If the **owner's crane log** does not include all the information required under subsection (1), the owner **shall** ensure that, before a crane is put into service at a project, an inspection of the crane or similar hoisting device is completed pursuant to the inspection requirements for tower cranes in clause 6.4.7 of CSA Standard Z248-17 and the inspection requirements for mobile cranes in clause 5.3.5 of CSA Standard Z150-16, as applicable, and the results of the inspection **shall** be added to the owner's crane log. 0. Reg. 241/23, s. 8.
- (3) Before a crane or similar hoisting device is put into service at a project, the owner of the crane or similar

hoisting device shall provide to the operator:

- (a) a record of the information referred to in subsection (1) for at least the previous 12 months; and
- (b) an **operator's crane log** to be used for the period that the crane or similar hoisting device is at the project. 0. Reg. 241/23, s. 8.
- (4) While a crane or similar hoisting device is at a project, the operator of the crane or similar hoisting device **shall** keep an **operator's crane log** consisting of a record of all inspections of, tests of, repairs to, modifications to and maintenance of the crane or similar hoisting device. 0. Reg. 241/23, s. 8.

(5) The operator's crane log shall be:

- (a) Kept with the crane or similar hoisting device while it is at the project.
- (b) Transferred to the **owner** for addition to the **owner's crane** log after the crane has been dismantled or removed from the project. 0. Reg. 241/23, s. 8.
- (6) The owner of a crane or similar hoisting device shall retain the owner's crane log and make a copy of it available to the constructor, employer, and any persons designated by the constructor or the employer, on request. 0. Reg. 241/23, s. 8. Section 152.

For more information:

- CSA Standards Cranes, Hoisting and Rigging. Section 149.1.
- Platform Requirements. Section 153(1).
- Crane or similar hoisting device applications. Section154.
- Crane or similar hoisting device levels. Section 155.
- Outrigger or stabilizing load rating chart requirements.

Section 156.

Further details on O. Reg. 213/91: CONSTRUCTION PROJECTS can be found at ontario.ca.

PRINCE EDWARD ISLAND

Under Prince Edward Island's <u>Occupational Health and Safety Act General Regulations</u>, Part 34: Hoisting Apparatus (Sections 34.1 to 34.112), employers are required to ensure the safe operation, inspection, and maintenance of cranes and other hoisting equipment.

Part 34 Hoisting Apparatus — Construction

- (1) The **employer shall** ensure that hoisting apparatus is constructed of sufficient strength and equipped with suitable ropes, chains, slings, hooks, and other fittings so as to adequately ensure the safety of persons.
- (2) The **employer shall** ensure that hoisting apparatus provided by an **employer** for the use of a worker is designed, installed, erected, examined, inspected, operated, and maintained in accordance with the applicable provisions and standards. **Section 34.2**.

Responsibilities of employer

- (1) The **employer shall** ensure that the operator of hoisting apparatus follows the procedures prescribed in subsection (3).
- (2) The **employer shall** ensure that when mobile cranes are working in an area where the swing clearance of an obstruction is less than 600 mm (2 ft.), adequate barriers are installed to prevent workers from entering the area.
- (3) The operator of hoisting apparatus shall:
- (a) Visually inspect the hoisting apparatus before use to verify that it is in safe working order;

- (b) Move a load only on a signal from a signaler designated under section 34.7 unless he has an unobstructed view of the load at all times during the operation;
- (c) Raise a load vertically or, if necessary to raise a load obliquely, take precautions to avoid endangering workers;
- (d) Avoid carrying a load over workers;
- (e) Not leave a suspended load unattended.
- (4) The **employer shall** ensure that a tag line or guide rope is used to control loads which may swing while being moved. **Section 34.6**.

Mobile cranes

The **employer shall** ensure that a mobile crane:

- (a) Has a cab, screen, canopy guard, or other adequate protection for the operator where he may be exposed to the hazard of falling material;
- (b) Is equipped with brakes capable of effectively braking a weight of not less than 1 1/2 times the maximum safe working load;
- (c) Has safety devices and limit switches installed and used as specified by the manufacturer;
- (d) Has, on apparatus equipped with a boom, a boom angle indicator. **Section 34.9.**

For more information:

- Carrying capacity. Section 34.3.
- Excess load. Section 34.4.
- Section 34.7.
- Riding on load Section 34.8, Stabilizers Section 34.10, Change of location Section 34.11, Use of building materials Section 34.12.

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

QUÉBEC

Under Québec's Act Respecting Occupational Health and Safety, Sections 1.1 (2), 2.15.6 (6), 2.15.7.2 to 2.15.7.5, 3.10.1, 3.10.4, 3.10.5 (2), and 3.10.7 (4) require employers to ensure cranes are properly maintained, regularly inspected, and operated by qualified personnel. These regulations mandate compliance with load capacity limits, operator training, and detailed record-keeping of inspections and repairs.

Handling of Loads

- (1) Before ordering the hoisting of a load, the **signalman shall** ensure that all cables, chains, slings, or other moorings are properly attached to the load and that the hoisting does not present any hazard.
- (2) The hoisting of loads shall be done vertically.
- (3) When oblique hoisting is absolutely necessary, precautions dictated by the circumstances **shall** be taken, and this operation **shall** be performed in the presence of a representative of the **employer**.
- (4) If the safety of any person is threatened by the uncontrolled movement or the swinging of a raised load, one or more guide ropes **shall** be used.
- (5) (Subsection revoked).
- (6) The crane operator **shall** not allow a worker to stand on a load, a hook or a sling suspended to a hoisting apparatus.
- (7) Hooks used for hoisting loads and hooks attached to slings shall be equipped with a safety catch. **Section 2.15.6.**

Overload protection device

(1) Any mobile crane used for hoisting loads **must** be equipped with one of the following overload protection devices: a rated capacity limiter, a load moment system, or a load indicating device. Depending on the date on which the crane was manufactured, the load indicating device **must** be installed not later than:

Date on which the crane the load indicating was manufactured installed Final date on which

device must be

From January 1, 1980 to 2005

December 31,

December 31 2004

From January 1, 1975 to 2010.

December 31,

December 31, 1979

- (2) Any mobile crane manufactured on or after January 1, 2005 **must** be equipped with a load indicating device or a load moment system. The devices must be of the fail-safe design.
- (3) Load indicating devices and load moment systems **may** be equipped with a function allowing them to be bypassed.
- (4) Load indicating devices **must** comply with Standard SAEJ376 APR85 Load Indicating Devices on Lifting Crane Service.
- (5) Rated capacity limiters and load moment systems **must** comply with Standard SAEJ159 APR94 Load Moment System.
- (6) This section does **not** apply to a cable mobile crane equipped with a shovel, a dragging bucket, a clamshell bucket, or a pile hammer that is used for purposes other than the hoisting of loads and to a cable mobile crane that is used to carry out the following foundation work, including all handling work required for pile driving, installation of

drilled or excavated caissons, installation of sheet-piling, setting up of shoring devices, below-grade work, drilling of tie rods or anchors, and ground improvement techniques such as dynamic compacting and vibroflotation.

(7) In this section:

"Load indicating device" means a device that measures and displays to the crane operator's sight the weight of the load hoisted by the crane; (dispositif indicateur de charge).

"Load moment system" means a device that gathers information relating to the load hoisted by the crane and that transmits signals warning the operator that the crane is nearing its limiting conditions; (contrôleur d'état de charge).

"Rated capacity limiter" means a system that prevents a crane from hoisting and moving a load higher than its limiting conditions and that consists of a load moment system and a device acting on the movements of the crane so that they do not exceed the load rating chart of the crane. Section 2.15.7.2.2.

For more information:

- Two-blocking situation protection device. Section 2.15.7.2.1.
- Construction equipment. Section 3.10.1.
- Section 3.10.4.
- Workers acting as signal persons. **Section 3.10.5.(2).**
- Uplifting of workers. Section 3.10.7.(4).

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

SASKATCHEWAN

Under Saskatchewan's <u>Occupational Health and Safety</u> <u>Regulations</u>, Part 13: Hoists, Cranes, and Lifting Devices (Sections 13-1 to 13-19), employers are required to ensure the safe operation, maintenance, and inspection of cranes and lifting devices.

General requirements

- (1) An **employer** or contractor **shall** ensure that every hoist, crane, and lifting device, including all rigging, used at a place of employment is designed, constructed, installed, maintained, and operated to perform safely any task for which the hoist, crane, lifting device, or rigging is used.
- (2) A supplier **shall** ensure that every hoist, crane and lifting device, including all rigging, supplied for use at a place of employment is designed, constructed, installed, maintained, and operated to perform safely any task for which the hoist, crane, lifting device, or rigging is intended to be used. **Section 13-3(1)(2)**.

Adoption of standards

- (1) An **employer** or contractor **shall** ensure that all hoists, cranes and lifting devices manufactured on and after December 4, 1996 are constructed, inspected, tested, maintained, and operated in accordance with an approved standard.
- (2) A supplier **shall** ensure that all hoists, cranes and lifting devices manufactured on and after December 4, 1996 are constructed, inspected, tested and maintained in accordance with an approved standard. **Section 13-4(1)(2)**.

Load ratings

- (1) An **employer** or contractor **shall** ensure that a hoist, crane or lifting device is provided with a durable and clearly legible indication of the load rating that is readily accessible to the operator at the control station.
- (2) A supplier **shall** ensure that the indication of the load rating of a hoist, crane, or lifting device contains:

- (a) All appropriate load ratings for the hoist, crane, or lifting device;
- (b) Any applicable warning that no allowance is made in the load ratings for such factors as the effects of swinging loads, tackle weight, wind, degree of machine level, ground conditions, inflation of tires, and operating speeds;
- (c) Any applicable restrictions to operating in low temperatures. **Section 13-5(1)(2).**

Inspections

- (1) An **employer**, **contractor or supplier shall** ensure that a hoist, crane, or lifting device is inspected by a competent person to determine whether the hoist, crane, or lifting device is in safe working condition:
- (a) Before the hoist, crane, or lifting device is used at the start of each work shift; and
- (b) at regular intervals as recommended by the manufacturer.
- (2) If a defect or unsafe condition that may create a hazard to a worker is found in a hoist, crane, lifting device or rigging, an **employer**, **contractor or supplier shall**:
- (a) take steps immediately to protect the health and safety of any worker who may be at risk until the defect is repaired or the unsafe condition is corrected; and
- (b) as soon as is reasonably practicable, repair any defect or correct any unsafe condition.
- (3) An employer, contractor or supplier shall ensure that a mobile crane is subjected to a thorough inspection, including non-destructive testing, under the supervision of a professional engineer every 2 years or 1,800 hours of operation, whichever comes first.

- (4) An **employer**, **contractor or supplier shall** ensure that a tower crane is subjected to a thorough inspection, including non-destructive testing, under the supervision of a professional engineer:
- (a) before erection at each site; and
- (b) at subsequent intervals of 2,000 operating hours or 1 year, whichever occurs first.
- (5) No worker **shall** operate a crane or cause a crane to be operated unless a copy of the results of the testing or inspection required by subsection (3) or (4) is readily available or is on site. **Section 13-18(1) to (5).**

For more information:

- Hoists, Cranes, and Lifting Devices Definitions Part
 13. Section 13-1.
- Designated Operator. Section 13-6(1).
- Operating procedures. Section 13-
- Rated load. Section 13-
- Raising and lowering workers. Section 13-
- Determining weight of load. Section 13-
- Overload switches. Section 13-
- Section 13-19.

Further details on the Occupational Health and Safety Regulations can be found at Saskatchewan.ca.

YUKON

Under Yukon's <u>Workers' Safety and Compensation (WSC)</u>
<u>Regulations</u>, Part 5: Cranes, Hoisting, and Lifting (Sections 5.01 to 5.36, 5.50 to 5.63, and 5.65 to 5.75), employers are required to ensure the safe operation of cranes and other hoisting equipment. These regulations mandate regular inspections, proper maintenance, and operation by qualified personnel. Specific provisions include adherence to load

limits, the use of effective signaling systems, and comprehensive documentation of equipment use and maintenance.

Equipment Operation

Operator qualifications

- (1) Only a qualified person who has been instructed and authorized **shall** operate a crane or hoist.
- (2) A worker **shall** demonstrate competency, including familiarity with the operating instructions for the particular crane or hoist, safe rigging practices, and the code of signals for hoisting operations. **Section 5.24.**

Training requirements

On and after December 31, 2008, the operator of mobile cranes or articulating boom cranes **must** meet the following training requirements:

- (1) For cranes with a rated capacity from 900 kg up to and including 7,300 kg (1 ton to 8 ton) operators **shall** successfully complete a 35 hour course acceptable to the board, which includes the safe operation of the crane.
- (2) For cranes with a rated capacity over 7,300 kg and up to and including 13,600 kg (8 ton to 15 ton), operators **shall** successfully complete a 70 hour course acceptable to the board, which includes the safe operation of the crane.
- (3) For cranes with a rated capacity over 13, 600 kg (15 ton), operators **shall:**
- (a) Have provided documented proof of crane operating experience of at least 500 hours, for a review, examination, and acceptance of qualifications by a certifying agency acceptable to the board, and have successfully completed a 70 hour course acceptable to the board, which includes the safe operation of the crane, or

- (b) have crane operator trade certification issued by a provincial or territorial apprenticeship board that is acceptable to the board, or
- (c) in the case of a trainee with less than 500 hours operating experience:
 - 1. Have successfully completed a 70 hour course acceptable to the board, which includes the safe operation of the crane, and
 - 2. operate the crane under the direct supervision of a qualified person who meets the requirements of subsections (a) or (b). **Section 5.25.**

Certification of tower crane operators

On and after December 31, 2008, the operator of a tower crane shall have:

- (a) Successfully completed a certified crane operator's course offered by a provincial or territorial apprenticeship board or be an indentured apprentice, or
- (b) have equivalent qualifications to operate a tower crane, determined by a provincial or territorial apprenticeship board or other certifying body acceptable to the board. **Section 5.26.**

Start of shift inspection

- (1) An operator **shall** inspect the crane or hoist at the beginning of each shift and test control and safety devices as specified by the manufacturer and these Regulations.
- (2) Any defects found during inspection or use of a crane or hoist **shall** be recorded in the inspection and maintenance record system and reported immediately to the supervisor, who determines the course of action to be taken.
- (3) Where a defect affects the safe operation of the crane or

hoist, the equipment **shall** not be used until the defect has been remedied. **Section 5.27**.

Load weight

- (1) The weight of each load to be hoisted by a crane or hoist **shall** be determined and communicated to the equipment operator and to any other worker involved in the hoisting operation.
- (2) Where the weight of a load to be lifted cannot be determined, the crane or hoist to be used for the lift **shall** have a load weight indicator or a load limiting device.

Calibration

(3) Load weight devices, including load moment indicators on cranes or hoists, **shall** be calibrated as specified by the manufacturer or at more frequent intervals where required, and the date of calibration **shall** be recorded in the inspection and maintenance records system. **Section 5.28.**

For more information:

- Part 5 Cranes, Hoisting and Lifting Definitions.
 Section 5.01.
- Standards General. Section 5.04 to 5.23.
- Section 5.29 to 5.36.
- Bridge, Gantry and Overhead Traveling Cranes. Section5.50 to 5.53.
- Mobile Cranes, Boom Trucks and Aerial Ladder Cranes.Section 5.54 to 5.61.
- Wire Rope on Mobile Cranes. Section 5.62 and 5.63.
- Tower Cranes. **Section 5.65 to 5.75.**

Further details on the Workers' Safety and Compensation (WSC) Regulations can be found at wcb.yk.ca.