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*The  
Occupational Health  
and Safety  
Regulations, 1996*

*being*

Chapter O-1.1 Reg 1 (effective December 4, 1996, except for Part XXXII, effective December 4, 1997) as amended by Saskatchewan Regulations 6/97 and 35/2003.

**NOTE:**

This consolidation is not official. Amendments have been incorporated for convenience of reference and the original statutes and regulations should be consulted for all purposes of interpretation and application of the law. In order to preserve the integrity of the original statutes and regulations, errors that may have appeared are reproduced in this consolidation.

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**CHAPTER O-1.1 REG 1***The Occupational Health and Safety Act, 1993*

## PART I

**Preliminary Matters****Title**

1 These regulations may be cited as *The Occupational Health and Safety Regulations, 1996*.

**Interpretation**

2(1) In these regulations and in all other regulations made pursuant to the Act:

- (a) **“Act”** means *The Occupational Health and Safety Act, 1993*;
- (b) **“air-purifying respirator”** means a respirator that removes airborne contaminants from the air inhaled by a worker;
- (c) **“approved”** means:
  - (i) approved by an agency acceptable to the director for use under the conditions prescribed by the agency; or
  - (ii) approved conditionally or otherwise by a certificate of the director;
- (d) **“atmosphere-supplying respirator”** means a respirator that delivers clean breathing air to a worker from a compressor or a cylinder, an SCBA, whether closed or open circuit, or a combination of SCBA and supplied air;
- (e) **“borehole”** means a mechanically drilled hole in the ground;
- (f) **“building shaft”** means a continuous vertical space substantially enclosed on all sides that extends for two or more floors, and includes an elevator shaft, a ventilation shaft, a stairwell and a service shaft;
- (g) **“class A qualification”** means a certificate or certificates that:
  - (i) are issued by an agency, as defined in section 50, with respect to the successful completion of a first aid training course and a cardiopulmonary resuscitation training course that meet the minimum requirements for course duration and content set out in Table 1 of the Appendix; and
  - (ii) qualify the holder to perform the services set out in Table 2 of the Appendix;
- (h) **“class B qualification”** means a certificate or certificates that:
  - (i) are issued by an agency, as defined in section 50, with respect to the successful completion of a first aid training course and a cardiopulmonary resuscitation training course that meet the minimum requirements for course duration and content set out in Table 3 of the Appendix; and

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- (ii) qualify the holder to perform the services set out in Table 4 of the Appendix;
- (i) “**Class C fire**” means a fire involving energized electrical equipment;
- (j) “**co-chairpersons**” means, with respect to a committee, the employer or contractor co-chairperson appointed pursuant to clause 43(1)(b) and the worker co-chairperson elected pursuant to clause 43(1)(a);
- (k) “**committee**” means an occupational health committee;
- (l) “**competent**” means possessing knowledge, experience and training to perform a specific duty;
- (m) “**competent worker**”, with respect to a particular task or duty, includes a worker who is being trained to perform that task or carry out that duty and who is under close and competent supervision during that training;
- (n) “**connecting linkage**” means a lanyard, safety hook, cable or connector inserted between a fall-arresting device and the D-ring on a worker’s safety belt or full-body harness;
- (o) “**construction**” means the erection, alteration, renovation, repair, dismantling, demolition, structural maintenance and painting of a structure, and includes:
- (i) land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting and concreting; and
  - (ii) the installation of any plant;
- (p) “**controlled product**” means a controlled product within the meaning of the *Hazardous Products Act* (Canada);
- (q) “**dB<sub>A</sub>**” means the sound pressure level in decibels measured on the A scale of a sound level meter;
- (r) “**dB<sub>A</sub> L<sub>ex</sub>**” means the level of a worker’s total exposure to noise, in dB<sub>A</sub>, averaged over an entire workday and adjusted to an equivalent eight-hour exposure;
- (s) “**designated signaller**” means a worker designated pursuant to clause 132(1)(a) to give signals;
- (t) “**emergency medical technician**” means a person who is licensed as an emergency medical technician, emergency medical technician-advanced or emergency medical technician-paramedic pursuant to *The Ambulance Act*;
- (u) “**escape respirator**” means an atmosphere-supplying respirator or an air-purifying respirator that is designed to be used by a worker for escape purposes only;
- (v) “**excavated shaft**” means a dug-out passage into the ground, the longest dimension of which exceeds 1.5 metres and of which the acute angle between the axis of the longest dimension and the vertical is less than 45°;
- (w) “**excavation**” means any dug-out area of ground other than a trench, tunnel or excavated shaft;

- (x) **“fall-arresting device”** means personal protective equipment that provides a means of safely arresting the fall of a worker and that, subsequent to the arrest of the fall, does not by itself permit the further release or lowering of the worker;
- (y) **“first aid”** means immediate assistance given in case of injury until medical aid has been obtained;
- (z) **“first aid attendant”** means the holder of a valid:
- (i) class A qualification;
  - (ii) class B qualification;
  - (iii) emergency medical technician’s licence; or
  - (iv) licence, certificate or other qualification that, in the opinion of the director, is equivalent to or superior to a qualification set out in subclauses (i) to (iii);
- (aa) **“first aid register”** means the register required by section 57;
- (bb) **“first aid station”** means a work-related area containing the supplies and equipment required by subsection 56(1);
- (cc) **“full-body harness”** means a safety device that is capable of suspending a worker without causing the worker to bend at the waist, and consists of straps that pass over the worker’s shoulders and around the worker’s legs, an upper dorsal suspension assembly and all integral hardware;
- (dd) **“hand tool”** means hand-held equipment that is powered by the energy of a worker;
- (ee) **“harmful”** means known to cause harm or injury;
- (ff) **“hazardous”** means likely to cause harm or injury in certain circumstances;
- (gg) **“HEPA filter”** means a high-efficiency particulate aerosol filter that is at least 99.97% efficient in collecting a 0.3 micrometre aerosol;
- (hh) **“hoist”** means a machine that consists of a raising and lowering mechanism;
- (ii) **“immediately dangerous to life or health”** means a condition in which a hazardous atmosphere exists to such an extent that a worker who is not using an approved respiratory protective device will suffer escape-impairing or irreversible health effects if the worker does not leave the hazardous atmosphere within 30 minutes;
- (jj) **“instruct”** means to give information and direction to a worker with respect to particular subject-matter;
- (kk) **“lifeline”** means a length of rope or strap that is attached to a safe point of anchorage at one end or, in the case of a horizontal lifeline, at both ends to provide support and a guide for a fall-arresting device or personnel lowering device;



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- (ll) **“locked out”** means to have isolated the energy source or sources from equipment, to have dissipated any residual energy in a system and to have secured the isolation by a device that is operated by a key or other process;
- (mm) **“machine”** means any combination of mechanical parts that transmits from one part to another or otherwise modifies force, motion or energy;
- (nn) **“maintained”** means kept in a condition of efficient and safe functioning by a system of regular examination, testing and servicing or repair;
- (oo) **“*The Mines Regulations*”** means *The Mines Regulations, 2003*;
- (pp) **“officer”** means an occupational health officer;
- (qq) **“operator”** means a person who operates any equipment;
- (rr) **“personal protective equipment”** means any clothing, device or other article that is intended to be worn or used by a worker to prevent injury or to facilitate rescue;
- (ss) **“personnel lowering device”** means a device that provides a means of lowering a worker from a height at a controlled rate of descent;
- (tt) **“power tool”** means a hand-held machine that is powered by energy other than the energy of a worker;
- (uu) **“powered mobile equipment”** means a self-propelled machine or a combination of machines, including a prime mover, that is designed to manipulate or move materials or to provide a work platform for workers;
- (vv) **“professional engineer”** means an engineer who is registered pursuant to *The Engineering Profession Act*;
- (ww) **“public highway”** means a public highway as defined in *The Highways and Transportation Act*;
- (xx) **“qualified”** means possessing a recognized degree, a recognized certificate or a recognized professional standing and demonstrating, by knowledge, training and experience, the ability to deal with problems related to the subject-matter, the work or the project;
- (yy) **“representative”** means an occupational health and safety representative;
- (zz) **“respiratory protective device”** means a device that is designed to protect a wearer from inhaling a hazardous atmosphere, and includes an atmosphere-supplying respirator, an air-purifying respirator and an escape respirator;
- (aaa) **“safeguard”** means a guard, shield, wire mesh, guardrail, gate, barrier, safety net, handrail or other similar equipment that is designed to protect the safety of workers, but does not include personal protective equipment;
- (bbb) **“safety belt”** means a travel-limiting device that is worn around the waist of a worker, and includes all integral hardware;
- (ccc) **“SCBA”** means self-contained breathing apparatus;
- (ddd) **“supervisor”** means a person who is authorized by an employer to oversee or direct the work of workers;

(eee) **“train”** means to give information and explanation to a worker with respect to a particular subject-matter and require a practical demonstration that the worker has acquired knowledge or skill related to the subject-matter;

(fff) **“travelway”** means any place where workers or vehicles regularly travel or pass, and includes a ramp, runway, catwalk, bridge, conveyor, gantry or passage;

(ggg) **“trench”** means an elongated dug-out area of land whose depth exceeds its width at the bottom;

(hhh) **“tunnel”** means an underground passage that has an incline of not more than 45° from the horizontal;

(iii) **“vehicle”** means a machine in, on or by which a person or thing may be transported, and includes powered mobile equipment;

(jjj) **“work”** and **“at work”** means:

(i) the time during which a worker is in the course of the worker’s employment; or

(ii) the time that a self-employed person devotes to work as a self-employed person;

(kkk) **“work-related area”** means all places that are ancillary to a place of employment, and includes lunchrooms, restrooms, first aid rooms, lecture rooms, parking lots under the control of the employer or contractor, offices and work camp living accommodations, but does not include a permanent living accommodation.

(2) For the purposes of the Act and in these regulations and all other regulations made pursuant to the Act, **“injury”** includes any disease and any impairment of the physical or mental condition of a person.

(3) Any word or expression used but not defined in these regulations or the Act has the meaning commonly given to it at places of employment in the industry concerned.

(4) Unless otherwise expressly stated:

(a) lumber sizes specified in these regulations are lumber sizes after dressing; and

(b) **“lumber”** means lumber that is free of visible defects.

4 Oct 96 cO-1.1 Reg 1 s2; 31 Jan 97 SR 6/97 s3;  
16 May 2003 SR 35/2003 s3.

**3 Repealed.** 16 May 2003 SR 35/2003 s4.

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**Giving notice to division**

4(1) Subject to subsection (3), where these regulations require notice to be given to the division, the notice must be in writing, directed to the director or an officer and delivered to the director or officer personally or by fax, courier or post.

(2) Notice is deemed not to have been given pursuant to subsection (1) until the notice is actually received by the director or an officer.

(3) In the case of a notice required pursuant to clause 8(1)(a), an employer or contractor shall first give notice by telephoning an officer and, in addition, give written notice in the manner set out in subsection (1).

4 Oct 96 cO-1.1 Reg 1 s4.

**Generality of duties not limited**

5(1) A specific duty imposed by these regulations does not limit the generality of any other duty imposed by the Act or other regulations made pursuant to the Act.

(2) A duty or requirement imposed on an employer or a worker by these regulations applies, with any necessary modification, to a self-employed person.

(3) A provision of these regulations that prohibits a worker from carrying out a specified action applies, with any necessary modification, to an employer or a self-employed person.

(4) A provision of these regulations that requires an employer to ensure that a worker carries out or refrains from carrying out a specified action is deemed to require a self-employed person or an employer who engages in an occupation at a place of employment to carry out or refrain from carrying out that action, as the case may require.

(5) Where a provision of these regulations imposes a duty or requirement on more than one person, the duty or requirement is meant to be imposed primarily on the person with the greatest degree of control over the matters that are the subject of the duty or requirement.

(6) Notwithstanding subsection (5) but subject to subsection (8), if the person with the greatest degree of control fails to comply with a provision described in subsection (5), the other persons are not relieved of the obligation to comply with the provision if it is possible for them to comply, and they shall comply with the provision.

(7) If the person with the greatest degree of control complies with a provision described in subsection (5), the other persons are relieved of the obligation to comply with the provision:

(a) only for the time in which the person with the greatest degree of control is in compliance with the provision;

(b) only if simultaneous compliance by more than one person would result in unnecessary duplication of effort and expense; and

(c) only if the health and safety of workers is not put at risk by compliance by only one person.

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(8) If the person with the greatest degree of control fails to comply with a provision described in subsection (5) but one of the other persons complies with the provision, the other persons, if any, to whom the provision applies are relieved of the obligation to comply with the provision in the circumstances set out in clauses (7)(a) to (c), with any necessary modification.

(9) Where a provision of these regulations imposes a duty or requirement on a person to ensure that another person carries out or refrains from carrying out a specified action, the person on whom the duty or requirement is placed has complied with the provision if that person establishes that he or she took all reasonable steps to ensure that the second person carried out or refrained from carrying out the specified act.

4 Oct 96 cO-1.1 Reg 1 s5.

**Certification by professional engineer**

**6** Where a provision in these regulations requires a certification by a professional engineer, the certification must be in writing and must bear the official stamp or seal of the engineer.

4 Oct 96 cO-1.1 Reg 1 s6.

## PART II

### Notice Requirements

**New operations**

**7(1)** As soon as is reasonably possible, an employer, contractor or owner shall give notice to the division of the intention to:

- (a) begin work at a construction site, manufacturing plant or processing plant where 10 or more workers are to be employed for six months or more;
- (b) dig an excavation, a trench or an excavated shaft:
  - (i) that is more than five metres deep; and
  - (ii) that a worker will be required or permitted to enter; or
- (c) dig a tunnel that a worker will be required or permitted to enter.

(2) Not later than 14 days before beginning the process, an employer, contractor or owner shall give notice to the division of the intention to begin a high risk asbestos process listed in Table 5 of the Appendix.

(3) A notice required by subsection (1) or (2) must include:

- (a) the legal name and business name of the employer, contractor or owner;
- (b) the location of the site, plant, process or place of employment;
- (c) the mailing address of the employer, contractor or owner;
- (d) the nature of the work or process to be undertaken;
- (e) the number of workers to be employed;

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- (f) the telephone number and fax number of the employer, contractor or owner; and
- (g) the estimated starting date and expected duration of the work or process.

4 Oct 96 cO-1.1 Reg 1 s7.

**Accidents causing serious bodily injury**

8(1) An employer or contractor shall give notice to the division as soon as is reasonably possible of every accident at a place of employment that:

- (a) causes or may cause the death of a worker; or
  - (b) will require a worker to be admitted to a hospital as an in-patient for a period of 72 hours or more.
- (2) The notice required by subsection (1) must include:
- (a) the name of each injured or deceased worker;
  - (b) the name of the employer of each injured or deceased worker;
  - (c) the date, time and location of the accident;
  - (d) the circumstances related to the accident;
  - (e) the apparent injuries; and
  - (f) the name, telephone number and fax number of the employer or contractor or a person designated by the employer or contractor to be contacted for additional information.
- (3) An employer or contractor shall provide each co-chairperson or the representative with a copy of the notice required by subsection (1).

4 Oct 96 cO-1.1 Reg 1 s8.

**Dangerous occurrences**

9(1) In this section, “**dangerous occurrence**” means any occurrence that does not result in, but could have resulted in, a condition or circumstance set out in subsection 8(1), and includes:

- (a) the structural failure or collapse of:
  - (i) a structure, scaffold, temporary falsework or concrete formwork; or
  - (ii) all or any part of an excavated shaft, tunnel, caisson, coffer dam, trench or excavation;
- (b) the failure of a crane or hoist or the overturning of a crane or unit of powered mobile equipment;
- (c) an accidental contact with an energized electrical conductor;
- (d) the bursting of a grinding wheel;
- (e) an uncontrolled spill or escape of a toxic, corrosive or explosive substance;
- (f) a premature detonation or accidental detonation of explosives;
- (g) the failure of an elevated or suspended platform; and
- (h) the failure of an atmosphere-supplying respirator.

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(2) An employer, contractor or owner shall give notice to the division as soon as is reasonably possible of any dangerous occurrence that takes place at a place of employment, whether or not a worker sustains injury.

(3) A notice required by subsection (2) must include:

- (a) the name of each employer, contractor and owner at the place of employment;
- (b) the date, time and location of the dangerous occurrence;
- (c) the circumstances related to the dangerous occurrence; and
- (d) the name, telephone number and fax number of the employer, contractor or owner or a person designated by the employer, contractor or owner to be contacted for additional information.

(4) An employer, contractor or owner shall provide each co-chairperson or the representative with a copy of the notice required by subsection (2).

4 Oct 96 cO-1.1 Reg 1 s9.

**Medical information**

10(1) Subject to subsection 21(2), no person who acquires information of a personal medical nature with respect to a worker pursuant to these regulations shall disclose that information except:

- (a) to the worker;
- (b) to the chief occupational medical officer;
- (c) with the informed consent of the worker, to another person; or
- (d) where otherwise required by law.

(2) A physician who attends or treats a worker who is suffering from or believed to be suffering from a medical condition that is related to the present or past employment of the worker and is listed in Table 6 of the Appendix shall, without undue delay, inform the director of:

- (a) the medical condition from which the worker is believed to be suffering; and
- (b) the name and address of the most recent place of employment where exposure related to the medical condition is believed to have occurred.

4 Oct 96 cO-1.1 Reg 1 s10.

**Report re injuries**

11 On the minister's request, an employer shall provide to the division, or to any other agency that may be designated by the minister, a report setting out details of all person-hours worked and all work-related injuries during the preceding year.

4 Oct 96 cO-1.1 Reg 1 s11.

### PART III General Duties

#### General duties of employers

12 The duties of an employer at a place of employment include:

- (a) the provision and maintenance of plant, systems of work and working environments that ensure, as far as is reasonably practicable, the health, safety and welfare at work of the employer's workers;
- (b) arrangements for the use, handling, storage and transport of articles and substances in a manner that protects the health and safety of workers;
- (c) the provision of any information, instruction, training and supervision that is necessary to protect the health and safety of workers at work; and
- (d) the provision and maintenance of a safe means of entrance to and exit from the place of employment and all worksites and work-related areas in or on the place of employment.

4 Oct 96 cO-1.1 Reg 1 s12.

#### General duties of workers

13 A worker shall:

- (a) use the safeguards, safety appliances and personal protective equipment provided in accordance with these regulations and any other regulations made pursuant to the Act; and
- (b) follow the safe work practices and procedures required by or developed pursuant to these regulations and any other regulations made pursuant to the Act.

4 Oct 96 cO-1.1 Reg 1 s13.

#### Employment of young persons

14(1) An employer or contractor shall ensure that no person under the age of 16 years is employed or permitted to work:

- (a) on a construction site;
- (b) in a production process at a pulp mill, sawmill or woodworking establishment;
- (c) in a production process at a smelter, foundry, refinery or metal processing or fabricating operation;
- (d) in a confined space;
- (e) in a production process in a meat, fish or poultry processing plant;
- (f) in a forestry or logging operation;
- (g) on a drilling or servicing rig;
- (h) as an operator of powered mobile equipment, a crane or a hoist;
- (i) where exposure to a chemical or biological substance is likely to endanger the health or safety of the person; or
- (j) in power line construction or maintenance.

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(2) An employer or contractor shall ensure that no person under the age of 18 years is employed:

- (a) underground or in an open pit at a mine;
- (b) as a radiation worker;
- (c) in an asbestos process as defined in section 330;
- (d) in a silica process as defined in section 346; or
- (e) in any activity for which these regulations or any other regulations made pursuant to the Act require the use of an atmosphere-supplying respirator.

4 Oct 96 cO-1.1 Reg 1 s14.

**Duty of employer or contractor to provide information**

**15** An employer or contractor shall:

- (a) make readily available for reference by workers a copy of:
  - (i) the Act;
  - (ii) any regulations made pursuant to the Act that apply to the place of employment or to any work done there; and
  - (iii) any standards adopted in the regulations that address work practices or procedures and that apply to the place of employment or to any work done there; and
- (b) where the information mentioned in clause (a) or in section 9 of the Act will be posted, provide a suitable bulletin board to be used primarily to post information on health and safety related to the place of employment.

4 Oct 96 cO-1.1 Reg 1 s15.

**Duty of contractor to inform**

**16(1)** A contractor shall give notice in writing to every employer, worker or self-employed person at the place of employment, setting out:

- (a) the name of the person who is supervising the work on behalf of the contractor;
  - (b) any emergency facilities provided by the contractor for the use of the employers' workers or self-employed persons; and
  - (c) the existence of a committee or representative, if any, at the place of employment and the means to contact the committee or representative.
- (2) Subsection (1) applies only to contractors at major construction projects and to contractors involved in those activities to which Part XXIX applies.

4 Oct 96 cO-1.1 Reg 1 s16.

**Supervision of work**

**17(1)** An employer or contractor shall ensure that:

- (a) all work at a place of employment is sufficiently and competently supervised;



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- (b) supervisors have sufficient knowledge of all of the following with respect to matters that are within the scope of the supervisor's responsibility:
- (i) the Act and any regulations made pursuant to the Act that apply to the place of employment;
  - (ii) any occupational health and safety program at the place of employment;
  - (iii) the safe handling, use, storage, production and disposal of chemical and biological substances;
  - (iv) the need for, and safe use of, personal protective equipment;
  - (v) emergency procedures required by these regulations;
  - (vi) any other matters that are necessary to ensure the health and safety of workers under their direction; and
- (c) supervisors comply with the Act and any regulations made pursuant to the Act that apply to the place of employment and ensure that the workers under their direction comply with the Act and those regulations.
- (2) A supervisor shall ensure that the workers under the supervisor's direction comply with the Act and any regulations made pursuant to the Act that apply to the place of employment.

4 Oct 96 cO-1.1 Reg 1 s17.

**Duty to inform workers**

**18** An employer shall ensure that each worker:

- (a) is informed of the provisions of the Act and any regulations pursuant to the Act that apply to the worker's work at the place of employment; and
- (b) complies with the Act and those regulations.

4 Oct 96 cO-1.1 Reg 1 s18.

**Training of workers**

**19(1)** An employer shall ensure that a worker is trained in all matters that are necessary to protect the health and safety of the worker when the worker:

- (a) begins work at a place of employment; or
  - (b) is moved from one work activity or worksite to another that differs with respect to hazards, facilities or procedures.
- (2) The training required by subsection (1) must include:
- (a) procedures to be taken in the event of a fire or other emergency;
  - (b) the location of first aid facilities;
  - (c) identification of prohibited or restricted areas;
  - (d) precautions to be taken for the protection of the worker from physical, chemical or biological hazards;

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- (e) any procedures, plans, policies and programs that the employer is required to develop pursuant to the Act or any regulations made pursuant to the Act that apply to the worker's work at the place of employment; and
  - (f) any other matters that are necessary to ensure the health and safety of the worker while the worker is at work.
- (3) An employer shall ensure that the time spent by a worker in the training required by subsection (1) is credited to the worker as time at work, and that the worker does not lose pay or other benefits with respect to that time.
- (4) An employer shall ensure that no worker is permitted to perform work unless the worker:
- (a) has been trained, and has sufficient experience, to perform the work safely and in compliance with the Act and the regulations; or
  - (b) is under close and competent supervision.

4 Oct 96 cO-1.1 Reg 1 s19.

**Workers' contacts with officers**

- 20(1)** During an inspection or investigation by an officer at a place of employment, an employer shall allow one of the following to accompany the officer:
- (a) the worker co-chairperson or, in the co-chairperson's absence, any other worker that the committee may designate to represent workers;
  - (b) where there is no committee, a worker designated by the trade union representing workers;
  - (c) where there is no trade union representing workers, a worker designated by an officer;
  - (d) the representative.
- (2) An employer shall permit any worker or group of workers to consult with an officer during an inspection or investigation at a place of employment.
- (3) An employer shall ensure that any time in which a worker consults with an officer, assists an officer or accompanies an officer during an inspection or investigation is considered as time at work and that the worker loses no pay or other benefits.

4 Oct 96 cO-1.1 Reg 1 s20.

**Biological monitoring**

- 21(1)** In this section, "**biological monitoring**" means measuring a worker's total exposure to a physical agent, a chemical substance or a biological substance that is present in a place of employment through the assessment of biological specimens collected from the worker.
- (2) Where a worker is the subject of biological monitoring, an employer shall ensure that:
- (a) the worker is informed of the purposes and the results of the monitoring;
  - (b) at the worker's request, the detailed results of the monitoring are made available to a physician designated by the worker; and
  - (c) the aggregate results of the monitoring are given to the committee or the representative.

4 Oct 96 cO-1.1 Reg 1 s21.

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**Occupational health and safety program**

22(1) Subject to subsection (2), an occupational health and safety program required by section 13 of the Act must include:

- (a) a statement of the employer's policy with respect to the protection and maintenance of the health and safety of the workers;
- (b) the identification of existing and potential risks to the health or safety of workers at the place of employment and the measures, including procedures to respond to an emergency, that will be taken to reduce, eliminate or control those risks;
- (c) the identification of internal and external resources, including personnel and equipment, that may be required to respond to an emergency;
- (d) a statement of the responsibilities of the employer, the supervisors and the workers;
- (e) a schedule for the regular inspection of the place of employment and of work processes and procedures;
- (f) a plan for the control of any biological or chemical substance handled, used, stored, produced or disposed of at the place of employment and, where appropriate, the monitoring of the work environment;
- (g) a plan for training workers and supervisors in safe work practices and procedures, including any procedures, plans, policies or programs that the employer is required to develop pursuant to the Act or any regulations made pursuant to the Act that apply to the work of the workers and supervisors;
- (h) a procedure for the investigation of accidents, dangerous occurrences and refusals to work pursuant to section 23 of the Act at the place of employment;
- (i) a strategy for worker participation in occupational health and safety activities, including audit inspections and investigations of accidents, dangerous occurrences and refusals to work pursuant to section 23 of the Act; and
- (j) a procedure to review and, where necessary, revise the occupational health and safety program at specified intervals that are not greater than three years and whenever there is a change of circumstances that may affect the health or safety of workers.

(2) On and after January 1, 1998, the places of employment set out in Table 7 of the Appendix with 10 or more workers are prescribed for the purposes of section 13 of the Act.

(3) An employer at a place of employment mentioned in subsection (2) shall establish an occupational health and safety program that meets the requirements of subsection (1) not later than:

- (a) in a place of employment with 100 or more workers, January 1, 1998;
- (b) in a place of employment with 21 or more workers but not more than 99 workers, January 1, 1999; and
- (c) in a place of employment with 10 or more workers but not more than 20 workers, January 1, 2000.

**Examination of plant**

**23** An employer, contractor or owner shall:

- (a) arrange for the regular examination of any plant under the control of the employer or owner to ensure, to the extent that is reasonably practicable, that the plant is capable of:
  - (i) withstanding the stress likely to be imposed on the plant; and
  - (ii) safely performing the functions for which the plant is used; and
- (b) as soon as is reasonably practicable, correct any unsafe condition found in the plant and take immediate steps to protect the health and safety of any worker who may be at risk until the unsafe condition is corrected.

4 Oct 96 cO-1.1 Reg 1 s23.

**Identifying mark of approved equipment**

**24** An employer, contractor or supplier shall ensure that equipment and personal protective equipment that is required by these regulations to be approved by a named agency has the seal, stamp, logo or similar identifying mark of the agency indicating that approval affixed to:

- (a) the equipment or personal protective equipment; or
- (b) the packaging with which the equipment or personal protective equipment is contained.

4 Oct 96 cO-1.1 Reg 1 s24.

**Maintenance and repair of equipment**

**25(1)** An employer shall ensure that all equipment is maintained at intervals that are sufficient to ensure the safe functioning of the equipment.

- (2) Where a defect is found in equipment, an employer shall ensure that:
  - (a) steps are taken immediately to protect the health and safety of any worker who may be at risk until the defect is corrected; and
  - (b) the defect is corrected by a competent person as soon as is reasonably practicable.
- (3) A worker who knows or has reason to believe that equipment under the worker's control is not in a safe condition shall:
  - (a) immediately report the condition of the equipment to the employer; and
  - (b) repair the equipment if the worker is authorized and competent to do so.

4 Oct 96 cO-1.1 Reg 1 s25.

**Boilers and pressure vessels**

**26** An employer, contractor or owner shall ensure that any boiler or pressure vessel used at a place of employment that is not required to be inspected or registered pursuant to *The Boiler and Pressure Vessel Act* is properly constructed and maintained.

4 Oct 96 cO-1.1 Reg 1 s26.

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**O-1.1 REG 1****Prohibition re use of compressed air**

**27** No employer shall require or permit compressed air to be directed towards a worker:

- (a) for the purpose of cleaning clothing or personal protective equipment used by that worker; or
- (b) for any other purpose if the use of compressed air may cause dispersion into the air of contaminants that may be harmful to workers.

4 Oct 96 cO-1.1 Reg 1 s27.

**Inspection of place of employment**

**28(1)** An employer, contractor or owner shall enable members of a committee or a representative to inspect a place of employment at reasonable intervals determined by the committee or the representative and employer.

(2) On written notice by the committee or the representative of an unsafe condition or a contravention of the Act or any regulations made pursuant to the Act, the employer, contractor or owner shall:

- (a) take immediate steps to protect the health and safety of any worker who may be at risk until the unsafe condition is corrected or the contravention is remedied;
- (b) as soon as possible, take suitable actions to correct the unsafe condition or remedy the contravention; and
- (c) inform the committee or the representative in writing of:
  - (i) the actions that the employer, contractor or owner has taken or will take pursuant to clause (b); or
  - (ii) if the employer, contractor or owner has not taken any actions pursuant to clause (b), the employer's, contractor's or owner's reasons for not taking action.

4 Oct 96 cO-1.1 Reg 1 s28.

**Investigation of certain accidents**

**29(1)** Subject to section 30, an employer shall ensure that every accident that causes or may cause the death of a worker or that requires a worker to be admitted to a hospital as an in-patient for a period of 24 hours or more is investigated as soon as is reasonably possible by:

- (a) the co-chairpersons or their designates;
- (b) the employer and the representative; or
- (c) where there is no committee or representative, the employer.

(2) After the investigation of an accident, an employer, in consultation with the co-chairpersons or their designates, or with the representative, shall prepare a written report that includes:

- (a) a description of the accident;
- (b) any graphics, photographs or other evidence that may assist in determining the cause or causes of the accident;

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- (c) an explanation of the cause or causes of the accident;
- (d) the immediate corrective action taken; and
- (e) any long-term action that will be taken to prevent the occurrence of a similar accident or the reasons for not taking action.

4 Oct 96 cO-1.1 Reg 1 s29.

**Prohibition re scene of accident**

**30(1)** Unless expressly authorized by statute or by subsection (2), no person shall, except for the purpose of saving life or relieving human suffering, interfere with, destroy, carry away or alter the position of any wreckage, article, document or thing at the scene of or connected with an accident causing a death until an officer has completed an investigation of the circumstances surrounding the accident.

(2) Where an accident causing a death occurs and an officer is not able to complete an investigation of the circumstances surrounding the accident, an officer may, unless prohibited by statute, grant permission to move the wreckage, articles and things at the scene or connected with the accident to any extent that may be necessary to allow the work to proceed, if:

- (a) graphics, photographs or other evidence showing details at the scene of the accident are made before the officer grants permission; and
- (b) the co-chairpersons of a committee or the representative for the place of employment at which the accident occurred or their designates have inspected the site of the accident and agreed that the wreckage, article or thing may be moved.

4 Oct 96 cO-1.1 Reg 1 s30.

**Investigation of dangerous occurrences**

**31(1)** An employer, contractor or owner shall ensure that every dangerous occurrence described in subsection 9(1) is investigated as soon as is reasonably possible by:

- (a) the co-chairpersons or their designates;
- (b) the employer, contractor or owner and the representative; or
- (c) where there is no committee or representative, the employer, contractor or owner.

(2) After the investigation of a dangerous occurrence, an employer, contractor or owner, in consultation with the co-chairpersons or their designates or with the representative, shall prepare a written report that includes:

- (a) a description of the dangerous occurrence;
- (b) any graphics, photographs or other evidence that may assist in determining the cause or causes of the dangerous occurrence;
- (c) an explanation of the cause or causes of the dangerous occurrence;
- (d) the immediate corrective action taken; and
- (e) any long-term action that will be taken to prevent the occurrence of a similar dangerous occurrence or the reasons for not taking action.

4 Oct 96 cO-1.1 Reg 1 s31.

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**Injuries requiring medical treatment**

**32** An employer or contractor shall report to the co-chairpersons, the representative or their designates any lost-time injury at the place of employment that results in a worker receiving medical treatment and allow the co-chairpersons, the representative or their designates a reasonable opportunity to review the lost-time injury during normal working hours and without loss of pay or other benefits.

4 Oct 96 cO-1.1 Reg 1 s32.

**Work where visibility is restricted**

**33** Where visibility in an area at a place of employment is restricted by smoke, steam or any other substance to the extent that a worker is at risk of injury, an employer or contractor shall not require or permit the worker to work in that area unless the employer or contractor provides the worker with an effective means of communication with another worker who is readily available to provide assistance in an emergency.

4 Oct 96 cO-1.1 Reg 1 s33.

**Work or travel on ice over water, etc.**

**34(1)** Before a worker is required or permitted to work or travel on ice that is over water or over other material into which a worker could sink more than one metre, an employer or contractor shall have the ice tested to ensure that the ice will support any load that the work or travel will place on the ice.

(2) Subsection (1) does not apply to winter roads built and maintained by the Department of Highways and Transportation.

4 Oct 96 cO-1.1 Reg 1 s34.

**Working alone or at isolated place of employment**

**35(1)** In this section, **“to work alone”** means to work at a worksite as the only worker of the employer or contractor at that worksite, in circumstances where assistance is not readily available to the worker in the event of injury, ill health or emergency.

(2) Where a worker is required to work alone or at an isolated place of employment, an employer or contractor, in consultation with the committee, the representative or, where there is no committee or representative, the workers, shall identify the risks arising from the conditions and circumstances of the worker’s work or the isolation of the place of employment.

(3) An employer or contractor shall take all reasonably practicable steps to eliminate or reduce the risks identified pursuant to subsection (2).

(4) The steps to be taken to eliminate or reduce the risks pursuant to subsection (3):

(a) must include the establishment of an effective communication system that consists of:

- (i) radio communication;
- (ii) phone or cellular phone communication; or

- (iii) any other means that provides effective communication in view of the risks involved; and
- (b) may include any of the following:
  - (i) regular contact by the employer or contractor with the worker working alone or at an isolated place of employment;
  - (ii) limitations on, or prohibitions of, specified activities;
  - (iii) establishment of minimum training or experience, or other standards of competency;
  - (iv) provision of personal protective equipment;
  - (v) establishment of safe work practices or procedures;
  - (vi) provision of emergency supplies for use in travelling under conditions of extreme cold or other inclement weather conditions.

4 Oct 96 cO-1.1 Reg 1 s35.

#### Harassment

**36(1)** An employer, in consultation with the committee, shall develop a policy in writing to prevent harassment that includes:

- (a) a definition of harassment that includes the definition in the Act;
- (b) a statement that every worker is entitled to employment free of harassment;
- (c) a commitment that the employer will make every reasonably practicable effort to ensure that no worker is subjected to harassment;
- (d) a commitment that the employer will take corrective action respecting any person under the employer's direction who subjects any worker to harassment;
- (e) an explanation of how complaints of harassment may be brought to the attention of the employer;
- (f) a statement that the employer will not disclose the name of a complainant or an alleged harasser or the circumstances related to the complaint to any person except where disclosure is:
  - (i) necessary for the purposes of investigating the complaint or taking corrective action with respect to the complaint; or
  - (ii) required by law;
- (g) a reference to the provisions of the Act respecting harassment and the worker's right to request the assistance of an occupational health officer to resolve a complaint of harassment;
- (h) a reference to the provisions of *The Saskatchewan Human Rights Code* respecting discriminatory practices and the worker's right to file a complaint with the Saskatchewan Human Rights Commission;
- (i) a description of the procedure that the employer will follow to inform the complainant and the alleged harasser of the results of the investigation; and



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- (j) a statement that the employer's harassment policy is not intended to discourage or prevent the complainant from exercising any other legal rights pursuant to any other law.
- (2) An employer shall:
  - (a) implement the policy developed pursuant to subsection (1); and
  - (b) post a copy of the policy in a conspicuous place that is readily available for reference by workers.

4 Oct 96 cO-1.1 Reg 1 s36.

**Violence**

**37(1)** In this section, "**violence**" means the attempted, threatened or actual conduct of a person that causes or is likely to cause injury, and includes any threatening statement or behaviour that gives a worker reasonable cause to believe that the worker is at risk of injury.

(2) On and after January 1, 1997, places of employment that provide the following services or activities are prescribed for the purposes of subsection 14(1) of the Act:

- (a) services provided by health care facilities mentioned in sub-clauses 468(b)(i) to (v) and (xii);
- (b) pharmaceutical-dispensing services;
- (c) education services;
- (d) police services;
- (e) corrections services;
- (f) other law enforcement services;
- (g) security services;
- (h) crisis counselling and intervention services;
- (i) retail sales in establishments that are open between the hours of 11:00 p.m. and 6:00 a.m.;
- (j) financial services;
- (k) the sale of alcoholic beverages or the provision of premises for the consumption of alcoholic beverages;
- (l) taxi services;
- (m) transit services.

(3) A policy statement required by subsection 14(1) of the Act must be in writing and must include:

- (a) the employer's commitment to minimize or eliminate the risk;
- (b) the identification of the worksite or worksites where violent situations have occurred or may reasonably be expected to occur;
- (c) the identification of any staff positions at the place of employment that have been, or may reasonably be expected to be, exposed to violent situations;

- (d) the procedure to be followed by the employer to inform workers of the nature and extent of risk from violence, including, except where the disclosure is prohibited by law, any information in the employer's possession related to the risk of violence from persons who have a history of violent behaviour and whom workers are likely to encounter in the course of their work;
  - (e) the actions the employer will take to minimize or eliminate the risk, including the use of personal protective equipment, administrative arrangements and engineering controls;
  - (f) the procedure to be followed by a worker who has been exposed to a violent incident to report the incident to the employer;
  - (g) the procedure the employer will follow to document and investigate a violent incident reported pursuant to clause (f);
  - (h) a recommendation that any worker who has been exposed to a violent incident consult the worker's physician for treatment or referral for post-incident counselling; and
  - (i) the employer's commitment to provide a training program for workers that includes:
    - (i) the means to recognize potentially violent situations;
    - (ii) procedures, work practices, administrative arrangements and engineering controls that have been developed to minimize or eliminate the risk to workers;
    - (iii) the appropriate responses of workers to incidents of violence, including how to obtain assistance; and
    - (iv) procedures for reporting violent incidents.
- (4) Where a worker receives treatment or counselling mentioned in clause (3)(h) or attends a training program mentioned in clause (3)(i), an employer shall credit the worker's attendance as time at work and ensure that the worker loses no pay or other benefits.
- (5) An employer shall make readily available for reference by workers a copy of the policy statement required by subsection 14(1) of the Act.
- (6) An employer shall ensure that the policy statement required by subsection 14(1) of the Act is reviewed and, where necessary, revised every three years and whenever there is a change of circumstances that may affect the health or safety of workers.

4 Oct 96 cO-1.1 Reg 1 s37.

## PART IV Committees and Representatives

### Committees at construction sites

**38** A contractor shall establish a committee at a construction site at which 10 or more workers or self-employed persons work or are likely to work for more than 90 days.

4 Oct 96 cO-1.1 Reg 1 s38.

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**Designation of committee members**

**39(1)** An employer or contractor who is required to establish a committee shall:

- (a) in designating the members:
  - (i) select persons to represent the employer or contractor on the committee; and
  - (ii) ensure that there is a sufficient number of members representing workers on the committee to equitably represent groups of workers who have substantially different occupational health and safety concerns; and
- (b) designate members for a term not exceeding three years.

(2) Members of a committee hold office until a successor is designated, and may be re-designated for a second or subsequent term.

4 Oct 96 cO-1.1 Reg 1 s39.

**Quorum and certain votes**

**40(1)** A quorum consists of one-half of the members of a committee, where:

- (a) representatives of both employers and workers are present; and
- (b) at least one-half of the members present represent workers.

(2) Any business of a committee that is transacted where a quorum is not present is not validly transacted, and any meeting of a committee that is held where a quorum is not present is not a valid meeting of the committee.

(3) Decisions of a committee with respect to refusals to work pursuant to section 23 of the Act must be by unanimous vote of members of the committee who are present.

4 Oct 96 cO-1.1 Reg 1 s40.

**Frequency of meetings**

**41(1)** Subject to subsection (2), a committee shall:

- (a) hold its first meeting within two weeks after being established;
- (b) hold three subsequent meetings at intervals not exceeding one month; and
- (c) after that, hold regular meetings at intervals not exceeding three months.

(2) The director may require a committee to meet more frequently than subsection (1) requires because of any of the following factors at the place of employment:

- (a) the existence of particular hazards or circumstances;
- (b) the complexity of the operation;
- (c) the number of workers.

4 Oct 96 cO-1.1 Reg 1 s41.

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**2003-2****Minutes****42** A committee shall:

- (a) record minutes of each meeting in a format provided by the division and keep the minutes on file with the committee;
- (b) send a copy of the minutes to the division within two weeks after the date of the meeting; and
- (c) post a copy of the minutes at a location that is readily accessible to workers at the place of employment until all concerns recorded in the minutes are resolved.

4 Oct 96 cO-1.1 Reg 1 s42.

**Co-chairpersons****43(1)** At the first meeting of a committee:

- (a) members of the committee representing workers shall elect a worker co-chairperson from among their number; and
- (b) the employer or contractor shall appoint an employer or contractor co-chairperson from the members of the committee representing the employer or contractor.

(2) An employer or contractor co-chairperson shall keep the employer or contractor informed of the activities, concerns and recommendations of the committee and of any information addressed to the committee.

(3) A worker co-chairperson shall keep the workers informed of the activities, concerns and recommendations of the committee and of any information addressed to the committee.

(4) An employer or contractor shall facilitate the discharge of the worker co-chairperson's duties during normal work hours by permitting meetings of workers or by other means that are appropriate in the circumstances.

4 Oct 96 cO-1.1 Reg 1 s43.

**Special meetings**

**44** Either co-chairperson may call a special meeting of a committee to deal with urgent concerns, imminent dangers to health or safety, investigations of accidents or dangerous occurrences or refusals to work pursuant to section 23 of the Act.

4 Oct 96 cO-1.1 Reg 1 s44.

**Designation of representative**

**45(1)** On and after July 1, 1997, the places of employment set out in Table 7 of the Appendix where more than four but fewer than 10 workers of one employer work are prescribed for the purposes of section 16 of the Act.

(2) An employer at a place of employment described in subsection (1) shall designate a representative for the workers at that place of employment not later than the day on which the place of employment is prescribed pursuant to subsection (1).

4 Oct 96 cO-1.1 Reg 1 s45.

**Training of representatives, committee members**

46(1) At a place of employment where a representative is designated, an employer shall ensure that the representative receives training respecting the duties and functions of a representative.

(2) At a place of employment where a committee is established, an employer or contractor shall ensure that the co-chairpersons of the committee receive training respecting the duties and functions of a committee.

(3) Where a member of a committee or a representative gives reasonable notice, an employer or contractor shall permit the member or representative to take leave for a period or periods of not more than five working days per year to attend occupational health and safety training programs, seminars or courses of instruction.

(4) Where a member of a committee or a representative attends a training program, seminar or course of instruction on health and safety matters conducted or provided by the division or by an approved training agency, an employer or contractor shall credit the member's or representative's attendance as time at work and ensure that the member or representative loses no pay or other benefits.

4 Oct 96 cO-1.1 Reg 1 s46.

**Meetings of employers and representatives**

47(1) At a place of employment where a representative is designated, an employer shall meet with the representative regularly to discuss health and safety matters.

(2) A representative may call a special meeting with an employer to deal with urgent concerns, imminent dangers to health or safety or investigations of accidents or dangerous occurrences.

4 Oct 96 cO-1.1 Reg 1 s47.

**Opportunity for necessary activities**

48(1) An employer or contractor shall ensure that:

(a) the members of a committee or a representative are allowed to examine any log book, inspection report or other record that the employer or contractor is required to keep at the place of employment pursuant to the Act or any regulations made pursuant to the Act;

(b) members of a committee or a representative have reasonable opportunity, during normal working hours and without loss of pay or other benefits, to receive and investigate concerns, to inform workers of the provisions of the Act or any regulations made pursuant to the Act or to conduct other business proper to the functioning of the committee or the representative;

(c) members of a committee have reasonable opportunity to hold a special meeting pursuant to section 44 at any time; and

(d) a representative has reasonable opportunity to hold a special meeting pursuant to subsection 47(2) at any time.

(2) An employer or contractor shall ensure that no member of a committee or representative who participates in a regular meeting held pursuant to section 41 or subsection 47(1) or in a special meeting held pursuant to section 44 or 49 or subsection 47(2) loses any pay or other benefits as a result of that participation.

4 Oct 96 cO-1.1 Reg 1 s48.

**Meetings called by officer**

**49** An officer may call a special meeting of a committee, of several committees jointly, of the co-chairpersons of committees or with a representative for the purpose of:

- (a) ensuring the proper functioning of the committee, committees or representative;
- (b) providing information to the committee, committees, co-chairpersons or representative; or
- (c) providing education concerning occupational health or safety at work to the committee, committees, co-chairpersons or representative.

4 Oct 96 cO-1.1 Reg 1 s49.

**PART V**  
**First Aid**

**Interpretation**

**50** In this Part:

- (a) **“agency”** means a body, person, association, society or other organization that delivers first aid training courses and cardiopulmonary resuscitation training courses by one or more competent instructors;
- (b) **“close”**, in relation to a place of employment or worksite, means a place of employment or worksite that is not more than 30 minutes’ travel time from a hospital or medical facility under normal travel conditions using the available means of transportation;
- (c) **“distant”**, in relation to a place of employment or worksite, means a place of employment or worksite that is more than 30 minutes’ but less than two hours’ travel time from a hospital or medical facility under normal travel conditions using the available means of transportation;
- (d) **“high-hazard work”** means work regularly involving any activity set out in Table 8 of the Appendix;
- (e) **“instructor”** means a person who has successfully completed first aid and cardiopulmonary resuscitation instructor training;
- (f) **“isolated”**, in relation to a place of employment or worksite, means a place of employment or worksite:
  - (i) that is more than two hours’ travel time from a hospital or medical facility under normal travel conditions using the available means of surface transportation; or
  - (ii) for which transport by aircraft is the normal mode of transport;
- (g) **“low-hazard work”** means work of an administrative, professional or clerical nature that does not require substantial physical exertion or exposure to potentially hazardous conditions, work processes or substances;
- (h) **“medical facility”** means a medical clinic or office where a physician or registered nurse is always readily available.

4 Oct 96 cO-1.1 Reg 1 s50.

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**O-1.1 REG 1****Application****51** This Part does not apply to:

- (a) a hospital, medical clinic, physician's office, nursing home or other health care facility where a physician or a registered nurse is always readily available; or
- (b) a close place of employment at which the work performed is entirely low-hazard work.

4 Oct 96 cO-1.1 Reg 1 s51.

**Provision of first aid****52** Subject to section 53, an employer, contractor or owner shall:

- (a) provide the personnel, supplies, equipment, facilities and transportation required by this Part to render prompt and appropriate first aid to workers at every worksite;
- (b) in consultation with the committee, the representative or, where there is no committee or representative, the workers, review the provisions of this Part;
- (c) if the provisions of this Part are not adequate to meet any specific hazard at a place of employment, provide additional suitable personnel, supplies, equipment and facilities that are appropriate for the hazard; and
- (d) ensure that, where a worker may be entrapped or incapacitated in a situation that may be dangerous to any person involved in the rescue operation:
  - (i) an effective written procedure for the rescue of that worker is developed; and
  - (ii) suitable personnel and rescue equipment are provided.

4 Oct 96 cO-1.1 Reg 1 s52.

**More than one employer****53(1)** Where more than one employer has workers at the same place of employment:

- (a) the employers and any contractor or owner may agree in writing to provide collectively the personnel, supplies, equipment, facilities and transportation for injured workers required by this Part; or
- (b) the director may, by notice in writing, require all employers, contractors and owners to provide collectively the personnel, supplies, equipment, facilities and transportation for injured workers required by this Part.

(2) Where subsection (1) applies, the total number of workers of all employers at the place of employment is deemed to be the number of workers at the place of employment.

4 Oct 96 cO-1.1 Reg 1 s53.

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**2003-2****First aid personnel****54(1)** An employer or contractor shall:

- (a) provide the personnel and supplies set out in Table 9 of the Appendix for:
    - (i) the type of work carried out at the place of employment;
    - (ii) the distance of the place of employment from the nearest medical facility; and
    - (iii) the number of workers at the place of employment at any one time; and
  - (b) ensure that the personnel are readily available during working hours.
- (2) An employer or contractor shall ensure that the personnel required pursuant to subsection (1) have the qualifications set out in Table 1 or Table 3 of the Appendix, as the case may require.
- (3) A person who possesses credentials in first aid that, in the opinion of the director, are equivalent to or superior to the credentials required for a place of employment may serve as a first aid attendant at that place of employment.
- (4) Where rescue personnel are required by these regulations to be provided at a worksite, an employer or contractor shall ensure that at least one first aid attendant with a class A qualification is readily available during working hours, whether or not the employer or contractor is required to provide a class A first aid attendant pursuant to subsection (1).
- (5) Notwithstanding any other provision of this Part, where an employer, contractor or owner provides lodging for workers at or near an isolated or distant place of employment, the employer, contractor or owner shall provide the personnel, supplies, equipment and facilities required pursuant to Tables 9 to 12 of the Appendix based on the total number of workers at or near the place of employment, whether or not the workers are all working at any one time.
- (6) An employer or contractor shall:
- (a) allow a first aid attendant and any other worker that the first aid attendant needs for assistance to provide prompt and adequate first aid to a worker who has been injured or taken ill; and
  - (b) ensure that the first aid attendant and any worker assisting the first aid attendant have adequate time, with no loss of pay or other benefits, to provide the first aid.

4 Oct 96 cO-1.1 Reg 1 s54.

**Certificates**

- 55(1)** No certificate issued by an agency is valid for the purposes of this Part unless the certificate specifies the duration and content of the course for which the certificate is issued and the expiry date of the certificate.
- (2) A certificate may specify:
- (a) a period not exceeding three years for which the certificate is valid; and
  - (b) the conditions for the renewal of the certificate.

4 Oct 96 cO-1.1 Reg 1 s55.



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**First aid station**

**56(1)** An employer or contractor shall provide and maintain for every worksite a readily accessible first aid station that contains:

- (a) a first aid box containing the supplies and equipment set out in Table 10 of the Appendix;
  - (b) a suitable first aid manual; and
  - (c) any other supplies and equipment required by these regulations.
- (2) An employer or contractor shall ensure that:
- (a) the location of a first aid station is clearly and conspicuously identified; and
  - (b) at a first aid station, an appropriate emergency procedure is prominently displayed that includes:
    - (i) an emergency telephone list or other instructions for reaching the nearest fire, police, ambulance, physician, hospital or other appropriate service; and
    - (ii) any written rescue procedure required by subclause 52(d)(i).

4 Oct 96 cO-1.1 Reg 1 s56; 31 Jan 97 SR 6/97 s4.

**First aid register**

**57** An employer or contractor shall ensure that:

- (a) each first aid station is provided with a first aid register;
- (b) all particulars of the following are recorded in the first aid register:
  - (i) each first aid treatment administered to a worker while at work;
  - (ii) each case referred for medical attention;
- (c) a first aid register is readily available for inspection by the committee or representative; and
- (d) a first aid register no longer in use is retained at the place of employment for a period of not less than five years from the day on which the register ceased to be used.

4 Oct 96 cO-1.1 Reg 1 s57.

**First aid room**

**58** Where there are likely to be 100 or more workers at a distant or isolated place of employment at any one time, an employer, contractor or owner shall provide a first aid room that:

- (a) is of adequate size, is clean and is provided with adequate lighting, ventilation and heating;
- (b) is equipped with:
  - (i) a permanently installed sink, with hot and cold water;
  - (ii) the first aid supplies and equipment required by this Part; and
  - (iii) a cot or bed with a moisture-protected mattress and pillows;

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- (c) is readily accessible to workers;
- (d) is under the charge of a first aid attendant with the qualifications required by this Part who is readily available to provide first aid; and
- (e) is used exclusively for the purposes of administering first aid and medical examinations and to provide rest for persons who are injured or ill.

4 Oct 96 cO-1.1 Reg 1 s58.

**Workers being transported**

**59** Where workers are being transported by an employer or contractor to or from work or at work, and a first aid station, medical clinic, physician's office, hospital or other health care facility is not readily available, an employer or contractor shall provide a first aid box that contains at least the supplies and equipment listed in Table 10 of the Appendix and that is readily available to the workers being transported.

4 Oct 96 cO-1.1 Reg 1 s59.

**First aid supplies and equipment**

**60(1)** An employer or contractor shall ensure that:

- (a) all first aid supplies and equipment are protected and kept in a clean and dry state;
  - (b) no supplies, equipment or materials other than supplies and equipment for first aid are kept in the first aid box mentioned in clause 56(1)(a);
- (2) At a place of employment where a first aid attendant is required pursuant to section 54, an employer or contractor shall provide the additional first aid supplies and equipment set out:
- (a) in Table 11 of the Appendix where a first aid attendant with a class A qualification is required; and
  - (b) in Table 12 of the Appendix where a first aid attendant with a class B qualification or an emergency medical technician's licence is required.
- (3) At a distant or isolated place of employment, an employer or contractor shall provide and make readily accessible to workers two blankets, a stretcher and splints for the upper and lower limbs.

4 Oct 96 cO-1.1 Reg 1 s60.

**Transportation of injured workers**

**61(1)** An employer or contractor shall ensure that a means of transportation for injured workers to a medical facility or hospital is available.

(2) The following meet the requirements of subsection (1):

- (a) an ambulance service that is within 30 minutes' travel time from the ambulance base to the place of employment under normal travel conditions; or

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- (b) a means of transportation that is suitable, having regard to the distance to be travelled and the risks to which workers are exposed, that affords protection against the weather and is equipped, where reasonably practicable, with a means of communication that permits contact with the medical facility or hospital to which the injured worker is being transported and with the place of employment.
- (3) Where a stretcher is required to be provided pursuant to subsection 60(3), an employer or contractor shall ensure that the means of transportation provided pursuant to clause (2)(b) is capable of accommodating and securing an occupied stretcher.
- (4) An employer or contractor shall provide a means of communication to summon the transportation required by subsection (1).
- (5) Where a worker is seriously injured or, in the opinion of a first aid attendant, needs to be accompanied during transportation, an employer or contractor shall ensure that the worker is accompanied by a first aid attendant during transportation.

4 Oct 96 cO-1.1 Reg 1 s61.

**Asphyxiation and poisoning**

**62** Where a worker is at risk of asphyxiation or poisoning, an employer or contractor shall ensure that all practicable emergency arrangements are made for the rescue of the worker and for the prompt provision of antidotes, supportive measures, first aid, medical attention and any other measures that are appropriate to the nature and probable effects of the asphyxia or poisoning.

4 Oct 96 cO-1.1 Reg 1 s62.

**Additional provisions**

**63** Where, in the opinion of the director, first aid and emergency arrangements at a place of employment or worksite are inadequate, the director may, by notice in writing, require the employer or contractor to make additional provisions.

4 Oct 96 cO-1.1 Reg 1 s63.

**PART VI**  
**General Health Requirements**

**Sanitation**

**64(1)** An employer, contractor or owner shall ensure that a place of employment is sanitary and kept as clean as is reasonably practicable and shall ensure, to the extent that is reasonably practicable, that:

- (a) dirt and debris are removed at least daily by a suitable method from all floors, working surfaces, stairways and passages;
- (b) floors are cleaned at least once each week by washing, vacuum cleaning or any other effective and suitable method; and
- (c) all inside walls, partitions, ceilings, passages and staircases are clean and are suitably finished and maintained.

(2) Where a worker may be exposed to refuse, spills or waste materials that may pose a risk to the worker's health or safety, an employer or contractor shall ensure that the refuse, spill or waste material is removed by a suitable method from the worksite as soon as is practicable.

4 Oct 96 cO-1.1 Reg 1 s64.

#### Ventilation and air supply

**65** An employer, contractor or owner shall:

- (a) ensure the adequate ventilation of a place of employment; and
- (b) to the extent that is reasonably practicable, render harmless and inoffensive, and prevent the accumulation of, any contaminants or impurities in the air by providing an adequate supply of clean and wholesome air and maintaining its circulation throughout the place of employment.

4 Oct 96 cO-1.1 Reg 1 s65.

#### Mechanical ventilation

**66(1)** An employer, contractor or owner shall provide a mechanical ventilation system in a place of employment that is sufficient and suitable to protect the workers against inhalation of a contaminant and to prevent accumulation of the contaminant and ensure that the mechanical ventilation system is maintained and properly used, where any work, activity or process in the place of employment gives off:

- (a) a dust, fume, gas, mist, aerosol or vapour or other contaminant of a kind and quantity that is likely to be hazardous to workers; or
- (b) substantial quantities of contaminants of any kind.

(2) An employer, contractor or owner who provides a mechanical ventilation system at a place of employment, whether required by subsection (1) or not, shall ensure that the system provides sufficient fresh and tempered air to replace the air exhausted by ventilation.

(3) Where practicable, an employer, contractor or owner shall ensure that a mechanical ventilation system required by subsection (1):

- (a) includes local exhaust ventilation that is installed and maintained at or near the point of origin of the contaminant so as to prevent effectively the contaminant from entering the air of the place of employment; and
- (b) is equipped with a device that will provide a warning to workers when the system is not working effectively.

(4) An employer, contractor or owner shall ensure that contaminants removed by a mechanical ventilation system required by subsection (1) are:

- (a) exhausted clear of the place of employment; and
- (b) where reasonably practicable, prevented from entering any place of employment.

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(5) An employer, contractor or owner shall ensure that effective provision is made for the immediate protection of workers in the event of failure of a mechanical ventilation system required by subsection (1).

(6) Where an air cleaning system is used to clean recirculated air, an employer, contractor or owner shall ensure that the air cleaning system is designed, installed and maintained to remove particulate and gaseous contaminants at a rate that is sufficient to protect the health and safety of workers and, where reasonably practicable, to render the air inoffensive.

4 Oct 96 cO-1.1 Reg 1 s66.

**Cleaning and maintaining ventilation systems**

**67(1)** An employer, contractor or owner shall ensure that:

(a) the mechanical ventilation system, including any humidification equipment, is constructed and maintained to minimize the growth and dissemination of micro-organisms, insects and mites through the ventilation system; and

(b) where reasonably practicable, the components of a mechanical ventilation system are readily accessible for cleaning and inspection.

(2) An employer, contractor or owner shall ensure that a competent person inspects and maintains all parts of a mechanical ventilation system, cleans all louvres and replaces or adequately cleans all filters at a frequency that is sufficient to protect the health and safety of the workers.

(3) An employer, contractor or owner shall keep all ventilation openings free of any obstruction or source of contamination.

(4) An employer, contractor or owner shall ensure that a record of all inspections, maintenance and cleaning of a mechanical ventilation system required by subsection 66(1):

(a) is made by the competent person who performs the work; and

(b) is readily available for examination by the committee, the representative or, where there is no committee or representative, the workers.

4 Oct 96 cO-1.1 Reg 1 s67.

**Space**

**68(1)** An employer or contractor shall ensure that no part of a place of employment is overcrowded to a degree that may cause risk of injury to workers.

(2) Without limiting the generality of subsection (1), an employer or contractor shall ensure that there is at least 10 cubic metres of space for each worker employed at any one time at a worksite.

(3) For the purposes of subsection (2), no space that is more than three metres from the floor and no space occupied by solid objects is to be taken into account.

4 Oct 96 cO-1.1 Reg 1 s68.

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**2003-2****Lighting**

**69(1)** While workers are present at a worksite, an employer, contractor or owner shall provide lighting that is sufficient to protect the health and safety of workers and suitable for the work to be done at the worksite.

(2) An employer, contractor or owner shall ensure that the illumination of all parts of a place of employment where workers pass, other than underground at a mine, is at least five decalux.

(3) Where failure of the regular lighting system is likely to create conditions dangerous to the health or safety of workers, an employer, contractor or owner shall provide appropriate emergency lighting of at least five decalux for the worksite and exit routes from the worksite.

(4) An employer, contractor or owner shall ensure that:

(a) light fixtures, windows and skylights that provide light for work are, where practicable, kept clean and free from any obstruction, except for special treatment of light fixtures, windows or skylights to reduce heat or glare; and

(b) artificial light sources and reflective surfaces are positioned, screened or provided with a shade, where practicable, to prevent glare or the formation of shadows that cause discomfort or a risk of accident to a worker.

4 Oct 96 cO-1.1 Reg 1 s69.

**Thermal conditions**

**70(1)** Subject to subsection (3), in an indoor place of employment, an employer, contractor or owner shall provide and maintain thermal conditions, including air temperature, radiant temperature, humidity and air movement, that:

(a) are appropriate to the nature of the work performed;

(b) provide effective protection for the health and safety of workers; and

(c) provide reasonable thermal comfort for workers.

(2) At an indoor place of employment where the thermal environment is likely to be a health or safety concern to the workers, an employer, contractor or owner shall provide and maintain an appropriate and suitably located instrument for measuring the thermal conditions.

(3) Where it is not reasonably practicable to control thermal conditions or where work is being performed outdoors, an employer, contractor or owner shall provide and maintain measures for:

(a) the effective protection of the health and safety of workers; and

(b) the reasonable thermal comfort of workers.

(4) Measures for the purposes set out in subsection (3) may include, but are not limited to, the following:

(a) frequent monitoring of thermal conditions;

(b) the provision of special or temporary equipment, including screens, shelters and temporary heating or cooling equipment;

(c) the provision of suitable clothing or personal protective equipment;

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- (d) the provision of hot or cold drinks;
  - (e) the use of acclimatization or other physiological procedures;
  - (f) the use of limited work schedules with rest and recovery periods, changes in workloads, changes in hours or other arrangements for work;
  - (g) frequent observation of workers by a person who is trained to recognize the symptoms of physiological stress resulting from extreme temperatures;
  - (h) the provision of emergency supplies for use when travelling under extremely cold or inclement weather conditions.
- (5) Where a worker is required to work in thermal conditions that are different from those associated with the worker's normal duties, an employer or contractor shall provide, and require the worker to use, any suitable clothing or other personal protective equipment that is necessary to protect the health and safety of the worker.

4 Oct 96 cO-1.1 Reg 1 s70.

**Toilet facilities**

71(1) An employer, contractor or owner shall ensure that suitable and readily accessible toilet facilities for workers:

- (a) are provided at a place of employment, maintained and kept clean;
  - (b) are sufficient in number for the number of workers at the place of employment at any one time; and
  - (c) have adequate provision for privacy, heat, light and ventilation.
- (2) Subject to subsections (3) to (6), on and after July 1, 1997, the minimum number of toilet facilities required pursuant to subsection (1) is set out in Table 13 of the Appendix.
- (3) Where toilet facilities are likely to be used by persons other than workers, an employer, contractor or owner shall provide additional toilets in a number that is proportionate to the number set out in Table 13 of the Appendix and, where use by those other persons is substantial and frequent, the employer, contractor or owner shall provide separate toilet facilities for those other persons.
- (4) Where there are more than 10 workers and both male and female persons are employed at any time, an employer, contractor or owner shall provide separate toilet facilities for workers of each sex in numbers that are proportionate to the numbers of male and female persons employed.
- (5) Where each toilet compartment is completely enclosed from floor to ceiling and has a door that can be locked from the inside, an employer, contractor or owner is deemed to have met the requirements of subsection (4).
- (6) Where more than 100 male persons work or are likely to work on any shift and sufficient urinal accommodations are provided, the minimum number of toilet facilities set out in Table 13 of the Appendix may be reduced with the permission of an officer.

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(7) An employer, contractor or owner shall ensure that each toilet facility required by this section:

- (a) is used exclusively for the purposes for which the facility is designed;
- (b) is free from any obstacle or obstruction that could prevent the facility from being used;
- (c) is kept free of vermin;
- (d) is supplied with toilet tissue at all times and with easily cleanable, covered receptacles for waste materials; and
- (e) except in the case of a urinal, is equipped with an individual compartment and a door that can be locked from the inside.

4 Oct 96 cO-1.1 Reg 1 s71.

**Personal washing**

**72** An employer, contractor or owner shall provide and maintain for the use of workers suitable facilities for personal washing that:

- (a) are located near each toilet at a place of employment;
- (b) have a supply of clean hot and cold water or warm water, soap and clean towels or other suitable means of cleaning and drying;
- (c) have an easily cleanable, covered receptacle for waste materials;
- (d) are adequately heated, ventilated and lighted; and
- (e) are kept in a clean and neat condition.

4 Oct 96 cO-1.1 Reg 1 s72.

**Clothing**

**73(1)** Subject to subsection (2), an employer, contractor or owner shall provide at a place of employment and maintain for the use of workers clean, appropriately located and suitable accommodation for street clothing that is not worn at work and for clothing worn at work.

(2) Where street clothing not worn at work is likely to become wet, dirty or contaminated from being kept in the same accommodation as clothing worn at work, the accommodation for street clothing must be separate from the accommodation provided for clothing worn at work.

(3) Where a worker's work clothing or skin is likely to be contaminated by hazardous or offensive substances, an employer or contractor shall:

- (a) provide protective clothing and head cover appropriate to the work and hazard;
- (b) provide a suitable changing area; and
- (c) ensure that the clothing and head cover is handled and cleaned or disposed of in a manner that will prevent worker exposure to hazardous or offensive substances.

4 Oct 96 cO-1.1 Reg 1 s73.



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**74** Where a worker's skin is likely to be contaminated by harmful or offensive substances as part of the regular work processes at a place of employment, an employer, contractor or owner shall:

- (a) where reasonably practicable, provide and maintain suitable, adequate and clean change and shower facilities; and
- (b) allow sufficient time, during normal working hours without loss of pay or other benefits, for the worker to use the facilities.

4 Oct 96 cO-1.1 Reg 1 s74.

**Eating areas**

**75(1)** An employer, contractor or owner shall provide sufficient, suitable areas that are kept clean, dry, thermally comfortable and reasonably quiet for workers to eat and drink during work breaks.

(2) At places of employment where the substances used in the work or the work processes are dusty, dirty or otherwise likely to contaminate a worker's person, clothing or food, the employer, contractor or owner shall provide an eating area that is separate from the worksite and close to washing facilities.

4 Oct 96 cO-1.1 Reg 1 s75.

**Drinking water**

**76(1)** An employer, contractor or owner shall provide, at suitable points that are readily accessible to all workers, an adequate supply of clean and safe drinking water.

(2) Where the supply of drinking water at a place of employment is not piped, an employer, contractor or owner shall:

- (a) provide drinking water in suitable covered containers;
- (b) protect the drinking water from contamination; and
- (c) change the drinking water as often as is necessary to ensure that the water is clean and safe to drink.

(3) Except where drinking water is supplied in an upward jet, an employer, contractor or owner shall provide an adequate supply of disposable cups near each supply of drinking water.

(4) Where it is necessary to identify the supply of drinking water, an employer, contractor or owner shall clearly indicate the supply of drinking water with a sign that says "Drinking Water" or by another visual means.

(5) Where there is a supply of water at a place of employment that is unfit for drinking, an employer, contractor or owner shall clearly indicate the supply of water with a permanently fixed, durable sign that says "Unfit for Drinking" or by another visual means.

4 Oct 96 cO-1.1 Reg 1 s76.

**Smoking**

77(1) In this section:

- (a) **“institution”** means a place of employment where persons who are not workers reside for extended periods, but does not include a private dwelling;
  - (b) **“smoke”** means to smoke, hold or otherwise have control over an ignited tobacco product;
  - (c) **“tobacco product”** means a product that is manufactured from tobacco and intended to be used for the purpose of smoking.
- (2) This section does not apply to a self-employed person at a place of employment where no other self-employed person and no employer, contractor, owner or worker is present.
- (3) An employer, contractor or owner shall ensure that:
- (a) on and after July 1, 1997, no worker smokes in an enclosed place of employment, worksite or work-related area except in an area designated for smoking pursuant to subsection (5); and
  - (b) worker exposure to second-hand tobacco smoke is restricted until smoking areas are designated at the place of employment pursuant to subsection (5).
- (4) On and after July 1, 1997, no worker shall smoke in an enclosed place of employment, worksite or work-related area except in an area designated for smoking pursuant to subsection (5).
- (5) An employer or contractor, in consultation with the committee, may:
- (a) designate one or more enclosed areas at a place of employment as areas where smoking is allowed if the passage of smoke into non-smoking areas is minimized;
  - (b) designate one or more worksites or parts of a place of employment as areas where smoking is allowed if the design of the worksite or part of the place of employment or of the mechanical ventilation of the area to be designated will ensure that:
    - (i) no worker will be exposed to second-hand tobacco smoke; and
    - (ii) second-hand tobacco smoke from the area to be designated will not contaminate other areas of the place of employment; or
  - (c) designate a vehicle supplied by the employer or contractor as an area where smoking is allowed.
- (6) Where a place of employment is an institution, a public place or a private dwelling, an employer, contractor or owner shall:
- (a) restrict worker exposure to second-hand tobacco smoke to the extent that is possible; and
  - (b) inform workers of the risk to workers' health from second-hand tobacco smoke.
- (7) An employer, contractor or owner shall post signs to indicate clearly the areas of a place of employment in which smoking is permitted.

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**Lifting and handling loads**

78(1) An employer or contractor shall ensure, where reasonably practicable, that suitable equipment is provided and used for the handling of heavy or awkward loads.

(2) Where the use of equipment is not reasonably practicable, an employer or contractor shall take all practicable means to adapt heavy or awkward loads to facilitate lifting, holding or transporting by workers or to otherwise minimize the manual handling required.

(3) An employer or contractor shall ensure that no worker engages in the manual lifting, holding or transporting of a load that, by reason of its weight, size or shape, or by any combination of these or by reason of the frequency, speed or manner in which the load is lifted, held or transported, is likely to be injurious to the worker's health or safety.

(4) An employer or contractor shall ensure that a worker who is to engage in the lifting, holding or transporting of loads receives appropriate training in safe methods of lifting, holding or carrying of loads.

4 Oct 96 cO-1.1 Reg 1 s78.

**Standing**

79(1) Where workers are required to stand for long periods in the course of their work, an employer or contractor shall provide adequate anti-fatigue mats, footrests or other suitable devices to give relief to workers.

(2) Where wet processes are used, an employer or contractor shall ensure that reasonable drainage is maintained and that false floors, platforms, mats or other dry standing places are provided, maintained and kept clean.

4 Oct 96 cO-1.1 Reg 1 s79.

**Sitting**

80(1) Where, in the course of their work, workers have reasonable opportunities for sitting without substantial detriment to their work, an employer or contractor shall provide and maintain for their use appropriate seating to enable the workers to sit.

(2) Where a substantial portion of any work can properly be done sitting, an employer or contractor shall provide and maintain:

(a) a seat that is suitably designed, constructed, dimensioned and supported for the worker to do the work; and

(b) where needed, a footrest that can readily and comfortably support the worker's feet.

4 Oct 96 cO-1.1 Reg 1 s80.

**Musculoskeletal injuries**

81(1) In this section, "**musculoskeletal injury**" means an injury or disorder of the muscles, tendons, ligaments, nerves, joints, bones or supporting vasculature that may be caused or aggravated by any of the following:

(a) repetitive motions;

(b) forceful exertions;

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- (c) vibration;
  - (d) mechanical compression;
  - (e) sustained or awkward postures;
  - (f) limitations on motion or action;
  - (g) other ergonomic stressors.
- (2) An employer or contractor, in consultation with the committee, shall regularly review the activities at the place of employment that may cause or aggravate musculoskeletal injuries.
- (3) Where a risk of musculoskeletal injury is identified, an employer or contractor shall:
- (a) inform each worker who may be at risk of developing musculoskeletal injury of that risk and of the signs and common symptoms of any musculoskeletal injury associated with that worker's work; and
  - (b) provide effective protection for each worker who may be at risk, which may include any of the following:
    - (i) providing equipment that is designed, constructed, positioned and maintained to reduce the harmful effects of an activity;
    - (ii) implementing appropriate work practices and procedures to reduce the harmful effects of an activity;
    - (iii) implementing work schedules that incorporate rest and recovery periods, changes in workload or other arrangements for alternating work to reduce the harmful effects of an activity.
- (4) An employer or contractor shall ensure that workers who may be at risk of developing musculoskeletal injury are instructed in the safe performance of the worker's work, including the use of appropriate work practices and procedures, equipment and personal protective equipment.
- (5) Where a worker has symptoms of musculoskeletal injury, an employer or contractor shall:
- (a) advise the worker to consult a physician or a health care professional who is registered or licensed pursuant to an Act to practise any of the healing arts; and
  - (b) promptly review the activities of that worker and of other workers doing similar tasks to identify any cause of the symptoms and to take corrective measures to avoid further injuries.

4 Oct 96 cO-1.1 Reg 1 s82.

**Shift work and constant effort and exertion**

**82** Where a worker works shifts or a worker's work demands constant and uninterrupted mental effort or constant and uninterrupted physical exertion, an employer or contractor, in consultation with the committee, shall:

- (a) assess the risks to the worker's health and safety of the worker's work; and

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(b) inform the worker of the nature and extent of the risks mentioned in clause (a) and the ways to eliminate or reduce those risks.

4 Oct 96 cO-1.1 Reg 1 s82.

**Visually demanding tasks**

83(1) An employer or contractor, in consultation with the committee, shall identify any tasks that involve a potentially harmful visual demand on a worker.

(2) An employer or contractor:

(a) shall take all practicable steps to reduce the harmful visual demand of those tasks;

(b) shall inform the worker of the risk of performing those tasks;

(c) shall advise the worker to consult a physician or an optometrist if any persistent vision impairment, disability or visual strain results from performing the tasks;

(d) where a worker cannot attend a consultation mentioned in clause (c) during the worker's time off work, shall permit the worker to attend the consultation during normal working hours without loss of pay or other benefits; and

(e) where a worker cannot recover the costs of a consultation mentioned in clause (c), shall reimburse the worker for the costs of the consultation that, in the opinion of the director, are reasonable.

4 Oct 96 cO-1.1 Reg 1 s83.

**Radioactive substances**

84(1) Subject to *The Radiation Health and Safety Act, 1985* and *The Radiation Health and Safety Regulations*, where a radioactive substance or a device containing a radioactive substance is handled, used, stored or disposed of, an employer:

(a) in consultation with the committee, the representative or, where there is no committee or representative, the workers, shall develop safe work practices and procedures to handle, use, store and dispose of radioactive substances or devices containing radioactive substances; and

(b) on request, shall make available to the committee, the representative or the workers any licence issued to the employer pursuant to the *Atomic Energy Control Act (Canada)*.

(2) An employer shall ensure that the safe work practices and procedures developed pursuant to clause (1)(a) are implemented.

4 Oct 96 cO-1.1 Reg 1 s84.

**Exposure to infectious materials, organisms**

85(1) In this section:

(a) “**expose**” means harmful contact through inhalation, ingestion or absorption through the skin;

(b) “**infectious material or organism**” means an infectious material or organism set out in Table 14 of the Appendix.

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(2) Where workers are required to handle, use or produce an infectious material or organism or are likely to be exposed to an infectious material or organism at a place of employment, an employer, in consultation with the committee, shall develop a written plan that:

- (a) identifies any workers at the place of employment who may be exposed to infectious materials or organisms;
- (b) describes the ways in which an infectious material or organism can enter the body of a worker and the risks associated with that entry;
- (c) describes the signs and symptoms of any disease that may arise from exposure to an infectious material or organism to which a worker may be exposed at the place of employment;
- (d) describes infection control measures, including the following, and their limitations:
  - (i) vaccination;
  - (ii) engineering controls;
  - (iii) personal protective equipment;
  - (iv) safe work practices and procedures; and
  - (v) the use of universal blood and body fluid precautions where there is a risk of worker exposure to blood or potentially infectious body fluids;
- (e) sets out procedures to be followed where:
  - (i) there has been a spill or leak of an infectious material or organism;
  - (ii) a worker has been exposed to an infectious material or organism; or
  - (iii) a worker believes that he or she has been exposed to an infectious material or organism;
- (f) sets out methods of cleaning, disinfecting or disposing of clothing, personal protective equipment or other equipment contaminated with an infectious material or organism to be followed and indicates who is responsible for carrying out those activities;
- (g) describes the training that will be provided to workers who may be exposed to infectious materials or organisms and the means by which this training will be provided;
- (h) requires the investigation and documentation of any work-related exposure incident, including the route of exposure and the circumstances under which the exposure occurred; and
- (i) requires the investigation of any occurrence of an occupationally transmitted infection or infectious disease to identify the route of exposure and to implement measures to prevent further infection.

(3) An employer shall implement a plan developed pursuant to subsection (2).

(4) An employer, in consultation with the committee, shall review the adequacy of a plan required by subsection (2) at least every two years and amend the plan where necessary.

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- (5) An employer shall:
- (a) make a copy of a plan required by subsection (2) and any amendments to that plan available to every worker who may be exposed to an infectious material or organism;
  - (b) inform workers who may be exposed to an infectious material or organism of:
    - (i) any vaccine recommended for workers for that risk in the *Canadian Immunization Guide* published by Health and Welfare Canada and by:
      - (A) a medical health officer appointed pursuant to *The Public Health Act* or a designated public health officer within the meaning of *The Public Health Act, 1994* whose powers and responsibilities include those set out in Part IV of *The Public Health Act, 1994*; or
      - (B) a physician with expertise in immunization or the control of communicable diseases; and
    - (ii) the risks associated with taking a vaccine mentioned in subclause (i);
  - (c) with the worker's consent, arrange for a worker to receive any vaccination recommended pursuant to subclause (b)(i) during the worker's normal working hours and reimburse the worker for any costs associated with receiving the vaccination; and
  - (d) where a worker cannot receive a vaccination mentioned in clause (b) during the worker's normal working hours, credit the worker's attendance for the vaccination as time at work and ensure that the worker does not lose any pay or other benefits.
- (6) Where a worker has been exposed to blood or potentially infectious body fluids at a place of employment, an employer shall, on the request of the worker, arrange for confidential post-exposure counselling, medical evaluation or medical intervention to be provided during the worker's normal working hours by a qualified person in a manner that is acceptable to the Department of Health.
- (7) Where a worker cannot receive post-exposure counselling, medical evaluation or medical intervention during the worker's normal working hours, an employer shall credit the worker's attendance for counselling, evaluation or intervention as time at work and shall ensure that the worker does not lose any pay or other benefits.

4 Oct 96 cO-1.1 Reg 1 s85; 31 Jan 97 SR 6/97  
s5.

## PART VII

### Personal Protective Equipment

#### Use of equipment required

**86(1)** Where it is not reasonably practicable to protect the health and safety of workers by design of the plant and work processes, suitable work practices or administrative controls, an employer or contractor shall ensure that every worker wears or uses suitable and adequate personal protective equipment.

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(2) Where personal protective equipment will not effectively protect a worker, an employer or contractor shall, where reasonably practicable, provide alternative work arrangements for that worker.

4 Oct 96 cO-1.1 Reg 1 s86.

**General responsibilities**

**87(1)** Where an employer or contractor is required by these regulations or any other regulations made pursuant to the Act to provide personal protective equipment, the employer or contractor shall:

- (a) supply approved personal protective equipment to the workers at no cost to the workers;
- (b) ensure that the personal protective equipment is used by the workers;
- (c) ensure that the personal protective equipment is at the worksite before work begins;
- (d) ensure that the personal protective equipment is stored in a clean, secure location that is readily accessible to workers;
- (e) ensure that each worker is aware of the location of the personal protective equipment and trained in its use;
- (f) inform the workers of the reasons why the personal protective equipment is required to be used and of the limitations of its protection; and
- (g) ensure that personal protective equipment provided to a worker:
  - (i) is suitable and adequate and a proper fit for that worker;
  - (ii) is maintained and kept in a sanitary condition; and
  - (iii) is removed from use or service when damaged.

(2) Where an employer or contractor requires a worker to clean and maintain personal protective equipment, the employer shall ensure that the worker has adequate time during normal working hours without loss of pay or other benefits for this purpose.

(3) Where reasonably practicable, an employer or contractor shall make appropriate adjustments to the work procedures and the rate of work to eliminate or reduce the danger or discomfort to the worker that may arise from the worker's use of personal protective equipment.

(4) A worker who is provided with personal protective equipment by an employer or contractor shall:

- (a) use the personal protective equipment; and
- (b) take reasonable steps to prevent damage to the personal protective equipment.

(5) Where personal protective equipment provided to a worker becomes defective or otherwise fails to provide the protection it was intended for, the worker shall:

- (a) return the personal protective equipment to the employer or contractor; and



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(b) inform the employer or contractor of the defect or other reason why the personal protective equipment does not provide the protection that it was intended to provide.

(6) An employer or contractor shall immediately repair or replace any personal protective equipment returned to the employer or contractor pursuant to clause (5)(a).

4 Oct 96 cO-1.1 Reg 1 s87.

**Respiratory protective devices**

**88(1)** Where a worker is likely to be exposed to dust, fumes, gas, mist, aerosol or vapour or any contaminant that may be present in any amounts that are harmful or offensive to the worker, an employer or contractor shall:

(a) provide a suitable and adequate approved respiratory protective device for use by the worker with a facepiece that is the proper size and, where a tight fit is essential to the proper functioning of the respiratory protective device, makes an effective seal to the facial skin of the worker;

(b) ensure that the respiratory protective device is regularly cleaned and maintained in an approved manner; and

(c) ensure that the respiratory protective device is kept, when not in use, in a convenient and sanitary location in which the respiratory protective device is not exposed to extremes of temperature or to any contaminant that may inactivate the respiratory protective device.

(2) An employer or contractor shall ensure that a worker who is required to use a respiratory protective device:

(a) is adequately trained by a competent person in the proper testing, maintenance, use and cleaning of the respiratory protective device and in its limitations;

(b) demonstrates that the worker:

(i) understands the training provided pursuant to clause (a);

(ii) can test, maintain and clean the respiratory protective device; and

(iii) can use the respiratory protective device safely; and

(c) tests the respiratory protective device before each use.

(3) The training required by clause (2)(a) must include practical experience by the worker in an uncontaminated environment.

(4) Where respiratory protective devices are used only for emergency purposes, an employer or contractor shall ensure that a worker who may be required to use a respiratory protective device is given semi-annual refresher training in its safe use.

4 Oct 96 cO-1.1 Reg 1 s88; 31 Jan 97 SR 6/97  
s6.**Inspection of respiratory protective devices**

**89** An employer or contractor shall ensure that:

(a) any respiratory protective device for emergency use is thoroughly inspected by a competent person at least once a month and after each use;

- (b) the date of every inspection made pursuant to clause (a) and the name of the person who made the inspection are recorded and conspicuously displayed at the location where the respiratory protective device is stored; and
- (c) any defects identified during the inspection carried out pursuant to clause (a) are corrected immediately by a competent person.

4 Oct 96 cO-1.1 Reg 1 s89.

**Working in dangerous atmospheres**

**90(1)** Where a worker is required to enter an atmosphere that is immediately dangerous to the life or health of the worker, an employer or contractor shall ensure that the worker is provided with and uses an approved atmosphere-supplying respirator that is:

- (a) an open-circuit SCBA that:
  - (i) operates in a pressure demand or other positive pressure mode;
  - (ii) has a minimum rated capacity of 30 minutes;
  - (iii) is sufficiently charged to enable the worker to perform the work safely; and
  - (iv) is equipped with a low-pressure warning device or an escape respirator;
- (b) an airline respirator equipped with a full facepiece that:
  - (i) operates in a pressure demand or other positive pressure mode; and
  - (ii) has an auxiliary supply of air sufficient to allow the worker to escape in case of failure of the primary air supply equipment; or
- (c) a closed-circuit SCBA.

(2) Where a worker is required to enter an atmosphere that is immediately dangerous to life or health, an employer or contractor shall ensure that:

- (a) a second worker, suitably equipped and trained, is present and in communication with the worker at all times; and
- (b) suitably equipped personnel who are trained in rescue procedures and are fully informed of the hazards are readily available to rescue the endangered worker immediately if the worker's atmosphere-supplying respirator fails or the worker becomes incapacitated for any other reason.

(3) An employer or contractor shall ensure that compressed air in an atmosphere-supplying respirator used by a worker in an atmosphere that is immediately dangerous to the worker's life or health meets the purity requirements set out in Table 2 of the Canadian Standards Association standard CAN3-Z180.1-M85 *Compressed Breathing Air and Systems*.

4 Oct 96 cO-1.1 Reg 1 s90.

**Protective headwear**

**91(1)** Where there is a risk of injury to the head of a worker, an employer or contractor shall provide approved industrial protective headwear and require a worker to use it.

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- (2) The following places are deemed to be places where a worker is exposed to a risk described in subsection (1):
- (a) a mine, mill or smelter;
  - (b) a forestry or sawmilling operation;
  - (c) a construction site;
  - (d) a drilling operation;
  - (e) an oil or gas servicing operation.
- (3) Where a worker may contact an exposed energized electrical conductor, an employer or contractor shall provide, and require the worker to use, approved industrial protective headwear that is of adequate dielectric strength to protect the worker.
- (4) Where a worker is required by these regulations to use industrial protective headwear, an employer or contractor shall provide to the worker:
- (a) a suitable liner where it is necessary to protect the worker from cold conditions; and
  - (b) a retention system to secure the industrial protective headwear firmly to the worker's head where the worker is likely to work in conditions that may cause the headwear to dislodge.
- (5) An employer or contractor shall ensure that any industrial protective headwear provided to a worker pursuant to these regulations is fluorescent orange or other high visibility colour where:
- (a) the worker is working in a forestry or sawmilling operation; or
  - (b) visibility of the worker is necessary to protect the health and safety of the worker.
- (6) An employer or contractor shall not require or permit a worker to use any industrial protective headwear that:
- (a) is damaged or structurally modified;
  - (b) has been subjected to severe impact; or
  - (c) has been painted or has been cleaned with solvents.

4 Oct 96 cO-1.1 Reg 1 s91.

**Workers using all terrain vehicles, snowmobiles, etc.****92(1)** In this section:

- (a) **“all terrain vehicle”** means an all terrain vehicle as defined in *The All Terrain Vehicles Act*;
  - (b) **“snowmobile”** means a snowmobile as defined in *The Snowmobile Act*;
  - (c) **“towed conveyance”** means any sled, cutter, trailer, toboggan or carrier that may be towed by a snowmobile or an all terrain vehicle.
- (2) An employer or contractor shall ensure that every worker who is required or permitted to travel in or on an all terrain vehicle, a snowmobile or a towed conveyance is provided with and required to use:
- (a) approved protective headgear; and

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- (b) approved eye or face protectors if the all terrain vehicle, snowmobile or towed conveyance does not have an enclosed cab.
- (3) Subsection (2) does not apply where:
  - (a) the all terrain vehicle is equipped with roll-over protective structures and enclosed by a cab that is an integral part of the vehicle; and
  - (b) the worker is provided with a seat-belt secured to the vehicle and is required to use it.
- (4) Where a worker is required by these regulations to use protective headgear while working in cold conditions, the headgear must be equipped with a suitable liner and a cold weather face guard.

4 Oct 96 cO-1.1 Reg 1 s92.

**Eye and face protectors**

- 93(1)** Where there is a risk of irritation or injury to the face or eyes of a worker from flying objects or particles, splashing liquids, molten metal or ultraviolet, visible or infrared radiation, an employer or contractor shall provide industrial eye or face protectors and require the worker to use them.
- (2) Where an industrial eye or face protector is required by these regulations to be provided or used, the industrial eye or face protector must be approved.
- (3) An employer or contractor shall take all reasonable steps to ensure that a worker does not perform electric arc welding if another worker may be exposed to radiation from the arc, unless the other worker is using a suitable industrial eye protector or is protected from the radiation by a suitable screen.
- (4) A worker shall not perform electric arc welding if another worker may be exposed to radiation from the arc, unless the other worker is using a suitable industrial eye protector or is protected from the radiation by a suitable screen.

4 Oct 96 cO-1.1 Reg 1 s93.

**Skin protection**

- 94** Where there is a risk of injury to the skin of a worker from sparks, molten metal or radiation, an employer or contractor shall provide, and require the worker to use, approved protective clothing or covers or any other safeguard that provides equivalent protection for the worker.

4 Oct 96 cO-1.1 Reg 1 s94.

**Lower body protection**

- 95(1)** Where a worker is at risk of a cut, puncture, irritation or abrasion to the worker's lower body, an employer or contractor shall ensure that the worker uses safety pants or chaps that are appropriate for the work being performed by the worker.
- (2) A worker operating a chain saw is deemed to be exposed to the risk described in subsection (1).

4 Oct 96 cO-1.1 Reg 1 s95.

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**Footwear**

- 96(1)** Subject to subsection (4), an employer or contractor shall ensure that:
- (a) a worker uses footwear that is appropriate to the risks associated with the worker's place of employment and occupation; and
  - (b) a worker who may be at risk from a heavy or falling object or who may tread on a sharp object uses approved protective footwear.
- (2) The following places are deemed to be places where a worker is exposed to a risk described in clause (1)(b):
- (a) a mine, mill or smelter;
  - (b) a forestry or sawmilling operation;
  - (c) a construction site;
  - (d) a drilling operation;
  - (e) an oil or gas servicing operation.
- (3) An employer or contractor shall:
- (a) provide outer foot guards if there is substantial risk of a crushing injury to the foot of a worker; and
  - (b) provide approved protective footwear if the feet of a worker may be endangered by hot, corrosive or toxic substances.
- (4) After consultation with the committee, the representative or, where there is no committee or representative, the workers, an employer or contractor may:
- (a) permit the following to use approved soft-soled footwear without puncture-proof plates in the soles:
    - (i) workers who are competent steel erectors engaged in the connection of structural components of a skeletal structure;
    - (ii) competent workers who are engaged in the installation of a roof;and
  - (b) impose any conditions that the employer or contractor considers appropriate on the use of footwear described in clause (a).

4 Oct 96 cO-1.1 Reg 1 s96.

**Hand and arm protection**

- 97(1)** An employer or contractor shall provide, and require a worker to use, suitable and properly fitted hand or arm protection to protect the worker from injury to the hand or arm, including:
- (a) injury arising from contact with chemical or biological substances;
  - (b) injury arising from exposure to work processes that result in extreme temperatures;
  - (c) injury arising from prolonged exposure to water; and
  - (d) puncture, abrasion or irritation of the skin.

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(2) Where a worker may contact an exposed energized high voltage electrical conductor, an employer or contractor shall provide, and require the worker to use, approved rubber insulating gloves and mitts and approved rubber insulating sleeves.

4 Oct 96 cO-1.1 Reg 1 s97.

**Exposure to hazardous substances**

**98** Where workers are routinely exposed to a hazardous material or substance, an employer or contractor shall provide, and require workers to use, protective clothing, gloves and eyewear or face shields that are adequate to prevent exposure of a worker's skin and mucous membranes to the hazardous material or substance.

4 Oct 96 cO-1.1 Reg 1 s98.

**Exposure to noise**

**99(1)** Where a worker is required or permitted by these regulations to use hearing protectors, an employer or contractor shall:

- (a) provide approved hearing protectors; and
- (b) require workers to use those hearing protectors where the worker is required to use hearing protectors by these regulations.

(2) Where practicable, an employer or contractor shall ensure that a hearing protector provided pursuant to subsection (1) reduces the noise level received into the worker's ears to not more than 85 dBA.

(3) Where it is not practicable to comply with subsection (2), an employer or contractor shall ensure that a hearing protector provided pursuant to subsection (1) reduces the noise level received into the worker's ears to the lowest level that is practicable.

(4) Where an employer or contractor provides a worker with a hearing protector that depends for effectiveness on a close approximation of size or shape to the auditory canal of its user, the employer or contractor shall ensure that the hearing protector is fitted to the worker by a competent person.

4 Oct 96 cO-1.1 Reg 1 s99.

**Safety belts**

**100** Where these regulations require the use of a safety belt, an employer or contractor shall ensure that:

- (a) the safety belt and connecting linkage are approved and maintained;
- (b) the safety belt is properly fitted to the worker;
- (c) all metal parts of the safety belt and connecting linkage are of drop-forged steel 17.8 kilonewtons proof tested;
- (d) a protective thimble is used to protect ropes or straps from chafing whenever a rope or strap is connected to an eye or a D-ring used in the safety belt or connecting linkage; and
- (e) the connecting linkage is attached to a fall-arresting device, lifeline or fixed anchor to prevent the worker from falling more than 1.2 metres.

4 Oct 96 cO-1.1 Reg 1 s100.

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**Lifelines**

**101(1)** Unless otherwise specifically provided, where these regulations require the use of a lifeline, an employer or contractor shall ensure that the lifeline:

- (a) is suitable for the conditions in which the lifeline is to be used, having regard to factors including strength, abrasion resistance, extensibility and chemical stability;
- (b) is made of wire rope or synthetic material;
- (c) is free of imperfections, knots and splices, other than end terminations;
- (d) is protected by padding where the lifeline passes over sharp edges;
- (e) is protected from heat, flame or abrasive or corrosive materials during use;
- (f) is fastened to a secure anchor point that:
  - (i) has a breaking strength of at least 17.8 kilonewtons; and
  - (ii) is not used to suspend any platform or other load; and
- (g) is maintained.

(2) Unless otherwise specifically provided, an employer or contractor shall ensure that a vertical lifeline required by these regulations has a minimum diameter of:

- (a) 12 millimetres if the lifeline is made of nylon;
- (b) 15 millimetres if the lifeline is made of polypropylene; or
- (c) eight millimetres if the lifeline is made of wire rope.

(3) An employer or contractor shall ensure that where a vertical lifeline is used:

- (a) the lower end extends to the ground or to a safe landing; and
- (b) the lifeline is protected at the lower end to ensure that the line cannot be fouled by any equipment.

(4) Unless otherwise specifically provided, an employer or contractor shall ensure that a horizontal lifeline is designed and certified as safe by a professional engineer and installed and used in accordance with that design.

4 Oct 96 cO-1.1 Reg 1 s102.

**Fall-arresting devices**

**102(1)** An employer or contractor shall ensure that a fall-arresting device and connecting linkage required by these regulations is approved and maintained.

(2) An employer or contractor shall ensure that a fall-arresting device required by these regulations:

- (a) prevents a worker from falling more than 1.2 metres, excluding the increase in total fall distance resulting from the use of a shock absorber;
- (b) applies a peak fall-arrest force not greater than eight kilonewtons to a worker; and
- (c) is fastened to a lifeline or to a secure anchor point that has a breaking strength of at least 17.8 kilonewtons.

4 Oct 96 cO-1.1 Reg 1 s102.

**O-1.1 REG 1****OCCUPATIONAL HEALTH AND SAFETY, 1996****2003-2****Full-body harness**

**103** Where a full-body harness is required by these regulations, an employer or contractor shall ensure that:

- (a) the full-body harness and connecting linkage are approved and maintained;
- (b) the full-body harness is properly fitted to the worker;
- (c) the worker is trained in the safe use of the full-body harness; and
- (d) the worker inspects the full-body harness daily or before each use.

4 Oct 96 cO-1.1 Reg 1 s103.

**Snap hooks on safety belts, etc.**

**104** Where a snap hook is used as an integral component of a safety belt, connecting linkage, fall-arresting device, full-body harness or lifeline, an employer or contractor shall ensure that the snap hook is self-locking and is approved and maintained.

4 Oct 96 cO-1.1 Reg 1 s104.

**Lanyards**

**105** An employer or contractor shall ensure that a lanyard:

- (a) is as short as work conditions permit;
- (b) is constructed of:
  - (i) nylon, polyester or polypropylene rope or webbing; or
  - (ii) wire rope that is equipped with an approved shock absorbing device;
- (c) is equipped with suitable snap hooks; and
- (d) is approved and maintained.

4 Oct 96 cO-1.1 Reg 1 s105.

**Workers' responsibilities re lifelines, etc.**

**106(1)** Before using a lifeline or lanyard, a worker shall ensure that the lifeline or lanyard:

- (a) is free of imperfections, knots and splices, other than end terminations;
- (b) is protected by padding where the lifeline or lanyard passes over sharp edges; and
- (c) is protected from heat, flame or abrasive or corrosive materials during use.

(2) Before using a vertical lifeline, a worker shall ensure that:

- (a) the lower end extends to the ground or to a safe landing; and
- (b) the lifeline is protected at the lower end to ensure that the line cannot be fouled by any equipment.



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(3) Before using a safety belt or a full-body harness, a worker shall ensure that the safety belt or full-body harness:

- (a) is properly adjusted to fit the worker securely; and
- (b) subject to subsection 274(5), is attached by means of a connecting linkage to a fixed anchor or a lifeline.

(4) A worker who uses a safety belt or a full-body harness and connecting linkage shall ensure that the connecting linkage is attached to a fall-arresting device, lifeline or a fixed anchor.

4 Oct 96 cO-1.1 Reg 1 s106.

**Inspection of safety belts, etc.**

107(1) Where the use of a safety belt, connecting linkage, fall-arresting device, full-body harness or lifeline is required by these regulations, an employer or contractor shall ensure that a competent person:

- (a) inspects the safety belt, connecting linkage, fall-arresting device, full-body harness or lifeline:
  - (i) annually; and
  - (ii) after the safety belt, connecting linkage, fall-arresting device, full-body harness or lifeline has sustained fall-arresting service; and
- (b) determines whether the safety belt, connecting linkage, fall-arresting device, full-body harness or lifeline is safe for continued use.

(2) An employer or contractor shall ensure that a worker inspects the safety belt, connecting linkage, fall-arresting device, full-body harness or lifeline before each use and that where a defect or unsafe condition that may create a hazard to a worker is identified in a safety belt, connecting linkage, fall-arresting device, full-body harness or lifeline:

- (a) steps are taken 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, the defect is repaired or the unsafe condition is corrected.

4 Oct 96 cO-1.1 Reg 1 s107.

**Protection against drowning**

108(1) In this section:

- (a) **“buoyant apparatus”** means a device that is capable of supporting the weight in water of a worker and that is constructed to:
  - (i) remain stable when floating on either side;
  - (ii) have no projections that would prevent the buoyant apparatus from sliding easily over the side of a boat or ship; and
  - (iii) require no adjustment before use;

- (b) **“life jacket”** means an approved device that is capable of keeping a worker’s head above water in a face-up position without effort by the worker;
  - (c) **“personal flotation device”** means an approved device that is capable of keeping a worker’s head above water without effort by the worker, and includes a device that is designed to protect a worker against hypothermia.
- (2) Where a worker is required to work at a place from which the worker could fall and drown, and the worker is not protected by a guardrail, an employer or contractor shall:
- (a) provide the worker with a life jacket and ensure that the worker uses it, and ensure that the rescue equipment and personnel described in subsection (3) are readily available;
  - (b) provide the worker with a full-body harness and lifeline and ensure that the worker uses them; or
  - (c) ensure that a net is installed that is capable of safely catching the worker if the worker falls.
- (3) The rescue equipment and personnel required by clause (2)(a) must consist of:
- (a) a suitable boat equipped with a boat hook;
  - (b) a buoyant apparatus attached to a nylon rope that is not less than nine millimetres in diameter and not less than 15 metres long; and
  - (c) a sufficient number of properly equipped and trained workers to implement rescue procedures.
- (4) An employer or contractor shall ensure that a life jacket or personal flotation device is provided for each worker who is transported by boat or works from a boat, and that each worker uses the life jacket or personal flotation device at all times when the worker is in the boat.

4 Oct 96 cO-1.1 Reg 1 s108.

## PART VIII Noise Control and Hearing Conservation

### General duty

- 109(1)** An employer, contractor or owner shall ensure that all reasonably practicable means are used to reduce noise levels in all areas where workers may be required or permitted to work.
- (2) The means to reduce noise levels pursuant to subsection (1) may include any of the following:
- (a) eliminating or modifying the noise source;
  - (b) substituting quieter equipment or processes;
  - (c) enclosing the noise source;
  - (d) installing acoustical barriers or sound-absorbing materials.

4 Oct 96 cO-1.1 Reg 1 s109.

**Noise reduction through design, construction of buildings**

**110** On and after July 1, 1997, an employer, contractor or owner shall ensure that:

- (a) all new places of employment are designed and constructed so as to achieve the lowest reasonably practicable noise level;
- (b) any alteration, renovation or repair to an existing place of employment is made so as to achieve the lowest reasonably practicable noise level; and
- (c) all new equipment to be used at a place of employment is designed and constructed so as to achieve the lowest reasonably practicable noise level.

4 Oct 96 cO-1.1 Reg 1 s110.

**Measurement of noise levels**

**111(1)** In every area where workers are required or permitted to work and the noise level may frequently exceed 80 dBA, an employer or contractor shall ensure that:

- (a) the noise level is measured in accordance with an approved method;
- (b) in consultation with the committee, the representative or, where there is no committee or representative, the workers, a competent person evaluates the sources of the noise and recommends corrective action; and
- (c) the measurements, evaluation and recommendations are documented.

(2) An employer or contractor shall re-measure the noise level in accordance with subsection (1) where altering, renovating or repairing the place of employment, introducing new equipment to the place of employment or modifying any process at the place of employment may result in a significant change in noise levels or occupational noise exposure.

(3) An employer or contractor shall keep a record of the results of any noise level measurements conducted at the place of employment as long as the employer or contractor operates in Saskatchewan.

(4) On request, an employer or contractor shall make available to an affected worker a copy of the results of any measurements conducted.

(5) An employer or contractor shall ensure that any area in which the measurements taken pursuant to subsection (1) show noise levels in excess of 80 dBA is clearly marked by a sign indicating the range of noise levels.

4 Oct 96 cO-1.1 Reg 1 s111.

**Hearing protection required**

**112** Where a worker's occupational noise exposure is or is believed to be between 80 dBA  $L_{ex}$  and 85 dBA  $L_{ex}$ , an employer or contractor shall:

- (a) inform the worker of the hazards of occupational noise exposure;
- (b) on the request of the worker, make available to the worker hearing protectors that meet the requirements of section 99; and
- (c) train the worker in the selection, use and maintenance of the hearing protectors.

4 Oct 96 cO-1.1 Reg 1 s112.

**Daily exposure greater than 85 dBA  $L_{ex}$** 

113(1) Where a worker's occupational noise exposure equals or exceeds 85 dBA  $L_{ex}$ , an employer or contractor shall:

- (a) inform the worker of the hazards of occupational noise exposure;
- (b) take all reasonably practicable steps to reduce noise levels in all areas where the worker may be required or permitted to work;
- (c) minimize the worker's occupational noise exposure to the extent that is reasonably practicable; and
- (d) document the steps taken pursuant to clauses (b) and (c).

(2) Where, in the opinion of the employer or contractor, it is not reasonably practicable to reduce noise levels or minimize the worker's occupational noise exposure to less than 85 dBA  $L_{ex}$ , an employer or contractor shall provide written reasons for that opinion to the committee and, where there is no committee, shall inform the workers of the reasons for that opinion.

(3) Where it is not reasonably practicable to reduce a worker's occupational noise exposure below 85 dBA  $L_{ex}$  or the noise level below 90 dBA in any area where a worker may be required or permitted to work, an employer or contractor shall:

- (a) provide a hearing protector to the worker that meets the requirements of section 99;
- (b) train the worker in the selection, use and maintenance of the hearing protector; and
- (c) arrange for the worker to have, at least once every 24 months during the worker's normal working hours, an audiometric test and appropriate counselling based on the test results under the direction of a physician, an audiologist or a registered nurse who has a certificate in audiometric testing.

(4) Where a worker cannot attend an audiometric test mentioned in clause (3)(c) during the worker's normal working hours, an employer or contractor shall credit the worker's attendance at the test as time at work and ensure that the worker does not lose any pay or other benefits.

(5) Where a worker cannot recover the costs of a audiometric test mentioned in clause (3)(c), an employer or contractor shall reimburse the worker for the costs of the test that, in the opinion of the director, are reasonable.

4 Oct 96 cO-1.1 Reg 1 s113.

**Hearing conservation plan**

114(1) Where 10 or more workers' occupational noise exposure exceeds or is believed to exceed 85 dBA  $L_{ex}$ , an employer or contractor shall, in consultation with the committee:

- (a) develop a hearing conservation plan; and
- (b) review and, where necessary, revise the hearing conservation plan every three years.

(2) An employer or contractor shall implement a hearing conservation plan developed pursuant to subsection (1) and appoint a supervisor to oversee the plan.

- (3) A hearing conservation plan must be in writing and must include:
- (a) the methods and procedures to be used in assessing the occupational noise exposure of workers;
  - (b) the methods of noise control to be used, including engineering controls and administrative arrangements;
  - (c) the selection, use and maintenance of hearing protectors;
  - (d) a plan to train workers in the hazards of excessive exposure to noise and the correct use of control measures and hearing protectors;
  - (e) the maintenance of exposure records;
  - (f) the requirements for audiometric tests; and
  - (g) a schedule for reviewing the hearing conservation plan and procedures for conducting the review.
- (4) An employer or contractor shall make a copy of a hearing conservation plan readily available for reference by workers.

4 Oct 96 cO-1.1 Reg 1 s114.

## PART IX Safeguards, Storage, Warning Signs and Signals

### Interpretation

**115** In this Part, “**toeboard**” means a low vertical guard that is located at the outer edge of a platform, scaffold, floor, stair or walkway and that is designed to prevent materials or equipment from falling over the edge.

4 Oct 96 cO-1.1 Reg 1 s115.

### Protection against falling

**116(1)** Where a worker may fall in the circumstances described in subsection (2), an employer, contractor or owner shall:

- (a) install a guardrail;
  - (b) install a safety net; or
  - (c) provide and require workers to use:
    - (i) a fall-arresting device that meets the requirements of Part VII; and
    - (ii) a lifeline, connecting linkage and full-body harness that meet the requirements of Part VII.
- (2) Subsection (1) applies where a worker may fall:
- (a) a vertical distance of:
    - (i) more than three metres, in the case of a temporary installation; or
    - (ii) more than 1.2 metres, in the case of a permanent installation;

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- (b) into any hazardous substance or material; or
  - (c) on any operating machine.
- (3) Subsection (1) does not apply to competent workers who are engaged in:
- (a) the application of roofing materials or in repairing a roof, where the slope of the roof is at an angle not steeper than three horizontal to one vertical, or 18° measured from the horizontal, and all the workers have received instruction in the hazards of that work;
  - (b) connecting the structural members of a skeletal steel structure or a pre-cast structure;
  - (c) connecting the support structure of a scaffold; or
  - (d) stabilizing or securing the load on a truck or trailer.
- (4) Where it is not practicable for a worker to use the personal protective equipment required pursuant to clause (1)(c), an employer, contractor or owner shall:
- (a) develop work procedures to ensure that the work can be performed safely; and
  - (b) provide, and require workers to use, a travel limiting device or work-positioning device consisting of a safety belt or a safety belt and lanyard that meet the requirements of Part VII.

4 Oct 96 cO-1.1 Reg 1 s116.

**Elevated conveyors**

**117** Where an elevated conveyor crosses over a place where a worker may pass or work, an employer, contractor or owner shall ensure that suitable precautions are taken to prevent materials on the conveyor from falling on the worker.

4 Oct 96 cO-1.1 Reg 1 s117.

**Wire mesh**

**118** Where wire mesh is required by these regulations, the wire mesh must:

- (a) be made from wire that is at least 1.6 millimetres in diameter; and
- (b) have a mesh size that is not greater than 40 millimetres by 40 millimetres.

4 Oct 96 cO-1.1 Reg 1 s118.

**Protection against falling objects**

**119(1)** Subject to section 120, where a worker is required to work in an area where the worker may be in danger from a falling object, an employer, contractor or owner shall ensure that the worker is adequately protected by the installation of an overhead barrier.

(2) An employer, contractor or owner shall ensure that every area where a worker could be struck by a falling object is clearly marked by barriers, notices, warning lights or other warning devices.

4 Oct 96 cO-1.1 Reg 1 s119.

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**Protection from objects falling from scaffolds, etc.**

**120(1)** Where a suspended scaffold, suspended powered scaffold or load-carrying unit is suspended from or attached to a structure, an employer, contractor or owner shall ensure that wire mesh, or other material equally effective to prevent objects from falling from the working surface, is installed from the working surface to a height of at least 900 millimetres on all sides except the side adjacent to the structure.

(2) An employer, contractor or owner shall ensure that wire mesh is installed from the working surface of a platform to a height of two metres on all sides of:

- (a) a tower hoist as defined in section 199;
- (b) a building shaft hoist; and
- (c) a hoist cage in an excavated shaft.

(3) Where it is necessary to hoist or lower materials that are of such a nature that the sides of a cantilever hoist platform or skip cannot be equipped as required by subsection (1), an employer, contractor or owner shall provide another equally effective means for the protection of workers against falling materials.

(4) Where it is necessary for workers to pass through a safeguard required by this section, an employer, contractor or owner shall install a gate that is equally effective to prevent objects from falling from the working surface and shall ensure that the gate is kept closed except when the gate is in use.

4 Oct 96 cO-1.1 Reg 1 s120.

**Handrails**

**121(1)** An employer, contractor or owner shall ensure that a stairway with five or more treads:

- (a) is equipped with a handrail that:
  - (i) extends the entire length of the stairway;
  - (ii) is adequately secured to the structure;
  - (iii) is installed on the stairway at a height of between 800 and 920 millimetres above the front edge of the treads; and
  - (iv) is strong enough to support a worker who falls on the stairway; and
- (b) on an open side, is equipped with both a handrail and an intermediate rail or equivalent safeguard.

(2) Where a handrail is required for a temporary stairway to which subsection (1) applies, an employer, contractor or owner shall ensure that the handrail is constructed of at least 38 by 89 millimetre construction grade lumber, or material of equivalent strength, and is supported by posts that are not more than three metres apart.

4 Oct 96 cO-1.1 Reg 1 s121.

**Guardrails**

122(1) Subject to subsections (2) to (4), where the installation of a guardrail is required by these regulations, an employer, contractor or owner shall ensure that the guardrail:

- (a) has a horizontal top member that is not less than 920 millimetres and not more than 1070 millimetres above the working surface;
  - (b) has a horizontal intermediate member that is spaced midway between the horizontal top member and the working surface;
  - (c) is supported for the entire length of the guardrail by vertical members that are:
    - (i) not more than three metres apart, in the case of a guardrail installed before the coming into force of this section; and
    - (ii) where reasonably practicable, not more than 2.4 metres apart, in the case of a guardrail installed on or after the coming into force of this section;
  - (d) is capable of supporting a worker who may fall against the guardrail; and
  - (e) is constructed of 38 by 89 millimetre construction grade lumber or other materials that are of equal or greater strength.
- (2) Clause (1)(a) does not apply to a guardrail that:
- (a) was installed on or before October 30, 1988; and
  - (b) is not less than 900 millimetres nor more than one metre above the working surface.
- (3) A horizontal intermediate member is not required in the case of a temporary guardrail that is manufactured with a substantial barrier completely filling the area enclosed by the horizontal top member, a horizontal bottom member and the vertical members.
- (4) A wire rope guardrail may be used at the external perimeter of a building under construction.
- (5) Where a wire rope guardrail is used pursuant to subsection (4), an employer, contractor or owner shall ensure that:
- (a) the guardrail consists of a horizontal top member and a horizontal intermediate member made of wire rope that is not less than 9.5 millimetres in diameter, with vertical separators not less than 50 millimetres wide that are spaced at intervals not exceeding 2.4 metres;
  - (b) the horizontal top member and horizontal intermediate member are positioned above the working surface in accordance with clauses (1)(a) and (b);
  - (c) the guardrail is kept taut by means of a turnbuckle or other appropriate device; and
  - (d) the guardrail is arranged so that a worker coming into contact with the ropes cannot fall through the ropes.
- (6) An employer, contractor or owner shall ensure that no worker hangs equipment on a guardrail.



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**Toeboards**

123(1) An employer, contractor or owner shall provide toeboards at the edge of:

- (a) a permanent floor, platform, mezzanine, walkway, ramp, runway or other surface from which it is possible for materials to fall more than 1.2 metres;
- (b) a temporary scaffold or work platform from which it is possible for materials to fall more than three metres; and
- (c) a pit for a flywheel or pulley.

(2) Subsection (1) does not apply to a loading or unloading area if the employer, contractor or owner has taken other precautions to ensure that materials will not fall from the floor or other horizontal surface.

(3) Where a toeboard is required by these regulations, an employer, contractor or owner shall ensure that the toeboard extends from the floor or other horizontal surface to a height of not less than:

- (a) 125 millimetres from the floor or surface; or
- (b) 100 millimetres from the floor or surface, in the case of a toeboard that was installed before March 13, 1986.

4 Oct 96 cO-1.1 Reg 1 s123.

**Openings in floors, roofs, etc.**

124(1) An employer, contractor or owner shall ensure that any opening or hole in a floor, roof or other work surface into which a worker could step or fall is:

- (a) covered with a securely installed covering that is capable of supporting a load of 360 kilograms per square metre and that is provided with a warning sign or permanent marking clearly indicating the nature of the hazard; or
- (b) provided with a guardrail and a toeboard.

(2) Where the covering or guardrail and toeboard mentioned in subsection (1) or any part of the guardrail or toeboard is removed for any reason, an employer, contractor or owner shall immediately provide an effective alternative means of protection.

4 Oct 96 cO-1.1 Reg 1 s124.

**Building shafts**

125(1) An employer, contractor or owner shall ensure that a work platform that is an integral part of a slip form used in a building shaft is designed by a professional engineer to withstand the maximum foreseeable load and is constructed, erected and used in accordance with that design.

(2) An employer, contractor or owner shall ensure that a platform mentioned in subsection (1) that has been moved is examined by a competent person and that a written report of the examination is made by the person who carried it out and kept by the employer, contractor or owner.

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- (3) An employer, contractor or owner shall not require or permit a worker to work on a platform mentioned in subsection (1) that has been moved before the platform has been examined in accordance with subsection (2), unless the worker is using a fall-arresting device, a full-body harness and a lifeline or lanyard that meet the requirements of Part VII.
- (4) Where there is no work platform installed at the level of a doorway or opening in a building shaft, an employer, contractor or owner shall ensure that the doorway or opening is covered by a solid barrier that extends from the bottom of the doorway or opening to a height of at least two metres and is capable of preventing a worker or loose material from falling down the shaft.
- (5) An employer, contractor or owner shall ensure that at least one warning sign indicating the presence of an open building shaft is placed on a barrier erected pursuant to subsection (4).

4 Oct 96 cO-1.1 Reg 1 s125.

**Safety nets**

**126** Where a safety net is required by these regulations, an employer, contractor or owner shall ensure that the safety net:

- (a) is manufactured from rope that is at least:
  - (i) eight millimetres in diameter; and
  - (ii) equivalent in breaking strength to number one grade pure manilla rope nine millimetres in diameter;
- (b) has a mesh size that is not greater than 150 by 150 millimetres;
- (c) has safety hooks or shackles of drop-forged steel that is 17.8 kilonewtons proof tested;
- (d) has joints between the net panels that are equal in strength to the net;
- (e) extends at least two metres beyond, and is not more than six metres below, the work area; and
- (f) is installed and maintained so that, at the maximum deflection of the net when arresting the fall of a worker, no portion of the net contacts another surface.

4 Oct 96 cO-1.1 Reg 1 s126.

**Storage tanks**

**127(1)** Where a worker is regularly required to walk or work on top of a storage tank, an employer, contractor or owner shall ensure that the storage tank is fitted with a permanent walkway with guardrails.

- (2) Where a worker is required to walk or work on top of a storage tank, an employer, contractor or owner shall ensure that any opening in the tank into which a worker may fall is guarded by a grid or other suitable means to prevent the worker from falling into the tank.

4 Oct 96 cO-1.1 Reg 1 s127.

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**Mounting of tires**

128(1) Where a worker is required to mount a tire and the maximum inflation pressure is not clearly indicated on the tire wall, an employer shall provide the worker with written instructions specifying the maximum inflation pressures for the various sizes and types of tires normally encountered and ensure that the worker follows those instructions.

(2) An employer shall ensure that a tire and the rim assembly on which the tire is to be mounted are designed and constructed to be compatible with each other.

(3) Where a worker is required to mount a tire on a split-rim assembly or a locking ring assembly, an employer shall:

(a) provide the worker with:

(i) a clamp-on type air hose, an in-line pressure gauge and a positive pressure control; and

(ii) a suitable cage or other restraining device to contain flying parts in the event of a split-rim assembly or locking ring assembly failure or tire rupture; and

(b) ensure that the worker inflates the tire from a safe position out of the immediate danger area.

(4) A worker who is mounting a tire:

(a) before commencing, shall place the tire that is to be mounted on a split rim assembly or locking ring assembly in a cage or restraining device;

(b) shall not inflate the tire in excess of the maximum pressure indicated on the tire wall or listed for the size and type of tire in the written instructions provided pursuant to subsection (1);

(c) shall use a clamp-on type air hose, an in-line pressure gauge and positive pressure control; and

(d) shall inflate the tire from a safe position out of the immediate danger area.

4 Oct 96 cO-1.1 Reg 1 s128; 31 Jan 97 SR 6/97 s7.

**Storage of materials**

129 An employer, contractor or owner shall ensure that:

(a) no material or equipment is placed, stacked or stored so as to constitute a hazard to workers; and

(b) stacked materials or containers are stabilized, if necessary, by interlocking, strapping or other effective means of restraint.

4 Oct 96 cO-1.1 Reg 1 s129.

**Pallets and storage racks**

130 An employer, contractor, owner or supplier shall ensure that:

(a) pallets are maintained in a manner that will permit safe lifting of the pallets and the pallets' loads by a forklift truck or other device; and

- (b) racks for the storage of material or equipment are:
  - (i) designed, constructed and maintained to support any load placed on the racks; and
  - (ii) erected on a firm foundation.

4 Oct 96 cO-1.1 Reg 1 s130.

#### Pressurized hoses

**131** An employer, contractor or owner shall ensure that an effective restraining device is used on a hose, pipe or connection that is under pressure if inadvertent disconnection of the hose, pipe or connection could result in danger to workers.

4 Oct 96 cO-1.1 Reg 1 s131.

#### Designated signallers

**132(1)** Where the giving of signals by a designated signaller is required by these regulations, an employer or contractor shall:

- (a) designate a worker to be the designated signaller;
  - (b) ensure that the designated signaller is sufficiently trained to carry out the signaller's duties in a manner that will ensure the signaller's safety and the safety of other workers; and
  - (c) keep a record of the training required by clause (b) and give a copy of the record to the designated signaller.
- (2) An employer or contractor shall:
- (a) provide each designated signaller with, and require the signaller to use, a high visibility vest, armllets or other high visibility clothing, whether the signaller is on a public highway or is at any other place of employment; and
  - (b) provide each designated signaller with a suitable light to signal with during hours of darkness and in conditions of poor visibility.
- (3) An employer or contractor shall:
- (a) install suitably placed signs to warn traffic of the presence of a designated signaller before the signaller begins work; and
  - (b) where reasonably practicable, install suitable overhead lights to illuminate a designated signaller effectively.
- (4) A designated signaller shall ensure that it is safe to proceed with a movement before signalling for that movement to proceed.
- (5) Where the giving of signals by a designated signaller is required by these regulations, an employer or contractor shall ensure that:
- (a) no worker other than the designated signaller gives signals to an operator except in an emergency; and
  - (b) only one designated signaller gives signals to an operator at a time.

(6) Where hand signals cannot be transmitted properly between a designated signaller and an operator, an employer or contractor shall ensure that additional designated signallers are available to effect proper transmission of signals or that some other means of communication is provided.

(7) Where two or more designated signallers are used, an employer or contractor shall ensure that the designated signallers are able to communicate effectively with each other.

4 Oct 96 cO-1.1 Reg 1 s132.

**Risk from vehicular traffic**

133(1) An employer or contractor shall ensure that a worker who is at risk from vehicular traffic, whether on a public highway or at any other place of employment, is provided with and required to use a high visibility vest, armllets or other high visibility clothing.

(2) Where there is a danger to a worker from vehicular traffic on a public highway, an employer or contractor shall develop and implement a traffic control plan, in writing, to protect the worker from traffic hazards by the use of one or more of the following:

- (a) warning signs;
- (b) barriers;
- (c) lane control devices;
- (d) flashing lights;
- (e) flares;
- (f) conspicuously identified pilot vehicles;
- (g) automatic or remote-controlled traffic control systems;
- (h) designated signallers directing traffic.

(3) An employer or contractor shall ensure that:

- (a) workers are trained in the traffic control plan developed pursuant to subsection (2); and
- (b) the traffic control plan developed pursuant to subsection (2) is made readily available for reference by workers at the place of employment.

(4) An employer or contractor shall use designated signallers to control traffic on a public highway only where other methods of traffic control are not adequate or suitable.

(5) Where designated signallers are used to control traffic on a public highway, an employer or contractor shall provide:

- (a) at least one designated signaller if:
  - (i) traffic approaches from one direction only; or
  - (ii) traffic approaches from both directions and the designated signaller and the operator of an approaching vehicle would be clearly visible to one another; and

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- (b) at least two designated signallers if traffic approaches from both directions and the designated signaller and the operator of an approaching vehicle would not be clearly visible to one another.
- (6) Where there is or may be a hazard to a worker from traffic at a place of employment other than a public highway, an employer or contractor shall develop and implement a traffic control plan to protect the worker from traffic hazards.
- (7) A traffic control plan required by subsection (6) must:
- (a) be in writing;
  - (b) be made readily available for reference by workers at the place of employment; and
  - (c) set out, where appropriate:
    - (i) the maximum allowable speed of any vehicle or class of vehicles, including powered mobile equipment, in use at the place of employment;
    - (ii) the maximum operating grades;
    - (iii) the location and type of control signs;
    - (iv) the route to be taken by vehicles or powered mobile equipment;
    - (v) the priority to be established for classes of vehicle;
    - (vi) the location and type of barriers or restricted areas; and
    - (vii) the duties of workers and the employer or contractor.
- (8) A worker who operates a vehicle or unit of powered mobile equipment at a place of employment and who does not have a clear view of the path to be travelled shall not proceed until a person who has a clear view of the path to be travelled by the vehicle or unit of powered mobile equipment signals to the worker that it is safe to proceed.
- (9) Where a provision of this section conflicts with a provision of *The Highway Traffic Act*, *The Highways and Transportation Act*, *The Vehicle Administration Act*, a regulation made pursuant to any of those Acts or a bylaw of a municipality made pursuant to *The Urban Municipality Act, 1984*, *The Rural Municipality Act, 1989* or *The Northern Municipalities Act*, the provision of the other statute, regulation or bylaw prevails.
- (10) Nothing in this section applies to a peace officer in the performance of the peace officer's duties.

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**PART X**  
**Machine Safety**

**Operation by workers**

134(1) An employer or contractor shall ensure that:

- (a) machines are operated only by a competent worker; and
  - (b) workers are informed of any risk associated with, and trained in the safe use of, the machines.
- (2) Before starting a machine, an operator shall ensure that neither the operator nor any other worker will be endangered by starting the machine.
- (3) Where a worker or a worker's clothing may contact a moving part of a machine, an employer or contractor shall ensure that the worker:
- (a) wears close-fitting clothing;
  - (b) confines or cuts short any head and facial hair; and
  - (c) does not wear dangling neckwear or jewellery, rings or other similar items.

4 Oct 96 cO-1.1 Reg 1 s134.

**Operating controls**

135(1) Where 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) Where 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) Where a worker is required to feed material into a material-forming press, punch, shear or similar machine, an employer, contractor or supplier shall:
- (a) where 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) where it is not practicable to comply with clause (a), install safeguards to prevent the worker from contacting a moving part of the machine.

4 Oct 96 cO-1.1 Reg 1 s135.

**Unattended and suspended machines**

136(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

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- (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.

4 Oct 96 cO-1.1 Reg 1 s136.

**Safeguards**

- 137(1)** Except where otherwise provided by these regulations, an employer or contractor shall provide an effective safeguard where 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) Where 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.

4 Oct 96 cO-1.1 Reg 1 s137.

**Warning systems**

- 138(1)** Where the circumstances described in subsection (2) exist, an employer or contractor shall install:
- (a) an audible alarm system that provides a warning of sufficient volume and for a sufficient period before start-up of the machine to give workers timely notice of the imminent start-up; or



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- (b) a distinctive and conspicuous visual warning system to alert workers of the imminent start-up of the machine.
- (2) Subsection (1) applies where:
  - (a) a worker may be endangered by moving machine parts when a machine is started; and
  - (b) the operator of the machine does not have a clear view from the operating position of all parts of the machine and of the surrounding area in which there is a potential danger.
- (3) An employer or contractor shall place adequate, appropriate and clearly visible warning signs at each point of access to a machine that starts automatically.

4 Oct 96 cO-1.1 Reg 1 s138.

**Locking out**

- 139(1)** Subject to section 140, before a worker undertakes the maintenance, repair, test or adjustment of a machine other than a power tool, an employer or contractor shall ensure that the machine is locked out and remains locked out during that activity if not doing so would put the worker at risk.
- (2) Before a worker undertakes the maintenance, repair, test or adjustment of a power tool, an employer or contractor shall ensure that the energy source has been isolated from the power tool, any residual energy in the power tool has been dissipated and the energy source remains isolated during that activity.
  - (3) An employer or contractor shall:
    - (a) provide a written lock-out process to each worker who is required to work on a machine to which subsection (1) applies; and
    - (b) where the lockout process uses a lock and key, issue to that worker a lock that is operable only by that worker's key and a duplicate key.
  - (4) Where the lockout process does not use a lock and key, an employer or contractor shall designate a person to co-ordinate and control the lockout process.
  - (5) Where the lockout process uses a lock and key, an employer or contractor shall designate a person to keep the duplicate key mentioned in clause (3)(b) and ensure that:
    - (a) the duplicate key is accessible only to the designated person; and
    - (b) a log book is kept to record the use of the duplicate key and the reasons for that use.
  - (6) Where it is not practicable to use a worker's key to remove a lock, an employer or contractor may permit the person designated pursuant to subsection (5) to remove the lock if the designated person:
    - (a) has determined the reason that the worker's key is not available;
    - (b) has determined that it is safe to remove the lock and activate the machine; and

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- (c) if a committee or representative is in place, has informed the co-chairpersons or the representative of the proposed use of the duplicate key before it is used.
- (7) An employer or contractor shall ensure that a designated person who is permitted to use a duplicate key pursuant to subsection (6):
- (a) records in the log book the use of the duplicate key, the reason for its use and the date of its use; and
  - (b) signs the log book each time that the duplicate key is used.
- (8) Where a central automated system controls more than one machine, an employer or contractor shall ensure that the machine to be maintained, repaired, tested or adjusted is isolated from the central system before the lock-out procedures required by subsection (3) are implemented.
- (9) Before undertaking any maintenance, repairs, tests or adjustments to a machine to which subsection (1) applies, a worker shall lock out the machine following the process mentioned in clause (3)(a).
- (10) After a lock-out device has been installed or a lockout process has been initiated, the worker who installed the first lock or initiated the process shall check the machine to ensure that the machine is inoperative.
- (11) No person shall deactivate a lockout process that does not use a lock and key except the person designated pursuant to subsection (4).
- (12) No person shall remove a lock-out device except the worker who installed the lock-out device or the designated person acting in accordance with subsection (6).

4 Oct 96 cO-1.1 Reg 1 s139.

**Cleaning, etc., of machine in motion**

**140** Where a machine, a part of a machine or material on a machine requires cleaning, lubrication or adjustment while the machine or part is in motion or under power, an employer or contractor shall develop and implement work practices and procedures that ensure that the activity is carried out in a safe manner.

4 Oct 96 cO-1.1 Reg 1 s140.

**Belts**

- 141(1)** An employer or contractor shall ensure that a permanent belt shifter is:
- (a) provided for all loose pulleys on any machine; and
  - (b) constructed so that the belt cannot creep back on to the tight pulley.
- (2) An employer or contractor shall ensure that a worker does not shift a belt on a machine by hand while the belt is in motion.

4 Oct 96 cO-1.1 Reg 1 s141.

**Air-actuated fastening tools**

**142** An employer or contractor shall ensure that a worker does not hold the trigger of an air-actuated fastening tool mechanically in the operating position unless the tool is specifically designed to be used in that manner.

4 Oct 96 cO-1.1 Reg 1 s142.

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**Explosive-actuated fastening tools**

143(1) In this section, “**explosive-actuated fastening tool**” means a machine that propels or discharges, by means of an explosive force, a fastening device to attach the fastening device on, affix the fastening device to or cause the fastening device to penetrate another object or material.

(2) An employer or contractor shall ensure that a worker who operates explosive-actuated fastening tool systems is trained in and uses safe work procedures for any explosive-actuated fastening tool that the worker may operate, including:

- (a) the selection of the appropriate tool, accessories, fastener and power load for each application;
- (b) the limitations of each type of tool, fastener and power load; and
- (c) the maintenance, inspection and use of the tool.

(3) An employer or contractor shall ensure that a worker who operates an explosive-actuated fastening tool:

- (a) does not leave the tool or explosive charges unattended;
- (b) stores the tool and explosive charges in a locked container when not in use; and
- (c) uses an industrial eye or face protector that meets the requirements of Part VII.

4 Oct 96 cO-1.1 Reg 1 s143.

**Airless spray units**

144 Where a worker is required or permitted to use an airless spray unit that is capable of operating at a pressure greater than seven megapascals, an employer or contractor shall ensure that:

- (a) the gun, the reservoir and the pump are bonded to ground with a single continuous approved bonding conductor; and
- (b) the gun is fitted with suitable tip and trigger guards.

4 Oct 96 cO-1.1 Reg 1 s144.

**Grinding machines**

145(1) An employer or contractor shall ensure that:

- (a) no abrasive wheel is operated:
  - (i) unless it is equipped with blotters installed according to the manufacturer’s recommendations and a safeguard; or
  - (ii) at a speed in excess of the manufacturer’s recommendations;
- (b) the maximum speed of each grinder shaft in revolutions per minute is permanently marked on the grinder; and
- (c) the mounting flanges for an abrasive wheel have an equal and correct diameter for the wheel.

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- (2) Where a tool rest is installed on a fixed grinder, an employer or contractor shall ensure that the tool rest is:
- (a) installed in a manner that is compatible with the work process;
  - (b) securely attached to the grinder; and
  - (c) set not more than three millimetres from the face of the wheel or below the horizontal centre line of the wheel.
- (3) An employer or contractor shall not require or permit a worker to use the sides of an abrasive wheel for grinding unless the abrasive wheel is designed for that use.
- (4) An employer or contractor shall ensure that a worker who operates a grinder:
- (a) is provided with and uses the following personal protective equipment that meets the requirements of Part VII:
    - (i) an industrial eye or face protector;
    - (ii) hand or arm protection; and
  - (b) is instructed in the potential hazards and safe use of the grinder.

4 Oct 96 cO-1.1 Reg 1 s145.

**Chain saws**

- 146(1)** An employer, contractor or supplier shall ensure that a chain saw is:
- (a) equipped with an effective chain brake or a chain and bar that is designed to minimize the possibility of a kickback; and
  - (b) designed and constructed so that the chain stops when the engine is at idle.
- (2) Where a chain saw is to be used by a worker operating from an elevated cage or basket, the width of which is less than twice the length of the chain saw, an employer or contractor shall ensure that a secondary platform is installed outside the cage or basket and is used to store the chain saw and to start the chain saw engine.
- (3) An employer or contractor shall ensure that a worker who operates a chain saw:
- (a) stops the chain while the worker is walking with the saw;
  - (b) does not operate the saw at a height that is higher than the worker's shoulder level;
  - (c) holds the saw firmly in both hands while operating the saw; and
  - (d) maintains the chain saw, cutting chain and safeguards in safe operating condition.
- (4) A worker who operates a chain saw:
- (a) shall stop the chain while the worker is walking with the saw;
  - (b) shall not operate the saw at a height that is higher than the worker's shoulder level;
  - (c) shall hold the saw firmly in both hands while operating the saw;

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- (d) shall maintain the chain saw, cutting chain and safeguards in safe operating condition; and
- (e) shall maintain the chain saw so that the chain stops when the engine is at idle.

4 Oct 96 cO-1.1 Reg 1 s146.

**Circular saws**

147(1) Subject to subsection (2), where a circular saw blade develops a crack in the outside diameter of the saw blade, an employer or contractor shall ensure that the blade is discarded unless:

- (a) the blade is effectively repaired by a competent person; and
  - (b) the original blade tension is restored.
- (2) An employer or contractor shall ensure that a circular saw blade that develops a crack from the eye or the collar is discarded.
- (3) An employer, contractor or supplier shall ensure that a portable hand-operated circular saw is equipped with a safeguard that will automatically cover the exposed part of the blade during use and the entire blade when the saw is not in use.

4 Oct 96 cO-1.1 Reg 1 s147.

**Power-fed circular saws**

148(1) An employer, contractor or supplier shall ensure that a power-fed circular rip saw with horizontal, power-driven feed rolls is equipped with a sectional non-kickback device located in front of the saw blade and across the full width of the rolls.

- (2) An employer, contractor or supplier shall ensure that a power-fed circular rip saw:
- (a) is equipped with a splitter that extends to the height of the top of the saw blade; and
  - (b) has a saw blade that is equipped with a safeguard or located so that a worker cannot reach it.

4 Oct 96 cO-1.1 Reg 1 s148.

**Band-saws**

149(1) Where a band-saw blade develops a crack the depth of which is more than 5% of the width of the saw blade, an employer or contractor shall ensure that the blade is discarded unless:

- (a) the width of the blade is reduced so as to eliminate the crack; or
  - (b) the cracked section is repaired by a competent person.
- (2) An employer, contractor or supplier shall ensure that a band-saw has an automatic tension control device.

4 Oct 96 cO-1.1 Reg 1 s149.

**Cut-off saws**

**150** An employer, contractor or supplier shall ensure that:

- (a) a hand-operated, sliding or swing cut-off saw is equipped with a device that will return the saw automatically to the back of the table when the saw is released at any point in the saw's travel; and
- (b) a limit device is installed on a swing or sliding cut-off saw to prevent the saw from travelling beyond the outside edge of the cutting table.

4 Oct 96 cO-1.1 Reg 1 s150.

**Pushblocks and pushsticks**

**151(1)** In this section:

- (a) **“pushblock”** means a short block of wood with a shoulder at the rear that is provided with a suitable handle that will engage with the shoulder;
- (b) **“pushstick”** means a narrow strip of wood or other suitable material with a notch cut into one end.

(2) An employer or contractor shall ensure that a worker uses a pushstick or pushblock to feed wood or other material into any machine that is used for cutting or shaping the wood or other material.

4 Oct 96 cO-1.1 Reg 1 s151.

**Hand-fed planers and joiners**

**152(1)** An employer or contractor shall ensure that a hand-fed planer or joiner is operated at a height that is suitable for the worker who operates it.

(2) An employer, contractor or supplier shall ensure that a hand-fed planer or joiner with a horizontal cutting head has an automatic safeguard that will cover all sections of the head on the working side of the safeguard when material is not being cut.

4 Oct 96 cO-1.1 Reg 1 s152.

## PART XI Powered Mobile Equipment

**Interpretation**

**153** In this Part:

- (a) **“forklift”** means a self-propelled vehicle that has a power-operated upright lifting device that can raise and lower a load for the purpose of transport or stacking;
- (b) **“hours of darkness”** means:
  - (i) the period from one-half hour after sunset to one hour before sunrise; or
  - (ii) any time when, because of insufficient light or unfavourable atmospheric conditions, persons or vehicles are not clearly discernable at a distance of 150 metres.

4 Oct 96 cO-1.1 Reg 1 s153.

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**Operation by competent workers**

**154** An employer or contractor shall ensure that only competent workers are required or permitted to operate powered mobile equipment.

4 Oct 96 cO-1.1 Reg 1 s154.

**Visual inspection**

**155(1)** Before a worker starts any powered mobile equipment, an employer or contractor shall ensure that the worker makes a complete visual inspection of the equipment and the surrounding area to ensure that no worker, including the operator, is endangered by the start-up of the equipment.

(2) No worker shall start any powered mobile equipment until the inspection required by subsection (1) is completed.

4 Oct 96 cO-1.1 Reg 1 s155.

**Inspection and maintenance**

**156** An employer or contractor shall ensure that:

(a) all powered mobile equipment is inspected by a competent person for defects and unsafe conditions as often as is necessary to ensure that it is capable of safe operation;

(b) where a defect or unsafe condition that may create a hazard to a worker is identified in the powered mobile equipment:

(i) steps are taken 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

(ii) as soon as is reasonably practicable, the defect is repaired or the unsafe condition is corrected; and

(c) a written record of the inspections and maintenance carried out pursuant to clauses (a) and (b) is kept at the place of employment and made readily available to the operator.

4 Oct 96 cO-1.1 Reg 1 s156.

**Requirements for powered mobile equipment**

**157(1)** An employer, contractor or supplier shall ensure that each unit of powered mobile equipment is equipped with:

(a) a device within easy reach of the operator that will permit the operator to stop as quickly as possible any ancillary equipment driven from the powered mobile equipment, including any power take-off, crane and auger and any digging, lifting and cutting equipment;

(b) a horn or other audible warning device;

(c) seats that are designed and installed to ensure the safety of all workers required or permitted to be in or on the equipment while the equipment is in motion except where the powered mobile equipment is designed to be operated from a standing position; and

(d) an effective braking system and an effective parking device.

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(2) Where a unit of powered mobile equipment is operated during hours of darkness in an area that is not adequately illuminated, an employer, contractor or supplier shall ensure that it is equipped with suitable headlights and back-up lights that clearly illuminate the path of travel.

(3) Where a unit of powered mobile equipment has a windshield, an employer, contractor or supplier shall ensure that it is equipped with suitable windshield washers and wipers.

(4) Where a unit of powered mobile equipment is fitted with roll-over protective structures, an employer, contractor or supplier shall ensure that the equipment is equipped with:

(a) seat-belts for the operator and any other worker who is required or permitted to be in or on the equipment while the equipment is in motion; or

(b) shoulder belts, bars, gates, screens or other restraining devices designed to prevent the operator and any other worker from being thrown outside the roll-over protective structures if the work process renders the wearing of a seat-belt impracticable.

(5) Where there is a danger to the operator of a unit of powered mobile equipment or any other worker who is required or permitted to be in or on a unit of powered mobile equipment from a falling object or projectile, an employer, contractor or supplier shall ensure that the powered mobile equipment is equipped with a suitable and adequate cab, screen or guard.

4 Oct 96 cO-1.1 Reg 1 s157.

**Use of seat-belt or restraint by operator**

**158** An employer or contractor shall ensure that the operator of a unit of powered mobile equipment uses the seat-belt or other restraining device required by subsection 157(4).

4 Oct 96 cO-1.1 Reg 1 s158.

**Protection against shifting of load**

**159** An employer or contractor shall install a bulkhead or other effective restraining device to protect the operator and any other worker who is required or permitted to be in or on powered mobile equipment used to transport equipment or materials that may shift under emergency stopping conditions and endanger the operator or other worker.

4 Oct 96 cO-1.1 Reg 1 s159.

**Warning of reverse motion**

**160** An employer, contractor or supplier shall ensure that a motor vehicle or unit of powered mobile equipment that may be used in such a way that a worker other than the operator may be placed at risk by an unexpected reverse movement is equipped with a suitable warning device that operates automatically when the vehicle or equipment starts to move in reverse.

4 Oct 96 cO-1.1 Reg 1 s160.



**Roll-over protective structures**

**161(1)** An employer, contractor or supplier shall ensure that no unit of powered mobile equipment that is equipped with an engine rated at 15 kilowatts or more and is in any of the following categories is used unless it is fitted with a roll-over protective structure that meets the requirements of subsection (2):

- (a) motor grader;
- (b) crawler tractor, other than one that operates with side booms;
- (c) wheeled or tracked dozer and loader, other than one that operates with side booms;
- (d) self-propelled wheeled scraper;
- (e) self-propelled roller;
- (f) compactor;
- (g) rubber-tired tractor;
- (h) skidder.

(2) Except as otherwise provided in these regulations, an employer, contractor or supplier shall ensure that a roll-over protective structure required by subsection (1):

- (a) is designed, manufactured and installed to meet the requirements of an approved standard; and
- (b) has the following information permanently and legibly marked on the structure:
  - (i) the manufacturer's name and address;
  - (ii) the model and serial number;
  - (iii) the make and model or series number of the machines that the structure is designed to fit;
  - (iv) an identification of the standard to which the structure was designed, manufactured and installed.

(3) Where a roll-over protective structure required by subsection (1) is not available, an employer, contractor or supplier shall ensure that a unit of powered mobile equipment mentioned in subsection (1) is equipped with a roll-over protective structure that is:

- (a) designed by a professional engineer;
- (b) designed and fabricated so that the structure and supporting attachments will support at least twice the weight of the equipment to which the structure is to be fitted, based on the ultimate strength of the metal and integrated loading of structural members, with the resultant load applied at the point of impact; and
- (c) installed to have a vertical clearance of 1.2 metres between the decks and the structures at the point of operator entrance or exit.

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(4) A roll-over protective structure that was installed on powered mobile equipment on or before the day on which these regulations come into force and that was designed and manufactured to meet any standard described in section 200 of *The Occupational Health and Safety Regulations* as that section existed immediately before these regulations come into force is deemed to meet the requirements of this section.

(5) An employer, contractor or supplier shall ensure that all modifications or repairs to existing roll-over protective structures are certified as meeting the requirements of this section by a professional engineer.

(6) This section does not apply to equipment that is used underground in a mine and that is governed by *The Mines Regulations*.

4 Oct 96 cO-1.1 Reg 1 s161.

**Transparent materials used in cabs, etc.**

**162(1)** An employer, contractor or supplier shall ensure that any transparent material used as part of the enclosure for a cab, canopy or roll-over protective structure on powered mobile equipment is made of safety glass or another material that gives at least equivalent protection against shattering.

(2) An employer, contractor or supplier shall ensure that any defective glass or other transparent material in a cab, canopy or roll-over protective structure that creates or may create a hazard is removed and replaced.

4 Oct 96 cO-1.1 Reg 1 s162.

**Fuel tanks in enclosed cabs**

**163** Where a unit of powered mobile equipment is equipped with an enclosed cab, an employer, contractor or supplier shall ensure that a fuel tank located in the enclosed cab has a filler spout and vents that extend to the outside of the cab.

4 Oct 96 cO-1.1 Reg 1 s163.

**Dangerous movements**

**164(1)** Where a worker may be endangered by the swinging movement of a load or a part of a unit of powered mobile equipment, an employer or contractor shall not require or permit a worker to remain within range of the swinging load or part.

(2) Where a worker may be required or permitted to perform maintenance, repairs or other work on or under an elevated part of a unit of powered mobile equipment, an employer or contractor shall ensure that the elevated part is securely blocked to prevent accidental movement.

(3) An operator of a unit of powered mobile equipment shall not move or cause to be moved any load or part of the equipment when a worker may be endangered by that movement.

4 Oct 96 cO-1.1 Reg 1 s164.

**Transporting workers**

**165(1)** An employer or contractor shall ensure that no worker is transported on a vehicle or a unit of powered mobile equipment unless the worker is seated and secured by a seat-belt or other restraining device that is designed to prevent the worker from being thrown from the vehicle or equipment while the vehicle or equipment is in motion.

- (2) An employer or contractor shall ensure that no worker is transported on the top of a load that is being moved by a vehicle or a unit of powered mobile equipment.
- (3) An employer or contractor shall ensure that no worker places equipment or material in a compartment of a vehicle or powered mobile equipment in which the operator or another worker is being transported unless the equipment or material is positioned or secured so as to prevent injury to the operator or the other worker.
- (4) Where an open vehicle or unit of powered mobile equipment is used to transport a worker, an employer or contractor shall ensure that the worker is restrained from falling from the vehicle or powered mobile equipment and that no part of the worker's body protrudes beyond the side of the vehicle or powered mobile equipment.
- (5) An employer or contractor shall ensure that sufficient protection against inclement weather is provided for workers who are required to travel in a vehicle or a unit of powered mobile equipment.
- (6) Where a vehicle or unit of powered mobile equipment with an enclosed body is used to transport workers, an employer, contractor or supplier shall ensure that the exhaust outlet of the engine is located so that exhaust gases cannot enter the enclosed body.

4 Oct 96 cO-1.1 Reg 1 s165.

**Ladders attached to extending boom**

166(1) An employer or contractor shall ensure that:

- (a) subject to subsection (2), no worker is on a ladder that is attached as a permanent part of an extending boom on powered mobile equipment during any movement of the equipment, including extension or retraction of the boom;
  - (b) where outriggers are incorporated into powered mobile equipment, no worker climbs a ladder attached to an extending boom unless the outriggers are deployed; and
  - (c) no worker operates any powered mobile equipment equipped with an extending boom unless the powered mobile equipment is stable under all operating conditions.
- (2) Clause (1)(a) does not apply to firefighting equipment.

4 Oct 96 cO-1.1 Reg 1 s166.

**Forklifts**

167(1) An employer, contractor or supplier shall ensure that every forklift:

- (a) is provided with a durable and clearly legible load rating chart that is readily available to the operator; and
  - (b) is equipped with a seat-belt for the operator if the forklift is equipped with a seat.
- (2) An employer or contractor shall ensure that the operator of a forklift uses the seat-belt required by clause (1)(b).

4 Oct 96 cO-1.1 Reg 1 s167.

PART XII  
**Scaffolds, Aerial Devices, Elevating Work Platforms  
and Temporary Supporting Structures**

**Interpretation**

168 In this Part:

- (a) **“aerial device”** means a vehicle-mounted telescoping or articulating unit that is used to position a worker at an elevated worksite, and includes a work basket or bucket, an aerial ladder, an extendable and articulating boom platform, a vertical tower and any combination of those devices;
- (b) **“base plate”** means a device that is attached to the base of a scaffold upright and that is used to distribute the vertical load over a larger area of the sill;
- (c) **“bearer”** means a horizontal scaffold member on which the platform rests and that may be supported by ledgers, and includes transoms and joists;
- (d) **“brace”** means a scaffold member fastened diagonally to the uprights across the vertical faces of the scaffold to provide stability against lateral movement of the scaffold;
- (e) **“bracket scaffold”** means a platform that is supported by two or more triangular brackets projecting out from a structure to which the brackets are securely fastened;
- (f) **“double-pole scaffold”** means a platform that is supported by bearers attached to a double row of braced uprights;
- (g) **“elevating work platform”** means a work platform that can be self-elevated to overhead worksites, and includes an elevating rolling work platform, a self-propelled elevating work platform and a boom-type elevating work platform;
- (h) **“flyform deck panel”** means a temporary supporting structure that:
  - (i) is used as a modular falsework;
  - (ii) is intended to be moved; and
  - (iii) is capable of being moved from floor to floor and re-used during a construction project;
- (i) **“half-horse scaffold”** means a platform that is supported by two or more braced, splayed supports resting in or on the structure;
- (j) **“heavy-duty scaffold”** means a scaffold that is intended to support workers, equipment and stored or stacked materials and that is designed to support the minimum load identified in clause 172(1)(b);
- (k) **“ladderjack scaffold”** means a platform that is supported by brackets attached to ladders;
- (l) **“ledger”** means a horizontal scaffold member extending from upright to upright that may support the bearers, and includes runners, stringers and ribbons;

- (m) **“light-duty scaffold”** means a scaffold that is intended to support workers and materials for current use only, with no storage of other materials except the worker’s tools, and that is designed to support the load identified in clause 172(1)(a);
- (n) **“maximum load”** means the maximum actual load that a scaffold is designed to support or resist in use, and includes the working load, the actual weight of all the components of the scaffold, wind, environmental conditions and all other loads that may reasonably be anticipated;
- (o) **“modular scaffold”** means a platform that is supported by uprights with fixed attachment points for standard-sized ledgers, bracing and accessories;
- (p) **“needle-beam scaffold”** means a platform that is supported by parallel horizontal beams suspended by ropes attached to overhead anchors;
- (q) **“outrigger scaffold”** means a platform that is supported by rigid members that are cantilevered out from the structure or vertical supports;
- (r) **“personnel lifting unit”** means a work platform suspended by rigging from a crane or hoist that is used to position a worker at an elevated worksite, and includes a manbasket and work basket;
- (s) **“rolling scaffold”** means a freestanding scaffold that is equipped with castors or wheels at the base of the scaffold;
- (t) **“scaffold”** means a temporary elevated platform and the platform’s supporting structure that are designed to support workers and hand tools, or workers, equipment and materials;
- (u) **“sill”** means a wood, concrete or metal footing used to distribute the load from a standard, an upright or a base plate of a scaffold to the ground;
- (v) **“single-pole scaffold”** means a platform that is supported by bearers attached at the outer end to a single row of braced uprights and at the inner end to the structure;
- (w) **“suspended outrigger scaffold”** means a scaffold with a working platform that is suspended by wooden vertical members from rigid horizontal members that are cantilevered out from the structure;
- (x) **“suspended powered scaffold”** means a platform that is suspended from overhead supports by ropes or cables and equipped with winches or pulley blocks so that the scaffold can be moved, and includes a boatswain’s chair, work basket, work cage, swingstage or other similar scaffold;
- (y) **“suspended scaffold”** means a platform that is supported by four wire ropes suspended from members that are cantilevered out from the structure;
- (z) **“temporary supporting structure”** means a falsework, form, flyform deck panel, shoring, brace or cable that is used to support a structure temporarily or to stabilize materials or earthworks until the materials or earthworks are self-supporting or the instability is otherwise overcome, and includes metal scaffold components;

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- (aa) **“tube and clamp scaffold”** means a platform that is supported by steel or aluminum tubes with wedge or bolt clamp connectors and accessories;
- (bb) **“tubular frame scaffold”** means a platform that is supported by welded tubular frames, cross-braces and accessories;
- (cc) **“upright”** means a vertical scaffold member that transmits the load to the ground, and includes posts, verticals and standards;
- (dd) **“working load”** means the total of the loads from workers, materials, equipment and work processes.

4 Oct 96 cO-1.1 Reg 1 s168.

**Scaffold required**

**169** Where work cannot be safely done from the ground or from a permanent structure, an employer or contractor shall provide a scaffold or other safe working platform or a ladder that meets the requirements of Part XVI for the use of workers.

4 Oct 96 cO-1.1 Reg 1 s169.

**Prohibition**

**170** No employer or contractor shall require or permit a worker to use a needle-beam scaffold or a suspended outrigger scaffold as a work platform.

4 Oct 96 cO-1.1 Reg 1 s170.

**Limited use of certain scaffolds**

**171(1)** An employer or contractor shall ensure that the following types of scaffolds are used only as light-duty scaffolds:

- (a) half-horse scaffolds;
- (b) ladderjack scaffolds;
- (c) single-pole scaffolds.

(2) An employer or contractor shall ensure that the following types of scaffolds are used only as light-duty scaffolds unless the scaffold is designed by a professional engineer and constructed, erected, used, maintained and dismantled in accordance with that design:

- (a) bracket scaffolds;
- (b) outrigger scaffolds;
- (c) suspended scaffolds;
- (d) suspended powered scaffolds.

4 Oct 96 cO-1.1 Reg 1 s171.

**General requirements**

**172(1)** An employer or contractor shall ensure that:

- (a) every light-duty scaffold is designed and constructed to support:
  - (i) a minimum working load of 3.63 kN per lineal metre of platform width applied vertically and uniformly across an independent platform section along an imaginary line drawn perpendicular to the platform edge anywhere along the length of the section; and

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- (ii) a minimum uniformly distributed working load of 1.20 kN/m<sup>2</sup>, acting simultaneously with the concentrated load specified in sub-clause (i); and
- (b) every heavy-duty scaffold is designed and constructed to support:
  - (i) a minimum working load of 3.88 kN per lineal metre of platform width applied vertically and uniformly across an independent platform section along an imaginary line drawn perpendicular to the platform edge anywhere along the length of the section; and
  - (ii) a minimum uniformly distributed working load of 3.60 kN/m<sup>2</sup>, acting simultaneously with the concentrated load specified in sub-clause (i).
- (2) An employer or contractor shall ensure that every scaffold is:
  - (a) designed, constructed, erected, used and maintained so as to perform safely any task that the scaffold is required to perform;
  - (b) designed, constructed and erected to support or resist:
    - (i) in the case of a wooden scaffold, at least four times the load that may be imposed on the scaffold;
    - (ii) in the case of a metal scaffold, at least 2.2 times the load that may be imposed on the scaffold;
    - (iii) in the case of any components suspending any part of a scaffold supporting workers, at least 10 times the load that may be imposed on those components; and
    - (iv) four times the maximum load or force to which the scaffold is likely to be subjected without overturning;
  - (c) erected, maintained and dismantled by a competent worker.
- (3) An employer or contractor shall ensure that a freestanding scaffold is restrained from overturning by guying or other suitable means.
- (4) An employer or contractor shall ensure that a scaffold that is built from the ground or other surface:
  - (a) is supported by a foundation that is of sufficient area, stability and strength to ensure the stability of the scaffold;
  - (b) is set level on a stable sill that is at least 38 x 240 millimetres and continuous under at least two consecutive supports;
  - (c) where an upright could penetrate the sill, a base plate is installed in the upright;
  - (d) is supported against lateral movement by adequate, secure bracing;
  - (e) is anchored:
    - (i) vertically at not less than four-metre intervals and horizontally at not less than six-metre intervals;

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- (ii) where designed by a professional engineer, at intervals recommended by a professional engineer; or
  - (iii) where commercially manufactured, at intervals recommended by the manufacturer;
  - (f) is provided with internal stairways or ladders if the scaffold is nine metres or more in height; and
  - (g) is checked to ensure that the scaffold is plumb and level after each tier is added.
- (5) Where a scaffold is partially or fully enclosed, an employer or contractor shall ensure that all scaffold components and tie-ins are adequate to support the added load that may be placed on the scaffold as a result of wind or other adverse weather conditions.
- (6) An employer or contractor shall ensure that all workers who are required to work on a scaffold are provided with the following information:
- (a) the maximum working load of the scaffold;
  - (b) any other information, restriction or condition that is necessary to ensure the safe use of the scaffold.
- (7) Where a scaffold is more than six metres high, an employer or contractor shall install a gin wheel and hoist arm or other suitable lifting device to hoist materials from the ground.

4 Oct 96 cO-1.1 Reg 1 s172; 31 Jan 97 SR 6/97 s8.

**Ropes in scaffolds**

- 173(1)** An employer or contractor shall ensure that a rope or wire rope that forms an integral part of a scaffold is protected against abrasion or other physical damage.
- (2) Where damage to a rope that forms an integral part of a scaffold from heat or chemicals is possible, an employer or contractor shall ensure that rope of heat or chemical resistant material is used.

4 Oct 96 cO-1.1 Reg 1 s173.

**Scaffold planks and platforms**

- 174(1)** An employer or contractor shall ensure that scaffold planks:
- (a) are inspected by a competent worker to ensure that the scaffold planks are free of defects before the planks are incorporated in a scaffold;
  - (b) subject to subsections (2) and (4), are of 38 x 240 millimetre, number 1 structural grade spruce lumber or material of equivalent or greater strength;
  - (c) are the same thickness as adjoining planks;
  - (d) are laid tightly side by side with adjoining planks to cover the full width of the platform;
  - (e) are secured to prevent accidental or inadvertent movement in any direction;



- (f) where wooden, do not span more than three metres between vertical supports on a light-duty scaffold or 2.1 metres between vertical supports on a heavy-duty scaffold;
  - (g) where metal or manufactured laminate, do not have a span between vertical supports greater than the span recommended by the manufacturer; and
  - (h) do not extend less than 150 millimetres or more than 300 millimetres beyond the bearers.
- (2) An employer, contractor or supplier may use a manufactured scaffold plank if the plank is used according to the manufacturer's recommendations and the manufactured scaffold plank is clearly marked with its maximum working load or the load specifications are readily available at the worksite.
- (3) Subject to subsection (4), an employer or contractor shall ensure that a scaffold platform:
- (a) is at least one-half metre wide in the case of a light-duty scaffold;
  - (b) is at least one metre wide in the case of a heavy-duty scaffold; and
  - (c) is level or, where used as a ramp, has a slope at an angle not steeper than five horizontal to one vertical.
- (4) A single manufactured extending painter's plank, or a plank that is 51 x 305 millimetre, number 1 structural grade spruce lumber or material of equivalent or greater strength, may be used in a ladderjack scaffold.

4 Oct 96 cO-1.1 Reg 1 s174.

#### Wooden scaffolds

- 175(1) An employer or contractor shall ensure that the dimensions of members of a light-duty wooden scaffold that is less than six metres in height are not less than the dimensions specified in Table 15 of the Appendix.
- (2) An employer or contractor shall ensure that a wooden scaffold is constructed of unpainted number 1 structural grade spruce lumber or material of equivalent or greater strength.

4 Oct 96 cO-1.1 Reg 1 s175.

#### Metal scaffolds

- 176(1) Where a metal scaffold is used, an employer or contractor shall ensure that the metal scaffold is:
- (a) erected, used, maintained and dismantled in accordance with the manufacturer's or professional engineer's specifications and recommendations; and
  - (b) inspected, by a competent person, prior to use and daily when in use for any damage, deterioration or weakening of the scaffold or the scaffold's components.

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- (2) If a metal scaffold or a component of a metal scaffold is damaged, deteriorated or weakened so that the strength or stability of the scaffold is affected, an employer or contractor shall ensure that the scaffold is not used until the scaffold or component is repaired or replaced by a competent person in accordance with the manufacturer's or a professional engineer's specifications and recommendations.
- (3) Where a metal scaffold is a tube and clamp scaffold, an employer or contractor shall ensure that:
- (a) joints in adjacent uprights are staggered and do not occur in the same tier;
  - (b) joints in uprights are located not more than one-third of a tier away from the connection of a ledger;
  - (c) ledgers are erected horizontally along the length of the scaffold and coupled to each upright at regular intervals of one tier;
  - (d) all ledgers are joined to form a continuous length;
  - (e) individual tube lengths of a ledger are the lesser of:
    - (i) two or more bays in length; or
    - (ii) the horizontal length of the scaffold;
  - (f) tubes of different metals or gauges are not joined together; and
  - (g) where base plates are required, they are securely installed in the uprights and securely attached to the sills.
- (4) Where a metal scaffold is a standard tubular frame scaffold, an employer or contractor shall ensure that:
- (a) where base plates, shore heads, extension devices or screwjacks are necessary, they are securely installed and securely attached to the sills and the legs of the frame; and
  - (b) there are no gaps between the lower end of one frame and the upper end of the frame below on stacked frames.
- (5) Where a metal scaffold is a modular scaffold, an employer or contractor shall ensure that:
- (a) where extension devices or screwjack bases and base collars are necessary, they are securely installed and securely attached to the sills;
  - (b) joints in adjacent uprights are staggered and do not occur in the same tier;
  - (c) there are no gaps between the lower end of one upright and the upper end of the upright below it;
  - (d) ledgers, bearers and braces are properly secured; and
  - (e) components from different modular scaffold systems are not used in the same scaffold.

**Heavy-duty scaffolds, scaffolds used at certain heights**

177(1) This section applies to a scaffold that:

- (a) is to be used as a heavy-duty scaffold;
- (b) in the case of a wooden scaffold, has a platform at a height that is six metres or more above either ground level or a permanent working surface; or
- (c) in the case of a metal scaffold, has a platform at a height that is greater than 15 metres above either ground level or a permanent working surface.

(2) An employer, contractor or owner shall ensure that a scaffold mentioned in subsection (1) is:

- (a) designed by a professional engineer and erected, used, maintained and dismantled in accordance with that design; or
- (b) commercially manufactured to meet the requirements of an approved standard and erected, used, maintained and dismantled in accordance with the manufacturer's specifications and recommendations.

(3) While a scaffold mentioned in subsection (1) is being constructed, erected, used, maintained or dismantled, an employer, contractor or owner shall keep at the worksite all drawings and supplementary information regarding the scaffold, including:

- (a) the dimensions, specifications, type and grade of all components of the scaffold; and
- (b) the maximum load and the maximum working load that the scaffold is designed or manufactured to support.

(4) An employer, contractor or owner shall make readily available to the workers a copy of the drawings and supplementary information mentioned in subsection (3).

4 Oct 96 cO-1.1 Reg 1 s177.

**Half-horse scaffolds**

178(1) An employer or contractor shall ensure that the legs of a half-horse scaffold are not spliced, are less than three metres high and have an angle of repose and an angle of splay that are 15° from the vertical.

(2) An employer or contractor shall ensure that a ladder is used to provide access to and exit from a half-horse scaffold.

4 Oct 96 cO-1.1 Reg 1 s178.

**Bracket scaffolds**

179 An employer or contractor shall ensure that the brackets of a bracket scaffold are securely attached to prevent the brackets from dislodging and are not more than three metres apart.

4 Oct 96 cO-1.1 Reg 1 s179.

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- (a) brackets and ladders used for a ladderjack scaffold are:
  - (i) designed and constructed to support the anticipated load safely; and
  - (ii) used according to the manufacturer's specifications and recommendations; and
- (b) ladders used for a ladderjack scaffold are not more than three metres apart.

4 Oct 96 cO-1.1 Reg 1 s180.

**Single-pole scaffolds****181** An employer or contractor shall ensure that:

- (a) a single-pole scaffold is adequately supported in two directions by a system of diagonal braces that are:
  - (i) not more than six metres long; and
  - (ii) connected to the uprights as close to the ledgers as possible; and
- (b) every ledger on a single-pole scaffold is supported by a bearer that is of substantial construction and that is securely fastened to the structure.

4 Oct 96 cO-1.1 Reg 1 s181.

**Outrigger scaffolds****182** Where an outrigger scaffold is used, an employer or contractor shall ensure that the scaffold is:

- (a) designed by a professional engineer and erected, used, maintained and dismantled in accordance with that design; or
- (b) commercially manufactured to meet the requirements of an approved standard and erected, used, maintained and dismantled in accordance with the manufacturer's specifications and recommendations.

4 Oct 96 cO-1.1 Reg 1 s182.

**Suspended scaffolds****183(1)** Where a suspended scaffold is used, an employer, contractor or supplier shall ensure that the scaffold is:

- (a) designed by a professional engineer and erected, used, maintained and dismantled in accordance with that design; or
- (b) commercially manufactured to meet the requirements of an approved standard and erected, used, maintained and dismantled in accordance with the manufacturer's specifications and recommendations.

(2) An employer or contractor shall ensure that the working parts of the hoisting mechanism of a suspended scaffold are left exposed so that defective parts or irregular working of the mechanism can be easily detected.

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- (3) An employer or contractor shall ensure that no worker is required or permitted to operate the hoisting mechanism of a suspended scaffold unless the worker is competent and has been designated by the employer or contractor to perform that work.
- (4) An employer or contractor shall ensure that all parts of a suspended scaffold are inspected prior to use and daily when in use.

4 Oct 96 cO-1.1 Reg 1 s183.

**Suspended powered scaffolds**

184(1) Where a suspended powered scaffold is used, an employer, contractor, supplier or owner shall ensure that the scaffold and its suspension system is:

- (a) designed by a professional engineer and erected, used, maintained and dismantled in accordance with that design; or
  - (b) commercially manufactured to meet the requirements of an approved standard and erected, used, maintained and dismantled in accordance with the manufacturer's specifications and recommendations.
- (2) An employer, contractor or owner shall ensure that:
    - (a) where a parapet is part of the support structure of a suspended powered scaffold, the parapet can withstand the force of the load; and
    - (b) the anchor points for the suspension system are secure and can safely withstand the load.
  - (3) An employer, contractor, owner or supplier shall ensure that a power unit of a suspended powered scaffold is equipped with positive pressure controls and positive drives for raising and lowering the scaffold.
  - (4) Where workers are required to use a manually-operated suspended powered scaffold, an employer, contractor, supplier or owner shall ensure that:
    - (a) the scaffold is equipped with spring-actuated locking pawls;
    - (b) the hoisting mechanism is locked in a positive drive position by means of a spring-steel locking pin; and
    - (c) the locking pin is permanently attached to the hoisting mechanism by a light chain.
  - (5) Where a suspended powered scaffold is used, an employer, contractor or owner shall ensure that:
    - (a) the suspension rope consists of wire rope that is at least eight millimetres in diameter or meets the specifications recommended by the manufacturer of the scaffold or the professional engineer who designed the scaffold;
    - (b) either:
      - (i) the suspension rope is long enough to reach the next working surface below the scaffold;
      - (ii) the end of the suspension rope is doubled back and held securely by a cable clamp to prevent the hoisting machine from running off the end of the rope; or

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- (iii) directional limiting devices that prevent travel of the working platform beyond the safe limit of travel are installed; and
  - (c) all rigging hardware has a safety factor of at least 10.
- (6) An employer, contractor or owner shall ensure that a suspended powered scaffold is equipped with a secondary safety device that will activate if the suspension rope connection or primary hoisting system fails.
- (7) An employer, contractor or owner shall ensure that a lifeline used with a suspended powered scaffold is:
- (a) suspended independently from the scaffold; and
  - (b) securely attached to a fixed anchor point so that the failure of the scaffold will not cause the lifeline to fail.
- (8) An employer, contractor or owner shall ensure that the working platform of a suspended powered scaffold:
- (a) is at least 500 millimetres wide and fastened to the stirrups; and
  - (b) is designed to prevent the scaffold from swinging or swaying away from the structure from which the scaffold is suspended.
- (9) An employer, contractor or owner shall ensure that:
- (a) there is no covering or hoarding around or over a suspended powered scaffold; and
  - (b) two or more suspended powered scaffolds are not linked together by bridging the distance between the scaffolds with planks or any similar form of connection.
- (10) Where a suspended powered scaffold is permanently installed on a structure, an employer, contractor or owner shall ensure that a professional engineer has certified that the scaffold, its suspension system and all components and anchor points are safe before the scaffold is used.

4 Oct 96 cO-1.1 Reg 1 s184.

**Tie-in guides**

- 185(1)** On and after July 1, 1997, an owner shall ensure that a new structure that will be serviced by a suspended powered scaffold is constructed with:
- (a) fixed anchor points that will safely support the scaffold and lifelines; and
  - (b) tie-in guides to provide a positive means of engagement between the suspended part of the equipment and the structure during the full vertical or inclined travel of the scaffold on the face of the structure.
- (2) The tie-in guides required by clause (1)(b) must meet the requirements of an approved standard.

4 Oct 96 cO-1.1 Reg 1 s185.

**Use of suspended powered scaffolds**

**186(1)** An employer or contractor shall:

- (a) develop work practices and procedures for the safe use of any suspended powered scaffold;
  - (b) train the workers in the procedures required pursuant to clause (a); and
  - (c) ensure that every worker complies with the procedures required pursuant to clause (a).
- (2) An employer or contractor shall ensure that a suspended powered scaffold is operated by a competent worker.
- (3) An employer or contractor shall ensure that all parts of a suspended powered scaffold are inspected prior to use and daily when in use.
- (4) An employer or contractor shall ensure that a worker who works on a suspended powered scaffold is provided with and uses a full-body harness, connecting linkage, fall-arresting device and lifeline that meet the requirements of Part VII.

4 Oct 96 cO-1.1 Reg 1 s186.

**Workers' responsibilities**

**187(1)** Before starting to work on a suspended powered scaffold, a worker shall inspect the scaffold to ensure that:

- (a) the thrustouts or parapet hooks are secured; and
  - (b) the suspension ropes and lifelines are free from abrasion or other damage.
- (2) While working on a suspended powered scaffold, a worker shall:
- (a) remain on the platform between the suspension ropes at all times;
  - (b) secure from fouling all ropes from the scaffold that extend to the ground or a landing;
  - (c) use a full-body harness, connecting linkage, fall-arresting device and lifeline that meet the requirements of Part VII; and
  - (d) ensure that, when the scaffold is being moved up or down on a suspension rope, the scaffold is kept level.
- (3) A worker shall not:
- (a) bridge the distance between a suspended powered scaffold and any other scaffold with planks or by any other means; or
  - (b) use the lifeline or the suspension ropes as a means of access to or exit from the scaffold except in cases of emergency.
- (4) A worker shall comply with the work practices and procedures developed pursuant to clause 186(1)(a).

4 Oct 96 cO-1.1 Reg 1 s187.

**Rolling scaffolds**

**188(1)** An employer or contractor shall ensure that the height of a rolling scaffold is not more than three times:

- (a) the smallest dimension of the scaffold's base; or
  - (b) where outriggers are provided, the smallest dimension of the scaffold's base, including the extended outriggers.
- (2) Where outriggers are provided on a rolling scaffold, an employer or contractor shall ensure that the outriggers are firmly attached to the scaffold uprights to ensure the stability of the scaffold.
- (3) An employer or contractor shall ensure that:
- (a) each wheel on a rolling scaffold is equipped with a device to securely attach the wheel to the scaffold;
  - (b) where vertical adjusting devices are required, they are securely attached to the scaffold; and
  - (c) each rolling scaffold is secured against inadvertent movement while a worker is on the scaffold.
- (4) An employer or contractor shall ensure that a scaffold erected on a movable platform is securely fastened to that platform.
- (5) An employer or contractor shall not require or permit a worker to remain on a rolling scaffold while the scaffold is being moved unless:
- (a) the height of the work platform does not exceed twice the shortest base dimension of the scaffold;
  - (b) the route to be travelled by the rolling scaffold has been thoroughly examined and found to be free of any condition that could cause the rolling scaffold to tilt or otherwise go out of control; and
  - (c) a work platform fills the entire area enclosed by the scaffold structure.

4 Oct 96 cO-1.1 Reg 1 s188.

**Shinglers' roofing scaffold**

**189(1)** Where a shingler's roofing scaffold is used, an employer or contractor shall ensure that:

- (a) the scaffold is designed, constructed, installed and maintained to support the loads that may be applied to the scaffold;
  - (b) the scaffold is provided with effective non-slipping devices; and
  - (c) the scaffold platform is at least 38 by 140 millimetres.
- (2) The employer or contractor shall develop and implement work practices and procedures for the safe use of any shingler's roof scaffold.

4 Oct 96 cO-1.1 Reg 1 s189.



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**Crawl boards, roof ladders**

**190** An employer, contractor or owner shall ensure that a crawl board or roof ladder used for roof work is securely fastened to the roof.

4 Oct 96 cO-1.1 Reg 1 s190.

**Prohibition**

**191** Except as provided in sections 192 and 194, an employer or contractor shall ensure that no worker is raised or lowered by, or works on, a platform or load suspended from powered mobile equipment.

4 Oct 96 cO-1.1 Reg 1 s191.

**Aerial devices and elevating work platforms**

**192(1)** An employer or contractor shall ensure that:

- (a) an aerial device, elevating work platform or personnel lifting unit is designed, constructed, erected, operated and maintained in accordance with an approved standard; or
- (b) a professional engineer has certified that:
  - (i) an aerial device, elevating work platform or personnel lifting unit and its elevating system and mountings are safe for the purpose of raising workers and loads; and
  - (ii) the components of an aerial device, elevating work platform or personnel lifting unit and its elevating system and mountings are designed in accordance with an approved standard.

(2) An employer or contractor shall not require or permit a worker to be raised or lowered by any aerial device or elevating work platform or to work from a device or platform held in an elevated position unless:

- (a) there is an adequate and suitable means of communication between the worker operating the controls and the worker raised on the platform, if they are not the same person;
- (b) the elevating mechanism is designed so that, if any failure of the mechanism occurs, the platform will descend in a controlled manner so that no worker on the platform will be endangered;
- (c) the controls are designed so that the platform will be moved only when direct pressure is applied to the controls;
- (d) the drive mechanism of any operation for moving the platform is positive and does not rely on gravity;
- (e) road traffic conditions, environmental conditions, overhead wires, cables and other obstructions do not create a danger to the worker;
- (f) the brakes of the aerial device or elevating work platform are engaged;
- (g) if the aerial device or elevating work platform is equipped with outriggers, the outriggers are set; and
- (h) the worker is provided with and is required to use fall-arrest protection pursuant to section 116.

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- (3) Notwithstanding any other provision in this section but subject to section 465, an employer or contractor shall not require or permit a worker working on an exposed energized high voltage electrical conductor to work from an aerial device or elevating work platform unless the controls are operated by the worker on the device or platform.
- (4) Where a worker leaves an aerial device or elevating work platform parked or unattended, an employer or contractor shall ensure that the device or platform:
- (a) is locked or rendered inoperative; or
  - (b) is fully lowered and retracted with all hydraulic systems in the neutral position or incapable of operating by moving the controls.
- (5) An employer or contractor shall ensure that:
- (a) a worker who operates an aerial device or elevating work platform is trained to operate the device or platform safely; and
  - (b) the training includes the manufacturer's instructions and recommendations, the load limitations, the proper use of all controls and any limitations on the surfaces on which the device or platform is designed to be used.
- (6) An employer or contractor shall ensure that the manufacturer's operating manual for the aerial device or elevating work platform is kept with the device or platform at all times.

4 Oct 96 cO-1.1 Reg 1 s192.

**Maintenance and inspection**

- 193(1)** An employer, contractor, owner or supplier shall ensure that only competent persons maintain and inspect an aerial device, elevating work platform, suspended powered platform, personnel lifting unit or scaffold to which section 177 applies.
- (2) An employer, contractor, owner or supplier shall ensure that a maintenance and inspection record tag:
- (a) is provided for an aerial device, elevating work platform, suspended powered scaffold, personnel lifting unit or scaffold to which section 177 applies, and is attached to the device, platform, unit or scaffold near the operator's station; and
  - (b) has the following recorded on it:
    - (i) the date of the last maintenance;
    - (ii) the name and signature of the person who performed the maintenance; and
    - (iii) an indication that the maintenance has been carried out in accordance with the manufacturer's recommendations.

4 Oct 96 cO-1.1 Reg 1 s193.

**Forklifts**

194(1) An employer or contractor shall ensure that no worker is raised or lowered by, or required or permitted to work on, a forklift or any device mounted on a forklift except as provided by this section.

(2) An employer or contractor shall ensure that a work platform mounted on a forklift on which a worker may be raised or lowered or required or permitted to work is:

- (a) designed and constructed to support safely the maximum load that the platform is expected to support;
- (b) securely attached to the forks of the forklift to prevent accidental lateral or vertical movement of the platform;
- (c) equipped with guardrails and toeboards that meet the requirements of sections 122 and 123; and
- (d) equipped with a screen or similar barrier along the edge of the platform adjacent to the mast of the forklift to prevent a worker from contacting the mast drive mechanism.

(3) While a worker is on a work platform mounted on a forklift and the forklift is in the raised position, an employer or contractor shall ensure that the operator:

- (a) remains at the controls; and
- (b) does not move the forklift.

4 Oct 96 cO-1.1 Reg 1 s194.

**Temporary supporting structures**

195(1) An employer or contractor shall ensure that a temporary supporting structure is designed and constructed to withstand safely all loads that the structure is intended, or may reasonably be anticipated, to support.

(2) Without limiting the generality of subsection (1), an employer or contractor shall meet the requirements of subsection (3) where a temporary supporting structure consists of:

- (a) shoring that is more than 3.6 metres high; or
- (b) members that are connected to one another so that a load applied to any member of the structure may alter the stresses induced in the other members.

(3) An employer or contractor shall ensure that:

- (a) a temporary supporting structure mentioned in subsection (2):
  - (i) is designed by a professional engineer;
  - (ii) is inspected by a professional engineer after assembly and before use; and
  - (iii) is certified by a professional engineer to be safe; and
- (b) all the drawings and other instructions necessary to construct and use the temporary supporting structure safely are kept at the worksite.

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(4) An employer or contractor shall ensure that a scaffold constructed as an integral part of a temporary supporting structure is designed and certified to be safe by a professional engineer.

4 Oct 96 cO-1.1 Reg 1 s195.

**Flyform deck panels**

**196(1)** In addition to the requirements of section 195, an employer or contractor shall ensure that:

- (a) all drawings and written procedures that are necessary to safely assemble, fly, use, dismantle or re-use a flyform deck panel are kept at the worksite for reference by workers;
- (b) the workers are instructed in and comply with the procedures mentioned in clause (a);
- (c) a flyform deck panel is securely attached to the permanent structure or to an adjacent panel; and
- (d) the attachments mentioned in clause (c) are completed and made secure before the flyform deck panel is detached from the hoist used to position the panel.

(2) The drawings and procedures mentioned in clause (1)(a) must include:

- (a) the plan view, the longitudinal section and the cross-section of the panel;
- (b) the calculated position of the centre of gravity of the panel;
- (c) the step-by-step procedures for all phases of assembly, flying, use, dismantling, repair and re-use of the panel;
- (d) procedures for ensuring stability, if the panel is inherently unstable;
- (e) procedures for application of the panel on a non-typical floor; and
- (f) any other instructions that are necessary to ensure the safety of workers.

4 Oct 96 cO-1.1 Reg 1 s196.

**Erection of masonry wall**

**197** An employer or contractor shall ensure that a temporary supporting structure used to stabilize a masonry wall during the erection of the wall is not removed until the wall has been permanently stabilized.

4 Oct 96 cO-1.1 Reg 1 s197.

**Erection of skeleton structure**

**198(1)** Where structural members of a skeleton structure or concrete sections of a structure are to be erected, an employer or contractor shall ensure that the design includes safe procedures for erecting the members or sections.

(2) An employer or contractor shall ensure that:

- (a) the design and safe procedures for erecting the members or sections required by subsection (1) are certified as safe by a professional engineer; and

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- (b) all the necessary drawings and instructions to erect the structure safely are kept at the worksite.
- (3) An employer or contractor shall ensure that the workers are instructed in and follow the safe procedures required by subsection (1).
- (4) Where the procedures mentioned in subsection (1) have to be modified, an employer or contractor shall ensure that:
  - (a) the modified procedures are certified by a professional engineer; and
  - (b) the drawings showing the modified procedures are available at the worksite.
- (5) An employer or contractor shall ensure that a competent supervisor is present on the worksite while the erection of a skeleton structure is in progress until the structure has been permanently stabilized.

4 Oct 96 cO-1.1 Reg 1 s198.

### PART XIII Hoists, Cranes and Lifting Devices

#### Interpretation

199 In this Part:

- (a) “**anti two block warning device**” means a device that warns the worker that continued upward movement of the load line may cause the load block to strike the upper sheaves;
- (b) “**boom**” means a member that is attached to a crane superstructure and used to support the upper end of the hoisting tackle;
- (c) “**crane**” means equipment that is designed to lift, lower and move loads horizontally and that consists of a rotating superstructure, operating machinery and a boom;
- (d) “**designated operator**” means a worker designated pursuant to clause 204(2)(a) to operate a hoist, crane or lifting device;
- (e) “**jib**” means an extension to a boom that is attached to the boom tip to provide additional boom length;
- (f) “**lifting device**” means a device that is used to raise or lower material or an object, but does not include a crane or hoist;
- (g) “**load rating**” means the maximum loads that may be lifted or lowered safely at a series of stated configurations under a series of stated conditions;
- (h) “**material hoist**” means a hoist that is designed to raise and lower equipment or material and that has a load-carrying unit that moves within fixed guides, but does not include a hoist that is designed to raise or lower workers;
- (i) “**mobile crane**” means a crane mounted on a truck, wheel or crawler base that can move freely under the crane’s own power without being restricted to a predetermined path;

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(j) “**rated load**” means the maximum load that may be lifted or lowered safely using a particular configuration under the conditions existing at the time of the lifting or lowering operation;

(k) “**tower crane**” means a crane that is mounted on a tower and that can rotate about the axis of the tower;

(l) “**tower hoist**” means a hoist with a tower that forms an integral part of the supporting structure and a load-carrying unit that travels between fixed guides.

4 Oct 96 cO-1.1 Reg 1 s199; 31 Jan 97 SR 6/97 s9.

**Application of Part**

**200** This Part applies to hoists, cranes and lifting devices other than hoists, cranes and lifting devices that are governed by *The Passenger and Freight Elevator Act* or *The Mines Regulations*.

4 Oct 96 cO-1.1 Reg 1 s200.

**General requirements**

**201(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.

4 Oct 96 cO-1.1 Reg 1 s201.

**Adoption of standards**

**202(1)** An employer or contractor shall ensure that all hoists, cranes and lifting devices manufactured on and after the day on which these regulations come into force 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 the day on which these regulations come into force are constructed, inspected, tested and maintained in accordance with an approved standard.

4 Oct 96 cO-1.1 Reg 1 s202.

**Load ratings**

**203(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;

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- (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; and
- (c) any applicable restrictions to operating in low temperatures.

4 Oct 96 cO-1.1 Reg 1 s203.

**Designated operator**

204(1) In this section:

- (a) **“competent operator”** means a worker who has successfully completed a training program that includes all of the elements set out in Table 16 of the Appendix for the crane that the worker will be required or permitted to operate or is completing the practical training required by Part II of Table 16 under the direct supervision of a competent operator or a qualified operator;
  - (b) **“qualified operator”** means:
    - (i) the holder of a journeyman’s certificate in the crane and hoist operator trade issued pursuant to *The Apprenticeship and Trade Certification Act*;
    - (ii) the holder of a proficiency certificate in a subtrade of the crane and hoist operator trade issued pursuant to *The Apprenticeship and Trade Certification Act*;
    - (iii) an apprentice in the crane and hoist operator trade who is working under the direction of a person described in subclause (i) or (ii); or
    - (iv) any other worker who:
      - (A) has received training, and has experience, in the safe operation of a crane that, in the opinion of the director, is equivalent to or superior to the training and experience of a person mentioned in subclause (i), (ii) or (iii); or
      - (B) is a member of a category of workers whose training and experience in the safe operation of a crane, in the opinion of the director, is equivalent to or superior to the training and experience of a person mentioned in subclause (i), (ii) or (iii).
- (2) Subject to subsections (3), (4) and (5), an employer or contractor shall:
- (a) designate a worker to operate a hoist, crane or lifting device;
  - (b) ensure that the designated operator is trained in the operation of that hoist, crane or lifting device; and
  - (c) ensure that no worker operates a hoist, crane or lifting device other than a designated operator.
- (3) Subject to subsection (4), on and after July 1, 1997, an employer or contractor shall ensure that the designated operator is a qualified operator where the crane to be operated is:
- (a) a tower crane;

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- (b) an overhead travelling crane that has a load rating equal to or greater than 50 tonnes;
  - (c) a crane that is used to raise or lower a worker on a personnel-lifting unit suspended from a hoist line; or
  - (d) a mobile crane that has a load rating greater than five tonnes.
- (4) Subsection (3) does not apply to a crane that is:
- (a) mounted on a vehicle and used exclusively to load or unload that vehicle; or
  - (b) owned by an employer, operated by a worker in the service of that employer and used solely at that employer's place of employment to perform work exclusively for that employer.
- (5) On and after July 1, 1997, in any circumstances other than those described in subsection (3), an employer or contractor shall ensure that:
- (a) for any crane with a load rating greater than or equal to five tonnes, the designated operator is a competent operator; and
  - (b) for any mobile or overhead travelling crane with a load rating less than five tonnes, the designated operator is a competent worker.
- (6) No worker shall operate a hoist, crane or lifting device unless the worker is a designated operator and has been trained in the operation of that hoist, crane or lifting device.
- (7) No worker shall operate a crane unless the worker:
- (a) has written proof of training in the operation of any crane that the worker will be required or permitted to operate; and
  - (b) has that written proof of training readily accessible at all times while the worker is operating the crane.

4 Oct 96 cO-1.1 Reg 1 s204; 31 Jan 97 SR 6/97  
s10.

**Operating procedures**

**205(1)** Subject to subsection (2), an employer or contractor shall ensure that:

- (a) a copy of the manufacturer's operating manual for a hoist or crane is readily accessible to the operator; and
  - (b) an operator of a hoist or crane is thoroughly trained in and implements the manufacturer's recommended operating procedures.
- (2) Where the manufacturer's manual for a hoist or crane cannot be obtained, an employer or contractor shall develop an operating manual for the hoist or crane and ensure that:
- (a) a copy of the operating 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 operating manual.

4 Oct 96 cO-1.1 Reg 1 s205.



**Rated load**

**206(1)** An employer or contractor shall not require or permit the operator of a hoist, crane or lifting device to raise any load that is greater than the rated load determined by the manufacturer of the equipment or a professional engineer for the conditions in which the equipment is to be operated.

(2) An employer or contractor shall not require or permit the operator of a hoist, crane or lifting device to use the hoist, crane or lifting device to raise or lower workers unless the load applied to the hoist, crane or lifting device is less than one-half of the rated load as determined pursuant to subsection (1).

(3) An operator of a hoist, crane or lifting device shall not raise a load unless:

- (a) the operator has determined the accurate weight of the load; and
- (b) the load is less than the rated load for the operating conditions.

4 Oct 96 cO-1.1 Reg 1 s206.

**Raising and lowering workers**

**207(1)** Where a crane or hoist will be used to raise or lower workers, the employer or contractor 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 the hoisting equipment and personnel lifting unit are inspected by a competent person before use and daily when in use; and
- (d) ensure that the competent person records the details of the inspection in the log book.

(2) An employer or contractor shall not require or permit the operator of a crane or hoist to use the crane or hoist to raise or lower workers unless:

- (a) the personnel lifting unit meets the requirements of subsection 192(1);
- (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 mentioned in clause (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 use fall-arrest protection attached to the personnel lifting unit.

(3) An operator of a crane or hoist shall not use the crane or hoist to raise or lower workers unless:

- (a) the personnel lifting unit meets the requirements of section 192;

- (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 mentioned in clause (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 use fall-arrest protection attached to the personnel lifting unit.

4 Oct 96 cO-1.1 Reg 1 s207.

**Determining weight of load**

**208(1)** An employer or contractor shall provide the operator of a hoist, crane or lifting device with all the information necessary to enable the operator to determine readily and accurately the weight of any load that the operator is required or permitted to raise.

(2) An employer or contractor shall provide a permanent load gauge for a mobile crane that may be used for load ratings of nine tonnes or greater at the minimum operating radius.

(3) A permanent load gauge required by subsection (2) must measure the weight of any load being hoisted and instantaneously indicate that weight to the operator.

(4) Subsection (2) does not apply to cranes that:

- (a) use a device suspended by a wire rope to demolish a structure;
- (b) use a magnet to raise or lower a load; or
- (c) use a clam-style load carrier to move material.

(5) An employer or contractor shall not require or permit a worker to use a crane mentioned in subsection (2) unless the crane is equipped with a permanent load gauge that will measure the weight of any load being hoisted and instantaneously indicate that weight to the operator.

(6) An employer or contractor shall ensure that:

- (a) a worker who is required or permitted to use a crane equipped with a permanent load gauge is trained in the safe use and limitations of the permanent load gauge; and
- (b) the permanent load gauge is regularly inspected, maintained and calibrated in accordance with the manufacturer's instructions.

4 Oct 96 cO-1.1 Reg 1 s208.

**Overload switches**

**209(1)** An employer, contractor or supplier shall ensure that a tower crane is equipped with:

- (a) both:
  - (i) an overload limit switch that causes the hoist drum to stop when the load being hoisted exceeds the maximum rated load for any radius or boom angle or when the overturning moment exceeds the rated load moment; and
  - (ii) a moment overload switch that automatically restricts the radius within which the load can travel; or
- (b) a permanent load gauge.

(2) An employer or contractor shall not require or permit a worker to use a tower crane unless:

- (a) the crane is equipped with the overload limit switch and moment overload switch required by clause (1)(a) or the permanent load gauge required by clause (1)(b);
- (b) the worker is trained in the safe use and limitations of the overload limit switch and the moment overload switch or the permanent load gauge; and
- (c) the overload limit switch and moment overload switch or the permanent load gauge are regularly inspected, maintained and calibrated in accordance with the manufacturer's instructions.

4 Oct 96 cO-1.1 Reg 1 s209.

**Designated signaller**

**210(1)** An employer or contractor shall designate a signaller pursuant to section 132 where the operator of a hoist or crane does not have a clear, unobstructed view of any of the following throughout the whole range of movement of the load or hook:

- (a) the pick-up point;
- (b) the setting point and the load;
- (c) the hook, if there is no load.

(2) Before a hoisting operation begins, an employer or contractor shall ensure that the operator of the hoist or crane reviews with the designated signaller the signals to be used.

(3) Where a hand signal is to be used in connection with a hoist or crane, an employer or contractor shall ensure that the signal used is the signal that is appropriate for the activity to be carried out and that is set out in an approved standard.

(4) An operator of a hoist or crane and a designated signaller shall use the signal set out in the standard mentioned in subsection (3) that is appropriate for the activity to be carried out.

4 Oct 96 cO-1.1 Reg 1 s210.

**General requirements for cranes and hoists**

211(1) An employer, contractor or supplier shall ensure that a crane is equipped with an effective warning device that can be readily activated by the operator and that is adequate to warn workers of the impending movement of the crane.

(2) An employer, contractor or supplier shall ensure that a crane that has a boom is equipped with:

- (a) positive boom stops to prevent inadvertent movement of the boom;
- (b) a boom stop limit device to prevent the boom from being drawn back beyond a predetermined safe boom angle identified by the manufacturer;
- (c) a jib stop device to prevent the jib from being drawn back beyond the safe boom angle identified by the manufacturer, where a jib is attached to the boom; and
- (d) a boom angle indicator that is clearly visible to the operator while seated at the control station.

(3) On and after January 1, 1998, an employer, contractor or supplier shall ensure that a crane is equipped with an anti two block warning device where the crane will be used to hoist workers on a personnel lifting unit or where the crane is a hydraulic crane with a rated load of nine tonnes or greater.

(4) An employer, contractor or supplier shall ensure that a hoist or crane that operates on rails, tracks or other guides is fitted with:

- (a) a positive stop or limiting device installed on the hoist or crane or on the rails, tracks or other guides to prevent the hoist or crane from over-running safe limits or contacting other equipment that is on the same rail, track or other guide;
- (b) sweepguards installed to prevent materials on the rail, track or other guide from causing dislodgment of the hoist or crane; and
- (c) stops to prevent the crane or hoist from dropping more than 2.5 centimetres if the axle breaks.

(5) Where a worker leaves a crane or hoist unattended or parked, an employer or contractor shall ensure that:

- (a) the crane or hoist is stored in a manner that does not create a risk to any worker;
- (b) the operating machinery is locked or rendered inoperative;
- (c) the rigging and boom angle are secured; and
- (d) a mobile crane is stored on level ground with the wheels locked or chocked.

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**Hoists, cranes with outriggers, etc.**

**212** Where a hoist or crane is designed to be operated with outriggers or other stabilizing devices, an employer or contractor shall ensure that:

- (a) the outriggers or other stabilizing devices:
  - (i) are used according to the manufacturer's instructions;
  - (ii) are set on a solid footing or pad; and
  - (iii) have their controls, if any, readily accessible to the operator and in a suitable position for safe operation;
- (b) the area around the outriggers or other stabilizing devices is kept free of obstruction;
- (c) there is a minimum clearance of at least 600 millimetres between any moving part of the crane and any obstacle near the base of the hoist or crane; and
- (d) where there is a danger of a worker being trapped or crushed by any moving part of the crane when the crane swings, the area around the base of the crane is barricaded to restrict the entry of workers.

4 Oct 96 cO-1.1 Reg 1 s212.

**Operators' cabs on tower cranes**

**213** Where an operator's cab is to be attached to the boom or jib of a tower crane, an employer, contractor or supplier shall ensure that the cab is designed, positioned and attached in accordance with the specifications of the manufacturer of the crane or a professional engineer.

4 Oct 96 cO-1.1 Reg 1 s213.

**Erecting and dismantling**

**214(1)** Subject to subsection (4), an employer or contractor shall develop a written procedure for safely erecting and dismantling a hoist or crane.

(2) The written procedure required by subsection (1) must include the safe blocking of any mast, boom or jib and the number and qualifications of workers required to implement the procedure.

(3) An employer or contractor shall ensure that the erecting and dismantling of a hoist or crane is carried out in accordance with the written procedure required by subsection (1).

(4) An employer or contractor may use the manufacturer's instructions for erecting or dismantling a hoist or crane if the instructions contain the requirements set out in subsection (2).

4 Oct 96 cO-1.1 Reg 1 s214.

**Log book**

**215(1)** An employer or contractor shall:

- (a) provide a log book for each hoist and crane with a rated load greater than five tonnes and ensure that the log book is kept readily available;

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- (b) provide a copy of the log book to the operator on request;
  - (c) ensure that the hours of service of the hoist or crane and all details of any inspection, maintenance or calibration required by this Part are recorded in the log book;
  - (d) ensure that each entry required by clause (c) is signed by the person who performs the inspection, maintenance or calibration; and
  - (e) review and sign the log book on a regular basis.
- (2) Where the supplier of a hoist or crane provides a log book, an employer or contractor shall ensure that the information and signatures required by subsection (1) are recorded in the supplier's log book instead of the employer's or contractor's log book and that the supplier's log book is kept with the hoist or crane.

4 Oct 96 cO-1.1 Reg 1 s215.

**Inspections**

**216(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) Where 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 two 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 one 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.

4 Oct 96 cO-1.1 Reg 1 s216.

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217(1) Where the inspection of a hoist, crane or lifting device reveals a condition that might render the equipment unsafe or incapable of raising the rated load mentioned in subsection 206(2), an employer, contractor or supplier shall not require or permit the use of the equipment until any necessary repairs are completed.

(2) An employer, contractor or supplier shall ensure that a structural repair or modification to a component of a hoist or crane is performed only under the direction and control of a professional engineer.

(3) Before a hoist or crane is used after a structural repair or modification, an employer, contractor or supplier shall ensure that:

(a) the equipment is tested under the direction of a professional engineer; and

(b) a professional engineer has determined the rated load of the repaired or modified hoist or crane and has certified that the hoist or crane is capable of safely raising the new rated load.

(4) Where the rated load of a hoist or crane after repair or modification differs from the rated load before repair or modification, an employer, contractor or supplier shall ensure that a new indication of load rating is provided pursuant to section 203.

4 Oct 96 cO-1.1 Reg 1 s217.

**Friction type hoists**

218 On a construction site, an employer or contractor shall ensure that no material is hoisted vertically by a rope driven by friction between the rope and a powered surge wheel or drum unless the hoist is equipped with:

(a) a safety device that will prevent a free fall of the load; and

(b) an emergency stop device.

4 Oct 96 cO-1.1 Reg 1 s218.

**Material hoists**

219(1) Where a material hoist is in use, an employer or contractor shall ensure that:

(a) no worker is required or permitted to ride on the hoist; and

(b) no load projects beyond the edges of the load-carrying unit.

(2) If the controls of a material hoist are not remote from the hoist, an employer or contractor shall ensure that an adequate overhead barrier is provided to protect the operator.

(3) An employer or contractor shall ensure that:

(a) the braking systems on a material hoist are capable of stopping 150% of the rated load mentioned in subsection 206(1) at the maximum speed;

- (b) the area around the base of a material hoist is fenced or otherwise barricaded to prevent the entry of workers, and that no worker is required or permitted to enter that area except when the load-carrying unit is at the lowest level; and
- (c) a landing gate is installed:
  - (i) on any landing served by the material hoist; and
  - (ii) not less than 600 nor more than 900 millimetres from the edge of the landing.
- (4) An operator of a material hoist shall not:
  - (a) leave the controls while the load-carrying unit is in the raised position;
  - (b) operate the hoist while a landing gate is open; or
  - (c) move a load-carrying unit until the operator is informed by signal that the load-carrying unit can be moved safely.
- (5) An employer or contractor shall ensure that:
  - (a) the operator of a material hoist and a designated signaller at a landing where loading or unloading is carried on are able to maintain visual or audible communication with each other at all times during loading or unloading; and
  - (b) a material hoist that is, or is designed to be, over 20 metres high is equipped with a signal system that will:
    - (i) allow voice communication between a worker at any landing and the operator; and
    - (ii) inform the operator of the landing from which a signal originates.
- (6) An employer or contractor shall ensure that a power driven material hoist is equipped with a safety device that will stop and hold the load-carrying unit if the hoist rope or braking system fails.

4 Oct 96 cO-1.1 Reg 1 s219.

#### **Tower hoists**

- 220(1)** Where a tower hoist is used, an employer or contractor shall ensure that:
  - (a) the pulley block is securely anchored and the ropes from the pulley to the hoisting engine are enclosed; and
  - (b) at each landing, the hoist is equipped with landing gates and devices that will prevent:
    - (i) movement of the load-carrying unit when a landing gate is open; and
    - (ii) opening of a landing gate when the load-carrying unit is not standing at that landing.
- (2) Where a tower hoist is not erected inside a structure, an employer or contractor shall ensure that the hoist:
  - (a) is enclosed on all sides except the landing side by solid walls or equally effective fencing from ground level to a height of not less than two metres; and
  - (b) is adequately braced or guyed to prevent sway or movement.



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(3) Where a tower hoist is erected inside a structure, an employer or contractor shall ensure that:

- (a) the hoist is enclosed on all sides except the landing side at the ground level and at each floor level by solid walls or equally effective fencing from ground or floor level to a height of not less than two metres;
- (b) each point of access to the hoist is conspicuously marked by a warning sign; and
- (c) the hoist structure is adequately supported at vertical intervals not exceeding six metres.

4 Oct 96 cO-1.1 Reg 1 s220.

**Roofers' hoists**

221(1) Where a roofer's hoist is used, an employer or contractor shall ensure that:

- (a) all counterweights on the hoist:
    - (i) are designed as an integral part of the hoist;
    - (ii) remain securely attached to the hoist at all times that hoisting is in progress; and
    - (iii) are designed to exert an opposing moment that is equal to at least four times the moment exerted by the maximum rated load; and
  - (b) any part or section of the hoist that may become disconnected is equipped with suitable locking devices.
- (2) An employer or contractor shall not require or permit a worker to use roofing material as a counterweight on a roofer's hoist.
- (3) An employer or contractor shall ensure that a roofer's hoist is used only to perform vertical lifts.
- (4) An employer or contractor shall ensure that no worker is required or permitted to use a wooden gallows frame roofer's hoist.

4 Oct 96 cO-1.1 Reg 1 s221.

**Vehicle hoists**

222(1) In this section, "**lock**" means to fix the controls of a hoist in one position by any mechanical means.

- (2) An employer or contractor shall ensure that a pneumatic or hydraulic vehicle hoist is equipped with clearly marked controls that raise or lower the hoist only when a worker is applying pressure to the controls.
- (3) An employer or contractor shall ensure that no worker is required or permitted:
- (a) during raising or lowering of the hoist, to lock the controls mentioned in subsection (2); or
  - (b) to work or be under a raised vehicle or trailer unless the vehicle or trailer is supported by:
    - (i) a vehicle hoist that is designed to safely support the weight of the vehicle or trailer; or
    - (ii) substantial stands or blocks and, where necessary, wheel chocks.
- (4) For the purposes of subclause (3)(b)(ii), jacks alone are not sufficient.

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(5) An employer or contractor shall ensure that all pneumatic or hydraulic vehicle hoists are assembled, installed, operated and maintained according to the manufacturer's instructions.

4 Oct 96 cO-1.1 Reg 1 s222.

**Hand-operated hoists**

**223(1)** An employer or contractor shall ensure that a hand-operated hoist purchased on or after January 1, 1997 is designed, constructed, installed, operated and maintained in accordance with an approved standard.

(2) An employer, contractor or supplier shall ensure that a hand-operated hoist is equipped with a spring actuated or weighted ratchet and pawl, load brake or other mechanism that will stop and hold the load at any height desired by the operator.

(3) An employer or contractor shall not require or permit a worker to work under a load raised by a hand-operated hoist unless the load is supported with adequate stands or blocks.

4 Oct 96 cO-1.1 Reg 1 s223.

**Winches**

**224(1)** An employer or contractor shall inspect all manually-operated hoisting or winching equipment thoroughly at appropriate intervals to ensure that the manually-operated hoisting or winching equipment is capable of safe operation.

(2) Before a worker operates a winch on a vehicle, the worker shall ensure that the brakes are applied or other effective means are taken to prevent movement of the vehicle.

(3) A worker who operates a vehicle on which a winch is in use shall not move the vehicle until the winch operator has given a signal that the vehicle can be moved safely.

(4) An employer or contractor shall not require or permit a worker to cross over or under a winch cable between a winch and the load or to go underneath the load while a winch is in use.

4 Oct 96 cO-1.1 Reg 1 s224.

**A-frames and gin poles**

**225** An employer or contractor shall ensure that:

- (a) no A-frame or gin pole is inclined more than 45° from the vertical;
- (b) an A-frame or gin pole is restrained from uncontrolled lateral and vertical movement; and
- (c) the sheave and the cable keeper of an A-frame or gin pole are attached securely enough to withstand any load to which the assembly may be subjected.

4 Oct 96 cO-1.1 Reg 1 s225.

**Pile-driving equipment**

**226(1)** An employer or contractor shall ensure that:

- (a) pile-driving equipment is operated, inspected and maintained according to the manufacturer's instructions; and

- (b) any structural repairs or modifications to pile-driving equipment are made under the direction of a professional engineer and certified as safe by the professional engineer before the pile-driving equipment is put in service.
- (2) Where pile-driving equipment is used, an employer or contractor shall ensure that a brake band or clutch that is contaminated by oil or grease is dismantled and cleaned or replaced before further use.
- (3) An employer or contractor shall ensure that:
  - (a) before a pile is placed in position for driving, the pile head is cut square and, in the case of a timber pile, cleaned free of debris, bark and splintered wood; and
  - (b) workers are adequately protected from injury that may be caused by the failure of a pile being driven.
- (4) An employer or contractor shall not require or permit a worker who works with pile-driving equipment:
  - (a) to remain or ride on a load being moved;
  - (b) to work, stand or pass under a suspended load; or
  - (c) to be on the superstructure of the equipment or within range of a falling pile unless the worker is directly involved in the operation of hoisting piles.
- (5) Where a worker uses pile-driving equipment, an employer or contractor shall ensure that:
  - (a) a pile hammer is securely chocked while the hammer is suspended and the equipment is not operating; and
  - (b) no pile is hoisted in the leads while a worker who is not directly involved in the operation is on the superstructure of the equipment or within range of a falling pile.
- (6) Where pile-driving equipment is fitted with pressure hammers, an employer, contractor or supplier shall ensure that the hoses are equipped with safety chains or safety ropes on the pressure side of the hose connections.
- (7) An employer or contractor shall ensure that:
  - (a) crane booms used with vibratory hammers or vibratory pile extractors are inspected monthly by a competent person for structural defects; and
  - (b) any structural defects found pursuant to clause (a) are repaired under the direction of a professional engineer and certified as safe by the professional engineer before the booms are put back into service.
- (8) An operator of pile-driving equipment shall ensure that:
  - (a) the pile hammer is securely chocked while the hammer is suspended and the equipment is not operating; and
  - (b) no pile is hoisted in the leads while a worker who is not directly involved in the operation is on the superstructure of the equipment or within range of a falling pile.

PART XIV  
**Rigging**

**Interpretation**

**227** In this Part:

- (a) **“pendant”** means a fixed-length rope that forms part of a boom-suspension system;
- (b) **“rigging”** means any combination of rope, wire rope, cable, chain, sling, sheave, hook and associated fittings used in a hoisting operation.

4 Oct 96 cO-1.1 Reg 1 s227.

**General requirements**

**228** An employer or contractor shall ensure that:

- (a) all rigging is assembled, used, maintained and dismantled under the supervision of a competent worker and in accordance with the manufacturer's specifications and instructions; and
- (b) any worker who is required or permitted to assemble, use, maintain or dismantle rigging is trained in safe rigging practices.

4 Oct 96 cO-1.1 Reg 1 s228.

**Inspection**

**229** An employer or contractor shall ensure that all rigging and components of rigging are inspected thoroughly at appropriate intervals and visually inspected before use to ensure that the rigging and rigging components will safely perform the intended function of the rigging and rigging components.

4 Oct 96 cO-1.1 Reg 1 s229.

**Maximum loads**

**230(1)** An employer or contractor shall ensure that no load is imposed on any rigging that is in excess of:

- (a) 10% of the breaking strength of the weakest part of the rigging, in the case of rigging used to raise or lower workers; and
  - (b) 20% of the breaking strength of the weakest part of the rigging, in the case of any other rigging.
- (2) Subject to subsection (3), an employer, contractor or supplier shall ensure that the maximum load that may be hoisted by any rigging, as determined by the manufacturer of the rigging or a professional engineer, is conspicuously marked on the rigging.
- (3) Where it is not practicable to conspicuously mark the maximum load on the rigging, an employer or contractor shall ensure that information about the maximum load that may be hoisted by the rigging is made readily available to the workers.

4 Oct 96 cO-1.1 Reg 1 s230.

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**Slings**

**231(1)** An employer or contractor shall ensure that a sling used to hoist a load and the sling's fittings and attachments are:

- (a) suitable for the intended use of the sling, fittings and attachments;
- (b) suitable for, and capable of, supporting the load being hoisted;
- (c) arranged to prevent the load or any part of the load from slipping or falling;
- (d) arranged to ensure that the load is equally divided among the slings, when more than one sling is used;
- (e) capable of supporting:
  - (i) at least 10 times the load to which the sling, fittings and attachments may be subjected, where they are used to support a worker; and
  - (ii) at least five times the maximum load to which the sling, fittings and attachments may be subjected, in any other case; and
- (f) guarded to prevent damage to the sling, where the sling may be applied over a sharp edge.

(2) An employer, contractor or supplier shall ensure that a sling:

- (a) is clearly labelled to indicate the sling's maximum load or the sling's maximum load is made readily available to workers; and
- (b) is not used if the sling has been or may be damaged.

4 Oct 96 cO-1.1 Reg 1 s231.

**Shackles**

**232(1)** An employer or contractor shall ensure that no shackle is subjected to a load greater than the maximum load indicated on the shackle.

(2) An employer or contractor shall ensure that:

- (a) all shackle pins are installed to prevent accidental withdrawal; and
- (b) a bolt is never used in place of a properly fitted shackle pin.

4 Oct 96 cO-1.1 Reg 1 s232.

**Sheaves, spools and drums**

**233(1)** An employer or contractor shall ensure that:

- (a) the diameter of a sheave, spool or drum for wire rope is not less than the diameter specified by the manufacturer of the rope and the rope is the correct size for the sheave, spool or drum over which the rope passes;
- (b) the grooving of a sheave is the correct size for the diameter of rope; and
- (c) a block or sheave is constructed or installed so that the rope cannot leave the block or sheave groove.

(2) An employer or contractor shall ensure that:

- (a) rope fastened to a winding drum is fastened securely;

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- (b) the number of full wraps of rope that remain on a winding drum corresponds to the manufacturer's recommendations; and
- (c) where there are no manufacturer's recommendations, at least five full wraps of rope remain on a winding drum at all times.

4 Oct 96 cO-1.1 Reg 1 s233.

**Knots, wire rope clips****234(1)** An employer or contractor shall ensure that:

- (a) no knot or wire rope clip is used as a stopper on a rope or rope end that passes through a winding drum; and
  - (b) no knot is used to connect rigging hardware to a wire rope.
- (2) An employer or contractor shall ensure that all wire rope clips are:
- (a) made of drop-forged steel;
  - (b) installed according to the manufacturer's instructions; and
  - (c) inspected at frequent intervals to ensure the nuts are tight.
- (3) Where U-bolt clips are used to fasten wire rope, an employer or contractor shall ensure that:
- (a) the U-bolt is installed so that the U section bears on the short or dead end of the rope and the saddle bears on the long or live end of the rope;
  - (b) the nuts are correctly torqued; and
  - (c) the number of clips and the amount of rope turn-back conform to the manufacturer's specifications and instructions.
- (4) Where double saddle or fist clips are used to fasten wire rope, an employer or contractor shall ensure that the clips are installed in numbers and with the amount of rope turn-back specified by the manufacturer.
- (5) Where double base clips are used to fasten wire rope, an employer or contractor shall ensure that the clips are at least six rope diameters in length.

4 Oct 96 cO-1.1 Reg 1 s234.

**Eye loops****235(1)** An employer or contractor shall ensure that every eye loop used in a sling:

- (a) is formed from:
    - (i) a flemish eye splice secured by a pressed steel ferrule; or
    - (ii) a steel wire loop secured by a cold-formed aluminum alloy ferrule; and
  - (b) is readily identifiable as being formed as described in clause (a).
- (2) Except where otherwise specified by the manufacturer of the rope, an employer or contractor shall ensure that a suitable and properly sized thimble is inserted in an eye loop to increase the strength of the eye and decrease wear on the rope.

4 Oct 96 cO-1.1 Reg 1 s235.

**Hooks**

**236(1)** Where the dislodgment of a hook could injure a worker, an employer or contractor shall ensure that the hook is secured by a safety latch, mousing, shackle or other effective means, except where:

- (a) skeleton steel is being hoisted or a similar operation is being performed while a sorting or grab hook is being used;
- (b) power poles or telephone poles are being hoisted into place or removed using an approved S-hook;
- (c) the design of the hook and the work practices used prevent dislodgement of the hook; or
- (d) the health and safety of a worker disconnecting the hook would be placed at risk.

(2) An employer or contractor shall not require or permit a worker to use a hook where:

- (a) the throat opening has been increased or the tip has been bent more than 10° out of plane from the hook body; or
- (b) any dimension of the hook has been reduced by more than 10%.

(3) An employer or contractor shall not require or permit a worker to side load, back load or tip load a hook unless the hook has been specifically designed for that purpose.

(4) An employer, contractor or supplier shall ensure that:

- (a) a hook is clearly labelled with the maximum load of the hook in a location where a worker using the hook can easily see the rating; or
- (b) the hook's maximum load is made readily available to workers.

(5) An employer or contractor shall not require or permit a worker to allow a load to bear against a safety latch, mousing or shackle.

4 Oct 96 cO-1.1 Reg 1 s236.

**Wedge sockets**

**237** Where a wedge socket is used to anchor a wire rope, an employer or contractor shall ensure that:

- (a) the wedge socket is installed according to an approved method;
- (b) the dead end of the wire rope extends at least 15 centimetres beyond the wedge socket; and
- (c) the wire rope is fitted with a wire rope clip to prevent accidental release or loosening of the wedge.

4 Oct 96 cO-1.1 Reg 1 s237.

**Wire rope**

- 238(1)** An employer or contractor shall ensure that wire rope used in rigging:
- (a) is the type, size, grade and construction recommended by the manufacturer of the hoisting equipment or is rope of an equivalent type, size, grade and construction;
  - (b) is compatible with the sheaves and the drum of the hoisting equipment;
  - (c) is lubricated to prevent corrosion and wear;
  - (d) is not spliced or knotted; and
  - (e) is fitted with end connections that:
    - (i) conform to the manufacturer's specifications and instructions concerning number, size and installation method; and
    - (ii) are securely fastened to the wire rope.
- (2) An employer or contractor shall ensure that no wire rope used in rigging:
- (a) subject to subsection (3), contains six or more randomly-distributed wires that are broken in one rope lay, or three or more wires that are broken in one strand in a rope lay;
  - (b) is worn by more than one-third of the original diameter of the wire rope's outside individual wires; or
  - (c) shows evidence of:
    - (i) kinking, bird-caging, corrosion or other damage resulting in distortion of the rope structure; or
    - (ii) damage that may result in rope failure.
- (3) An employer or contractor shall ensure that no wire rope that is static or that is used for pendants has:
- (a) three or more broken wires in one lay or in a section between end connectors; or
  - (b) one or more broken wires at an end connector.
- (4) An employer or contractor shall ensure that rotation-resistant wire rope is not used:
- (a) as a cable in boom hoist reeving and pendants; or
  - (b) where an inner wire or strand of the wire rope is damaged or broken.
- (5) An employer or contractor shall ensure that no load is imposed on any wire rope that exceeds the maximum load recommended by the manufacturer of the wire rope.

4 Oct 96 cO-1.1 Reg 1 s238.

**Rotation or motion of load**

**239** Where a worker may be endangered by the rotation or motion of a load during hoisting, an employer or contractor shall ensure that:

- (a) one or more taglines are used to control the rotation or motion of the load;



- (b) the taglines are of sufficient length to protect the workers from any overhead hazard;
- (c) the taglines are not removed from the load until the load is securely landed; and
- (d) only workers directly engaged in the hoisting operation are allowed to be in the area where the load is being hoisted or lowered.

4 Oct 96 cO-1.1 Reg 1 s239.

## PART XV Robotics

### Interpretation

240 In this Part:

- (a) **“emergency stop”** means a circuit that uses hardware-based components to override all other robot controls, shut off energy to a robot and stop all moving parts of a robot;
- (b) **“end-effector”** means an accessory device or tool specifically designed to be attached to a robot wrist or tool-mounting plate to enable the robot to perform the robot’s intended task;
- (c) **“interlock”** means an arrangement whereby the operation of one control or mechanism brings about, or prevents, the operation of another control or mechanism;
- (d) **“interlock barrier”** means a physical barrier around a work envelope that is equipped with gates and interlocks designed to stop all automatic operations of a robot and robot system when any gate within the barrier is opened;
- (e) **“limiting device”** means a device that restricts the distance a robot can travel after the limiting device is actuated;
- (f) **“pendant”** means a portable control device that permits an operator to control a robot from within the work envelope of the robot;
- (g) **“presence-sensing device”** means a device that is designed, constructed and installed to create a sensing field or area and that detects an intrusion into the field or area by workers, robots or other objects and stops all motion of the robot when the presence-sensing device is activated;
- (h) **“restricted work envelope”** means the portion of a work envelope to which a robot is restricted by limiting devices that establish limits that cannot be exceeded if the robot or the robot’s controls fail;
- (i) **“robot”** means a reprogrammable multi-functional manipulator designed to move material, parts, tools or specialized devices through variable programmed motions to perform a variety of tasks;

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(j) **“robot system”** means a robot and all the accessories required for the robot’s operation, including end-effectors, pendants, devices, sensors, safeguards, power and control panels and communication interfaces to sequence and monitor the robot;

(k) **“slow speed”** means a mode of operation in which the speed of any part of a robot does not exceed 250 millimetres per second;

(l) **“teach”** means to generate and store a series of positional datapoints by moving a robot arm through a path of intended motions;

(m) **“work envelope”** means the volume of space enclosing the maximum designed reach of a robot, including the end-effector, and the material, part, tool or specialized device that the robot is designed to manipulate.

4 Oct 96 cO-1.1 Reg 1 s240.

**Application of Part**

**241** This Part applies to the installation, operation, teaching and maintenance of robots and robot systems, but does not apply to personal robots, automatic guided vehicle systems, automated storage and retrieval systems, automatic conveyor and shuttle systems, mobile robots or numerically controlled machine tools.

4 Oct 96 cO-1.1 Reg 1 s241.

**Safe work practices and procedures**

**242(1)** An employer, in consultation with the committee, the representative or, where there is no committee or representative, the workers, shall:

(a) assess the potential hazards to a worker who is required or permitted to install, operate, teach or maintain a robot or robot system at the place of employment; and

(b) develop written safe work practices and procedures for the installation, operation, teaching and maintenance of robots and robot systems.

**(2)** An employer shall ensure that the workers are trained in and implement the safe work practices and procedures developed pursuant to clause (1)(b).

4 Oct 96 cO-1.1 Reg 1 s242.

**General requirements**

**243** An employer shall ensure that robots and robot systems are:

(a) installed, anchored and wired in accordance with the manufacturer’s recommendations and specifications; and

(b) compatible with conditions in the environment of the place of employment, including temperature, humidity, corrosive conditions, the presence of dust, the presence of electromagnetic interference or radiofrequency interference and other conditions that could affect the safe operation or control of the robot or robot system.

4 Oct 96 cO-1.1 Reg 1 s243.

**Safeguards**

244(1) Subject to subsection 245(2) and sections 246 and 247, an employer shall ensure that every robot and robot system is equipped with safeguards:

- (a) to prevent a worker from entering the restricted work envelope while the robot or robot system is in motion; or
  - (b) to inhibit robot motion while any part of a worker's body is within the restricted work envelope while the robot or robot system is in motion.
- (2) The safeguards required by subsection (1):
- (a) may include interlock barriers, limiting devices and presence-sensing devices; and
  - (b) must include clearly visible line markings on the floor on which the robot or robot system is mounted to identify the restricted work envelope.

4 Oct 96 cO-1.1 Reg 1 s244.

**Controls**

245(1) Subject to subsection (2), an employer shall ensure that a robot's primary controls, including a restart control:

- (a) are located outside the restricted work envelope;
  - (b) are arranged so that the robot and robot system are clearly visible to the worker who operates the primary controls; and
  - (c) cannot be activated inadvertently.
- (2) Where a worker is required or permitted to enter the restricted work envelope, an employer shall ensure that the robot's motion cannot be initiated by any person other than the worker within the restricted work envelope using a pendant.
- (3) An employer shall ensure that a worker who operates a robot or robot system is provided with a readily accessible emergency stop device.
- (4) An employer shall ensure that the controls of a robot provide a slow speed option.

4 Oct 96 cO-1.1 Reg 1 s245.

**Protection during maintenance or repair**

246 Before a worker undertakes the maintenance or repair of a robot or robot system, an employer shall ensure that:

- (a) the robot or robot system is locked out and remains locked out during that activity; or
- (b) an equally effective procedure is implemented to protect the worker.

4 Oct 96 cO-1.1 Reg 1 s246.

**Protection during teaching**

**247** Where a worker is required or permitted to teach a robot, an employer shall ensure that:

- (a) only the worker who is teaching the robot is allowed to enter the restricted work envelope;
- (b) the robot system is under the sole control of the worker who is teaching the robot;
- (c) when the robot is under drive power, it operates at slow speed only or at a speed that is deliberately selected and maintained by the worker who is teaching the robot;
- (d) the robot will not respond to a remote interlock or signal that would activate the robot; and
- (e) the worker leaves the restricted work envelope before returning the robot to automatic operation.

4 Oct 96 cO-1.1 Reg 1 s247.

## PART XVI

### Entrances, Exits and Ladders

**General duty re entrances, exits**

**248** An employer, contractor or owner shall provide and maintain a safe means of entrance to and exit from a place of employment and all worksites and work-related areas in or on a place of employment.

4 Oct 96 cO-1.1 Reg 1 s248.

**Doors**

**249** An employer, contractor or owner shall ensure that:

- (a) every door in a hazardous work area opens away from the hazard and is not blocked by an obstruction; and
- (b) every walk-in freezer or refrigerator is equipped with a means to open the door from the inside.

4 Oct 96 cO-1.1 Reg 1 s249.

**Travelways**

**250(1)** An employer, contractor or owner shall ensure that every travelway:

- (a) is strong enough to withstand any traffic to which the travelway may be subjected;
- (b) has secure footing for workers and adequate traction for vehicles or equipment; and
- (c) is at least:
  - (i) 600 millimetres wide, in the case of travelways installed before July 1, 1997; and

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(ii) 900 millimetres wide, in the case of travelways installed on and after July 1, 1997.

(2) An employer, contractor or owner shall ensure that every travelway that may give rise to a hazard described in subsection 116(2) is provided with a guardrail.

4 Oct 96 cO-1.1 Reg 1 s250.

#### Stairs

251 An employer, contractor or owner shall ensure that:

(a) the widths of treads, the depths of treads and the vertical distances between treads are uniform throughout the length of any stairway and that each tread is level; and

(b) any stairs installed on or after the day on which this section comes into force, including temporary stairs, are at least 600 millimetres wide.

4 Oct 96 cO-1.1 Reg 1 s251.

#### Ladders

252(1) An employer, contractor or supplier shall ensure that every ladder is designed, constructed, used and maintained to perform its function safely.

(2) An employer, contractor or supplier shall ensure that:

(a) no wooden ladder or stepladder is painted with any substance other than a transparent coating; and

(b) no ladder is made by fastening cleats across a single rail or post.

4 Oct 96 cO-1.1 Reg 1 s252.

#### Portable ladders

253(1) In this section and section 254, “**portable ladder**” means any ladder that is not fixed in place, and includes a stepladder.

(2) An employer or contractor shall ensure that:

(a) a portable ladder is equipped with non-slip feet;

(b) a portable ladder is secured against accidental movement during use;

(c) a metal or wire-bound portable ladder is not used where the ladder or a worker handling or using the ladder may come into contact with an exposed energized electrical conductor; and

(d) a portable ladder extends at least one metre above any platform, roof or other landing to which the ladder is used as a means of access.

(3) An employer or contractor shall ensure that each worker who handles or uses a portable ladder is instructed in the requirements of this section.

(4) An employer or contractor shall ensure that a stepladder:

(a) is not more than six metres high when set for use;

(b) has legs that are securely held in position by means of metal braces or an equivalent rigid support; and

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- (c) when in use, has a front section slope at an angle of one horizontal to six vertical.
- (5) An employer or contractor shall ensure that:
  - (a) an extension ladder is equipped with locks that securely hold the sections of the ladder in the extended position;
  - (b) where a section of an extension ladder is extended, the section that is extended overlaps another section for at least one metre;
  - (c) an extension ladder consisting of two sections does not exceed 14.6 metres in length; and
  - (d) an extension ladder consisting of more than two sections does not exceed 20 metres in length.
- (6) An employer or contractor shall ensure that no single portable ladder and no section of an extension ladder exceeds nine metres in length.

4 Oct 96 cO-1.1 Reg 1 s253.

**Use of portable ladders**

**254(1)** Where a worker uses a portable ladder other than a stepladder, an employer or contractor shall ensure that:

- (a) the ladder is placed against the structure so that the slope of the ladder is one horizontal to four vertical;
  - (b) the worker does not extend any part of the worker's body except for the worker's arms beyond the side rails of the ladder; and
  - (c) the worker maintains a three-point stance on the ladder at all times.
- (2) An employer or contractor shall ensure that a worker does not work from either of the top two rungs or steps of a portable ladder, unless the ladder is a stepladder that has a platform equipped with a suitable handrail.

4 Oct 96 cO-1.1 Reg 1 s254.

**Fixed ladders**

**255(1)** In this section, "**fixed ladder**" means a ladder that is fixed to a structure in a vertical position or at an angle that is between vertical and 25° to the vertical, but does not include a ladder used in underground mining operations to which *The Mines Regulations* apply.

- (2) A ladder that is fixed to a structure at an angle of more than 25° to the vertical, or more than one horizontal to two vertical, is deemed to be a stairway and is subject to the requirements of sections 121 and 251.
- (3) An employer, contractor or owner shall ensure that:
- (a) the rungs on a fixed ladder are uniformly spaced with centres that are not less than 250 and not more than 300 millimetres apart;
  - (b) a clearance of at least 150 millimetres is maintained between the rungs on a fixed ladder and the structure to which the ladder is affixed;

- (c) a fixed ladder is securely held in place at the top and bottom and at any intermediate points that are necessary to prevent sway;
  - (d) the side rails of a fixed ladder extend not less than one metre above any platform, roof or other landing on the structure to which the ladder is fixed;
  - (e) a ladder opening in a platform, roof or other landing does not exceed 750 millimetres by 750 millimetres;
  - (f) a fixed ladder that is more than six metres high:
    - (i) is equipped with:
      - (A) platforms at intervals of not more than six metres or ladder cages, in the case of ladders installed on or before March 11, 1986; or
      - (B) platforms at intervals of not more than six metres and ladder cages, in the case of ladders installed on or after March 12, 1986; or
    - (ii) is equipped with a fall-arresting device that meets the requirements of Part VII; and
  - (g) a fixed ladder in an excavated shaft is installed in a compartment that is separated from the hoist compartment by a substantial partition.
- (4) Where a ladder cage is required by these regulations, an employer, contractor or owner shall ensure that:
- (a) the ladder cage is constructed of hoops that are not more than 1.8 metres apart, joined by vertical members not more than 300 millimetres apart around the circumference of the hoop;
  - (b) no point on a hoop of the ladder cage is more than 750 millimetres from the ladder; and
  - (c) the ladder cage is of sufficient strength and is designed to contain any worker who may lean or fall against a hoop.
- (5) In the case of a ladder cage constructed before July 1, 1997, an employer, contractor or owner shall ensure that:
- (a) the lowest hoop of the ladder cage is not more than three metres from a platform, landing or the ground; and
  - (b) the uppermost hoop of the ladder cage is at the level of a platform, landing or roof.
- (6) In the case of a ladder cage constructed on or after July 1, 1997, an employer, contractor or owner shall ensure that:
- (a) the lowest hoop of the ladder cage is not more than 2.2 metres from a platform, landing or the ground; and
  - (b) the uppermost hoop of the ladder cage extends at least one metre above the level of a platform, landing or roof.

**Construction ladders**

**256(1)** In this section, “**construction ladder**” means a ladder constructed at a worksite.

(2) An employer or contractor shall ensure that:

- (a) the side rails of a construction ladder that is five metres or less in length are constructed of number 1 structural grade spruce lumber that measures not less than 38 by 89 millimetres or of material of equivalent strength and rigidity;
- (b) the side rails of a construction ladder that is over five metres in length are constructed of number 1 structural grade spruce lumber that measures not less than 38 by 140 millimetres or of material of equivalent strength and rigidity;
- (c) no construction ladder is more than 10 metres long;
- (d) the rungs of a construction ladder are:
  - (i) constructed of number 1 structural grade spruce lumber that measures not less than 21 by 89 millimetres or of material of equivalent strength and rigidity;
  - (ii) supported by filler blocks or secured by a single continuous wire; and
  - (iii) uniformly spaced with not more than 300 millimetres between their centres;
- (e) the width between the side rails of a construction ladder is at least 500 millimetres;
- (f) every two-way construction ladder that permits traffic in both directions at the same time is not less than 1.2 metres wide and is constructed with a centre structural rail throughout the ladder’s entire length; and
- (g) no plywood is used for the side rails or rungs of a construction ladder.

4 Oct 96 cO-1.1 Reg 1 s256.

## PART XVII

### Excavations, Trenches, Tunnels and Excavated Shafts

**Interpretation**

**257** In this Part:

- (a) “**sheeting**” means the members of a shoring system that retain the earth in position and, in turn, are supported by other members of the shoring system, and includes uprights placed so that individual members are closely spaced, in contact with or interconnected to each other;
- (b) “**shoring**” means an assembly of structural members designed to prevent earth or material from falling or sliding into an excavation;
- (c) “**spoil pile**” means material excavated from an excavation, trench, tunnel or excavated shaft;



(d) **“temporary protective structure”** means a structure or device in an excavation, trench, tunnel or excavated shaft that is designed to provide protection from cave-ins, collapse, sliding or rolling materials, and includes shoring, boxes, trench shields and similar structures;

(e) **“type 1 soil”** means soil that most closely exhibits the following characteristics:

- (i) is hard in consistency, very dense in compactive condition and, if a standard penetration test is performed, has a standard penetration resistance of greater than 50 blows per 300 millimetres;
- (ii) can be penetrated only with difficulty by a small, sharp object;
- (iii) has a dry appearance;
- (iv) has no signs of water seepage;
- (v) can be excavated only by mechanical equipment;
- (vi) does not include previously excavated soils;

(f) **“type 2 soil”** means soil that most closely exhibits the following characteristics:

- (i) is very stiff in consistency, dense in compactive condition and, if a standard penetration test is performed, has a standard penetration resistance of 30 to 50 blows per 300 millimetres;
- (ii) can be penetrated with moderate difficulty by a small, sharp object;
- (iii) is difficult to excavate with hand tools;
- (iv) has a low to medium natural moisture content and a damp appearance after it is excavated;
- (v) has no signs of water seepage;
- (vi) does not include previously excavated soils;

(g) **“type 3 soil”** means soil that:

- (i) most closely exhibits the following characteristics:
  - (A) is stiff in consistency, compact in compactive condition and, if a standard penetration test is performed, has a standard penetration resistance of 10 to 29 blows per 300 millimetres;
  - (B) can be penetrated with moderate ease by a small, sharp object;
  - (C) is moderately difficult to excavate with hand tools;
  - (D) exhibits signs of surface cracking;
  - (E) exhibits signs of localized water seepage; or
- (ii) is previously excavated soil that does not exhibit any of the characteristics of type 4 soil;

- (h) **“type 4 soil”** means soil that:
- (i) exhibits any of the following characteristics:
    - (A) is firm to very soft in consistency, loose to very loose in compactive condition and, if a standard penetration test is performed, has a standard penetration resistance of less than 10 blows per 300 millimetres;
    - (B) is easy to excavate with hand tools;
    - (C) is cohesive soil that is sensitive and, on disturbance, is slightly reduced in internal strength;
    - (D) is dry and runs easily into a well-defined conical pile;
    - (E) has a wet appearance and runs easily or flows;
    - (F) is granular soil below the water table, unless the soil has been dewatered;
    - (G) exerts substantial hydraulic pressure when a support system is used; or
  - (ii) is previously excavated soil that exhibits any of the characteristics set out in paragraphs (i)(A) to (G);
- (i) **“upright”** means a vertical member of a shoring system that is placed in contact with the earth and usually positioned so that the vertical member does not contact any other vertical member;
- (j) **“wale”** means a horizontal member of a shoring system that is placed parallel to the excavation face and whose sides bear against the vertical members of the shoring system or the earth.

4 Oct 96 cO-1.1 Reg 1 s257.

**Application of Part**

**258** This Part applies to excavations, trenches, tunnels and excavated shafts other than excavations, trenches, tunnels and excavated shafts that are governed by *The Mines Regulations*.

4 Oct 96 cO-1.1 Reg 1 s258.

**Locating underground pipelines, etc.**

**259(1)** An employer or contractor shall accurately establish the location of all underground pipelines, cables and conduits in an area where work is to be done and shall ensure that those locations are conspicuously marked:

- (a) before commencing work using power tools or powered mobile equipment on an excavation, trench, tunnel, excavated shaft or borehole; or
- (b) before breaking ground surface with any equipment to a depth that may contact underground utilities.

- (2) Where an operation is to be undertaken involving the disturbance of soil within 600 millimetres of an existing pipeline, cable or conduit, an employer or contractor shall ensure that the pipeline, cable or conduit is exposed by hand digging or other approved method before mechanical excavating is allowed to begin within that area.
- (3) Where an operation mentioned in subsection (2) exposes a pipeline, cable or conduit, an employer or contractor shall ensure that the pipeline, cable or conduit is supported to prevent any damage during backfilling and any subsequent settlement of the ground.
- (4) Where there is contact with or damage to an underground pipeline, cable or conduit, an employer or contractor shall immediately:
- (a) notify the owner of the pipeline, cable or conduit that contact or damage has occurred; and
  - (b) take steps to protect the health and safety of any worker who may be at risk until any unsafe condition resulting from the contact or damage is repaired or corrected.

4 Oct 96 cO-1.1 Reg 1 s259.

**Excavating and trenching**

**260(1)** An employer or contractor shall ensure that:

- (a) before excavating or trenching begins, where the stability of a structure may be affected by an excavation or trench, the structure is supported by a temporary protective structure designed by a professional engineer and constructed, installed, used, maintained and dismantled in accordance with that design;
  - (b) all loose material is scaled or trimmed from the side of an excavation or trench where a worker is required or permitted to be present;
  - (c) equipment, spoil piles, rocks and construction materials are kept at least one metre from the edge of an excavation or trench;
  - (d) an excavation or trench that a worker may be required or permitted to enter is kept free from any accumulation of water; and
  - (e) the slope of a spoil pile adjacent to an excavation or trench has a slope at an angle not steeper than one horizontal to one vertical, or 45° measured from the horizontal.
- (2) Subject to subsections (3) and (4), where a wall of an excavation or trench is cut back, an employer or contractor shall ensure that:
- (a) in the case of type 1 or type 2 soil, the walls are sloped to within 1.2 metres of the bottom of the excavation or trench, with a slope at an angle not steeper than one horizontal to one vertical, or 45° measured from the horizontal;
  - (b) in the case of type 3 soil, the walls are sloped from the bottom of the excavation or trench, with a slope at an angle not steeper than one horizontal to one vertical, or 45° measured from the horizontal; and

- (c) in the case of type 4 soil, the walls are sloped from the bottom of the excavation or trench, with a slope at an angle not steeper than three horizontal to one vertical, or 19° measured from the horizontal.
- (3) Where an excavation or trench contains more than one type of soil, the soil must be classified as the soil type with the highest number.
- (4) Subsection (2) does not apply to an excavation or trench that is cut in sound and stable rock.
- (5) Where an excavation or trench is to be made in the vicinity of an overhead power line, an employer or contractor shall ensure that the work is carried out in a manner that will not reduce the original support provided for any overhead power line pole, unless permission has previously been obtained from the utility company responsible for the overhead power line.
- (6) An employer or contractor shall ensure that no powered mobile equipment or vehicle is operated, and that no powered mobile equipment, vehicle or heavy load is located, near an excavation or trench so as to affect the stability of the walls of the excavation or trench.

4 Oct 96 cO-1.1 Reg 1 s260; 31 Jan 97 SR 6/97  
s11.

#### Temporary protective structures

- 261(1)** An employer or contractor shall ensure that a temporary protective structure to be used pursuant to this Part:
- (a) is designed, constructed, installed, used, maintained and dismantled to provide adequate protection to a worker who is in an excavation, trench, tunnel, excavated shaft or borehole and to a worker who installs, uses, maintains or dismantles the temporary protective structure; and
- (b) extends at least 300 millimetres above the wall of the excavation, trench, tunnel, excavated shaft or borehole to prevent material from falling in.
- (2) An employer or contractor shall ensure that:
- (a) all drawings and instructions necessary to safely construct, install, use, maintain and dismantle a temporary protective structure required pursuant to this Part are kept at the site of the excavation, trench, tunnel, excavated shaft or borehole; and
- (b) where required by this Part, a professional engineer certifies that the temporary protective structure, if constructed and installed as drawn and used, maintained and dismantled as instructed, will provide adequate protection to a worker who constructs, installs, uses, maintains or dismantles the temporary protective structure.
- (3) Freezing the ground by artificial means is acceptable as an alternative or partial alternative to installing a temporary protective structure in an excavation, trench, tunnel, excavated shaft or borehole if the freezing is:
- (a) designed by a professional engineer to control the ground condition so as to ensure the safety of workers; and

- (b) performed in accordance with the professional engineer's specifications and instructions.
- (4) Natural freezing of the ground is not acceptable as an alternative or partial alternative to the installation of temporary protective structures.

4 Oct 96 cO-1.1 Reg 1 s261.

**Protection against cave-in of excavations**

**262(1)** Where a worker is present in an excavation that is more than 1.2 metres deep and is required to be closer to the wall or bank than the distance equal to the depth of the excavation, an employer or contractor shall ensure that the worker is protected from cave-ins or sliding material by:

- (a) cutting back the upper portion of the walls of the excavation in accordance with subsection 260(2);
  - (b) installing a temporary protective structure; or
  - (c) a combination of cutting back the walls to the slope specified in subsection 260(2) and installing a temporary protective structure that extends at least 300 millimetres above the base of the cut-back.
- (2) Subject to subsection (3), an employer or contractor shall ensure that a temporary protective structure required by clause (1)(b) or (c) is:
- (a) designed and installed using shoring made of number 1 structural grade spruce lumber having the dimensions set out in Table 17 of the Appendix for the type of soil and the depth of the excavation or made of material of equivalent or greater strength; or
  - (b) designed by a professional engineer and constructed, installed, used, maintained and dismantled in accordance with that design.
- (3) An employer or contractor shall ensure that a temporary protective structure in an excavation more than three metres deep is designed and certified as safe by a professional engineer and installed, used, maintained and dismantled in accordance with that design.

4 Oct 96 cO-1.1 Reg 1 s262.

**Protection against cave-in of trenches**

**263(1)** Where a worker is present in a trench that is more than 1.2 metres deep, an employer or contractor shall ensure that the worker is protected from cave-ins or sliding material by:

- (a) cutting back the upper portion of the walls of the trench in accordance with subsection 260(2);
- (b) installing a temporary protective structure; or
- (c) a combination of cutting back the walls to the slope specified in subsection 260(2) and installing a temporary protective structure that extends at least 300 millimetres above the base of the cut-back.

- (2) An employer or contractor shall ensure that a temporary protective structure required by clause (1)(b) or (c) is:
- (a) designed and installed using shoring made of number 1 structural grade spruce lumber having the dimensions set out in Table 17 of the Appendix for the type of soil and the depth of the trench or made of material of equivalent or greater strength; or
  - (b) designed by a professional engineer and constructed, installed, used, maintained and dismantled in accordance with that design.
- (3) An employer or contractor shall ensure that a temporary protective structure in a trench more than six metres deep in type 1, type 2 or type 3 soil or in a trench more than four metres deep in type 4 soil is designed and certified as safe by a professional engineer and installed, used, maintained and dismantled in accordance with that design.
- (4) An employer or contractor shall ensure that:
- (a) shoring is installed and removed in a manner that protects workers from cave-ins and structural collapses and from being struck by shoring components;
  - (b) shoring components are securely connected together to prevent sliding, falling, kickouts or other possible failure; and
  - (c) individual components of shoring are not subjected to loads that exceed the loads the components were designed to bear.
- (5) Where a worker is in a trench that is more than 1.2 metres deep, an employer or contractor shall ensure that a competent worker is stationed on the surface to alert the worker in the trench about the development of any potentially unsafe conditions and to provide assistance in an emergency.
- (6) Where a worker is required to enter a trench, an employer or contractor shall:
- (a) install ladders, stairways or ramps to provide a safe means of entrance to and exit from the trench; and
  - (b) ensure that the ladder, stairway or ramp is located not more than eight metres from a worker working in the trench.
- (7) An employer or contractor shall ensure that workers are instructed in and comply with the requirements of this section.

4 Oct 96 cO-1.1 Reg 1 s263.

#### **Excavated shafts and tunnels**

- 264(1)** An employer or contractor shall ensure that:
- (a) during excavating, the walls of an excavated shaft or tunnel are retained by temporary protective structures that are adequate:
    - (i) for the type of soil; and
    - (ii) to prevent collapse or cave-in of the walls of the excavated shaft or tunnel;

- (b) during the excavating of an excavated shaft that is three metres or more deep or of a tunnel, the walls of the shaft or tunnel are retained by temporary protective structures designed and certified by a professional engineer to be adequate for the protection of workers in the shaft or tunnel and constructed, installed, used, maintained and dismantled in accordance with that design;
  - (c) a solid or wire mesh fence at least one metre high, or other equally effective means of preventing material from falling into an excavated shaft or the surface opening of a tunnel, is provided around that shaft or opening; and
  - (d) substantial gates that are not less than one metre high are installed in every opening in a fence provided pursuant to clause (c) and the gates are kept closed except when being used.
- (2) A worker who opens a gate mentioned in clause (1)(d) shall close the gate after the worker no longer has a need to keep the gate open.
- (3) An employer or contractor shall provide suitable equipment to keep a tunnel or excavated shaft free from any accumulation of water.

4 Oct 96 cO-1.1 Reg 1 s264.

**Boreholes, belled areas of excavated shafts**

- 265**(1) An employer or contractor shall ensure that:
- (a) a worker who is required or permitted to enter a borehole is protected by the installation of a casing that is designed by a professional engineer and constructed, installed, used, maintained and dismantled in accordance with that design; and
  - (b) the casing mentioned in clause (a) extends and remains at least 300 millimetres above the surface of the ground to prevent material from falling into the casing.
- (2) An employer or contractor shall not require or permit a worker:
- (a) to enter the belled area of an excavated shaft unless the worker is protected by a temporary protective structure that is designed by a professional engineer and constructed, installed, used, maintained and dismantled in accordance with that design; or
  - (b) to remain in a belled area of an excavated shaft where the worker may be exposed to falling materials.
- (3) An employer or contractor shall ensure that the worker precedes or accompanies each load of excavated material to the surface.

4 Oct 96 cO-1.1 Reg 1 s265.

**PART XVIII**  
**Confined Space Entry**

**Interpretation**

**266** In this Part:

- (a) **“confined space”** means an enclosed or partially enclosed space that:
  - (i) is not primarily designed or intended for human occupancy, except for the purpose of performing work; and
  - (ii) has restricted means of entrance and exit;

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(b) **“hazardous confined space”** means a confined space that is or may become hazardous to a worker entering the confined space due to:

- (i) the design, construction or atmosphere of the confined space;
- (ii) the materials or substances in the confined space;
- (iii) the work activities or processes used in the confined space; or
- (iv) any other conditions relating to the confined space;

(c) **“isolate”** means to physically interrupt or disconnect pipes, lines and sources of energy from a confined space.

4 Oct 96 cO-1.1 Reg 1 s266.

**Identification of confined spaces, hazards, etc.**

**267** Where a worker may be required or permitted to work in a confined space, an employer, in consultation with the committee, shall identify:

- (a) types of confined spaces at the place of employment that a worker may be required or permitted to enter;
- (b) types of hazards that are or may be present at each confined space;
- (c) alternative means to perform the work to be performed in a confined space that will not require the worker to enter the confined space; and
- (d) alterations to the physical characteristics of the confined spaces that may be necessary to ensure safe entrance to and exit from all accessible parts of each confined space.

4 Oct 96 cO-1.1 Reg 1 s267.

**Avoidance of entry into hazardous confined space**

**268(1)** Where reasonably practicable, an employer shall use an alternative means to perform work that will not require a worker to enter a hazardous confined space.

(2) An employer shall take all reasonably practicable steps to prevent any unauthorized entry into the confined space.

4 Oct 96 cO-1.1 Reg 1 s268.

**Requirements before confined space is entered**

**269(1)** Where a worker will be required or permitted to work in a confined space, an employer, contractor or owner shall, before requiring or permitting the worker to enter the confined space:

- (a) ensure that there is a safe entrance to and exit from all accessible parts of the confined space; and
- (b) make all practicable alterations to the physical characteristics of the confined space necessary to ensure a safe entrance to and exit from all accessible parts of the confined space.

(2) In making alterations pursuant to clause (1)(b), an employer shall ensure that the structural integrity of the confined space is maintained.

4 Oct 96 cO-1.1 Reg 1 s269.



**Requirements before hazardous confined space is entered**

270(1) Before a worker is required or permitted to enter a confined space, an employer shall appoint a competent person:

- (a) to assess the hazards;
  - (b) where a hazardous atmosphere has been identified, to test the atmosphere of the confined space for:
    - (i) oxygen enrichment or deficiency;
    - (ii) the presence of flammable or explosive substances; and
    - (iii) the presence and hazardous concentration of airborne chemical substances; and
  - (c) to determine whether:
    - (i) work activities or processes will result in the release of toxic, flammable or explosive concentrations of any substances during the worker's occupation of the confined space;
    - (ii) measures have been taken to ensure that a worker will not drown or become entrapped in any liquid or free-flowing solid present in the confined space;
    - (iii) the entry of any liquid, free-flowing solid or hazardous substance into the confined space in a quantity that could endanger the health or safety of the worker has been prevented;
    - (iv) all energy sources that present a hazard to a worker entering into, exiting from or occupying the confined space have been locked out, with the energy sources being put in a zero energy state;
    - (v) any hazards from biological substances are present in the confined space; and
    - (vi) the opening for entry into and exit from the confined space is sufficient to allow safe passage of a worker who is using personal protective equipment required by these regulations.
- (2) When testing the atmosphere of a confined space pursuant to clause (1)(b), a competent person shall use appropriate and properly calibrated instruments that have been tested to ensure that the instruments are capable of operating safely and effectively.
- (3) A competent person who carries out the activities described in clauses (1)(a) to (c) shall prepare a report in writing that sets out:
- (a) the results of the assessment, tests and determinations;
  - (b) recommended special precautions and procedures to reduce the risk to a worker that are to be followed by a worker entering into, exiting from or occupying the confined space; and
  - (c) recommended personal protective equipment to be used by a worker entering the confined space.

**Notice where no hazard found**

**271** Where a confined space is not identified as a hazardous confined space, an employer shall:

- (a) notify a worker who is required to enter the confined space verifying that the confined space is not hazardous;
- (b) arrange for a method of communication with a worker on entry to and exit from the confined space and at appropriate intervals while a worker is in the confined space;
- (c) prepare a procedure for the removal of a worker who has become injured or incapacitated while in the confined space; and
- (d) ensure that the ventilation in the confined space is adequate to maintain safe atmospheric conditions.

4 Oct 96 cO-1.1 Reg 1 s271.

**Entry plan**

**272(1)** Where a worker will be required or permitted to enter a hazardous confined space, an employer, in consultation with the committee, shall develop a hazardous confined space entry plan to ensure the health and safety of workers who enter or work in the hazardous confined space.

- (2) A hazardous confined space entry plan must be in writing and must include:
  - (a) the tests or measurements necessary to monitor any oxygen deficiency or enrichment or the presence and hazardous concentration of flammable or explosive substances;
  - (b) the identification of any other hazards that may be present in the hazardous confined space and may put the health or safety of workers at risk;
  - (c) the means, if any, of isolating the hazardous confined space;
  - (d) the means, if any, of ventilating the hazardous confined space;
  - (e) the procedures to enter, work in and exit from the hazardous confined space safely;
  - (f) the availability, location and proper use of personal protective equipment;
  - (g) the rescue procedures to be followed, including the number and duties of personnel and the availability, location and proper use of equipment;
  - (h) the means to maintain effective communication with a worker who has entered the hazardous confined space; and
  - (i) the availability, location and proper use of any other equipment that a worker may need to work safely in the hazardous confined space.
- (3) An employer shall ensure that the following workers are trained in and implement a hazardous confined space entry plan:
  - (a) a worker who is required or permitted to enter the hazardous confined space;

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- (b) a worker who attends a worker in the hazardous confined space pursuant to subsection 274(4) or (5);
  - (c) a worker who may be required or permitted to implement the rescue procedures mentioned in clause (2)(g).
- (4) An employer shall make a copy of a hazardous confined space entry plan readily available at the entrance to the hazardous confined space.

4 Oct 96 cO-1.1 Reg 1 s272.

**Purging and ventilating of unsafe atmosphere**

**273(1)** In addition to the requirements of section 369, where a concentration of a toxic, flammable or explosive substance is present or an oxygen enrichment or deficiency exists in a hazardous confined space, an employer shall ensure that the hazardous confined space is:

- (a) purged and ventilated before a worker is allowed to enter the space, so that:
    - (i) any hazard associated with a toxic, flammable or explosive substance is reduced to the extent that is possible or eliminated; and
    - (ii) an oxygen content of not less than 19.5% and not more than 23% is ensured; and
  - (b) continuously ventilated at all times during which the worker occupies the hazardous confined space, to maintain a safe atmosphere.
- (2) Where ventilation is used to reduce or eliminate a hazard pursuant to subsection (1), an employer shall ensure that a competent person tests the atmosphere to determine that the confined space is safe for entry by a worker:
- (a) before a worker enters the confined space;
  - (b) where all workers have vacated the confined space, before any worker re-enters the confined space;
  - (c) on the request of a worker who is required or permitted to enter the confined space; and
  - (d) continuously where any condition in the confined space may change and put the worker's health or safety at risk.

4 Oct 96 cO-1.1 Reg 1 s273.

**Precautions where safe atmosphere not possible**

**274(1)** Where a hazardous confined space cannot be purged and ventilated to provide a safe atmosphere or a safe atmosphere cannot be maintained pursuant to section 273, an employer shall ensure that no work is carried on in the confined space except in accordance with the requirements of this section and section 369.

- (2) An employer shall ensure that a competent person continuously monitors the atmosphere in a hazardous confined space.

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- (3) An employer shall ensure that a worker is provided with and required to use a respiratory protective device that meets the requirements of Part VII if:
- (a) the airborne concentration for any substance meets or exceeds the permissible contamination limit mentioned in clause 307(1)(a);
  - (b) oxygen deficiency or enrichment is detected; or
  - (c) the airborne concentration of any other substance may be harmful to the worker.
- (4) An employer shall ensure that a worker in a hazardous confined space is attended by and in communication with another worker who:
- (a) has been adequately trained in the rescue procedures mentioned in clause 272(2)(g);
  - (b) is stationed and remains at the entrance to the confined space unless replaced by another adequately trained worker; and
  - (c) is equipped with a suitable alarm to summon assistance.
- (5) If entrance to a hazardous confined space is from the top:
- (a) an employer shall ensure that:
    - (i) a worker uses a full-body harness and, where appropriate, is attached to a lifeline;
    - (ii) if a lifeline is used, the lifeline is attended by another worker who is adequately trained in the rescue procedures mentioned in clause 272(2)(g); and
    - (iii) where reasonably practicable, a mechanical lifting device is available to assist with a rescue and is located at the entry to the confined space while a worker is in the confined space; or
  - (b) an employer shall ensure that an alternate method of rescue is developed and implemented where the use of a full-body harness or lifeline would create an additional hazard.
- (6) If any flammable or explosive dusts, gases, vapours or liquids are or may be present in a hazardous confined space, an employer shall ensure that all sources of ignition are eliminated or controlled.
- (7) An employer shall ensure that:
- (a) equipment necessary to rescue workers is readily available at the entrance to the hazardous confined space and used in accordance with the rescue procedures developed pursuant to clause 272(2)(g);
  - (b) the holder of a class A qualification in first aid is available to provide immediate first aid; and
  - (c) personnel who are trained in the rescue procedures developed pursuant to clause 272(2)(g) and who are fully informed of the hazards in the confined space are readily available to assist in a rescue procedure.

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**Piping discharging hazardous substances**

275(1) Where a worker may be required or permitted to work in a confined space into which piping may discharge a hazardous substance, an employer shall ensure that the piping:

- (a) has a blank installed that is sized for the proper pressure in the piping before the piping enters the confined space;
- (b) is equipped with two blocking valves and a bleed-off valve installed between the blocking valves located so that any bleed off does not contaminate the confined space; or
- (c) is equipped with an approved safety device.

(2) Where piping is equipped with two blocking valves and a bleed-off valve pursuant to clause (1)(b) or an approved safety device pursuant to clause (1)(c), an employer shall ensure that:

- (a) the valves in the flow lines are locked out in the “closed” position and the bleed-off valve is locked out in the “open” position;
- (b) the valves are tagged to indicate that the valves must not be activated until the tags have been removed by a worker designated by the employer for that purpose; and
- (c) the worker designated pursuant to clause (b):
  - (i) monitors the valves to ensure that they are not activated while a worker is in the confined space; and
  - (ii) records on the tag mentioned in clause (b) the date and time of each monitoring and signs the tag each time the worker monitors the valves.

4 Oct 96 cO-1.1 Reg 1 s275.

PART XIX  
**Work in Compressed Air**

**Interpretation**

276 In this Part:

- (a) **“air lock”** means a chamber designed for the passage of persons or materials from one place to a place with a different air pressure;
- (b) **“compressed air”** means air that is mechanically raised to a pressure higher than 15 kilopascals above atmospheric pressure;
- (c) **“medical lock”** means a chamber in which persons may be subjected to changes in air pressure for medical purposes;
- (d) **“working chamber”** means the part of a project under construction that is used for work in compressed air, but does not include an air lock or medical lock.

4 Oct 96 cO-1.1 Reg 1 s276.

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**2003-2****Application of Part**

**277** This Part applies to work performed in compressed air, but does not apply to divers or persons working in diving bells.

4 Oct 96 cO-1.1 Reg 1 s277.

**Before work in compressed air begins**

**278(1)** At least 30 days before beginning work in compressed air, an employer or contractor shall:

- (a) give notice in writing to the division of the nature and location of the work; and
  - (b) provide the division with copies of the certificates of a professional engineer who is competent in construction work carried out in compressed air and a physician who is competent in hyperbaric medicine.
- (2) The certificates required by subsection (1) must:
- (a) certify that the design of the compressed air installation and its components, including any air lock, medical lock, bulkhead, door and working chamber, the air supply system, the control system and the emergency facilities, are suitable and adequate to provide a healthy and safe work environment; and
  - (b) contain a statement of conditions and procedures that are necessary to ensure the health and safety of workers employed in the compressed air installation.
- (3) An employer or contractor shall ensure that any work in a compressed air installation is performed in accordance with the conditions and procedures contained in the certificates required by subsection (1).

4 Oct 96 cO-1.1 Reg 1 s278.

**Workers in working chamber**

**279(1)** Where workers are employed in a working chamber, an employer or contractor shall ensure that:

- (a) emergency procedures, including decompression procedures, have been developed that are adequate to prevent worker ill health;
  - (b) the workers are fully trained in the emergency procedures required by clause (a);
  - (c) the workers are regularly monitored by a physician; and
  - (d) a competent supervisor is appointed and given the authority and resources necessary to protect the health and safety of workers in the working chamber.
- (2) A worker who is monitored by a physician pursuant to clause (1)(c) shall comply with any requirement that the physician considers necessary to prevent or treat ill health caused by working in compressed air.
- (3) An employer or contractor shall ensure that the emergency procedures required by clause (1)(a) are implemented in an emergency.

4 Oct 96 cO-1.1 Reg 1 s279.

**Standards for air**

**280** An employer or contractor shall ensure that:

- (a) the air supplied by a compressor plant for use in a working chamber, air lock or medical lock meets the requirements of the Canadian Standards Association standard CAN3-Z180.1-M85 *Compressed Breathing Air and Systems*;
- (b) the air intake for a compressor plant that supplies air to a working chamber, an air lock or a medical lock is located so as to prevent the entry of exhaust gases from internal combustion engines, gasoline fumes or other contaminants; and
- (c) the air supplied to a working chamber, air lock or medical lock is kept, as far as is practicable, between 10° and 27° Celsius.

4 Oct 96 cO-1.1 Reg 1 s280.

**Maximum air pressure**

**281** An employer or contractor shall ensure that the air pressure in a working chamber does not exceed 350 kilopascals for more than five minutes except when it is necessary for the safety of workers in an emergency.

4 Oct 96 cO-1.1 Reg 1 s281.

**Working periods and rest periods**

**282(1)** In this section:

- (a) “**column**” means a column in Table 18 of the Appendix;
  - (b) “**rest period**” means a period during a worker’s hours of work that immediately follows a working period and in which the worker is at normal atmospheric pressure, and may include time spent by the worker in an air lock after a working period;
  - (c) “**working day**” means a period of 24 consecutive hours;
  - (d) “**working period**” means a period in which a worker works in compressed air.
- (2) An employer or contractor shall ensure that:
- (a) a worker who works in compressed air is not required or permitted to work more than two working periods in one working day;
  - (b) the total number of hours in the two working periods of a worker’s working day does not exceed the number of hours set out in column 2;
  - (c) a worker’s first working period in a working day does not exceed the number of hours set out in column 3;
  - (d) after the first working period in a working day, a worker receives a rest period that is not less than the number of hours set out in column 4;
  - (e) a worker’s second working period in a working day does not exceed the number of hours set out in column 5; and
  - (f) after the second working period in a working day, a worker receives a rest period that is not less than the number of hours set out in column 6.

(3) An employer or contractor shall ensure that no worker is required or permitted to perform manual work, engage in physical exertion or leave the worksite during a rest period.

4 Oct 96 cO-1.1 Reg 1 s282.

## PART XX Diving Operations

### Interpretation

**283** In this Part:

- (a) **“air”** means respirable air;
- (b) **“atmospheric pressure”** means the atmospheric pressure at the surface of the water;
- (c) **“bail-out system”** means an independent breathing gas supply of sufficient quantity to return a diver to the surface, to a diving bell or to an emergency supply in the event of a malfunction of the primary breathing gas supply system;
- (d) **“bottom time”** means the total elapsed time, measured in minutes, from the time a descending diver leaves the surface of the water to the time the diver begins final ascent;
- (e) **“breathing gas”** means air or mixed gas;
- (f) **“buddy system”** means the system described in section 298;
- (g) **“class A hyperbaric chamber”** means a hyperbaric chamber that meets the requirements of Canadian Standards Association standard Z275.1-93 *Hyperbaric Facilities* for a class A hyperbaric chamber;
- (h) **“decompression limit”** means the point in the descent of a diver, based on the depth and duration of the dive and determined in accordance with a decompression table, beyond which the diver will require one or more decompression stops during ascent if the diver descends further;
- (i) **“decompression schedule”** means the procedure derived from a decompression table that a diver follows during ascent from a depth in order to minimize the risk of decompression sickness;
- (j) **“decompression sickness”** means a condition caused by the formation of gas bubbles in the blood or body tissue as a result of the reduction of pressure on the body;
- (k) **“decompression table”** means a table mentioned in section 285;
- (l) **“dive site”** means the location at the surface of the water at which a diver enters the water at the beginning of a dive and to which the diver intends to return on ascent;
- (m) **“diver”** means a competent worker or competent self-employed person who performs underwater work;



- (n) **“diver’s tender”** means a worker who monitors the dive of a diver and who is competent in the diving apparatus being used for a dive, the diving operation in progress and the emergency diving procedures and signals to be used between diver and diver’s tender;
- (o) **“diving supervisor”** means a competent person who has complete responsibility for a diving operation, including responsibility for the health and safety of all diving personnel;
- (p) **“dressed-in”** means fully equipped to dive and ready to enter the water, with all life support and communications equipment tested and at hand, but not necessarily with the helmet, face plate or face mask in place;
- (q) **“free swimming diving”** means diving while using scuba with the diver supervised but not tethered to the surface by a lifeline or float;
- (r) **“hyperbaric chamber”** means a pressure vessel and associated equipment that are designed for the purpose of subjecting persons to pressures greater than atmospheric pressures;
- (s) **“lifeline”** means a line of manila rope that is 19 millimetres in diameter and has a breaking strength of not less than 2454 kilograms, or material of equivalent or greater strength, secured at the surface to a substantial anchorage;
- (t) **“mixed gas”** means a respirable breathing mixture, other than air, that provides adequate oxygen to support life and does not cause excessive breathing resistance, impairment of neurological functions or other detrimental physiological effects;
- (u) **“scuba”** means a self-contained underwater breathing apparatus, and includes self-contained open-circuit compressed air breathing apparatus;
- (v) **“standby diver”** means a diver who is:
- (i) available at a dive site to give assistance to a submerged diver in the event of an emergency;
  - (ii) dressed-in; and
  - (iii) trained and equipped to operate at the depths and in the circumstances in which the submerged diver is operating;
- (w) **“surface supply diving”** means a mode of diving in which a diver is supplied from the dive site with a breathing gas by way of an umbilical;
- (x) **“therapeutic recompression”** means treatment of a diver for decompression sickness, usually in a hyperbaric chamber, in accordance with section 285;
- (y) **“umbilical”** means a life support hose bundle comprising a composite hose and cable, or separate hoses and cables, that:
- (i) extends from the surface to a diver or to a submersible chamber occupied by a diver; and
  - (ii) supplies breathing gas, power, heat and communication to the diver.

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**2003-2****Competent workers**

**284** An employer shall ensure that only competent workers are required or permitted to perform underwater diving operations.

4 Oct 96 cO-1.1 Reg 1 s284.

**Standards**

**285** An employer shall ensure that all diving operations, repetitive dives and treatments of divers are carried out in strict accordance with decompression tables and procedures published or approved by the Defence and Civil Institute of Environmental Medicine (Canada) or another approved agency.

4 Oct 96 cO-1.1 Reg 1 s285.

**Medical examination**

**286(1)** A diver must have a comprehensive medical examination conducted by a physician at least once every 12 months in accordance with the criteria set forth in Appendices A and B of Canadian Standards Association standard CAN/CSA-Z275.2-92 *Occupational Safety Code for Diving Operations*.

(2) No diver shall dive unless the diver has been certified by the physician mentioned in subsection (1) to be free of any medical condition that would make unsafe the performance of the type of dive to be carried out.

(3) A diver shall:

- (a) provide the employer with a copy of the certificate mentioned in subsection (2); and
- (b) place the original certificate in the diver's personal log kept pursuant to section 297.

(4) An employer shall:

- (a) ensure that no diver is required or permitted to dive unless the diver furnishes the employer with a copy of the certificate mentioned in subsection (2) that has been obtained within the preceding 12 months;
- (b) retain the copy of the certificate mentioned in clause (a) while the diver is employed by the employer; and
- (c) ensure that every diver employed by the employer is competent in the use of any diving apparatus that the diver will be required to use in a diving operation.

4 Oct 96 cO-1.1 Reg 1 s286.

**Diving supervisor**

**287** An employer shall:

- (a) ensure that a diving operation is conducted under the direction of a diving supervisor; and
- (b) give to the diving supervisor all the information and resources necessary to protect the health and safety of every diver under the supervisor's direction.

4 Oct 96 cO-1.1 Reg 1 s287.

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**Minimum crew**

**288** An employer shall ensure that a sufficient number of workers are present for a diving operation to ensure that the operation can be undertaken safely.

4 Oct 96 cO-1.1 Reg 1 s288.

**Standby diver**

**289(1)** An employer shall ensure that a standby diver is present at all times when diving operations are in progress.

(2) An employer shall not require or permit a standby diver to dive except in the case of emergency.

4 Oct 96 cO-1.1 Reg 1 s289.

**Diver's tender**

**290** An employer shall ensure that:

- (a) a diver's tender acceptable to the diver is provided for each diver in the water during a diving operation; and
- (b) the diver's tender devotes his or her whole time and attention to the work as a diver's tender.

4 Oct 96 cO-1.1 Reg 1 s290.

**Breathing gas**

**291(1)** Subject to subsection (2), where air is used as the breathing gas, an employer shall ensure that:

- (a) the air is clean and wholesome and supplied in adequate quantity; and
- (b) a reserve supply of 2.5 times the air required for the operation is supplied.

(2) An employer shall ensure that any air or mixed gas used as the breathing gas meets the approved standard for composition and purity requirements.

(3) Where a mixed gas is used as the breathing gas, an employer shall ensure that the decompression procedures, schedules and tables used are appropriate for the mixed gas.

4 Oct 96 cO-1.1 Reg 1 s291.

**Diving equipment**

**292** An employer shall ensure that all diving equipment, including breathing apparatus, compressor, compressed gas cylinder, gas control valve, pressure gauge, reserve supply device, piping, helmet, winch, cable, diving bell or stage and every other accessory necessary for the safe conduct of the diving operation, is:

- (a) of an approved design, sound construction, adequate strength and free from obvious defect;
- (b) maintained in a condition that will ensure the equipment's continuing operating integrity and suitability for the equipment's use;

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- (c) adequately protected against malfunction at low temperatures that may be caused by ambient air or water or by the expansion of gas; and
- (d) examined, tested, overhauled and repaired in accordance with the manufacturer's recommended procedure.

4 Oct 96 cO-1.1 Reg 1 s292.

**Equipment for diving base**

**293** While diving is in progress, an employer shall ensure that the diving base is equipped with the following:

- (a) if scuba is being used, one complete spare set of underwater breathing apparatus with fully charged cylinders to be used for emergency purposes only;
- (b) an adequate quantity of oxygen for therapeutic purposes;
- (c) one shot-line of weighted 19 millimetre manila of sufficient length to reach the bottom at the maximum depth of water at the dive site;
- (d) a first aid kit that is appropriate for the number of workers and the worksite;
- (e) one complete set of decompression tables;
- (f) a suitable heated facility for the use of divers that is located on or as near as possible to the dive site;
- (g) any other equipment that may be necessary to protect the health and safety of a worker.

4 Oct 96 cO-1.1 Reg 1 s293.

**Hyperbaric chamber**

**294** An employer shall ensure that a class A hyperbaric chamber in operable condition is on site where:

- (a) a dive is planned that may exceed the decompression limit; or
- (b) the depth of a dive is greater than 40 metres.

4 Oct 96 cO-1.1 Reg 1 s294.

**Diving plan**

**295(1)** A diving supervisor shall submit a general diving plan in writing to the employer before beginning a diving operation.

(2) A diving supervisor shall:

- (a) plan the dive to ensure the health and safety of the diver;
- (b) instruct the surface crew on the procedures necessary to ensure the health and safety of the diver;
- (c) ensure that all necessary equipment is available and is in good operating condition;

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- (d) ensure that the quantity of breathing gas supplied to a diver is sufficient for the dive that is planned;
  - (e) develop and implement a contingency plan for any emergency situation that may endanger the diver;
  - (f) keep a log showing each diver's activities on each day and make entries respecting each dive on the day on which the dive is performed;
  - (g) remain in the immediate area of the dive site at all times while a diving operation is in progress;
  - (h) ensure that each diver enters in the diver's personal log the information required by clause 297(2)(a) for each dive performed by the diver; and
  - (i) verify the accuracy of the information recorded in each diver's personal log pursuant to clause 297(2)(a) and sign the entry to acknowledge the supervisor's verification.
- (3) Nothing in this section limits the responsibilities of an employer pursuant to this Part.

4 Oct 96 cO-1.1 Reg 1 s295.

**General responsibilities of diver**

**296** A diver shall:

- (a) proceed in accordance with the general diving plan and the instructions of the diving supervisor;
- (b) inspect the diver's equipment immediately before each dive; and
- (c) begin each dive by submerging and checking all equipment to ensure that there are no leaks and that the equipment is functioning properly.

4 Oct 96 cO-1.1 Reg 1 s296.

**Diver's personal log**

**297(1)** A diver shall keep a personal log and retain the log for a five-year period after the log's completion.

(2) A diver shall record in the personal log in chronological order:

- (a) an entry for each dive that the diver has made, verified and signed by the diving supervisor, including the following information:
  - (i) the type of breathing apparatus used;
  - (ii) the breathing gas used;
  - (iii) the time at which the diver left the surface;
  - (iv) the bottom time;
  - (v) the maximum depth reached;
  - (vi) the time at which the diver left the bottom;
  - (vii) the time at which the diver reached the surface;

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- (viii) the surface interval, if more than one dive is undertaken in a day;
  - (ix) the decompression table and schedule used;
  - (x) the date of the dive;
  - (xi) any observations relevant to the health or safety of the diver arising from the dive;
  - (xii) the name of the employer; and
- (b) an entry, signed by the attending physician or diving supervisor, respecting any therapeutic recompression or other exposure to a hyperbaric environment.

4 Oct 96 cO-1.1 Reg 1 s297.

**Buddy system**

**298(1)** The buddy system of diving involves the use of two divers, each of whom is responsible for the other diver's safety.

- (2) A diver who is diving using the buddy system:
- (a) shall maintain constant visual contact with the other buddy diver during the dive;
  - (b) shall know the hand signals being used and acknowledge each signal as given;
  - (c) shall not leave the other buddy diver except in the case of emergency requiring the assistance of one of the buddy divers; and
  - (d) shall abort the dive immediately if the buddy divers become separated from each other or the other buddy diver aborts the dive.

4 Oct 96 cO-1.1 Reg 1 s298.

**Free swimming diving**

**299(1)** An employer shall ensure that free swimming diving is performed only where a dive cannot safely be accomplished in the tethered mode.

- (2) An employer shall not require or permit a diver to perform free swimming diving unless:
- (a) the diver is accompanied by a tethered in-water standby diver or the buddy system is used; and
  - (b) the employer has first ensured that conditions are such that the free swimming dive can be undertaken safely.

4 Oct 96 cO-1.1 Reg 1 s299.

**Scuba diving**

**300(1)** An employer shall ensure that, during scuba diving operations, a diver uses:

- (a) open-circuit scuba equipped with a demand regulator and a tank with quick-release harness;
- (b) a reserve device or bail-out system;

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- (c) a lifeline, except where the buddy system is used; and
  - (d) an exposure suit or protective clothing that is appropriate for the condition of work and the temperature of the water.
- (2) An employer shall ensure that no diver using scuba equipment:
- (a) dives to a depth exceeding 40 metres; or
  - (b) dives without a lifeline under ice or where potentially hazardous conditions exist, including water currents, low visibility and adverse weather conditions.

4 Oct 96 cO-1.1 Reg 1 s300.

**Surface-supply diving**

**301** Where a diver is required or permitted to perform surface-supply diving, an employer shall ensure that:

- (a) the umbilical incorporates a lifeline to prevent stress on the hose;
- (b) the connections between the airline and the equipment supplying the breathing gas to the diver are secured and properly guarded to prevent accidental disconnection or damage;
- (c) the airline is equipped with the following, in sequence from the surface connection:
  - (i) a regulating valve that is clearly marked as to which diver's air supply the valve controls;
  - (ii) a pressure gauge that is accessible and clearly visible to the diver's tender; and
  - (iii) a non-return valve at the point of attachment of the airline to the diving helmet or mask;
- (d) the diver carries a bail-out system; and
- (e) the diver is equipped with a lifeline and an effective means of two-way communication between the diver and the diver's tender.

4 Oct 96 cO-1.1 Reg 1 s301.

PART XXI  
**Chemical and Biological Substances**

**General duties of employers**

**302(1)** An employer shall, at a place of employment:

- (a) monitor the use or presence of, or a worker's exposure to, any chemical substance or any biological substance that may be hazardous or harmful to the health or safety of a worker;
- (b) where reasonably practicable, substitute a less hazardous or harmful chemical substance or biological substance for a hazardous or harmful chemical substance or biological substance;

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- (c) subject to subsection 307(1), to the extent that is reasonably practicable, reduce any contamination of the place of employment by a chemical substance or biological substance; and
  - (d) develop and implement work procedures and processes that are as safe as is reasonably practicable for the handling, use, storage, production and disposal of chemical substances and biological substances.
- (2) An employer shall take all practicable steps to prevent exposure of a worker, to an extent that is likely to be harmful to the worker, to:
- (a) a chemical substance or biological substance that may be hazardous; or
  - (b) a chemical substance or biological substance in combination or association with any other substance present that may be hazardous.
- (3) An employer shall:
- (a) inform the workers of the nature and degree of the effects to their health or safety of any chemical substance or biological substance to which the workers are exposed in the course of their work; and
  - (b) provide the workers with adequate training with respect to:
    - (i) work procedures and processes developed pursuant to clause (1)(d); and
    - (ii) the proper use of any personal protective equipment required by these regulations.
- (4) An employer shall make available to the committee, the representative or, where there is no committee or representative, the workers:
- (a) the results of any measurements of worker exposure to, and contamination of a place of employment by, a chemical substance or biological substance; and
  - (b) any steps taken to reduce the contamination of a place of employment by, and eliminate or reduce exposure of the workers to, a chemical substance or biological substance.

4 Oct 96 cO-1.1 Reg 1 s302.

**List of chemical and biological substances**

**303(1)** An employer shall, in consultation with the committee, the representative or, where there is no committee or representative, the workers:

- (a) develop and maintain a list of:
  - (i) all chemical substances and biological substances that are regularly handled, used, stored, produced or disposed of in the course of work processes and that may be hazardous to the health and safety of the workers at the place of employment; and
  - (ii) any other chemical substances or biological substances that may be present at the place of employment and are of concern to the workers; and
- (b) identify on the list all chemical substances and biological substances that are controlled products.



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- (2) An employer shall:
- (a) amend the list mentioned in subsection (1) whenever a chemical substance or biological substance is added to or removed from the place of employment;
  - (b) submit a copy of each amendment to the committee or the representative; and
  - (c) keep a copy of the list at the place of employment and make the list readily available to the workers.

4 Oct 96 cO-1.1 Reg 1 s303.

**Precautions for certain substances**

**304(1)** Where a chemical substance or biological substance listed pursuant to subsection 303(1) is not a controlled product or is a controlled product that is exempted from the application of Part XXII, an employer shall take all reasonable steps to:

- (a) ascertain and record the hazards that may arise from the handling, use, storage, production or disposal of the substance at the place of employment;
  - (b) ascertain and record the precautions that need to be taken with respect to the substance to ensure the health and safety of workers; and
  - (c) clearly mark the container holding the substance with the name of the substance as set out in the list.
- (2) An employer, in consultation with the committee, shall develop a program to instruct workers about the hazards of the substances to which subsection (1) applies and train workers in the precautions to be taken with respect to those substances.
- (3) An employer shall implement a program developed pursuant to subsection (2).

4 Oct 96 cO-1.1 Reg 1 s304.

**Substances listed in Table 19**

**305(1)** An employer shall send to the director a written notice of any handling, use, storage, production, distribution or disposal, or any intended handling, use, storage, production, distribution or disposal of any chemical substance or biological substance listed in Table 19 of the Appendix.

(2) No employer shall handle, use, store, produce, distribute or dispose of a chemical substance or biological substance listed in Table 19 of the Appendix without:

- (a) obtaining the written permission of the director; and
- (b) complying with any conditions that the director may specify.

4 Oct 96 cO-1.1 Reg 1 s305.

**Substances listed in Table 20**

**306** Where workers are required to handle, use, store, produce or dispose of any chemical substance listed in Table 20 of the Appendix, an employer shall:

- (a) provide adequate engineering controls to prevent, to the extent that is reasonably practicable, the release of the substance into the place of employment; and
- (b) take other measures and provide personal protective equipment that meets the requirements of Part VII to prevent, to the extent that is practicable, any significant risk to workers from the substance.

4 Oct 96 cO-1.1 Reg 1 s306.

**Substances listed in Table 21**

**307(1)** Where a chemical substance or biological substance listed in Table 21 of the Appendix is present at a place of employment, an employer shall:

- (a) to the extent that is reasonably practicable, ensure that the contamination limit set out in Table 21 is not exceeded in any area where a worker is usually present; and
  - (b) take all practicable steps to ensure that no worker's personal exposure exceeds the contamination limit set out in Table 21.
- (2) An employer, in consultation with the committee, shall develop a written procedure that meets the requirements of subsection (3) where a chemical substance or biological substance listed in Table 21 of the Appendix is present at a place of employment in an airborne concentration that may be hazardous to a worker, and a worker:
- (a) is regularly required or permitted to work more than eight hours in a day or 40 hours in a week; or
  - (b) may be exposed to a combination or association of substances listed in Table 21 of the Appendix that have similar toxicological effects when acting on the same organ or body system.
- (3) A written procedure required by subsection (2) must identify:
- (a) the substances to which a worker may be exposed;
  - (b) the conditions under which a worker will be required or permitted to work, including the frequency, quantity and duration of exposure to the substances; and
  - (c) the steps that the employer will take to ensure, to the extent that is practicable, that no worker's personal exposure exceeds the equivalent of the contamination limit set out in Table 21 of the Appendix.
- (4) An employer shall implement a procedure developed pursuant to subsection (2).

4 Oct 96 cO-1.1 Reg 1 s307.

**Protection of certain workers**

**308** Where a chemical substance or biological substance is present at a place of employment in a form and to an extent that may be harmful to a worker who is pregnant, has become sensitized to the substance or is unusually responsive to the substance, an employer shall, as soon as is reasonably possible after the worker has notified the employer of the worker's condition:

- (a) where reasonably practicable, take steps to minimize the exposure of the worker to the substance; or
- (b) on the worker's request, assign the worker to less hazardous alternate work if that work is available.

4 Oct 96 cO-1.1 Reg 1 s308.

**Respiratory protective devices**

**309** Where it is not reasonably practicable to reduce a worker's personal exposure to a chemical substance or biological substance to the contamination limit set out in Table 21 of the Appendix, an employer shall provide an approved respiratory protective device that meets the requirements of Part VII and require the worker to use it.

4 Oct 96 cO-1.1 Reg 1 s309.

**Accumulations, spills and leaks**

**310** Where there is a possibility of an accumulation, spill or leak of a chemical substance or biological substance that may be hazardous to the health or safety of a worker at a place of employment, an employer:

- (a) in consultation with the committee, shall develop written emergency procedures to be implemented in the event of an accumulation, spill or leak;
- (b) shall make readily available for reference by workers a copy of the emergency procedures developed pursuant to clause (a);
- (c) shall ensure that each worker is trained in and implements any of the emergency procedures developed pursuant to clause (a) that:
  - (i) require the involvement of the worker; or
  - (ii) are necessary to protect the health or safety of the worker;
- (d) shall ensure that competent persons, equipment, supplies and personal protective equipment are available for the prompt, safe and effective containment, neutralizing and decontamination of any accumulation, spill or leak; and
- (e) shall ensure that the emergency procedures developed pursuant to clause (a) are implemented in the event of an accumulation, spill or leak.

4 Oct 96 cO-1.1 Reg 1 s310.

**Report of worker's exposure**

**311(1)** Where an accumulation, spill or leak of a chemical substance or biological substance listed in Table 19 or 20 of the Appendix occurs and results in the exposure of a worker to the chemical substance or biological substance to an extent that may affect the health or safety of the worker, an employer, in consultation with the committee, shall investigate the incident as soon as is reasonably possible and prepare a written report that includes:

- (a) a description of the incident, including the date and all affected worksites;
- (b) the names of the substances released and the characteristics of the substances;
- (c) for each substance released, the estimated duration and the extent of each worker's exposure;
- (d) the name of each worker exposed and the manner in which the substance entered the worker's body;
- (e) the causes of the incident; and
- (f) any corrective actions taken to prevent occurrence of a similar incident.

(2) An employer shall provide a copy of a report prepared pursuant to subsection (1) to any worker who was exposed to the chemical substance or biological substance that was released.

4 Oct 96 cO-1.1 Reg 1 s311.

**Emergency showers**

**312** Where there may be a risk of substantial contamination of a worker or of a worker's clothing from corrosive or other harmful substances, an employer or contractor shall provide and maintain an approved and readily accessible means of bathing or showering the worker in lukewarm water.

4 Oct 96 cO-1.1 Reg 1 s312.

**Eye flushing equipment**

**313** Where there may be a risk to the eyes of a worker from corrosive or other harmful substances, an employer or contractor shall provide, at readily accessible locations, approved equipment to flush the eyes of the worker with lukewarm water or another appropriate liquid.

4 Oct 96 cO-1.1 Reg 1 s313.

**Flammable, unstable, highly reactive and corrosive substances**

**314(1)** Where the storage at a place of employment of a chemical substance that is flammable, oxidizing, corrosive or dangerously reactive may put at risk the health or safety of a worker, an employer, contractor or owner shall ensure that:

- (a) the substance is stored:
  - (i) in a self-contained enclosure, room or building that is isolated from work-related areas and worksites and is adequately ventilated; and

- (ii) protected from conditions, including excessive temperature, shock or vibration, that could reduce the stability or increase the potential hazard of the substance;
- (b) subject to sections 319 to 324, a durable, legible sign setting out the harmful characteristics of the substance and the precautions to be taken for storage is posted at each entrance to the enclosure, room or building in which the substance is stored; and
- (c) the container in which the substance is kept:
  - (i) subject to sections 319 to 324, is clearly labelled with the name, harmful characteristics and precautions to be taken for the safe storage of the substance or substances;
  - (ii) subject to section 365, is designed, constructed and maintained to contain the substance securely and to be resistant to the substance and any other substances to which the container may be exposed;
  - (iii) is sealed or covered; and
  - (iv) is stored in a manner to protect the container from falls or damage.
- (2) Where two or more chemical substances, when combined, produce a toxic, corrosive or explosive reaction, an employer, contractor or owner shall ensure that the substances are effectively separated and stored to prevent the substances from combining.

4 Oct 96 cO-1.1 Reg 1 s314.

PART XXII  
**Controlled Products — Workplace Hazardous  
Materials Information System**

**Interpretation**

**315** In this Part:

- (a) **“bulk shipment”** means a shipment of a controlled product that is contained without intermediate packaging in:
  - (i) a container with a water capacity of more than 454 litres;
  - (ii) a freight container, road vehicle, railway vehicle or portable tank, a freight container on a road vehicle, railway vehicle, ship or aircraft or a portable tank carried on a road vehicle, railway vehicle, ship or aircraft;
  - (iii) the hold of a ship; or
  - (iv) a pipeline;
- (b) **“container”** includes a bag, barrel, bottle, box, can, cylinder, drum, storage tank or similar package or receptacle;
- (c) **“Controlled Products Regulations”** means the *Controlled Products Regulations* (Canada), SOR/88-66;

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- (d) **“fugitive emission”** means a gas, liquid, solid, vapour, fume or dust that escapes from any process or emission control equipment or from a product;
- (e) **“hazard information”** means information on the proper and safe use, storage and handling of a controlled product, and includes information relating to the product’s toxicological properties;
- (f) **“hazardous waste”** means a controlled product that is intended for disposal or is sold for recycling or recovery;
- (g) **“laboratory sample”** means a sample of a controlled product that is intended solely to be tested in a laboratory but does not include a controlled product that is to be used:
- (i) by the laboratory for testing other products, materials or substances;  
or
  - (ii) for educational or demonstration purposes;
- (h) **“manufactured article”** means an article that is formed to a specific shape or design during manufacture, the intended use of which when in that form is dependent, in whole or in part, on its shape or design and that, under normal conditions of use, will not release or otherwise cause a person to be exposed to a controlled product;
- (i) **“product identifier”** means, with respect to a controlled product, the brand name, code name or code number specified by a supplier or the chemical name, common name, generic name or trade name;
- (j) **“readily available”** means present in an appropriate place in the form of a paper copy that can be handled by a worker;
- (k) **“risk phrase”** means, with respect to a controlled product or a class, division or sub-division of controlled products, a statement identifying a hazard that may arise from the nature of the controlled product or the class, division or sub-division of controlled products;
- (l) **“supplier”** means a supplier as defined in the *Hazardous Products Act* (Canada);
- (m) **“supplier identifier”** means, with respect to a controlled product, the name of the supplier of the controlled product;
- (n) **“supplier label”** means a label provided by a supplier that discloses the information and displays the hazard symbols mentioned in paragraph 13(b) of the *Hazardous Products Act* (Canada);
- (o) **“supplier material safety data sheet”** means a material safety data sheet provided by a supplier that discloses the information mentioned in subparagraphs 13(a)(i) to (v) of the *Hazardous Products Act* (Canada);
- (p) **“workplace label”** means a legible label that discloses:
- (i) a product identifier that is identical to that found on the material safety data sheet of the corresponding controlled product;

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- (ii) all necessary information for the safe handling of the controlled product; and
- (iii) the fact that a material safety data sheet, if supplied or produced, is available.

4 Oct 96 cO-1.1 Reg 1 s315.

**Certain products exempted**

**316(1)** The provisions of this Part with respect to a supplier label and a material safety data sheet do not apply to a controlled product that is:

- (a) an explosive within the meaning of the *Explosives Act* (Canada);
  - (b) a cosmetic, device, drug or food within the meaning of the *Food and Drug Act* (Canada);
  - (c) a control product within the meaning of the *Pest Control Products Act* (Canada);
  - (d) a prescribed substance within the meaning of the *Atomic Energy Control Act* (Canada); or
  - (e) a product, material or substance that is packaged as a consumer product in a quantity normally used by the public.
- (2) This Part does not apply to a controlled product that:
- (a) is a wood or a product made of wood;
  - (b) is a tobacco or a product made of tobacco;
  - (c) is a manufactured article; or
  - (d) is being transported or handled pursuant to *The Dangerous Goods Transportation Act* and the *Transportation of Dangerous Goods Act* (Canada).
- (3) Subject to subsection (4), this Part does not apply to hazardous waste.
- (4) An employer shall ensure the safe storage and handling of hazardous waste generated at a place of employment through a combination of identification of the hazardous waste and worker training.
- (5) The worker training mentioned in subsection (4) must include all hazard information of which the employer is aware, or ought to be aware, concerning the hazardous waste.

4 Oct 96 cO-1.1 Reg 1 s316.

**Restriction on use of controlled products**

**317(1)** Subject to subsection (2), an employer shall ensure that a controlled product is not used, stored or handled in a place of employment unless all the applicable requirements of this Part with respect to labels, identifiers, material safety data sheets and worker training are complied with.

- (2) An employer may store a controlled product in a place of employment while actively seeking information required pursuant to this Part.

4 Oct 96 cO-1.1 Reg 1 s318.

**Worker training**

**318(1)** An employer shall ensure that a worker who works with, or in proximity to, a controlled product is informed about:

- (a) all hazard information received by the employer from a supplier concerning that controlled product; and
- (b) any further hazard information of which the employer is aware, or ought to be aware, concerning the use, storage and handling of that controlled product.

(2) Where a controlled product is produced in a place of employment, an employer shall ensure that a worker who works with, or in proximity to, that controlled product is informed about all hazard information of which the employer is aware, or ought to be aware, concerning the use, storage and handling of that controlled product.

(3) An employer shall ensure that a worker who works with, or in proximity to, a controlled product is trained in:

- (a) the content required on a supplier label and workplace label for the controlled product and the purpose and significance of the information contained on those labels;
- (b) the content required on a material safety data sheet for the controlled product and the purpose and significance of the information contained on the material safety data sheet;
- (c) all necessary procedures for the safe use, storage, handling and disposal of the controlled product;
- (d) all necessary procedures to be followed where fugitive emissions are present; and
- (e) all necessary procedures to be followed in case of an emergency involving a controlled product.

(4) An employer shall ensure that the training required by subsection (3) is developed:

- (a) for that employer's place of employment; and
- (b) in consultation with the committee, if there is a committee.

(5) An employer shall ensure that:

- (a) the training required by subsection (3) results in a worker being able to apply the information as needed to protect the health and safety of that worker or any other worker; and
- (b) the necessary procedures mentioned in clauses (3)(c) to (e) are implemented.

(6) An employer, in consultation with the committee, the representative or, where there is no committee or representative, the workers, shall review the training provided to workers concerning controlled products at least annually, or more frequently if there is a change in work conditions or available hazard information.



**Supplier label**

**319(1)** An employer shall ensure that a controlled product or the container of a controlled product that is received from a supplier at a place of employment is labelled with a supplier label.

(2) Subject to section 42 of the Act, no employer shall remove, deface, modify or alter the supplier label on the container of a controlled product as long as any amount of the controlled product remains at the place of employment in the container in which it was received from the supplier.

(3) Where a label applied to a controlled product or a container of a controlled product becomes illegible or is accidentally removed from the controlled product or container, an employer shall replace the label with either a supplier label or a workplace label.

(4) Where an employer receives a controlled product in a multi-container shipment in which the individual containers have not been labelled by the supplier, the employer shall affix to each container a label that meets the requirements of the *Controlled Products Regulations*.

(5) Where a controlled product imported pursuant to section 23 of the *Controlled Products Regulations* is received at a place of employment without a supplier label, an employer shall affix a label that meets the requirements of the *Controlled Products Regulations*.

(6) An employer who receives a controlled product transported as a bulk shipment shall affix to the container of the controlled product or to the controlled product at the place of employment:

- (a) a supplier label; or
- (b) where, pursuant to section 15 of the *Controlled Products Regulations*, the supplier is not required to label a controlled product transported as a bulk shipment, a workplace label.

4 Oct 96 cO-1.1 Reg 1 s319.

**Workplace label for employer-produced products**

**320(1)** Subject to subsections (2) and (3), where a controlled product is produced at a place of employment, an employer shall ensure that a workplace label is applied to the controlled product or the container of the controlled product.

(2) Subsection (1) does not apply to the production of fugitive emissions.

(3) Subsection (1) does not apply to a controlled product in a container that:

- (a) is intended to contain the controlled product for sale or disposition; and
- (b) is or is about to be appropriately labelled within the normal course of business and without undue delay.

4 Oct 96 cO-1.1 Reg 1 s320.

**Workplace label for decanted products**

**321(1)** Subject to subsection (2), where a controlled product at a place of employment is in a container other than the container in which the controlled product was received from a supplier, an employer shall ensure that a workplace label is applied to the container.

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(2) Subsection (1) does not apply to a portable container that is filled directly from a container that has a supplier label or workplace label applied to it if all of the controlled product in the portable container is required for immediate use or:

- (a) the controlled product is:
  - (i) under the control of, and used exclusively by, the worker who filled the portable container; and
  - (ii) used only during the shift in which the portable container was filled; and
- (b) the content of the container is clearly identified.

4 Oct 96 cO-1.1 Reg 1 s321.

**Identification of controlled products in piping systems and vessels**

**322** Notwithstanding sections 319 to 321, an employer shall ensure the safe use, storage and handling of a controlled product in a place of employment through worker training and the use of colour coding, labels, placards or any other mode of identification where the controlled product is contained or transferred in or on:

- (a) a pipe;
- (b) a piping system, including valves;
- (c) a process vessel;
- (d) a reaction vessel; or
- (e) a tank car, tank truck, ore car, conveyor belt or similar conveyance.

4 Oct 96 cO-1.1 Reg 1 s322.

**Placard identifiers**

**323(1)** Notwithstanding sections 319 to 321, an employer shall post a placard in accordance with subsection (2) where a controlled product:

- (a) is not in a container;
- (b) is in a container or form intended for export; or
- (c) is in a container that is intended to contain the controlled product for sale or disposition, and the container is not yet labelled but is to be labelled pursuant to section 320.

(2) A placard required by subsection (1):

- (a) must disclose the information required for a workplace label; and
- (b) must be of an appropriate size and must be placed in an appropriate location to make the information on it conspicuous and clearly legible to workers.

(3) An employer who complies with subsections (1) and (2) is deemed to have complied with sections 319 to 321.

4 Oct 96 cO-1.1 Reg 1 s323.

**Laboratory and sample labels**

324(1) Where a quantity of less than 10 kilograms of a controlled product packaged in a container originates from a laboratory supply house and is intended by the employer solely for use in a laboratory, a label supplied by the supplier and affixed to the container is deemed to be a supplier label for the purposes of section 319 if the label discloses:

- (a) a product identifier;
  - (b) where applicable, the fact that a material safety data sheet is available; and
  - (c) all necessary risk phrases, precautionary measures and first aid measures that apply to the product.
- (2) Where a sample of a product described in subsection (3) that is a controlled product or a product that a supplier or an employer has reason to believe may be a controlled product, a label provided by the supplier and affixed to the container received at the place of employment is deemed to be a supplier label for the purposes of section 319 if it meets the requirements of subsection (4).
- (3) Subsection (2) applies to a product that:
- (a) is contained in a container that contains less than 10 kilograms of the product;
  - (b) is intended by the supplier or the employer solely for analysis, testing or evaluation in a laboratory; and
  - (c) is one with respect to which the supplier is exempted pursuant to section 9 of the *Controlled Products Regulations* from the requirement to provide a material safety data sheet.
- (4) A label mentioned in subsection (2) must:
- (a) disclose the product identifier;
  - (b) disclose the chemical identity or generic chemical identity of any ingredient of the controlled product mentioned in any of subparagraphs 13(a)(i) to (v) of the *Hazardous Products Act* (Canada), if known to the supplier or the employer;
  - (c) disclose the supplier identifier;
  - (d) contain the statement “Hazardous Laboratory Sample – For hazard information or in an emergency call [*insert telephone number mentioned in clause (e)*]”; and
  - (e) contain an emergency telephone number of the supplier that will enable:
    - (i) a user of the controlled product to obtain hazard information with respect to the controlled product; and
    - (ii) a physician or nurse to obtain, for the purpose of making a medical diagnosis of or rendering treatment to a person in an emergency, any information with respect to the controlled product that is mentioned in paragraph 13(a) of the *Hazardous Products Act* (Canada) and is in the possession of the supplier.

- (5) An employer is exempt from section 321 if the employer complies with subsection (6) with respect to a controlled product mentioned in subsection (1) or (2) that:
- (a) is manufactured by the employer; or
  - (b) in the case of a controlled product received from a supplier, is in a container other than the container in which it was received.
- (6) For the purposes of subsection (5), an employer shall:
- (a) identify the controlled product through a combination of:
    - (i) any mode of identification that is visible to workers at the place of employment; and
    - (ii) worker training; and
  - (b) ensure that the mode of identification and worker training used enables the workers to readily identify and obtain either:
    - (i) the information required on a material safety data sheet or label; or
    - (ii) a document disclosing the information mentioned in clauses (4)(a) to (e) with respect to the controlled product or the sample.
- (7) Where a controlled product is produced in a laboratory, an employer is exempt from section 321 if:
- (a) the controlled product is intended by the employer solely for evaluation, analysis or testing for research and development as defined in the *Controlled Products Regulations*;
  - (b) the controlled product is not removed from the laboratory;
  - (c) the controlled product is clearly identified through a combination of:
    - (i) any mode of identification that is visible to workers at the place of employment; and
    - (ii) worker training; and
  - (d) the employer ensures that the mode of identification and worker training used enables workers to readily identify the controlled product and obtain:
    - (i) the information required on a material safety data sheet, if one has been produced; or
    - (ii) any other information that is necessary for the safe use, storage and handling of the controlled product.

4 Oct 96 cO-1.1 Reg 1 s324.

**Supplier material safety data sheets**

**325(1)** An employer who acquires a controlled product for use at a place of employment shall obtain a supplier material safety data sheet with respect to that controlled product.

(2) Where a supplier material safety data sheet obtained pursuant to subsection (1) is more than three years old, an employer shall, if possible, obtain from the supplier an up-to-date supplier material safety data sheet with respect to that controlled product.

(3) Where an employer is unable to obtain an up-to-date supplier material safety data sheet pursuant to subsection (2), the employer shall add to the existing supplier material safety data sheet any new hazard information applicable to the controlled product on the basis of the ingredients disclosed in the existing supplier material safety data sheet.

(4) An employer may provide a material safety data sheet that is in a format different from the format provided by the supplier or that contains additional hazard information if:

(a) subject to section 328, the material safety data sheet provided by the employer contains no less information than the supplier material safety data sheet, or any lesser information that is acceptable to the committee, the representative or, where there is no committee or representative, the workers; and

(b) the supplier material safety data sheet is available at the place of employment and the employer's material safety data sheet indicates that fact.

(5) Where a supplier is exempted by section 9 or 10 of the *Controlled Products Regulations* from the requirement to provide a material safety data sheet for a controlled product, an employer is exempt from subsection (1).

4 Oct 96 cO-1.1 Reg 1 s325.

#### **Employer material safety data sheets**

**326(1)** Subject to section 328, where an employer produces a controlled product in a place of employment, the employer shall prepare a material safety data sheet with respect to the product that discloses the information required pursuant to the *Controlled Product Regulations*.

(2) For purposes of subsection (1), “**produces**” does not include the production of a fugitive emission or of intermediate products undergoing reaction within a reaction or process vessel.

(3) An employer shall update the material safety data sheet mentioned in subsection (1):

(a) where new hazard information becomes available to the employer, as soon as is practicable but not later than 90 days after the new information becomes available; and

(b) at least every three years.

4 Oct 96 cO-1.1 Reg 1 s326.

#### **Availability of material safety data sheets**

**327(1)** Subject to subsection (4), an employer shall ensure that a copy of a material safety data sheet required by section 325 or 326 is made readily available:

(a) at a worksite to any worker who may be exposed to the controlled product; and

(b) to the committee or the representative.

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- (2) Where a controlled product is received at a laboratory and the supplier has provided a material safety data sheet, an employer shall ensure that a copy of the material safety data sheet is readily available to any worker in the laboratory.
- (3) Where a controlled product is received or produced at a laboratory and the employer has produced a material safety data sheet, the employer shall ensure that the material safety data sheet is readily available to any worker in the laboratory.
- (4) A material safety data sheet may be made available on a computer terminal at a worksite if the employer:
- (a) takes all reasonable steps to keep the terminal in active working order;
  - (b) makes the material safety data sheet readily available on the request of a worker; and
  - (c) provides training in accessing computer-stored material safety data sheets:
    - (i) to workers working at a worksite where the material safety data sheet is available on the terminal; and
    - (ii) to members of the committee or to the representative.

4 Oct 96 cO-1.1 Reg 1 s327.

**Omissions from material data safety sheet**

**328** Pending the final determination of an employer's claim for an exemption pursuant to section 42 of the Act, the employer may, subject to any terms and conditions pursuant to that section, omit from a material safety data sheet required by section 325 or 326 the information that is the subject of the claim, but shall not omit any hazard information.

4 Oct 96 cO-1.1 Reg 1 s328.

**Disclosure re claim for exemption, exemption granted**

**329(1)** An employer who claims an exemption from a requirement to disclose information pursuant to section 42 of the Act shall disclose the following on the required material safety data sheet or label:

- (a) the date on which the claim for exemption was filed; and
  - (b) the registry number assigned to the claim pursuant to the *Hazardous Materials Information Review Act* (Canada).
- (2) Where an employer receives notice of a decision that a claim or portion of a claim mentioned in subsection (1) is valid:
- (a) subsection (1) continues to apply:
    - (i) if there is no appeal, for a period of 30 days after the expiry of the appeal period; or
    - (ii) if there is an appeal:
      - (A) for a period of 30 days after the determination of the appeal; and

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(B) if there is a further appeal, until the final determination of that further appeal; and

(b) the employer shall, before the end of the period described in sub-clause (a)(i) or (ii) and throughout the period ending on the last day of the exemption period stated in the decision, disclose on the required material safety data sheet or label:

- (i) a statement that an exemption has been granted;
- (ii) the date of the decision granting the exemption; and
- (iii) the registry number assigned to the claim pursuant to the *Hazardous Materials Information Review Act* (Canada).

4 Oct 96 cO-1.1 Reg 1 s329.

### PART XXIII Asbestos

#### Interpretation

**330** In this Part:

- (a) **“asbestos”** means the fibrous form of crocidolite, amosite, chrysotile, anthophyllite, actinolite, tremolite or a mixture containing any of those minerals;
- (b) **“asbestos dust”** means dust that consists of or contains asbestos fibres that are likely to become airborne;
- (c) **“asbestos process”** means any activity that may release asbestos dust, and includes:
  - (i) the sawing, cutting or sanding of asbestos-containing materials;
  - (ii) the repair, maintenance, replacement or removal of asbestos surfaces;
  - (iii) the cleaning or disposal of asbestos materials;
  - (iv) the mixing or application of asbestos shorts, cements, grouts, putties or similar compounds;
  - (v) the storing or conveyance of materials containing asbestos; and
  - (vi) the demolition of structures containing asbestos;
- (d) **“asbestos surface”** means the surface of an object that contains asbestos;
- (e) **“friable”** means material that, when dry, is or can be crumbled, pulverized or powdered by hand pressure.

4 Oct 96 cO-1.1 Reg 1 s330.

#### Application of Part

**331** This Part applies to any place of employment or worksite where asbestos dust is likely to be released into the atmosphere and workers may be present.

4 Oct 96 cO-1.1 Reg 1 s331.

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**2003-2****Prohibition re crocidolite**

**332** No employer, contractor, owner, worker or self-employed person shall install crocidolite or any mixture containing crocidolite.

4 Oct 96 cO-1.1 Reg 1 s332.

**Prohibition re spraying**

**333** No employer, contractor, owner, worker or self-employed person shall spray asbestos-containing materials.

4 Oct 96 cO-1.1 Reg 1 s333.

**Identification of asbestos-containing materials**

**334(1)** Subject to subsection (3), on or before the dates set out in clauses (a) to (c), an employer, contractor or owner shall identify and keep a written record of the materials set out in those clauses that the employer, contractor or owner knows or may reasonably be expected to know are present in a place of employment and which workers may come into contact with:

- (a) all friable, exposed asbestos-containing materials, on or before July 1, 1997;
- (b) all friable, non-exposed accessible asbestos-containing materials, on or before July 1, 1998; and
- (c) all asbestos-containing pipe, boiler and duct insulating materials, on or before July 1, 1998.

(2) Any material likely to contain asbestos is deemed to be asbestos-containing material for the purposes of this Part until the material is determined to be asbestos-free.

(3) An employer, contractor or owner shall immediately identify the presence in a place of employment of all material that is likely to contain asbestos, is damaged or in poor repair and is likely to release asbestos dust into the atmosphere at the place of employment.

(4) An employer, contractor or owner shall ensure that the identification of asbestos-containing materials pursuant to subsection (1) or the determination of asbestos-free materials pursuant to subsection (2) is performed only by a competent person.

(5) An employer, contractor or owner shall make a copy of the records mentioned in subsections (1), (3) and (5) available for reference by the committee or representative and the workers.

4 Oct 96 cO-1.1 Reg 1 s334.

**Labelling, placarding, etc.**

**335(1)** Where workers have access to asbestos-containing materials identified pursuant to subsection 334(1), an employer, contractor or owner shall ensure that:

- (a) the asbestos-containing materials are clearly and conspicuously labelled as asbestos;



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- (b) the presence and location of the asbestos-containing materials are clearly indicated on a placard that is posted in a conspicuous location as close as possible to the asbestos-containing materials; or
  - (c) the presence and location of the asbestos-containing materials are clearly indicated on a map or plan that is readily available to the workers.
- (2) An employer, contractor or owner shall ensure that a label, placard, map or plan required by subsection (1) contains a warning of the danger to health from taking asbestos fibres into the body.
- (3) An employer, contractor or owner shall provide to all employers, contractors and self-employed persons at the place of employment who may be at risk from any asbestos process all relevant information from the record kept pursuant to subsection 334(1) and any material mentioned in subsection 334(2) that is likely to be disturbed and may release asbestos dust.

4 Oct 96 cO-1.1 Reg 1 s335.

**Inspection**

- 336(1)** An employer, contractor or owner shall ensure that all friable asbestos-containing material and all sprayed-on asbestos surfaces are regularly inspected by the employer, contractor or owner and are inspected at least annually by a competent person to confirm that the material is not releasing, and is not likely to release, asbestos dust into the atmosphere.
- (2) An employer, contractor or owner shall keep a written record of the annual inspection mentioned in subsection (1) and make a copy of the record available for reference by the workers.

4 Oct 96 cO-1.1 Reg 1 s336.

**Asbestos processes**

- 337(1)** An employer or contractor shall:
- (a) ensure that every asbestos process is carried out in a manner that prevents, to the extent that is practicable, the release into the air of asbestos dust;
  - (b) in consultation with the committee, develop an asbestos control plan that protects the health and safety of all workers in the event of the dispersal of asbestos dust into the atmosphere at a place of employment or worksite; and
  - (c) implement the asbestos control plan developed pursuant to clause (b).
- (2) A plan developed pursuant to subsection (1) must be in writing and must include:
- (a) the emergency procedures to be used in case of an uncontrolled release of asbestos, including:
    - (i) the means to protect exposed workers;
    - (ii) the methods to confine and control the release of asbestos; and
    - (iii) the decontamination procedures to be used;

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- (b) the asbestos processes that workers may undertake;
  - (c) the training of workers in any asbestos process the workers may be required or permitted to undertake;
  - (d) the methods to control the release of asbestos dust;
  - (e) the personal protective equipment that workers may be required to use;
  - (f) the decontamination procedures for:
    - (i) the worksite; and
    - (ii) the workers who undertake any asbestos process; and
  - (g) the inspection and maintenance schedule for all asbestos-containing materials.
- (3) An employer or contractor shall make a copy of the plan developed pursuant to subsection (1) readily available for reference by workers.
- (4) Where an asbestos process is undertaken, an employer, contractor or owner shall ensure that:
- (a) the area is effectively isolated or otherwise enclosed to prevent the escape of asbestos dust to any other part of the place of employment;
  - (b) a warning notice is conspicuously displayed indicating that asbestos work is in progress;
  - (c) all asbestos-containing materials removed are placed in appropriate receptacles that are impervious to asbestos and that are clearly labelled "Asbestos"; and
  - (d) the receptacles mentioned in clause (c) are handled and transported in a manner that will protect them from physical damage.

4 Oct 96 cO-1.1 Reg 1 s337.

**Asbestos surfaces****338** An employer, contractor or owner shall ensure that:

- (a) every asbestos surface is kept in good condition;
- (b) all repairs and sealing necessary to prevent the breaking-off of asbestos or the release of asbestos dust from an asbestos surface are done immediately;
- (c) no asbestos surface is disturbed for the purpose of maintenance, replacement, removal or repair until the surface is thoroughly wetted throughout the entire thickness; and
- (d) where it is not practicable to comply with clause (c):
  - (i) the asbestos surface is kept wet while the surface is being disturbed; or
  - (ii) effective means are used to capture, at source, any dust created by the disturbance.

4 Oct 96 cO-1.1 Reg 1 s338.

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**Ventilation equipment**

**339(1)** Where exhaust ventilation equipment is used to contain asbestos dust, an employer, contractor or owner shall ensure that the equipment is:

- (a) equipped with a HEPA filter;
- (b) inspected regularly for defects;
- (c) maintained; and
- (d) certified by a competent person at least once each year as being able to function safely and effectively.

(2) Where exhaust ventilation equipment will exhaust into the interior of a place of employment that is occupied by workers, an employer, contractor or owner shall ensure that the equipment is tested in an approved manner by a competent person before beginning an asbestos process to ensure that the equipment is able to function safely and effectively.

4 Oct 96 cO-1.1 Reg 1 s339.

**Personal protective equipment**

**340(1)** Where effective local exhaust ventilation equipment is not used, an employer, contractor or owner shall ensure that each worker who may be exposed to asbestos dust resulting from an asbestos process is provided with and uses:

- (a) an approved respiratory protective device that is appropriate to the level of risk of the asbestos process and that meets the requirements of Part VII; and
- (b) approved protective clothing that, when worn, will exclude asbestos dust.

(2) An employer shall ensure that protective clothing:

- (a) is disposed of as asbestos waste after use; or
- (b) is kept, maintained and cleaned in a safe manner each time it is used.

4 Oct 96 cO-1.1 Reg 1 s340.

**Asbestos waste**

**341(1)** Subject to subsection (3), an employer or contractor shall ensure that asbestos waste or dust produced in a place of employment is cleaned away promptly, and at least once each day, by vacuum cleaning equipment equipped with a HEPA filter to prevent the escape of asbestos dust into the air or, where vacuum cleaning is not practicable, by wet methods.

(2) An employer or contractor shall ensure that the vacuum cleaning equipment mentioned in subsection (1):

- (a) is inspected regularly for defects;
- (b) is maintained; and
- (c) is certified by a competent person at least once each year as being able to function safely and effectively.

(3) Subsection (1) does not apply to vacuum cleaning equipment used within an effectively isolated enclosure that is being used to control the release of asbestos dust.

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(4) An employer or contractor shall ensure that workers who are employed in the disposal of asbestos wastes are adequately trained in the safe means of handling those wastes and the proper disposal of those wastes in a manner that will not create a hazard to the health or safety of workers at the disposal site.

4 Oct 96 cO-1.1 Reg 1 s341.

**Warning of health risks**

**342** An employer shall ensure that workers who are likely to be employed in an asbestos process or are likely to be exposed to asbestos dust are warned that:

- (a) the inhalation of asbestos may cause pneumoconiosis, lung cancer or mesothelioma; and
- (b) the risk of injury to health caused by the inhalation of asbestos is increased by smoking.

4 Oct 96 cO-1.1 Reg 1 s342.

**Training**

**343(1)** An employer shall ensure that each worker who may be exposed to asbestos dust resulting from an asbestos process is provided with training in the safe handling of asbestos that is appropriate to the level of risk of the asbestos process as set out in Table 5 of the Appendix.

(2) No worker shall work in an asbestos process unless the worker has completed the training mentioned in subsection (1).

4 Oct 96 cO-1.1 Reg 1 s343.

**High risk asbestos processes**

**344** Where a high risk asbestos process set out in Table 5 of the Appendix has been completed, an employer or contractor shall ensure that no worker is required or permitted to enter the area where the asbestos process was carried out without an approved respiratory protective device until a competent person determines that:

- (a) there are no visible signs of debris in that area; and
- (b) air monitoring verifies that airborne asbestos fibre concentrations are less than 0.01 fibres per cubic centimetre of air.

4 Oct 96 cO-1.1 Reg 1 s344.

**Medical examinations**

**345(1)** On the request of a worker who is regularly employed in an asbestos process, an employer shall, not more than once each year, arrange for a medical examination of the worker during the worker's normal working hours and reimburse the worker for any part of the cost of the medical examination that the worker cannot recover.

(2) Where a worker cannot attend a medical examination mentioned in subsection (1) during the worker's normal working hours, an employer shall credit the worker's attendance at the examination as time at work and ensure that the worker does not lose any pay or other benefits.

- (3) A medical examination arranged pursuant to subsection (1) must include:
- (a) a comprehensive physical examination with special attention to the lungs;
  - (b) lung-function tests, including forced vital capacity and forced expiratory volume at one second; and
  - (c) any further medical procedures that are necessary for the diagnosis of an asbestos-related disease.

4 Oct 96 cO-1.1 Reg 1 s345.

PART XXIV  
**Silica Processes and Abrasive Blasting**

**Interpretation**

**346** In this Part:

- (a) **“abrasive blasting”** means the cleaning, smoothing, roughening or removing of part of the surface of any article by the use of a jet of sand, metal shot, grit or other material;
- (b) **“blasting enclosure”** means a chamber, barrel, cabinet or other similar enclosure designed for the purpose of the abrasive blasting of articles;
- (c) **“cleaning of castings”** means, in connection with the making of metal castings, the freeing of the castings from adherent sand or other substance containing more than 5% uncombined silica, and includes the removal of cores and the general smoothing of the castings where that freeing is done, but does not include the freeing of castings from scale formed during annealing or heat treatment;
- (d) **“sandblasting”** means an abrasive blasting process that uses sand as an abrasive;
- (e) **“silica flour”** means the ground material produced by the milling of siliceous rocks or other siliceous substances;
- (f) **“silica process”** means a process that may release uncombined silica in a crystalline form in concentrations likely to exceed the contamination limits set out in Table 21 of the Appendix, and includes:
  - (i) sandblasting;
  - (ii) the cleaning of castings;
  - (iii) the abrasive blasting, grinding or dressing of any surface that contains more than 5% uncombined silica, including the engraving or abrasive cleaning of gravestones or structures;
  - (iv) the getting, cutting, splitting, crushing, grinding, milling, drilling, sieving or other mechanical manipulation of gravel or other siliceous stone or rock that contains more than 5% uncombined silica;
  - (v) any process in which silica flour is used; and

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(vi) the manufacture of silica-containing bricks and the dismantling or repair of silica-containing refractory linings of furnaces;

(g) “**siliceous substances**” includes diatomite;

(h) “**uncombined silica**” means silica that is not combined chemically with any other element or compound.

4 Oct 96 cO-1.1 Reg 1 s346.

**Application of Part**

**347** This Part applies to any place of employment or worksite where a silica process is used.

4 Oct 96 cO-1.1 Reg 1 s347.

**Warning of workers**

**348** An employer shall warn all workers who, in the course of employment, are likely to be engaged in a silica process or are likely to be exposed to silica dust of the dangers to health from the inhalation of dust containing silica.

4 Oct 96 cO-1.1 Reg 1 s348.

**Cleaning of blasting equipment, etc.**

**349** An employer, contractor or owner shall take all practicable steps to prevent the inhalation of silica dust or the dissemination of silica dust into the air of the place of employment during the cleaning or maintenance of any blasting equipment, blasting enclosure, ventilating system or separating equipment.

4 Oct 96 cO-1.1 Reg 1 s349.

**Cleaning of worksites**

**350** An employer or contractor shall ensure that all worksites and work-related areas where dust from a silica process may affect the health or safety of a worker are regularly cleaned using a vacuum that has a HEPA filter on the exhaust or, where a vacuum is not practicable, by using wet methods.

4 Oct 96 cO-1.1 Reg 1 s350.

**Silica processes other than abrasive blasting**

**351(1)** Where a silica process other than abrasive blasting is carried on, an employer or contractor shall ensure that the entry of dust into the air where workers may be present is prevented, to the extent that is practicable, by the provision of:

- (a) total or partial enclosure of the process;
- (b) efficient local exhaust ventilation;
- (c) jets or sprays of a suitable wetting agent; or
- (d) any other method that provides equivalent protection to the workers.

**(2)** An employer or contractor shall ensure that any enclosure, apparatus or exhaust-ventilation equipment provided pursuant to subsection (1) is:

- (a) maintained in accordance with subsections 67(2) and (3);

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- (b) inspected daily when in use; and
  - (c) certified as safe and effective by a competent person at least once each year.
- (3) An employer or contractor shall ensure that no air discharged from a ventilation system provided pursuant to subsection (1) is recirculated in the place of employment unless the air is passed through an effective dust removal system equipped with a device that will provide a warning to workers when the system is not working effectively.

4 Oct 96 cO-1.1 Reg 1 s351; 31 Jan 97 SR 6/97  
s12.

**Isolation from air containing dust**

**352** Where it is not practicable to prevent the entry into the air of dust from a silica process, an employer or contractor shall, where it is practicable, provide for the isolation of workers from the air containing the dust.

4 Oct 96 cO-1.1 Reg 1 s352.

**Personal protective equipment**

**353(1)** An employer or contractor shall provide, and require a worker to wear, a respiratory protective device and other personal protective equipment that meet the requirements of Part VII where:

- (a) the protective measures required by section 351 or 352 are not practicable; or
  - (b) the worker is employed in cleaning and maintenance work and may be exposed to dust from a silica process.
- (2) For workers engaged in abrasive blasting, an employer or contractor shall provide and maintain approved blasting hoods supplied with air:
- (a) of a volume of not less than 170 litres per minute at a pressure of not more than 140 kilopascals; and
  - (b) that is clean and at a reasonable temperature.
- (3) For workers who may be exposed to dust resulting from abrasive blasting, an employer or contractor shall provide and maintain respiratory protective devices that meet the requirements of Part VII.

4 Oct 96 cO-1.1 Reg 1 s353.

**Standards for blasting enclosures**

**354(1)** An employer or contractor shall ensure that every blasting enclosure is:

- (a) constructed, operated and maintained to prevent the escape of dust;
- (b) provided with an efficient, dust-extraction system, that is operated continuously whenever the blasting enclosure is in use, whether or not abrasive blasting is actually taking place; and
- (c) provided with efficient equipment for separating the abrasive from the dust, to the extent that is practicable.

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- (2) An employer or contractor shall ensure that an abrasive is not reintroduced into a blasting apparatus until the abrasive has been separated from the dust pursuant to clause (1)(c).
- (3) An employer or contractor shall ensure that:
- (a) a blasting enclosure is inspected daily when in use;
  - (b) a blasting enclosure, the equipment connected with the enclosure and the ventilating system associated with the enclosure are thoroughly examined and tested regularly by a competent person; and
  - (c) all defects identified pursuant to this section are remedied immediately.
- (4) A competent person who carries out examinations and testing pursuant to clause (3)(b) shall record the results of those examinations and tests.

4 Oct 96 cO-1.1 Reg 1 s354.

**Use of blasting enclosures****355** An employer or contractor shall ensure that:

- (a) to the extent that is practicable, no abrasive blasting of articles that are likely to give rise to dust containing uncombined silica is done other than in a blasting enclosure;
- (b) where practicable, no sand or other substance containing more than 1% by weight of uncombined silica is used for abrasive blasting in a blasting enclosure; and
- (c) no work is performed in a blasting enclosure except:
  - (i) abrasive blasting and work immediately incidental to abrasive blasting; and
  - (ii) cleaning and maintenance of the blasting enclosure, the equipment associated with the blasting enclosure and the ventilation system.

4 Oct 96 cO-1.1 Reg 1 s355.

**Sandblasting****356(1)** An employer or contractor shall ensure that no sandblasting is done to any article outside a blasting enclosure where it is reasonably practicable to introduce the article into a blasting enclosure.

- (2) An employer or contractor shall ensure that no sandblasting is done inside any structure or confined space without:
- (a) obtaining the written permission of the director; and
  - (b) complying with any conditions that the director may specify.

4 Oct 96 cO-1.1 Reg 1 s356.

**Silica flour****357** An employer or contractor shall ensure that no silica flour is used:

- (a) for any purpose for which a less hazardous substance may be substituted; or
- (b) in the manufacture of scouring powder or abrasive soaps or as an abrasive in any process.

4 Oct 96 cO-1.1 Reg 1 s357.



**Medical examinations**

**358(1)** On the request of a worker who is regularly employed in a silica process, an employer shall, not more than once each year, arrange for a medical examination of the worker during the worker's normal working hours and reimburse the worker for any part of the cost of the medical examination that the worker cannot recover.

(2) Where a worker cannot attend a medical examination mentioned in subsection (1) during the worker's normal working hours, an employer shall credit the worker's attendance at the examination as time at work and ensure that the worker does not lose any pay or other benefits.

(3) A medical examination arranged pursuant to subsection (1) must include:

- (a) a comprehensive physical examination with special attention to the lungs;
- (b) lung-function tests, including forced vital capacity and forced expiratory volume at one second; and
- (c) any further medical procedures that are necessary for the diagnosis of a silica-related disease.

4 Oct 96 cO-1.1 Reg 1 s358.

PART XXV  
**Fire and Explosion Hazards**

**Interpretation**

**359** In this Part:

- (a) **“combustible liquid”** means a liquid that has a flashpoint at or above 37.8° Celsius and below 93.3° Celsius;
- (b) **“container”** means a stationary or portable vessel that is used to contain a flammable substance, and includes a tank, tank car, tank truck and a cylinder;
- (c) **“flammable liquid”** means a liquid that has a flashpoint below 37.8° Celsius and has a vapour pressure not exceeding 275.8 kilopascals at 37.8° Celsius;
- (d) **“flammable substance”** means:
  - (i) a flammable or combustible solid, liquid or gas; or
  - (ii) dust that is capable of creating an explosive atmosphere when suspended in air in concentrations within the explosive limit of the dust;
- (e) **“hot work”** means work that produces arcs, sparks, flames, heat or other sources of ignition;
- (f) **“system”** means a system into which compressed or liquified gases are delivered and stored and from which the compressed or liquified gas is discharged in the liquid or gaseous form, and includes containers, pressure regulators, pressure relief devices, manifolds, interconnecting piping and controls.

4 Oct 96 cO-1.1 Reg 1 s359.

**Fire safety plan**

**360(1)** An employer, contractor or owner shall:

- (a) take all reasonably practicable steps to prevent the outbreak of fire at a place of employment and to provide effective means to protect workers from any fire that may occur; and
  - (b) develop and implement a written fire safety plan that provides for the safety of all workers in the event of a fire.
- (2) A plan developed pursuant to subsection (1) must include:
- (a) the emergency procedures to be used in case of fire, including:
    - (i) sounding the fire alarm;
    - (ii) notifying the fire department; and
    - (iii) evacuating endangered workers, with special provisions for workers with disabilities;
  - (b) the quantities, locations and storage methods of all flammable substances present at the place of employment;
  - (c) the designation of persons to carry out the fire safety plan and the duties of the designated persons;
  - (d) the training of designated persons and workers in their responsibilities for fire safety;
  - (e) the holding of fire drills; and
  - (f) the control of fire hazards.
- (3) An employer, contractor or owner shall ensure that:
- (a) designated persons and workers who have been assigned fire safety duties are adequately trained in, and implement, the fire safety plan;
  - (b) the fire safety plan is posted in a conspicuous place for reference by workers; and
  - (c) a fire drill is held at least once during each 12-month period.

4 Oct 96 cO-1.1 Reg 1 s360.

**Fire extinguishers**

**361(1)** An employer, contractor or owner shall ensure that portable fire extinguishers are selected, located, inspected, maintained and tested so that the health and safety of workers at the place of employment is protected.

- (2) An employer, contractor or owner shall ensure that portable fire extinguishers are placed not more than nine metres away from:
- (a) each industrial open-flame portable heating device, tar pot or asphalt kettle that is in use; and
  - (b) each welding or cutting operation that is in progress.

4 Oct 96 cO-1.1 Reg 1 s361.

**Garbage as fire hazard**

**362** Where garbage that may constitute a fire hazard is present at a place of employment, an employer, contractor or owner shall provide covered receptacles for the garbage that are suitable to the nature of the hazard.

4 Oct 96 cO-1.1 Reg 1 s362.

**Procedures for flammable substances**

**363(1)** Where a flammable substance is or is intended to be handled, used, stored, produced or disposed of at a place of employment, an employer, contractor or owner shall develop written procedures to ensure the health and safety of workers who:

- (a) handle, use, store, produce or dispose of a flammable substance that may spontaneously ignite or ignite when in combination with any other substance; or
- (b) perform hot work where there is a risk of fire.

(2) An employer, contractor or owner shall ensure that all workers who are required or permitted to perform work mentioned in subsection (1) are trained in, and implement, the procedures developed pursuant to subsection (1).

(3) Workers who perform work mentioned in subsection (1) shall implement the procedures developed pursuant to subsection (1).

4 Oct 96 cO-1.1 Reg 1 s363.

**Receptacles for materials contaminated by flammable liquids**

**364(1)** An employer, contractor or owner shall ensure that materials contaminated by flammable liquids are placed in receptacles that:

- (a) are non-combustible and have close-fitting metal covers;
- (b) are labelled "flammable"; and
- (c) are located at least one metre away from other flammable liquids.

(2) Where the surface on which a receptacle required by subsection (1) is placed is combustible, an employer shall ensure that the receptacle has a flanged bottom or legs that are not less than 50 millimetres high.

(3) A worker shall place materials contaminated by flammable liquids and garbage that may constitute a fire hazard into the appropriate receptacle required by this section or by section 362.

4 Oct 96 cO-1.1 Reg 1 s364.

**Receptacles for combustible or flammable liquids**

**365** An employer, contractor or owner shall ensure that combustible and flammable liquids are kept in receptacles that meet the requirements of the *National Fire Code of Canada 1990*, including any Revisions and Errata published from time to time, respecting the storage of flammable and combustible liquids.

4 Oct 96 cO-1.1 Reg 1 s365.

**Hazardous activities involving combustible or flammable liquids**

**366(1)** An employer or contractor shall ensure that:

- (a) no gasoline is used to start a fire or used as a cleaning agent; and
  - (b) no worker is required or permitted:
    - (i) to replenish a tank on a heating device with a combustible or flammable liquid while the device is in operation or is hot enough to ignite the liquid; or
    - (ii) to place a tar pot, while in use, within three metres of an entrance to or exit from a building.
- (2) A worker shall not:
- (a) use gasoline to start a fire or use gasoline as a cleaning agent; or
  - (b) replenish a tank on a heating device with a flammable or combustible liquid while the device is in operation or is hot enough to ignite the liquid.

4 Oct 96 cO-1.1 Reg 1 s366.

**Control of ignition sources, static charges**

**367** An employer or contractor shall ensure that:

- (a) suitable procedures are developed and implemented to prevent the ignition of flammable liquids or explosive dusts that are present at a worksite;
- (b) all sources or potential sources of ignition are eliminated or controlled where an explosive atmosphere exists or is likely to exist; and
- (c) static charge accumulations during transfer of flammable liquids or explosive substances from one container to another are prevented by electrically bonding the containers.

4 Oct 96 cO-1.1 Reg 1 s367.

**Flammable liquids, gases or explosive substances in vehicles**

**368(1)** An employer shall ensure that no worker undertakes any servicing or maintenance of a vehicle while a flammable liquid or gas or an explosive substance:

- (a) is loaded into or unloaded from the vehicle; or
  - (b) is present in the vehicle in any place other than the fuel tank.
- (2) Where reasonably practicable, a worker who operates a vehicle that contains a flammable liquid or gas or an explosive substance shall ensure that the engine of the vehicle is shut off during the connection or disconnection of the lines for the loading or unloading of the flammable liquid, gas or explosive substance.

4 Oct 96 cO-1.1 Reg 1 s368.

**Flammable or explosive substance in atmosphere**

**369(1)** Where a flammable or explosive substance is present in the atmosphere of a worksite at a level that is more than 20% of the lower explosive limit of that substance, an employer or contractor shall not require or permit a worker to enter or work at the worksite.

(2) Subsection (1) does not apply to fire fighters to whom Part XXXII applies while engaged in an emergency operation.

4 Oct 96 cO-1.1 Reg 1 s369.

**Hot work**

**370(1)** Where a flammable substance is or may be present, an employer or contractor shall ensure that no hot work is performed until:

- (a) suitable tests have been conducted that:
    - (i) indicate whether the atmosphere contains a flammable substance in a quantity sufficient to create an explosive atmosphere; and
    - (ii) confirm that the work may be safely performed; and
  - (b) the work procedures developed pursuant to clause 363(1)(b) have been implemented to ensure continuous safe performance of the work.
- (2) While hot work is being performed, an employer or contractor shall conduct tests described in clause (1)(a) at intervals appropriate to the work being performed and record the results.
- (3) An employer or contractor shall not require or permit any hot work to be performed in the vicinity of a material that may constitute a fire hazard until suitable steps have been taken to reduce the risk of fire.
- (4) An employer or contractor shall ensure that a container or piping that contains or has contained a flammable substance is purged using an effective method to remove the flammable substance from the container or piping before any hot work is begun on that container or piping.
- (5) An employer or contractor shall not require or permit any welding or cutting of metal that has been cleaned with a flammable or combustible liquid until the metal has thoroughly dried.

4 Oct 96 cO-1.1 Reg 1 s370.

**Compressed and liquified gas systems**

**371(1)** An employer or contractor shall:

- (a) develop and implement written procedures for the safe installation, use and maintenance of a system;
  - (b) make readily available for reference by workers the procedures developed pursuant to clause (a) before requiring or permitting the use of the system; and
  - (c) ensure that all workers are trained in and implement the procedures developed pursuant to clause (a).
- (2) The workers shall implement the procedures developed pursuant to clause (1)(a).
- (3) An employer or contractor shall ensure:
- (a) that a system:
    - (i) is not exposed to temperatures that may result in the failure of the system or explosion of the contents of the system;

- (ii) is maintained in a clean state, free from oil, grease or other contaminant that may cause a failure of the system or that may burn or explode if the contaminant comes into contact with the contents of the system; and
- (iii) is located, guarded and handled during filling, transportation, use and storage so that the system is protected from damage;
- (b) that service valve outlets and the extensions of service valve outlets of containers that are not connected to any apparatus are capped; and
- (c) where equipment is designed for use with a particular compressed or liquified gas or gases, that:
  - (i) only those gases are used in the equipment; and
  - (ii) the equipment is clearly labelled as being only for that use.
- (4) A worker shall:
  - (a) take all reasonable steps to ensure that sparks, flames or other sources of ignition do not come into contact with a system;
  - (b) maintain a system in a clean state, free from oil, grease or any other contaminant; and
  - (c) secure the cap in place before transporting a container.

4 Oct 96 cO-1.1 Reg 1 s371.

#### Oxygen

- 372(1) An employer or contractor shall ensure that no oil, grease or other contaminant contacts a cylinder, valve, regulator or any other fitting of an oxygen-using apparatus or an oxygen distribution or generating system.
- (2) An employer or contractor shall ensure that oxygen is not used as a substitute for compressed air:
  - (a) in pneumatic tools;
  - (b) to create pressure;
  - (c) for ventilating purposes; or
  - (d) to blow out a pipeline.
- (3) A worker shall not use oxygen as a substitute for compressed air:
  - (a) in pneumatic tools;
  - (b) to create pressure;
  - (c) for ventilating purposes; or
  - (d) to blow out a pipeline.

4 Oct 96 cO-1.1 Reg 1 s373.

**Gas burning and welding equipment**

373(1) Where gas burning or welding equipment is in use, an employer or contractor shall ensure that:

- (a) approved flashback devices are installed on both hoses at the regulator end; and
  - (b) acetylene and liquified gas containers are used and stored in an upright position.
- (2) A worker shall shut off the container valve and release the pressure in the hose when the worker has finished with any gas burning or welding equipment and is not likely to use it within the next two hours.

4 Oct 96 cO-1.1 Reg 1 s373.

**Piping**

374(1) Where workers are required or permitted to work on piping that may contain harmful substances or substances under pressure, an employer or contractor, in consultation with the committee, shall develop written procedures to protect the workers from contact with those substances.

- (2) The procedures developed pursuant to subsection (1) must include:
- (a) the installation of a blank that is appropriate for the proper pressure in the piping;
  - (b) the closing of two blocking valves installed in the piping and the opening of a bleed-off valve installed between the blocking valves;
  - (c) the installation of an approved safety device; or
  - (d) where the procedures mentioned in clauses (a), (b) and (c) are not reasonably practicable, any other procedures that are adequate to protect the health and safety of the workers.
- (3) An employer or contractor shall ensure that all workers are trained in and implement the procedures developed pursuant to subsection (1).
- (4) An employer or contractor shall ensure that:
- (a) the piping mentioned in clause (2)(a) is clearly marked to indicate that a blank has been installed; or
  - (b) the two blocking valves mentioned in clause (2)(b) or the approved safety device mentioned in clause (2)(c):
    - (i) are locked in the closed position and the bleed-off valve is locked in the open position; and
    - (ii) are tagged to indicate that the valves must not be activated until the tags are removed by a worker designated by the employer for that purpose.
- (5) An employer or contractor shall ensure that a worker designated pursuant to subclause (4)(b)(ii):
- (a) monitors the valves to ensure that they are not activated while a worker is working on the piping; and

- (b) records on the tag mentioned in subclause (4)(b)(ii) the date and time of each monitoring and signs the tag each time the worker monitors the valves.
- (6) An employer or contractor shall ensure that any valve installed on piping mentioned in this section is clearly marked to indicate the open and closed positions.

4 Oct 96 cO-1.1 Reg 1 s374.

## PART XXVI Explosives

### Application of Part

**375** This Part applies to all blasting activities, except blasting activities governed by *The Mines Regulations* or *The Sedimentary Basin Geophysical Exploration Regulations, 1985*.

4 Oct 96 cO-1.1 Reg 1 s375.

### Qualifications of workers

**376(1)** An employer or contractor who plans to conduct blasting activities shall ensure that a worker who is to undertake a blasting operation:

- (a) has been thoroughly trained in:
    - (i) the estimation of the amount of explosives required, and in placing, priming and initiating the charge;
    - (ii) the appropriate procedures to be followed to ensure the safety of other workers;
    - (iii) the procedures to be followed in the event of a misfire; and
    - (iv) the examination of the site after blasting to ensure that it is safe to return to the site;
  - (b) has demonstrated competence to carry out the procedures mentioned in clause (a);
  - (c) has a thorough knowledge of all federal and provincial statutes, regulations and codes of practice pertaining to the safe use of explosives that are relevant to the blasting operation in question; and
  - (d) holds a written authorization to blast signed by the worker's employer.
- (2) A worker shall not undertake a blasting activity until the worker possesses written authorization to blast signed by the worker's employer.

4 Oct 96 cO-1.1 Reg 1 s376.

### Written procedures

**377(1)** An employer or contractor shall ensure that appropriate written procedures are provided to a worker who conducts a blasting operation to ensure the safety of the worker and any other person in the vicinity of the blasting operation.

(2) A worker who undertakes a blasting activity shall follow the procedures provided by the employer or contractor pursuant to subsection (1).

4 Oct 96 cO-1.1 Reg 1 s377.



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**Equipment**

**378** An employer or contractor shall provide a worker who is to undertake a blasting operation with suitable testing and detonating equipment.

4 Oct 96 cO-1.1 Reg 1 s378.

**Storage and transportation of explosives**

**379(1)** An employer or contractor shall ensure that all explosives are stored or transported:

- (a) in suitable sealed containers that are conspicuously marked “Danger – Explosives”; and
- (b) in a manner that prevents the explosives from coming into contact with any flammable substance or other agent that may cause the explosives to detonate.

(2) An employer or contractor shall ensure that all explosives are kept in a secure location that is accessible only to authorized workers.

4 Oct 96 cO-1.1 Reg 1 s379.

**PART XXVII  
Demolition Work**

**Interpretation**

**380** In this Part, “**demolition**” means the tearing down, destroying, breaking up or razing of a structure, and includes the demolition of any major part of a structure that involves outer walls or principal supporting members.

4 Oct 96 cO-1.1 Reg 1 s380.

**Before demolition begins**

**381(1)** Before a demolition begins, an employer, contractor or owner shall ensure that:

- (a) all chemical or biological substances that may be hazardous to workers during demolition are removed from the structure or the part of the structure that is being demolished;
- (b) all glass is removed from the structure or the part of the structure that is being demolished; and
- (c) subject to subsection (2), all gas, electrical, telecommunications, sewer and water services connected to the structure or the part of the structure that is being demolished are disconnected.

(2) Where power is required for illumination or other purposes, an employer, contractor or owner shall provide a suitably located temporary power service.

4 Oct 96 cO-1.1 Reg 1 s381.

**Stability of adjacent structures**

**382** Where the demolition of a structure may affect the stability of an adjoining structure, an employer, contractor or owner shall ensure that:

- (a) the demolition is carried out in accordance with procedures certified in writing by a professional engineer to safeguard the stability of the adjoining structure; and
- (b) a copy of the procedures required by clause (a) is kept at the worksite during demolition.

4 Oct 96 cO-1.1 Reg 1 s382.

**Requirements re workers**

**383** In a demolition, an employer, contractor or owner:

- (a) shall appoint a competent supervisor to be in charge of the demolition at all times that the work is in progress;
- (b) shall ensure that all workers or equipment are located clear of any falling material; and
- (c) where a worker is or may be present in a building during its demolition, shall ensure that the demolition is performed floor by floor from the top downward.

4 Oct 96 cO-1.1 Reg 1 s383.

**Demolition procedures**

**384** In a demolition, an employer, contractor or owner shall ensure that:

- (a) dust from the demolition is controlled to the extent that is reasonably practicable;
- (b) materials and debris are not allowed to accumulate in any area to the extent that the materials and debris cause overloading of a structure that could result in the collapse of all or part of the structure;
- (c) any opening or hole in a floor, roof or other surface on which workers are required or permitted to walk or stand is guarded or covered as required by section 124;
- (d) a free-standing scaffold is used in the demolition of a building shaft from the inside;
- (e) steel structures are dismantled column length by column length and tier by tier from the top downward; and
- (f) no wall or other part of the structure being demolished is left in an unstable condition or in danger of accidental collapse except during the actual demolition of that wall or part of the structure.

4 Oct 96 cO-1.1 Reg 1 s384.

**Material chutes**

**385(1)** An employer, contractor or owner shall ensure that a material chute steeper than 45° from the horizontal is constructed to enclose the material placed in the chute.

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(2) Where a material chute presents a danger to workers, an employer, contractor or owner shall ensure that a guardrail is installed around the top of the chute to prevent workers from falling into the chute.

4 Oct 96 cO-1.1 Reg 1 s385.

**Structural members**

**386(1)** An employer, contractor or owner shall ensure that structural members that are being removed are not under any stress other than the member's own weight and are secured or supported to prevent any unexpected movement.

(2) Where a structural member is being hoisted by a crane or other similar lifting device from a structure being demolished or from the demolition rubble, an employer, contractor or owner shall ensure that the hoisting line is in a vertical position and is over the centre of gravity of the load in a manner that will reduce the danger to workers from a swinging or uncontrolled load.

4 Oct 96 cO-1.1 Reg 1 s386.

**Use of powered mobile equipment**

**387(1)** Before powered mobile equipment is placed on a floor, roof or other surface on which workers are required or permitted to walk or stand for the purpose of demolishing a structure, an employer, contractor or owner shall ensure that the floor, roof or other surface is capable of supporting the load that may be placed on the floor, roof or other surface.

(2) Where powered mobile equipment is used for the purpose of demolishing a structure, an employer, contractor or owner shall ensure that safe work procedures are developed and implemented.

4 Oct 96 cO-1.1 Reg 1 s387.

**Use of explosives**

**388** Where a structure is to be demolished by explosives, an employer, contractor or owner shall:

- (a) ensure that a competent person develops a demolition procedure to protect the health and safety of workers;
- (b) submit a copy of the demolition procedure to the division not less than 30 days before the proposed date of the demolition; and
- (c) ensure that the worker who undertakes the blasting activity has the training, competence and knowledge described in clauses 376(1)(a) to (c).

4 Oct 96 cO-1.1 Reg 1 s388.

PART XXVIII  
**Forestry and Mill Operations**

**Interpretation**

**389** In this Part:

- (a) **“bucking”** means sawing a log or felled tree into smaller lengths;
- (b) **“chicot”** means a dead or damaged tree or a dead or damaged limb of a tree;

- (c) **“cutting”** includes felling, limbing and bucking;
- (d) **“felling”** means cutting a tree from the tree’s stump and bringing the tree to the ground;
- (e) **“forestry operation”** means the cutting or harvesting of trees, and includes the transporting of logs and the preparing of sites for tree planting and seeding;
- (f) **“limbing”** means removing limbs from a tree that has been felled;
- (g) **“lodged tree”** means a tree that has not fallen to the ground after being partly or wholly separated from the tree’s stump or displaced from the tree’s natural position;
- (h) **“mill operation”** means the operation of a pulp mill, paper mill, sawmill, plywood mill, wafer-board mill or strand-board mill, and includes the operation of equipment that is designed to manufacture or process wood products;
- (i) **“skidder operator”** means a worker who operates a skidder or who operates any other powered mobile equipment to perform the work of a skidder;
- (j) **“skidding”** means moving logs or trees by pulling the logs or trees across the terrain;
- (k) **“snag”** means any material or object that may interfere with the safe movement of a tree or log or that may endanger a worker;
- (l) **“stake”** means a wooden or metal post or a post made of other material of equivalent strength that is used to support and prevent the lateral movement of logs;
- (m) **“windfall”** means a tree blown down by wind;
- (n) **“wood products”** includes pulp, pulpwood, paper, veneer, plywood, lumber, timber, poles, posts, chips, wafers and other products resulting from a forestry operation.

4 Oct 96 cO-1.1 Reg 1 s389.

#### Application of Part

**390** This Part applies to all forestry operations and mill operations.

4 Oct 96 cO-1.1 Reg 1 s390.

#### First aid attendant

**391** Notwithstanding section 52, where a worker is cutting or skidding, an employer or contractor shall ensure that a first aid attendant with a class A qualification is readily available at all times.

4 Oct 96 cO-1.1 Reg 1 s391.

**Cutting and skidding – general requirements**

**392(1)** During cutting and skidding operations, an employer or contractor shall ensure that:

- (a) workers who do not have duties associated with cutting and skidding are not permitted to enter the area where those operations are carried out while they are being carried out;
- (b) a worker fells all timber that is adjacent to a proposed landing or other place where workers will work and that may create a hazard to workers before the landing or other place is used;
- (c) no worker fells a tree within range of a travelled road unless effective means are taken to stop traffic until the tree has been felled and the tree and all debris that creates a risk to the health or safety of a worker have been removed from the road; and
- (d) a worker closely limbs trees:
  - (i) before the trees are placed on a rollway; or
  - (ii) where the limbs may create a risk to the health or safety of a worker.

(2) An employer or contractor shall ensure that:

- (a) no person enters a felling area unless the worker engaged in felling has advised the person entering the area that it is safe to enter; and
- (b) workers are instructed in, and comply with, the duties set out in subsection (3), subsection 146(4), sections 393 and 394, subsections 395(3), 397(3) and 398(2), section 400 and subsection 401(11).

(3) A worker shall not work on a hillside below a cutting or skidding operation where a danger may exist from a tree or log rolling or moving downhill towards the worker.

4 Oct 96 cO-1.1 Reg 1 s392.

**Cutting**

**393** During cutting operations, a worker shall:

- (a) remove any chicot or any other hazard to the worker or any other worker in the vicinity before any other tree is felled;
- (b) remain at a safe distance from, and not fell a tree onto, any tree that is lodged or may be dangerous for any other reason; and
- (c) move quickly to a predetermined safe position when a tree starts to fall.

4 Oct 96 cO-1.1 Reg 1 s393.

**Felling**

**394(1)** Before starting to fell a tree, a worker shall:

- (a) clear away adjacent brush to provide sufficient room to work and to provide a path at a 45° angle from the direction opposite to the planned direction of fall to a safe position; and

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- (b) ensure that no other worker is located closer than 60 metres to the tree being felled.
- (2) Before a felling cut is begun on a tree with a trunk that has a diameter of 15 centimetres or more, a worker shall:
  - (a) undercut the trunk to control the direction of the fall; and
  - (b) ensure that:
    - (i) the depth of the undercut is at least one third of the diameter of the tree trunk at that point; and
    - (ii) both cuts that form the undercut meet at that depth.
- (3) After making an undercut, a worker shall:
  - (a) remove the wood from the undercut before the back cut is started and leave sufficient holding wood in the back cut side to control the direction of the fall of the tree; and
  - (b) ensure that the back cut is above the undercut at a distance that does not exceed 100 millimetres from the undercut.
- (4) Where a worker cannot safely complete the felling of a tree or a tree that a worker is felling has become unsafe, the worker shall:
  - (a) remain in the area in a safe location: and
  - (b) do no further work until a skidder operator fells the tree.

4 Oct 96 cO-1.1 Reg 1 s394.

**Partially cut trees**

- 395(1)** Subject to subsection (2), where a tree is partially cut, an employer or contractor shall ensure that the worker immediately completes the felling of the tree.
- (2) If a partially cut tree cannot be completely felled or sits back on the stump, an employer or contractor shall ensure that the worker remains in the area in a safe location and does no further work until a skidder operator assists the worker to fell the tree safely.
  - (3) A worker shall not fell a tree or undertake any other activity until every partially cut tree in the vicinity and every tree in the vicinity that sits back on its stump has been felled.

4 Oct 96 cO-1.1 Reg 1 s395.

**Lodged trees**

- 396(1)** Where there is a lodged tree, an employer or contractor shall ensure that:
- (a) the tree is felled immediately by a skidder operator;
  - (b) the tree is not climbed by a worker;

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- (c) a worker does not lower the tree by felling another tree onto the lodged tree; and
  - (d) a worker does not remove the lodged tree by cutting the supporting tree.
- (2) An employer or contractor shall ensure that no worker, other than the worker who is felling a lodged tree, enters the felling area until it is safe to do so.

4 Oct 96 cO-1.1 Reg 1 s396.

**Mechanized fellers and limbers**

**397(1)** An employer or contractor shall ensure that:

- (a) a mechanized feller or limber is provided with:
    - (i) adequate protection for the operator, including protection against any falling tree or part of a tree; and
    - (ii) a cab for the operator with two exits through which the operator can readily escape; and
  - (b) a mechanized feller is designed and equipped to direct the fall of the tree away from the mechanized feller.
- (2) An employer or contractor shall ensure that:
- (a) no worker operates a mechanized feller or limber in a location where the stability of the machine cannot be assured; and
  - (b) no worker operates a mechanized feller within 60 metres of a worker who may be endangered by a falling tree or part of a tree.
- (3) A worker shall not:
- (a) operate a mechanized feller or limber in a location where the stability of the machine cannot be assured; or
  - (b) operate a mechanized feller within 60 metres of a worker who may be endangered by a falling tree or part of a tree.

4 Oct 96 cO-1.1 Reg 1 s397.

**Bucking and limbing**

**398(1)** Where a worker is bucking or limbing, an employer or contractor shall ensure that the worker:

- (a) clears away any brush or object that may create a hazard to the worker;
- (b) does not move forward while limbing a tree or log unless the worker is limbing on the side of the tree or log that is opposite to the side of the tree or log on which the worker is located;
- (c) remains at least 60 metres from any tree being felled;
- (d) remains in a location safe from any tree or log being skidded or otherwise moved; and
- (e) works only on the uphill side of any log that is lying on an incline.

- (2) While bucking or limbing, a worker:
- (a) shall clear away any brush or object that may create a hazard to the worker;
  - (b) shall not move forward while limbing a tree or log unless the worker is limbing on the side of the tree or log that is opposite to the side of the tree or log on which the worker is located;
  - (c) shall remain at least 60 metres from any tree being felled;
  - (d) shall remain in a location safe from any tree or log being skidded or otherwise moved; and
  - (e) shall work only on the uphill side of any log that is lying on an incline.

4 Oct 96 cO-1.1 Reg 1 s398.

#### Skidding

- 399(1)** During skidding operations, an employer or contractor shall ensure that:
- (a) every snag, chicot, lodged tree or windfall that may be hazardous and that is located along or adjacent to a skid trail, haul road or landing is removed; and
  - (b) a skidder operator pulls down any tree that is lodged or is dangerous for any other reason immediately when the lodged or dangerous tree is reported to the skidder operator.
- (2) An employer or contractor shall ensure that a winching machine is equipped with suitable safeguards to protect the operator from flying objects.
- (3) An employer or contractor shall ensure that:
- (a) no worker other than a skidder operator is required or permitted to ride on any skidder except where the skidder is provided with a second seat that is adequately protected;
  - (b) a skidder operator is required to discontinue operating when the operation of the skidder may endanger another worker until it is possible for the operation to proceed without danger to the other worker;
  - (c) a skidder operator does not operate a skidder within 60 metres of a worker who is felling a tree until the worker has signalled that it is safe to operate the skidder; and
  - (d) a skidder operator does not operate a skidder near the edge of a bank, fill, excavation, incline or any other place where the skidder cannot safely be controlled.
- (4) An employer or contractor shall ensure that the skidder operator applies the brakes and, where the terrain is uneven, lowers the blade to the ground when the skidder operator temporarily gets off the skidder.
- (5) When a skidder operator parks a skidder, an employer or contractor shall ensure that the skidder operator parks the skidder on even ground and lowers the blade to the ground.

4 Oct 96 cO-1.1 Reg 1 s399.



**Skidder operators' responsibilities**

400(1) A skidder operator shall:

- (a) remove every snag, chicot, lodged tree or windfall that may be hazardous or that is located along or adjacent to any skid trail, haul road or landing; and
  - (b) where advised that a tree is lodged or otherwise dangerous, immediately remove the tree.
- (2) A skidder operator shall not operate the winch at an angle that may cause the skidder to overturn.
- (3) A skidder operator shall:
- (a) keep any loose winch cable wound up on the winch drum and any choker clear of the ground during travel;
  - (b) ensure that no worker is located under or near the winch cable or choker cables or in a position to be struck by a winch cable or choker cable if the cable breaks or comes loose; and
  - (c) attach any choker cable applied to a log no farther from the end of the log than one metre.
- (4) Before moving a log, a skidder operator shall ensure that no other worker may be endangered by moving the log.
- (5) A skidder operator:
- (a) shall not operate the skidder winch except from the seat provided unless a remote control device is provided and used from a safe winching position; and
  - (b) shall operate the skidder at a speed and in a manner that will prevent the skidder overturning.
- (6) When skidding logs to a landing, a skidder operator shall winch the drag up tight to the rear of the skidder to prevent uncontrolled movement of the logs.
- (7) Where a worker is attaching a choker to a log on sloping ground, a skidder operator shall lower the blade of the skidder to the ground.
- (8) When temporarily getting off a skidder, a skidder operator shall apply the brakes and, where the terrain is uneven, lower the blade to the ground.
- (9) When parking a skidder, a skidder operator shall park the skidder on even ground and lower the blade to the ground.

4 Oct 96 cO-1.1 Reg 1 s400.

**Loading, unloading and hauling logs**

- 401(1) Where a worker is loading or unloading logs, an employer or contractor shall ensure that the loading and unloading areas are suitably graded and maintained appropriately for the equipment that is being used.
- (2) Where a worker is loading or unloading logs with a crane or other type of mechanical loader, an employer or contractor shall ensure that no worker is required or permitted to stand or work under the path of the bucket, grapple or load.

- (3) Where a worker is or may be at risk from logs suspended over or near the cab of a vehicle, an employer or contractor shall ensure that the worker is not required or permitted to remain in the cab.
- (4) An employer or contractor shall ensure that a worker who is not actively engaged in a loading or unloading operation:
  - (a) remains at a safe distance from the operation in clear view of the operator; or
  - (b) if the hazard mentioned in subsection (3) does not exist, remains in the cab of the vehicle.
- (5) Where a worker is operating a loader equipped with a clam, an employer or contractor shall ensure that the jaws of the clam secure the entire load.
- (6) Where a loader is equipped with a fork, an employer or contractor shall ensure that rear stoppers are provided that are designed and sufficiently strong to prevent any log from falling back on the operator.
- (7) An employer or contractor shall ensure that:
  - (a) a log yard is constructed, arranged, maintained and operated so that a worker may work without exposure to danger from any moving log or equipment; and
  - (b) a worker does not build a log pile to a height greater than a height that can be safely handled by the equipment used in the stacking and breaking down of the log deck.
- (8) An employer or contractor shall ensure that no worker is required or permitted to work on, under or beside the haul unit during loading or unloading.
- (9) Where an operator does not have a clear view of the entire loading or unloading operation, an employer or contractor shall ensure that a signaller with a clear view of the operation and visible to the operator is designated pursuant to subsection 132(1) to give all signals necessary to ensure the safety of a worker involved in the loading or unloading operation.
- (10) An employer or contractor shall ensure that a worker:
  - (a) restrains the top log on the outside edge of a vehicle by at least two stakes; and
  - (b) secures the log load on a vehicle:
    - (i) to the vehicle body with tie-downs of sufficient size and strength to restrain the logs;
    - (ii) between each set of stakes; and
    - (iii) by at least two tie-downs at the rear of the load.
- (11) A worker who is engaged in loading or unloading logs shall:
  - (a) before shutting down and leaving the loader, lower the clam or forks, put the loader in neutral and apply the brakes;

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- (b) while manually loading, unloading, decking or breaking piles, work only at the end of the logs; and
- (c) while loading or unloading logs, work in a safe position in clear view of the operator or signaller.

4 Oct 96 cO-1.1 Reg 1 s401.

**Vehicles used to haul logs**

**402** An owner of a vehicle used to haul logs shall ensure that:

- (a) the vehicle is equipped with a bulkhead installed between the cab and the load that is of sufficient size and strength to resist any impact caused by a shifting load;
- (b) stakes used to restrain logs on the vehicle are designed, constructed and installed to safely support any load placed against the stakes; and
- (c) stake extensions are of a strength equivalent to the strength of the stake and positively secured to the stake to prevent inadvertent detachment.

4 Oct 96 cO-1.1 Reg 1 s402.

**Log carriages**

**403(1)** Where sawmill log carriages are used, an employer or contractor shall ensure that no worker is required or permitted to ride on a log carriage.

(2) Where the area immediately behind a log carriage is used as a walkway, an employer or contractor shall ensure that a guardrail is installed between the walkway and the carriage for the full extent of the carriage travel.

(3) An employer or contractor shall ensure that:

- (a) suitable devices are installed to stop a log carriage at the end of the carriage's travel in each direction;
- (b) a log carriage is equipped with a suitable headblock that is equipped with suitable dogs that are used to secure the log during the sawing operation;
- (c) a log carriage is provided with a safety device that will ensure that the headblock cannot be moved to a position within 30 millimetres of the saw blade;
- (d) sweepers are provided in front and at the back of a log carriage to remove all obstructions from the track;
- (e) a power-driven log carriage is propelled by a wire rope that is:
  - (i) of sufficient strength to propel the log carriage safely; and
  - (ii) maintained in safe operating condition;
- (f) the sawyer's lever operating the carriage drive mechanism is designed and installed so that the movement of the lever is in the opposite direction to the carriage travel, except when the sawyer's position and controls are enclosed or isolated from the hazards of the carriage; and
- (g) means are provided to securely lock the sawyer's log turning and carriage control levers.

(4) An employer or contractor shall ensure that the sawyer engages the carriage control lever lock before leaving the sawyer's position.

4 Oct 96 cO-1.1 Reg 1 s403.

**Sawmill head rigs**

**404(1)** Where a sawmill head rig is operated, an employer or contractor shall ensure that:

- (a) a circular blade sawmill is equipped with suitable saw guides that can only be adjusted from outside the husk;
  - (b) husks are completely enclosed and are provided with a substantial, securely hinged cover;
  - (c) a solid splitter is provided that:
    - (i) has a leading edge that is adjacent to and conforms to the curvature of the saw blade; and
    - (ii) extends above the carriage deck a distance of not less than one-quarter of the diameter of the saw blade in use;
  - (d) a substantial safeguard is provided over the lower portion of the head saw blade under the carriage tracks and extends at least 15 centimetres below the bottom of the largest size saw blade in use;
  - (e) a substantial heavy-mesh screen or other suitable material is securely placed between the saw blade and the sawyer's position to protect the sawyer from any throw-backs from the saw;
  - (f) mesh screens required by clause (e) are backed by a small-mesh screen or other effective safeguard located on the sawyer's side of the heavy screen to protect the sawyer from small flying particles;
  - (g) a power unit driving a sawmill is equipped with an emergency stopping device located within immediate reach of the sawyer; and
  - (h) the yard end of an elevated log deck rollway is equipped with a device that will prevent logs from rolling back into the mill yard.
- (2) An employer or contractor shall ensure that the support structure for a top saw is of sufficient size and strength to withstand any forces imposed on the saw.

4 Oct 96 cO-1.1 Reg 1 s404.

**Trimmer saws**

**405** An employer or contractor shall ensure that a trimmer saw blade is equipped with a safeguard that allows the passage of material being cut, exposes a minimum amount of the saw blade and protects workers from flying debris.

4 Oct 96 cO-1.1 Reg 1 s405.

**Edgers**

**406(1)** An employer or contractor shall ensure that:

- (a) the top of an edger is covered effectively to control flying debris;
- (b) the roll of an edger is kept in contact with the material being cut; and
- (c) an edger is equipped with an effective kickback device to protect workers from material thrown from either end of the edger.

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(2) An employer or contractor shall ensure that an overhead or double arbour saw edger is provided with a safeguard to protect workers from material thrown from the infeed rolls or the outfeed rolls.

4 Oct 96 cO-1.1 Reg 1 s406.

**Bandsaws**

407 An employer or contractor shall ensure that:

- (a) the saw blades of a bandsaw are enclosed or guarded between the top guideroll and the table, except on the working side of the blade;
- (b) bandsaw wheels are fully enclosed; and
- (c) bandsaw machines are provided with an effective automatic tension control device.

4 Oct 96 cO-1.1 Reg 1 s407.

**Feedrolls of resaws**

408 An employer or contractor shall ensure that the feedrolls of a resaw are protected with semi-cylindrical metal guards to prevent the hands of a worker from coming in contact with the roll.

4 Oct 96 cO-1.1 Reg 1 s408.

**Dry kilns**

409 An employer or contractor shall ensure that:

- (a) before the heating process is begun, no worker remains in a dry kiln; and
- (b) a dry kiln is equipped with a readily identifiable escape door or kick out panel that measures not less than 600 millimetres by 600 millimetres.

4 Oct 96 cO-1.1 Reg 1 s409.

**PART XXIX  
Oil and Gas**

**Interpretation**

410 In this Part:

- (a) **“derrick”** means a stationary or portable structure that is used to support the hoisting and lowering mechanism on a rig;
- (b) **“drilling rig”** means the derrick and all equipment that is directly involved with drilling a well or producing oil or gas from a well;
- (c) **“flush-by”** means a pumping unit that is used to loosen formation deposits in a well;
- (d) **“rig”** includes a drilling rig and a well servicing rig;
- (e) **“swabbing unit”** means equipment that uses wire rope to lift fluids from a well;

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(f) **“well servicing rig”** means all equipment directly involved with servicing a well;

(g) **“well testing”** means evaluating the productivity of a well and the quality of the product.

4 Oct 96 cO-1.1 Reg 1 s410.

**Application of Part**

**411** This Part applies to all drilling procedures for the exploration of oil and gas and to the drilling, operation and servicing of a gas well or an oil well, the production of oil or gas from a well and the ancillary processes associated with these activities.

4 Oct 96 cO-1.1 Reg 1 s411.

**Supervisors**

**412(1)** An employer, contractor or owner shall appoint a competent person to supervise any oil or gas exploration, drilling, servicing, testing or production operation.

(2) An employer, contractor or owner shall ensure that the supervisor appointed pursuant to subsection (1) is knowledgeable about, and experienced in the following matters that are within the area of the supervisor’s responsibility:

- (a) safe work practices, including the safe operation of any plant at the place of employment;
- (b) the safe handling, use and storage of hazardous substances;
- (c) well control and blowout prevention;
- (d) the detection and control of worker exposure to hydrogen sulphide;
- (e) the handling, use, maintenance and storage of personal protective equipment;
- (f) the appropriate response to any emergency situation at the place of employment;
- (g) the duties and responsibilities of all workers being supervised by the supervisor;
- (h) the training of workers being supervised by the supervisor in safe work practices and procedures.

(3) An employer, contractor or owner who has appointed a supervisor pursuant to subsection (1) shall:

- (a) give written notice to all employers and self-employed persons who are involved in the operation of the name, method of contact, duties and responsibilities of the supervisor; and
- (b) obtain written acknowledgement from each employer or self-employed person involved in the operation that the employer or self-employed person has received the notice required by clause (a) and has agreed to accept the direction of the supervisor.

4 Oct 96 cO-1.1 Reg 1 s412.

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**Daily tour book**

**413** An employer, contractor or owner shall:

- (a) provide for each rig a daily tour book and ensure that the book is kept at the site of the rig;
- (b) ensure that all details of any inspection required by this Part, any repair made and all work activities undertaken at the site of the rig are recorded in the daily tour book;
- (c) ensure that the record required by clause (b) is signed by the worker who performs the inspection; and
- (d) ensure that the supervisor reviews the entries for the day in the tour book and signs the tour book daily.

4 Oct 96 cO-1.1 Reg 1 s413.

**Routine inspections**

**414** An employer, contractor or owner shall ensure that:

- (a) a rig is inspected by a competent person before commencing operations and at least every 30 working days after that; and
- (b) where a defect or unsafe condition is identified during an inspection, an employer, contractor or supplier shall:
  - (i) 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
  - (ii) as soon as is reasonably practicable, repair any defect or correct any unsafe condition.

4 Oct 96 cO-1.1 Reg 1 s414.

**General requirements re design, etc., of rig**

**415(1)** An employer, contractor or owner shall ensure that a rig and all of its auxiliary equipment are designed, constructed, installed, maintained and operated so as to fulfil their intended purposes safely.

**(2)** An employer, contractor or owner shall ensure that:

- (a) the maximum safe operating depth of a rig, based on the design of the equipment, for each specified condition and operation is determined and certified by the manufacturer or a professional engineer;
- (b) the maximum safe operating load of a derrick is determined and certified by the manufacturer or a professional engineer;
- (c) the maximum safe operating depth and maximum safe operating load determined in accordance with clauses (a) and (b) are prominently displayed on the rig and are not exceeded;
- (d) any structural change or repair to a derrick is certified as safe by a professional engineer before the derrick is used; and

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(e) where a structural change or repair is made to a rig, the maximum safe operating depth of the rig and maximum safe operating load of the derrick are redetermined and recertified by a professional engineer and displayed on the rig.

(3) Where the substructure of a rig is enclosed, an employer, contractor or owner shall ensure that the substructure is ventilated in accordance with the requirements of sections 65 to 67.

4 Oct 96 cO-1.1 Reg 1 s415.

**Flush-by and swabbing units**

**416** An employer, contractor or owner shall ensure that a flush-by or a swabbing unit is designed, constructed, installed, maintained and operated so as to fulfil the unit's intended purpose safely.

4 Oct 96 cO-1.1 Reg 1 s416.

**Securing parts of rig**

**417(1)** An employer, contractor or owner shall ensure that any part of a rig, and any equipment attached to a rig, that may endanger a worker if it fails, moves or falls is secured to eliminate the danger.

(2) An employer, contractor or owner shall ensure that the driller's position on a rig is protected from any hazard created by the cathead or tong lines.

(3) An employer, contractor or owner shall ensure that the workers on a drilling rig floor are protected from any hazard created by the cathead or tong lines.

4 Oct 96 cO-1.1 Reg 1 s417.

**Raising and lowering derricks**

**418(1)** Before a derrick is raised or lowered, an employer, contractor or owner shall ensure that a complete inspection of all of the derrick's parts is made by a competent person.

(2) An employer, contractor or owner shall ensure that:

(a) a competent person is in charge of, and present during, the raising and lowering of a derrick; and

(b) a derrick is raised or lowered in accordance with the manufacturer's specifications.

4 Oct 96 cO-1.1 Reg 1 s418.

**Rig sites and foundations**

**419** An employer, contractor or owner shall ensure that:

(a) the site of a rig is constructed and maintained so that oil, water, drilling fluid and other fluids will drain away from the wellbore; and

(b) the foundation of a rig is capable of safely supporting the gross weight of the derrick under the maximum anticipated hook load and any load imposed during raising and lowering of the derrick.

4 Oct 96 cO-1.1 Reg 1 s419.



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**Guy lines**

**420** An employer, contractor or owner shall ensure that:

- (a) guy lines, where required by the manufacturer, are installed on a derrick so that the number, spacing and specifications of the guy lines and the spacing, capacity and specifications of guy line ground anchors:
  - (i) meet the requirements of an approved standard; or
  - (ii) are designed and certified as safe by a professional engineer; and
- (b) instructions for the number, spacing and specifications of guy lines and the spacing, capacity and specifications of guy line ground anchors are displayed by means of a plate fixed to the derrick or by a specification sheet that is readily available to workers at the rig.

4 Oct 96 cO-1.1 Reg 1 s420.

**Platforms, ladders and stairways**

**421(1)** An employer, contractor or owner shall ensure that:

- (a) a derrick is equipped with a fixed ladder or ladders providing access from the derrick floor to the crown platform and to each intermediate platform; and
  - (b) platforms are provided:
    - (i) on a drilling rig, at the fourble board, stabbing board and crown; and
    - (ii) on a service rig, at the tubing board and rod basket.
- (2) An employer, contractor or owner shall ensure that a derrick floor and all stairways, ladders, ramps, catwalks and platforms are kept free of obstructions that may hinder or prevent the exit of workers.

4 Oct 96 cO-1.1 Reg 1 s421.

**Means of escape**

**422(1)** An employer, contractor or owner shall ensure that a derrick is equipped with a specially rigged and securely anchored auxiliary escape line that provides a ready, safe and convenient means of escape from the fourble board and the crown in the derrick.

(2) An escape line required by subsection (1) must be a wire rope with a minimum diameter of 11.5 millimetres and must be installed with a safety buggy that is equipped with a braking device.

(3) An employer, contractor or owner shall ensure that:

- (a) the tension on an escape line is sufficient to ensure that a worker descending the escape line can stop six metres from the ground anchor point;
- (b) an escape line is clearly marked and protected from physical damage;
- (c) an escape line is visually inspected by a competent person at least once a week; and
- (d) a path of escape is kept free of obstruction.

(4) An employer, contractor or owner shall ensure that no worker is required or permitted to slide down a pipe, tube, rod, kelly, cable or rope line on a derrick except in an emergency.

4 Oct 96 cO-1.1 Reg 1 s422.

**Full-body harness**

**423** An employer, contractor or owner shall ensure that a worker who is working on a rig at a height of three metres or more above the derrick floor or other working surface uses an approved full-body harness that meets the requirements of Part VII.

4 Oct 96 cO-1.1 Reg 1 s423.

**Fuel storage**

**424** An employer, contractor or owner shall ensure that:

- (a) no gasoline or liquid fuel, other than diesel fuel or fuel in the tank of an operating machine, is stored within 20 metres of a well; and
- (b) any drainage from a fuel storage container on a worksite runs in a direction away from the well.

4 Oct 96 cO-1.1 Reg 1 s424.

**Pressure relief devices**

**425(1)** An employer, contractor, owner or supplier shall ensure that every drilling fluid pump and servicing fluid pump is equipped with a pressure relief device in accordance with this section.

(2) A pressure relief device must be installed on the discharge side of a positive displacement drilling fluid pump or servicing fluid pump.

(3) There must not be a valve between a drilling service pump or servicing fluid pump and a pressure relief device.

(4) A pressure relief device must be set to discharge at a pressure not in excess of the maximum working pressure for which the drilling fluid pump or servicing fluid pump and the connecting pipes and fittings have been designed.

(5) A pressure relief device and its components must be of a design and strength specified in the manufacturer's design specifications for the pressure relief device.

(6) An employer, contractor or owner shall ensure that fluids or materials discharged through a pressure relief device are piped to a place where they will not endanger workers.

(7) The diameter of piping connected to the pressure side and discharge side of a pressure relief device must not be smaller than the diameter of the openings to the device.

(8) The piping on the discharge side of a pressure relief device must be:

- (a) secured to prevent movement; and
- (b) sloped to drain fluids away from the discharge outlet.

(9) A mud gun used for jetting must be securely anchored.

- (10) Valves of the quick closing type must not be used on the discharge line from a drilling fluid pump or servicing fluid pump.
- (11) An employer, contractor or owner shall ensure that a drilling fluid pump or servicing fluid pump is protected against freezing.
- (12) An employer, contractor or owner shall ensure that a fluid pump using a pressure relief device is routinely inspected by a competent person to ensure the pressure relief device is in good operating condition.

4 Oct 96 cO-1.1 Reg 1 s425.

**Catheads**

426(1) On and after July 1, 1997, an employer, contractor or owner shall ensure that no worker is required or permitted to use rope-operated friction catheads for hoisting on a rig.

(2) An employer, contractor or owner shall ensure that every automatic cathead is equipped with a separate control unless:

- (a) the cathead is equipped with dual purpose controls; and
- (b) a locking device is installed to prevent one cathead from being engaged accidentally while the other cathead is in operation.

(3) With respect to the use of rope-operated friction catheads for hoisting before July 1, 1997, an employer, contractor or owner shall ensure that:

- (a) a cathead on which a rope is manually operated is equipped with a blunt, smooth-edged rope divider;
- (b) the clearance between the rope divider and the friction surface of a cathead does not exceed seven millimetres;
- (c) every key seat and projecting key on a cathead is covered with a smooth thimble or plate;
- (d) there is clearance of at least 500 millimetres between the outer flange of a cathead and any substructure, guardrail or wall;
- (e) a competent worker attends the drawworks control while a cathead is in use; and
- (f) the operating area of a manually operated cathead is kept clear at all times and the portion of the rope or line not being used is kept coiled or spooled.

(4) With respect to the use of rope-operated friction catheads for hoisting before July 1, 1997:

- (a) the operator of a friction cathead shall keep the operating area clear at all times and keep coiled or spooled the portion of the rope or line that is not in use; and
- (b) no operator of a friction cathead shall:
  - (i) leave a rope or line wrapped around or in contact with an unattended cathead; or
  - (ii) allow a splice to come in contact with the friction surface of the cathead.

4 Oct 96 cO-1.1 Reg 1 s426.

**O-1.1 REG 1****OCCUPATIONAL HEALTH AND SAFETY, 1996****2003-2****Spudding in**

**427** An employer, contractor or owner shall ensure that spudding in is not begun until:

- (a) all safeguards required by these regulations are in place;
- (b) all platforms, stairways, handrails and guardrails are installed and securely fastened in position; and
- (c) the auxiliary escape line required by section 422 is installed and inspected.

4 Oct 96 cO-1.1 Reg 1 s427.

**Operating controls**

**428(1)** An employer, contractor, owner or supplier shall ensure that:

- (a) all operating controls of a rig are installed at the operator control panel and clearly labelled as to the function of the control;
  - (b) where there is a danger of any operating control being engaged by accidental contact, the controls are protected by a safeguard;
  - (c) an engine shut-down device is installed at the operator control panel; and
  - (d) all hoist controls are designed to return to the neutral position when released.
- (2) A worker who is in charge of the operating controls of the drawworks shall ensure that all other workers are clear of the equipment and lines before putting the drawworks in motion.

4 Oct 96 cO-1.1 Reg 1 s428.

**Travelling blocks**

**429** An employer, contractor, owner or supplier shall ensure, with respect to a travelling block, that:

- (a) every hook to which equipment is directly or indirectly attached is equipped with a positive locking device to prevent accidental release of the load being hoisted or lowered;
- (b) the travelling block and every hook, elevator, elevator link and unit of travelling equipment is free of any projecting bolt, nut, pin or part;
- (c) an upward travel limiting device is installed on every rig and tested once during each shift; and
- (d) the upward travel limiting device mentioned in clause (c) disengages the power to the hoisting drum and applies the brakes to prevent the travelling block from contacting the crown structure.

4 Oct 96 cO-1.1 Reg 1 s429.

**Counterweights**

**430** An employer, contractor or owner shall ensure that no counterweight comes within 2.3 metres of the derrick floor unless the counterweight is fully encased and running in permanent guides.

4 Oct 96 cO-1.1 Reg 1 s430.

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**Weight indicators**

431 An employer, contractor or owner shall ensure that:

- (a) the hoist mechanism of a rig is equipped with a reliable weight indicator; and
- (b) a weight indicator mentioned in clause (a) that is hung above the derrick floor is secured against falling by means of a secondary cable or chain.

4 Oct 96 cO-1.1 Reg 1 s431.

**Drawworks**

432(1) On and after July 1, 1997, an employer, contractor or owner shall ensure that the drawworks on every drilling rig is equipped with an automatic feed control.

(2) An employer, contractor or owner shall ensure, with respect to the drawworks on a rig, that:

- (a) the mechanism installed or used to hold down the brakes in the engaged position is designed to prevent accidental disengagement;
- (b) a competent person tests the brakes at the beginning of each shift and inspects the brakes at least weekly to ensure that they are in good working order; and
- (c) controls are not left unattended while the hoist drum is in motion except during drilling.

(3) In the case of a drawworks that is not equipped with an automatic feed control and that is operated before July 1, 1997, an employer, contractor or owner shall ensure that the brakes are not left unattended without first being secured in the engaged position.

4 Oct 96 cO-1.1 Reg 1 s432.

**Drill pipes, tubing, etc.**

433(1) Where a drill pipe, drill collar or tubing is racked in a derrick, an employer, contractor or owner shall ensure that provision is made for the complete drainage of fluids or gases from the drill pipe, drill collar or tubing.

(2) An employer, contractor or owner shall ensure that a drill pipe, drill collar, tubing, casing or rod that is racked in a derrick is secured to prevent it from falling.

(3) Before running a drill pipe, drill collar, tubing or casing in a wellbore, an employer, contractor or owner shall ensure that the drill pipe, drill collar, tubing or casing is free from ice plugs or other obstructions.

4 Oct 96 cO-1.1 Reg 1 s433.

**Material racks**

434(1) An employer, contractor, owner or supplier shall ensure that material racks are designed and constructed to prevent material from rolling off the rack.

(2) An employer, contractor, owner or supplier shall ensure that workers:

- (a) transfer to and from storage, move and handle material in a controlled and safe manner; and
- (b) hoist material into and out of a derrick in a controlled and safe manner.

4 Oct 96 cO-1.1 Reg 1 s434.

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**435** An employer, contractor, owner or supplier shall ensure that a rotary tong is provided with:

- (a) a primary safety device to prevent uncontrolled movement of the tong; and
- (b) a secondary safety device that will prevent uncontrolled movement of the tong if the primary device fails.

4 Oct 96 cO-1.1 Reg 1 s435.

**Rotary tables**

**436(1)** Where visibility on the derrick floor is obscured, an employer, contractor or owner shall ensure that no worker works on a derrick floor while the rotary table is in motion.

(2) An employer, contractor or owner shall ensure that rotary table motion is not used for the final make up or initial breaking out of a pipe connection.

(3) An employer, contractor or owner shall not require or permit a worker:

- (a) to handle or use hoses, lines or chains near a rotary table while the rotary table is in motion; or
- (b) to engage a rotary table drive until all workers and materials are clear of the rotary table.

(4) No worker shall:

- (a) handle or use hoses, lines or chains near a rotary table while the rotary table is in motion; or
- (b) engage a rotary table drive until all workers and materials are clear of the rotary table.

4 Oct 96 cO-1.1 Reg 1 s436.

**Exits from enclosures**

**437** On a drilling rig, an employer, contractor or owner shall ensure that:

- (a) safe exits from a derrick floor enclosure to ground level are provided on at least three sides of the derrick floor;
- (b) all doors of a derrick floor enclosure open away from the wellbore and, where reasonably practicable, onto a platform that leads to a stairway;
- (c) one stairway is installed from the ground to the derrick floor beside the ramp; and
- (d) pump house and boiler house enclosures have at least two exits that lead in different directions to the outside.

4 Oct 96 cO-1.1 Reg 1 s437.

**Rig tanks or pits**

**438** An employer, contractor or owner shall ensure that a rig tank or pit used to circulate drilling fluids contaminated with flammable material is protected from all sources of ignition.

4 Oct 96 cO-1.1 Reg 1 s438.

**Drill stem testing**

**439** During drill stem testing, an employer, contractor or owner shall ensure that:

- (a) if fluids are encountered, the mud can and test plug are used on every joint of pipe that is disconnected unless the drill stem contents have been pumped out and replaced with drilling fluid;
- (b) motors and engines that are not required in the testing operation are shut off;
- (c) no motor vehicle is operated within 25 metres of the wellbore;
- (d) where swivel joints are used in the piping system, the source and discharge ends of the piping system are secured in a manner that will prevent whipping and flailing of the pipe if the pipe separates from the source or discharge connection;
- (e) where hydrocarbons or hydrogen sulphide may accumulate, hydrogen sulphide and hydrocarbon monitors are installed, with the readouts clearly visible to the driller on the derrick floor;
- (f) the hydrogen sulphide monitor is capable of detecting hydrogen sulphide at a concentration of 14 milligrams per cubic metre of air, is calibrated and tested before use and is properly maintained;
- (g) where hydrogen sulphide or hydrocarbons are found to be present at levels that may place a worker at risk, the formation fluids in the drill stem are replaced with drilling fluid and circulated to a flare pit or holding tank that is not less than 45 metres from the well;
- (h) a tank level alarm that is clearly audible to the driller on the derrick floor or a tank level indicator is installed on the trip tank and is properly maintained;
- (i) a tank level indicator mentioned in clause (h) has a read-out that is clearly visible to the driller on the derrick floor; and
- (j) before tripping the drill pipe out of the hole, reverse circulation procedures are implemented.

4 Oct 96 cO-1.1 Reg 1 s439.

**Swabbing**

**440** During swabbing operations using a well servicing rig, an employer, contractor or owner shall ensure that:

- (a) fluids containing hydrocarbons that are used in or result from the swabbing operation are piped directly through a suitable degasser to a battery, skid tank, mobile trailer tank or tank truck located not less than 45 metres from the wellbore; and
- (b) while fluids that are used in or result from the swabbing operation are being piped into a tank truck, the engine of the tank truck is shut down and the driver does not remain in the truck cab.

4 Oct 96 cO-1.1 Reg 1 s440.

**Well operation and servicing**

441(1) During the servicing of a well, an employer, contractor or owner shall ensure that:

- (a) where a pump may be circulating gaseous hydrocarbons, the fluids entering the rig tank first pass through a degasser;
  - (b) where a pump may be circulating gaseous hydrocarbons, the air intake and exhaust of the pump motor are located not less than six metres from the rig tank;
  - (c) the tank truck is located on the far side of the rig tank from the wellbore and at a distance of not less than six metres from the rig tank during loading and unloading;
  - (d) carbon dioxide suction lines are secured to the supply vehicle and pumping unit; and
  - (e) adequate warning signs prohibiting the presence of workers are positioned along the discharge pipelines before pressurization begins.
- (2) Before fluids are unloaded into a wellhead, an employer, contractor or owner shall ensure that the lines between the pump and the wellhead are:
- (a) designed and constructed to sustain the maximum anticipated pressure during service; and
  - (b) hydraulically pressure tested at a pressure that is not less than 10% above the maximum pressure anticipated during service.
- (3) An employer, contractor or owner shall ensure that:
- (a) swivel joints used with a hammer union are properly secured and of sufficient strength to withstand the stresses to which the joints may be subjected;
  - (b) oil savers are equipped with controls that can be readily operated from the rig floor; and
  - (c) a bleed-off valve is installed between a check valve and the wellhead.

4 Oct 96 cO-1.1 Reg 1 s441.

**Well stimulation**

442(1) During well stimulation or any similar operation, an employer, contractor or owner shall ensure that:

- (a) where a working pressure of 2,000 kilopascals or more is applied to the piping system, equipment located between a pump or sand concentrator and the wellhead is controlled remotely from a location outside the potential danger area;
- (b) subject to subsection (2), no worker is required or permitted to enter the potential danger area while the system is pressurized;
- (c) where liquid carbon dioxide or liquid nitrogen is being used, the pumping unit is designed and positioned so that the valve controls can be operated from the low pressure side of the system;



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- (d) a check valve is installed as close as is practicable to the wellhead except while cementing or selective acidizing is being done;
  - (e) where flammable fluids are being pumped during fracturing and acidizing treatment, approved and properly maintained fire suppression equipment is provided;
  - (f) the rubber mud line used on a cement pumper is not used in place of the kelly hose to break circulation; and
  - (g) all pumping units, blenders and endless tubing units are continuously bonded to ground.
- (2) An employer, contractor or owner may permit a worker to enter the area between the check valve and the wellhead for the purpose of operating the bleed-off valve if the pumping motor is shut off before the worker enters the area.

4 Oct 96 cO-1.1 Reg 1 s442.

**Shot holes**

443 With respect to a shot hole drilling operation, an employer, contractor or owner shall ensure that a pipe wrench used as a break out tong is equipped with a suitable hand guard on the pipe wrench handle.

4 Oct 96 cO-1.1 Reg 1 s443.

**Gas sample containers**

444 An employer, contractor or owner shall ensure that containers and any piping and fittings used in the collection of gas samples are of sufficient strength to withstand all the pressure to which the containers, piping or fittings may be subjected and are designed, used and transported so as to prevent the accidental release of the contents.

4 Oct 96 cO-1.1 Reg 1 s444.

**Piping systems at well sites**

445 An employer, contractor or owner shall ensure that:

- (a) a piping system at a well site is designed, constructed, installed, operated and maintained to contain safely any material at the maximum operating pressures anticipated; and
- (b) all pipe and components used in the piping system meet the requirements of an approved standard.

4 Oct 96 cO-1.1 Reg 1 s445.

**Breathing apparatus**

446 At a rig, an employer, contractor or owner shall ensure that at least two atmosphere-supplying respirators that meet the requirements of section 90 are readily available for use in a rescue.

4 Oct 96 cO-1.1 Reg 1 s446.

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447 Notwithstanding section 54, an employer, contractor or owner shall ensure that at least one first aid attendant with a class A qualification is readily available on each shift at each rig.

4 Oct 96 cO-1.1 Reg 1 s447.

**Procedures for flare tips, etc.**

448 An employer, contractor or owner shall:

- (a) prepare and implement written procedures to ensure the safety of workers in the lighting or operation of a flare tip, flare stack or flare line used at a worksite; and
- (b) instruct all workers in the application of those procedures.

4 Oct 96 cO-1.1 Reg 1 s448.

**Plan for well testing**

449(1) An employer, contractor or owner shall develop and implement a written plan that establishes the procedures to be followed by workers who conduct well testing.

(2) A plan required by subsection (1) must include:

- (a) the responsibilities, qualifications and minimum number of testing personnel;
- (b) the requirements for personal protective equipment; and
- (c) start-up and operating procedures that are adequate to protect the health and safety of the workers.

(3) An employer, contractor or owner shall have a copy of the plan required by subsection (1) readily available for reference by workers.

4 Oct 96 cO-1.1 Reg 1 s449.

## PART XXX

**Additional Protection for Electrical Workers****Interpretation**

450(1) In this Part:

- (a) **“approved”** means approved as defined in *The Electrical Inspection Act, 1993*;
- (b) **“electrical equipment”** means electrical equipment as defined in *The Electrical Inspection Act, 1993*;
- (c) **“electrical worker”**:
  - (i) in the case of work of electrical installation as defined in *The Electrical Inspection Act, 1993* that is regulated by that Act, means a person who is authorized pursuant to *The Electrical Licensing Act* to perform that work;

- (ii) in the case of any work with electrical equipment that is not regulated by *The Electrical Inspection Act, 1993*, means a person who is qualified to perform that work;
- (d) **“guarded”** means covered, shielded, fenced, enclosed or otherwise protected by suitable covers, casings, barriers, rails, screens, mats, platforms or other equally effective means;
- (e) **“high voltage”** means any voltage over 750 volts;
- (f) **“lamp”** means an artificial source of electric light;
- (g) **“luminaire”** means a complete lighting unit that is designed to accommodate a lamp and to connect the lamp to an electrical power supply;
- (h) **“readily accessible”** means capable of being reached quickly for operation, renewal, or inspection, without requiring a worker to climb over or remove obstacles or to resort to portable means of access.
- (2) Nothing in this Part shall be construed as authorizing:
- (a) the performance of work by a person if it is unlawful for the person to perform that work because of *The Electrical Licensing Act, The Apprenticeship and Trade Certification Act*, the regulations made pursuant to those Acts or any other Act or regulation;
- (b) the use of electrical equipment if it is unlawful to use that equipment because of *The Electrical Inspection Act, 1993*, the regulations made pursuant to that Act or any other Act or regulation; or
- (c) the performance of work in a particular manner if it is unlawful to perform the work in that manner because of *The Electrical Inspection Act, 1993*, the regulations made pursuant to that Act or any other Act or regulation.

4 Oct 96 cO-1.1 Reg 1 s450.

**Electrical workers**

- 451(1)** Subject to subsection (2), an employer or contractor shall permit only electrical workers to construct, install, alter, repair or maintain electrical equipment.
- (2) An employer or contractor may permit a competent worker who is not an electrical worker:
- (a) to operate powered mobile equipment and perform non-electrical work on or near de-energized electrical equipment;
- (b) to extend a portable power cable for routine advancement by interconnection of approved cord connectors, cord caps or similar devices;
- (c) to change light bulbs or tubes;
- (d) to insert or replace an approved fuse, to a maximum of 750 volts, that controls circuits or equipment; or
- (e) to connect small portable electrical equipment that operates at less than 750 volts to supply circuits by means of attachment plugs, where the connection does not overload the circuit conductors, or to use or operate small portable electrical equipment that is connected in that way.

4 Oct 96 cO-1.1 Reg 1 s451.

**O-1.1 REG 1****OCCUPATIONAL HEALTH AND SAFETY, 1996****2003-2****Electrical equipment**

**452(1)** An employer or contractor shall ensure that only approved electrical equipment is used by workers and that the electrical equipment is:

- (a) approved for the intended use and location of the electrical equipment;
- (b) maintained in proper working condition and capable of safe operation; and
- (c) tested in accordance with the manufacturer's recommendations.

(2) Where defects or unsafe conditions have been identified in electrical equipment, an employer or contractor:

- (a) shall ensure that:
  - (i) steps are taken immediately to protect the health and safety of any worker who may be at risk until the defects are repaired or the unsafe conditions are corrected; and
  - (ii) the defects are repaired or the unsafe conditions are corrected as soon as is reasonably practicable; or
- (b) shall ensure that the electrical equipment is disconnected and removed from use.

4 Oct 96 cO-1.1 Reg 1 s452.

**Covers for switches, receptacles, connections, etc.**

**453** An employer or contractor shall ensure that:

- (a) all switches, receptacles, luminaires and junction boxes are fitted with a cover that is approved for the intended use and location of the cover;
- (b) all wire joints or connections are:
  - (i) fitted with an approved cap or other approved cover;
  - (ii) enclosed in an approved box; or
  - (iii) where the wire joints or connections are not permanently installed, protected from damage by another approved means; and
- (c) all dead, abandoned or disused electrical conductors or equipment are removed from the place of employment or disconnected and secured to prevent inadvertent energization.

4 Oct 96 cO-1.1 Reg 1 s453.

**Electrical equipment in tunnel or manhole**

**454** Where electrical equipment is installed in a tunnel or manhole, an employer or contractor shall ensure, where reasonably practicable, that:

- (a) the tunnel or manhole is kept clear of water; and
- (b) the electrical equipment is protected from physical or mechanical damage.

4 Oct 96 cO-1.1 Reg 1 s454.

**Luminaires**

**455** An employer or contractor shall ensure that a luminaire that is located at a height of less than 2.1 metres above a working or walking surface is protected against physical or mechanical damage by installation of a safeguard or the location of the luminaire.

4 Oct 96 cO-1.1 Reg 1 s455.

**Extension and power supply cords**

**456** An employer or contractor shall ensure that an electrical extension or power supply cord used for supplying energy to any electrical equipment:

- (a) is approved for the intended use and location of the electrical extension or power supply cord;
- (b) is fitted with approved cord end attachment devices that are installed in an approved manner;
- (c) is provided with a grounding conductor; and
- (d) is maintained and protected from physical or mechanical damage.

4 Oct 96 cO-1.1 Reg 1 s456.

**Portable power cables and cable couplers**

**457(1)** An employer or contractor shall ensure that every portable power cable and cable coupler is:

- (a) protected from physical or mechanical damage; and
  - (b) inspected by a competent person at intervals that are sufficient to protect the health and safety of workers.
- (2) An employer or contractor shall ensure that:
- (a) where any unsafe condition is identified in a portable power cable or cable coupler, the portable power cable or the cable coupler is repaired or taken out of service; and
  - (b) every splice in a portable power cable is sufficiently strong and adequately insulated to retain the mechanical and dielectric strength of the original cable.
- (3) A worker shall take all reasonably practicable steps not to drive equipment over, or otherwise damage, a portable power cable or cable coupler.

4 Oct 96 cO-1.1 Reg 1 s457.

**Portable luminaires**

**458(1)** Where a portable luminaire is used, an employer or contractor shall ensure that:

- (a) the electrical extension cord and fittings are approved for the intended use and location of the extension cord and fittings and are properly maintained; and

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(b) the electrical extension cord is not used to supply power to any equipment other than the portable luminaire unless the cord meets the requirements of section 456.

(2) An employer or contractor shall ensure that a portable luminaire used in a damp location or in a metallic enclosure, including a drum, tank, vessel or boiler:

- (a) is operated at a potential of not more than 12 volts; or
- (b) is supplied by a circuit that is protected by a class A ground fault circuit interrupter.

4 Oct 96 cO-1.1 Reg 1 s458.

**Exposed metal parts**

**459** An employer or contractor shall ensure that every exposed metal part of portable electrical equipment that is not designed to carry electrical current is connected to ground unless:

- (a) the electrical equipment is of an approved, double-insulated type and is clearly marked as such;
- (b) power is supplied to the equipment through an isolating transformer having a non-grounded secondary of not more than 50 volts potential;
- (c) power is supplied to the equipment through a class A ground fault circuit interrupter; or
- (d) power is supplied to the equipment from a battery of not over 50 volts potential.

4 Oct 96 cO-1.1 Reg 1 s459.

**Portable electric power plants**

**460** An employer or contractor shall ensure that a portable electric power plant that is operated at voltages exceeding 240 volts to ground or is rated in excess of 4.5 kilovolt-amperes is connected to ground in an approved manner.

4 Oct 96 cO-1.1 Reg 1 s460.

**Electrical panels**

**461** An employer or contractor shall ensure that every electrical panel is:

- (a) approved for the intended use and location of the electrical panel;
- (b) protected from physical or mechanical damage;
- (c) readily accessible; and
- (d) fitted with an approved cover that has an approved filler in any unused opening.

4 Oct 96 cO-1.1 Reg 1 s461.

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**High voltage switchgear and transformers**

462(1) An employer or contractor shall ensure that a place where electrical switchgear or transformers operating at high voltage are housed is:

- (a) guarded;
  - (b) kept free of extraneous material; and
  - (c) adequately ventilated.
- (2) Where high voltage switchgear or transformers are housed, an employer or contractor shall post a warning sign that:
- (a) indicates the highest voltage in use; and
  - (b) states that access is restricted to authorized persons only.

4 Oct 96 cO-1.1 Reg 1 s462.

**Fire extinguishers**

463 An employer or contractor shall ensure that a fire extinguisher approved for Class C fires is readily available to workers working on or near energized high voltage electrical equipment.

4 Oct 96 cO-1.1 Reg 1 s463.

**Grounding of equipment before work begins**

464 Before any work, other than work to which subsection 465(4) applies, begins on an electrical conductor or electrical equipment and during the progress of that work, an employer or contractor shall ensure that:

- (a) the electrical conductor or electrical equipment is isolated, locked out and connected to ground; or
- (b) other effective procedures are taken to ensure the safety of the workers.

4 Oct 96 cO-1.1 Reg 1 s464.

**Proximity to exposed energized high voltage electrical conductors**

465(1) In this section, “**qualified electrical worker**”:

- (a) in subsection (3) means:
  - (i) the holder of a journeyman’s certificate in the electrician trade issued pursuant to *The Apprenticeship and Trade Certification Act*, and includes an apprentice in the trade while under the supervision of a journeyman; or
  - (ii) the holder of a journeyman’s certificate in the power lineman trade issued pursuant to *The Apprenticeship and Trade Certification Act*, and includes an apprentice in the trade while under the supervision of a journeyman; and
- (b) in subsections (4) and (5) means the holder of a journeyman’s certificate in the power lineman trade issued pursuant to *The Apprenticeship and Trade Certification Act*, and includes an apprentice in the trade while under the supervision of a journeyman.

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(2) Except as otherwise provided in this section, an employer or contractor shall ensure that no worker works, no material is piled, stored or handled, no scaffold is erected or dismantled and no equipment or powered mobile equipment is used or operated within the minimum distance from any exposed energized electrical conductor set out in column 1 of Table 22 of the Appendix.

(3) An employer or contractor shall ensure that no worker who is at ground potential approaches an exposed energized electrical conductor closer than the minimum distance set out in column 2 of Table 22 of the Appendix.

(4) An employer or contractor shall ensure that only a qualified electrical worker works closer to an exposed energized electrical conductor than the minimum distance set out in column 2 of Table 22 of the Appendix.

(5) Where a qualified electrical worker works closer to an exposed energized electrical conductor than the minimum distance set out in column 2 of Table 22 of the Appendix, an employer or contractor shall ensure that:

(a) the qualified electrical worker:

(i) performs the work in accordance with written instructions for a safe work procedure that have been developed and signed by a competent person who has been appointed by the employer or contractor for that purpose;

(ii) uses equipment that is approved for the intended use of the equipment; and

(iii) uses personal protective equipment that meets the requirements of Part VII; or

(b) the conductor is operating at 25 kilovolts or less and is fitted with rubber and rubber-like insulating barriers that meet the requirements of an approved standard.

(6) An employer or contractor shall ensure that no part of a vehicle is operated on a public road, highway, street, lane or alley within the minimum distance from an exposed energized electrical conductor set out in column 3 of Table 22 of the Appendix and that no part of a vehicle's load comes within the minimum distance.

4 Oct 96 cO-1.1 Reg 1 s465.

**Exposed energized electrical conductors operating at certain voltages**

**466** Where work is being carried out in proximity to exposed energized electrical conductors operating at 31 to 750 volts, an employer or contractor shall ensure that the work is carried out so that accidental contact with the energized electrical conductor by any worker is prevented.

4 Oct 96 cO-1.1 Reg 1 s466.

**Emergency program**

**467(1)** Where an electrical worker may come in contact with an exposed energized electrical conductor and that contact may affect the health or safety of the worker, an employer or contractor shall develop and implement an emergency program that sets out the procedures to be followed in the event of that contact.



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(2) An emergency program developed pursuant to subsection (1) must include procedures:

- (a) to rescue a worker who has come into contact with a live conductor;
- (b) to administer first aid to a worker who has sustained an electric shock; and
- (c) to obtain medical assistance.

(3) An employer or contractor shall ensure that the workers are adequately trained to implement the emergency program.

4 Oct 96 cO-1.1 Reg 1 s467.

## PART XXXI

### Additional Protection for Health Care Workers

#### Interpretation

468 In this Part:

- (a) **“contaminated laundry”** means laundry that has been contaminated by waste;
- (b) **“health care facility”** means:
  - (i) a facility for which a licence is required pursuant to *The Housing and Special-care Homes Act*;
  - (ii) a facility for which a licence or certificate of approval is required pursuant to *The Residential Services Act*;
  - (iii) a facility for which a licence is required pursuant to *The Personal Care Homes Act*;
  - (iv) a facility within the meaning of *The Mental Health Services Act*;
  - (v) a hospital, nursing home or institution approved pursuant to *The Hospital Standards Act* or any former *Hospital Standards Act*;
  - (vi) a clinic within the meaning of *The Cancer Foundation Act*;
  - (vii) a medical laboratory within the meaning of *The Medical Laboratory Licensing Act* or *The Medical Laboratory Licensing Act, 1994*;
  - (viii) with respect to the delivery of services within the meaning of *The Health Districts Act* or the operation of a facility within the meaning of that Act:
    - (A) a district health board;
    - (B) a health corporation; or
    - (C) any other provider of services within the meaning of that Act;
  - (ix) a laundry facility that is located in, or that provides services to, a facility listed in subclauses (i) to (vii) or that is operated by a body listed in subclause (viii);

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- (x) an ambulance service within the meaning of *The Ambulance Act*;
  - (xi) an air ambulance service within the meaning of *The Ambulance Act*;
  - (xii) a home care service within the meaning of *The Home Care Act*;
  - (xiii) a medical office or medical clinic;
  - (xiv) a dental office or dental clinic;
  - (xv) a veterinary office or veterinary clinic; or
  - (xvi) any other place of employment that provides testing, diagnosis, treatment or care to a patient, resident or client for the purpose of improving or maintaining the physical or mental health of the patient, resident or client;
- (c) **“waste”** means any biomedical or pharmaceutical material or substance that may be hazardous to the health or safety of a worker and that requires special handling precautions, decontamination procedures or disposal, and includes:
- (i) human anatomical waste;
  - (ii) animal anatomical waste;
  - (iii) microbiological laboratory waste;
  - (iv) blood and body fluid waste; and
  - (v) used or contaminated needles, syringes, blades, clinical glass and other clinical items that are capable of causing a cut or puncture.

4 Oct 96 cO-1.1 Reg 1 s468.

**Application of Part****469** This Part applies to health care facilities.

4 Oct 96 cO-1.1 Reg 1 s469.

**Lifting patients****470(1)** Where workers are required or permitted to lift, hold, turn or transfer patients, residents or clients, an employer:

- (a) in consultation with the committee, shall develop a written program specifying:
  - (i) the procedures to be used in assessing whether a patient, resident or client requires assistance to move; and
  - (ii) the procedures and techniques that workers must use when lifting, holding, turning or transferring a patient, resident or client under all reasonably foreseeable circumstances;
- (b) shall implement the program developed pursuant to clause (a);
- (c) shall make readily available for reference by workers a copy of the program developed pursuant to clause (a);

- (d) where the program developed pursuant to clause (a) requires the use of mechanical devices, shall provide mechanical devices, sufficient in quantity and quality to protect the health and safety of workers, to assist with lifting, holding, turning or transferring patients, residents or clients;
  - (e) shall ensure that workers use and maintain the mechanical devices provided pursuant to clause (d) according to the manufacturer's recommendations; and
  - (f) shall ensure that workers:
    - (i) are instructed in the causes of injuries resulting from lifting, holding, turning or transferring patients, residents or clients and the means to prevent those injuries;
    - (ii) are trained in, and use, the procedures and techniques of lifting, holding, turning and transferring patients, residents or clients; and
    - (iii) are trained in the use of the mechanical devices provided pursuant to clause (d).
- (2) Where a patient, resident or client has been assessed as requiring assistance to move, an employer shall ensure that the status of the patient, resident or client and the appropriate techniques to lift, hold, turn or transfer the patient, resident or client are clearly identified in writing or by other visual means at or near the location of the patient, resident or client.
- (3) An employer, in consultation with the committee, shall review all injuries resulting from lifting, holding, turning or transferring patients, residents or clients to determine the causes of the injuries.
- (4) An employer shall take appropriate action to prevent the occurrence of injuries similar to an injury reviewed pursuant to subsection (3).
- (5) Where a program developed pursuant to clause (1)(a) specifies the use of a mechanical device or the assistance of another worker, no employer shall require or permit a worker to lift, hold, turn or transfer a patient, resident or client without the use of the device or the assistance of the other worker.

4 Oct 96 cO-1.1 Reg 1 s470.

**Cytotoxic drugs**

- 471(1) In this section, “**cytotoxic drugs**” means drugs that inhibit or prevent the functions of cells and are manufactured, sold or represented for use in treating neoplastic or other conditions.
- (2) An employer shall take all practicable steps to minimize the exposure of workers to cytotoxic drugs or to materials or equipment contaminated with cytotoxic drugs.
- (3) On and after July 1, 1998, where workers prepare parenteral cytotoxic drugs on a frequent and continuing basis, an employer shall provide and maintain an approved biological safety cabinet in accordance with subsection (4) and ensure that workers use the cabinet safely.

- (4) A biological safety cabinet must be:
- (a) inspected and certified by a competent person at least annually and when the biological safety cabinet is moved; and
  - (b) used and maintained according to an approved procedure or the manufacturer's recommendations.
- (5) Where workers are required to prepare, administer, handle or use cytotoxic drugs or are likely to be exposed to cytotoxic drugs, an employer, in consultation with the committee, shall develop a written program to protect the health and safety of workers who may be exposed to cytotoxic drugs or to materials or equipment contaminated with cytotoxic drugs.
- (6) A program developed pursuant to subsection (5) must include:
- (a) the measures to be taken to identify, store, prepare, administer, handle, use, transport and dispose of cytotoxic drugs and materials contaminated with cytotoxic drugs;
  - (b) the emergency steps to be followed in the event of:
    - (i) a spill or leak of a cytotoxic drug; or
    - (ii) worker exposure to cytotoxic drugs by a puncture of the skin, absorption through the skin, contact with an eye, inhalation of drug dust or ingestion of a contaminated substance;
  - (c) the methods to be followed in maintaining and disposing of equipment contaminated with cytotoxic drugs;
  - (d) the use to be made of engineering controls, work practices, hygiene practices and facilities, approved respiratory protective devices, approved eye or face protectors and other personal protective equipment and decontamination materials and equipment that are appropriate in the circumstances; and
  - (e) the use to be made of an approved biological safety cabinet for the preparation of cytotoxic drugs and the methods to be followed in maintaining the cabinet.
- (7) An employer shall:
- (a) implement the program developed pursuant to subsection (5);
  - (b) ensure that all workers who may be exposed to cytotoxic drugs or to materials or equipment contaminated with cytotoxic drugs are trained in the program; and
  - (c) make a copy of the program readily available for reference by workers.

4 Oct 96 cO-1.1 Reg 1 s472.

#### Waste

- 472(1) Where exposure to waste is likely to endanger the health or safety of a worker, an employer shall develop and implement a process that ensures that the waste:
- (a) is segregated at the place where the waste is located or produced;

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- (b) is contained in a secure, clearly labelled package or container that holds the contents safely until it is cleaned, decontaminated or disposed of; and
  - (c) is cleaned, decontaminated or disposed of in a manner that will not endanger the health or safety of any worker.
- (2) An employer shall ensure that:
- (a) a worker or self-employed person who generates, collects, transports, cleans, decontaminates or disposes of waste or launders contaminated laundry is trained in safe work practices and procedures, and is provided with personal protective equipment, that are appropriate to the risks associated with the worker's work; and
  - (b) a worker or self-employed person described in clause (a) uses the safe work practices and procedures and the personal protective equipment mentioned in that clause.

4 Oct 96 cO-1.1 Reg 1 s472.

**Equipment contaminated with waste**

**473** An employer shall ensure that, where reasonably practicable, any equipment that has been contaminated with waste is inspected and decontaminated before it is repaired or shipped for repair.

4 Oct 96 cO-1.1 Reg 1 s473.

**Waste needles, etc.**

**474(1)** An employer shall provide readily accessible containers for waste needles, syringes, blades, clinical glass and any other clinical items that are capable of causing a cut or puncture and shall ensure that workers and self-employed persons use those containers.

(2) The containers required by subsection (1) must have a fill line and must be sturdy enough to resist puncture under normal conditions of use and handling until the containers are disposed of.

(3) An employer shall ensure that workers do not manually clip, bend, break or recap waste needles.

4 Oct 96 cO-1.1 Reg 1 s474.

**Contaminated laundry**

**475(1)** An employer shall ensure that workers handle contaminated laundry as little as possible and with minimum agitation to prevent gross microbial contamination of the air and of any worker handling the laundry.

(2) At a laundry facility that is established or extensively renovated after the coming into force of these regulations, an employer shall ensure that the area where contaminated laundry is sorted is separated from the clean laundry area by one or more of the following:

- (a) a physical barrier;
- (b) a negative air pressure system in the contaminated laundry area;
- (c) a positive air flow from the clean laundry area through the contaminated laundry area.

4 Oct 96 cO-1.1 Reg 1 s475.

**Anaesthetic gases**

**476** Where workers are required to handle or use anaesthetic gases and vapours or are likely to be exposed to anaesthetic gases and vapours, an employer shall:

- (a) develop safe work practices and procedures to eliminate or reduce the concentration of anaesthetic gases and vapours in the air of the room during the administration of the anaesthetic gases;
- (b) train workers in the safe work practices and procedures developed pursuant to clause (a) and ensure that the workers and self-employed persons use those safe work practices and procedures;
- (c) ensure that all anaesthetic gas hoses, connections, tubing, bags and associated equipment are inspected for leakage before each use and at least weekly;
- (d) ensure that any room where anaesthetic gases are administered is, where reasonably practicable, ventilated at a rate of 15 air changes per hour;
- (e) on or before January 1, 1998, install an effective waste anaesthetic gas scavenging system to collect, remove and dispose of waste anaesthetic gases and vapours;
- (f) except in birthing rooms where anaesthetic gas is self-administered, ensure that leakage from a waste anaesthetic gas scavenging system installed pursuant to clause (e) is less than 100 millilitres per minute when tested according to an approved standard; and
- (g) ensure that the waste anaesthetic gas scavenging system and the equipment used to administer anaesthetic gases are maintained.

4 Oct 96 cO-1.1 Reg 1 s476; 31 Jan 97 SR 6/97 s13.

**Ethylene oxide sterilizers**

**477(1)** In this section, “**CSA installation standard**” means the Canadian Standards Association standard CAN/CSA-Z314.9-M89 *Installation and Ventilation of Ethylene Oxide Sterilizers in Health Care Facilities*.

- (2) An employer shall ensure, to the extent that is practicable, that all ethylene oxide sterilizers at a place of employment are operated and maintained in accordance with the CSA installation standard.
- (3) An employer, in consultation with the committee, shall develop:
  - (a) safe work practices and policies that meet the requirements of the CSA installation standard; and
  - (b) an emergency response program to detect, control and respond to any leak or spill of ethylene oxide that meets the requirements of the CSA installation standard.
- (4) An employer shall:
  - (a) implement the safe work practices and policies and the emergency response program developed pursuant to subsection (3); and

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- (b) ensure that workers who operate ethylene oxide sterilizers and workers who may come into contact with ethylene oxide:
  - (i) are trained in accordance with the CSA installation standard; and
  - (ii) follow the safe work practices and policies and the emergency response program developed pursuant to subsection (3).
- (5) An employer shall ensure that all areas where ethylene oxide is used or stored are posted with clearly legible signs that state “Ethylene Oxide Area, Potential Cancer and Reproductive Hazard, Authorized Personnel Only”.
- (6) An employer shall ensure that all records of equipment maintenance and accidental ethylene oxide leakages are kept for five years in a log book located in the ethylene oxide sterilization area.
- (7) An employer shall ensure that an ethylene oxide sterilizer purchased after the coming into force of these regulations:
  - (a) is constructed in accordance with the Canadian Standards Association standard CAN/CSA-Z314.1-M91 *Ethylene Oxide Sterilizers for Hospitals*;
  - (b) is installed in accordance with and meets the ventilation requirements of the CSA installation standard; and
  - (c) where reasonably practicable, is a sterilizer with in-chamber aeration that allows sterilization and aeration to take place without manually transferring the items that are being sterilized and aerated from one piece of equipment to another.
- (8) An employer shall ensure that portable ethylene oxide sterilizers are operated in a fume cabinet or placed in a self-contained room that is unoccupied during the sterilization process and is ventilated clear of the place of employment at a minimum rate of 10 air changes per hour to prevent the accumulation of the gas in the room.

4 Oct 96 cO-1.1 Reg 1 s477.

**Review of programs, etc.**

478 An employer, in consultation with the committee, shall ensure that all programs, training, work practices, procedures and policies developed pursuant to this Part are reviewed and, where necessary, revised at least every three years and whenever there is a change of circumstances that may affect the health or safety of workers.

4 Oct 96 cO-1.1 Reg 1 s478.

PART XXXII  
**Additional Protection for Fire Fighters**

**Interpretation**

479 In this Part:

- (a) “**emergency incident**” means the circumstances giving rise to a specific emergency operation;

- (b) **“emergency medical care”** means the provision of treatment to patients, including first aid, cardiopulmonary resuscitation, basic life support, advanced life support and other medical procedures that occur before arriving at a hospital or other health care facility;
- (c) **“emergency operation”** means the activities relating to rescue, fire suppression, emergency medical care and special operations, and includes the response to the scene of an incident and all functions performed at the scene;
- (d) **“evolution”** means a set of standard operating procedures that results in an effective response to an emergency incident;
- (e) **“fire fighter”** means a worker whose duties include:
- (i) emergency operations, fire inspection and fire investigation; and
  - (ii) training for the activities mentioned in subclause (i);
- and includes a worker whose duties include directing any or all of the activities mentioned in subclauses (i) and (ii);
- (f) **“firefighting vehicle”** means a specialized vehicle that carries an assortment of tools and equipment for use by fire fighters in emergency operations;
- (g) **“fire suppression”** means the activities involved in controlling and extinguishing fires, including all activities performed at the scene of a fire incident or training exercise that expose fire fighters to the dangers of heat, flame, smoke and other products of combustion, explosion, or structural collapse;
- (h) **“rescue”** means activities directed at locating endangered persons at an emergency incident and removing those persons from danger, and includes treating the injured;
- (i) **“special operations”** means emergency incidents to which fire fighters respond that require specific and advanced training and specialized tools and equipment, and includes water rescue, confined space entry, high-angle rescue and incidents involving hazardous materials;
- (j) **“standard operating procedure”** means an operational directive prepared by an employer that establishes a standard course of action for the emergency incidents to which a fire fighter is required to respond;
- (k) **“structural firefighting”** means the activities of rescue, fire suppression and property conservation involving buildings, enclosed structures, vehicles, vessels, aircraft or other large objects that are involved in a fire or emergency incident.



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**Application of Part**

**480** This Part applies to fire fighters who are engaged in emergency operations on a full-time or part-time basis and their employers, but does not apply to:

- (a) fire fighters fighting prairie or forest fires that the department, as defined in *The Prairie and Forest Fires Act, 1982*:
  - (i) is responsible for, pursuant to subsection 8(2) of that Act; or
  - (ii) takes action to control and extinguish, pursuant to subsection 8(3) of that Act; or
- (b) fire fighters fighting fires underground at mines.

4 Oct 96 cO-1.1 Reg 1 s480.

**Plan for response to emergency incident**

**481(1)** An employer, in consultation with the committee, shall develop a written plan that establishes the procedures to be followed by fire fighters in response to an emergency incident.

- (2) A plan required by subsection (1) must include:
  - (a) identification of standard firefighting functions or evolutions, including functions or evolutions that must be performed simultaneously;
  - (b) the minimum number of fire fighters required to perform safely each identified firefighting function or evolution, based on written standard operating procedures;
  - (c) the number and types of firefighting vehicles and fire fighters required for the initial response to each type of emergency incident to which the fire fighters will be expected to respond;
  - (d) the total complement of firefighting vehicles and fire fighters to be dispatched for each type of emergency incident;
  - (e) a description of a typical emergency operation, including alarm time, response time, arrival sequence, responsibility for initiating standard operating procedures necessary to protect the health and safety of fire fighters;
  - (f) an incident management system; and
  - (g) a personnel accountability system.
- (3) An employer shall:
  - (a) ensure that the plan developed pursuant to subsection (1) is implemented; and
  - (b) make a copy of the plan readily available for reference by fire fighters.

4 Oct 96 cO-1.1 Reg 1 s481.

**Training of fire fighters**

**482(1)** An employer shall ensure that:

- (a) all fire fighters receive the training necessary to ensure that the fire fighter is able to carry out safely any emergency operation that the fire fighter will be expected to carry out;

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- (b) the training required by clause (a) is provided by competent persons; and
  - (c) a written record is kept of all training delivered to fire fighters pursuant to this Part.
- (2) An employer shall ensure that every firefighting vehicle is operated by a competent operator.

4 Oct 96 cO-1.1 Reg 1 s482.

**General standards for vehicles and equipment**

**483** An employer, contractor or owner shall ensure that all firefighting vehicles and all equipment for use in emergency operations are designed, constructed, operated, maintained, inspected and repaired so as to protect adequately the health and safety of fire fighters.

4 Oct 96 cO-1.1 Reg 1 s483.

**Securing of equipment, etc., in vehicles**

**484** Where equipment or personal protective equipment is carried within a seating area of a firefighting vehicle, an employer, contractor or owner shall ensure that:

- (a) the items of equipment are secured:
  - (i) by a positive mechanical means of holding the item in a stowed position; or
  - (ii) in a compartment with a positive latching door; and
- (b) the compartment mentioned in subclause (a)(ii) is designed to minimize injury to fire fighters in the seating area of the vehicle.

4 Oct 96 cO-1.1 Reg 1 s484.

**Inspection of firefighting vehicles and equipment**

**485** An employer, contractor or owner shall ensure that:

- (a) all firefighting vehicles and firefighting equipment are inspected by a competent person for defects and unsafe conditions as often as is necessary to ensure that the vehicles and equipment are capable of safe operation;
- (b) where a defect or unsafe condition that may create a hazard to a fire fighter is identified in a firefighting vehicle or firefighting equipment:
  - (i) steps are taken immediately to protect the health and safety of any fire fighter who may be at risk until the defect is repaired or the unsafe condition is corrected; and
  - (ii) as soon as is reasonably practicable, the defect is repaired or the unsafe condition is corrected; and
- (c) a written record:
  - (i) is kept of all inspections carried out pursuant to clause (a);
  - (ii) is signed by the competent person who performs the inspection; and
  - (iii) is kept at the place of employment and is made readily available to the committee, the representative and the fire fighters.

4 Oct 96 cO-1.1 Reg 1 s485.

**Repair of firefighting vehicles**

**486** An employer, contractor or owner shall ensure that:

- (a) all repairs to firefighting vehicles of defects or unsafe conditions that may put at risk the health or safety of fire fighters are made in accordance with the vehicle manufacturer's instructions and by qualified persons experienced with the type of vehicle or the type of work to be performed; and
- (b) a written record:
  - (i) is kept of all repairs made to a firefighting vehicle; and
  - (ii) is kept at the place of employment and is made readily available to the committee, the representative and the fire fighters.

4 Oct 96 cO-1.1 Reg 1 s486.

**Transportation of fire fighters**

**487(1)** Subject to subsection (3), an employer, contractor or owner shall ensure that:

- (a) all firefighting vehicles are provided with safe crew accommodations within the body of the vehicle and are equipped with properly secured seats and seat-belts;
  - (b) while a firefighting vehicle is transporting fire fighters, every fire fighter is seated and uses a seat-belt when the vehicle is in motion; and
  - (c) no fire fighter rides on the tailstep, side steps, running boards or in any other exposed position on a firefighting vehicle.
- (2) Where there is an insufficient number of seats available for the number of fire fighters who are assigned to or expected to ride on a firefighting vehicle, an employer, contractor or owner shall ensure that there is a safe alternate means of transportation for those fire fighters.
- (3) Clauses (1)(b) and (c) do not apply where a fire fighter is fighting a prairie, grassland or crop fire, and the employer, contractor or owner ensures that:
- (a) a restraining device is used to prevent the fire fighter from falling from the firefighting vehicle;
  - (b) an effective means of communication between the fire fighter and the operator of the firefighting vehicle is provided; and
  - (c) a fire fighter does not operate the firefighting vehicle at a speed that exceeds 20 kilometres per hour.

4 Oct 96 cO-1.1 Reg 1 s487.

**Personal protective equipment**

**488** An employer, contractor or owner shall provide to a fire fighter who engages in or is exposed to the hazards of emergency operations, and ensure that the fire fighter uses, approved personal protective equipment that is appropriate to the nature of the risk to which the fire fighter will be exposed and that is adequate to protect the health and safety of the fire fighter.

4 Oct 96 cO-1.1 Reg 1 s488.

**Interior structural firefighting**

**489** Where fire fighters are required or permitted to engage in interior structural firefighting, an employer shall ensure that:

- (a) the fire fighters work in teams; and

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(b) a suitably equipped rescue team is readily available outside the structure to rescue an endangered fire fighter if the fire fighter's SCBA fails or the fire fighter becomes incapacitated for any other reason.

4 Oct 96 cO-1.1 Reg 1 s489.

**Personal alert safety system**

**490(1)** An employer, contractor or owner shall provide each fire fighter who enters a structure during firefighting with an approved personal alarm safety system (PASS) device and ensure that the fire fighter uses the device.

(2) An employer, contractor or owner shall ensure that each PASS device is tested at least monthly and before each use, and maintained in accordance with the manufacturer's instructions.

4 Oct 96 cO-1.1 Reg 1 s490.

**Safety ropes, harnesses and hardware**

**491** An employer, contractor or owner shall provide for use by a fire fighter approved safety ropes, harnesses and hardware that are appropriate to the nature of the risk to which the fire fighter will be exposed and adequate to protect the health and safety of the fire fighter, and ensure that the fire fighter uses them.

4 Oct 96 cO-1.1 Reg 1 s491.

## PART XXXIII

**Repeal, Transitional and Coming into Force****R.R.S. c.O-1 Reg 1 repealed**

**492** *The Occupational Health and Safety Regulations* are repealed.

4 Oct 96 cO-1.1 Reg 1 s492.

**Transitional**

**493** Notwithstanding the repeal of *The Occupational Health and Safety Regulations*, an approval granted by the director pursuant to *The Occupational Health and Safety Regulations* is continued pursuant to these regulations until it is revoked or amended by the director.

4 Oct 96 cO-1.1 Reg 1 s493.

**Coming into force**

**494(1)** Subject to subsections (2) and (3), these regulations come into force on November 1, 1996.

(2) Subject to subsection (3), if these regulations are not published in *The Saskatchewan Gazette* at least 60 days before November 1, 1996, these regulations come into force on the sixty-first day after the day on which they are published in *The Saskatchewan Gazette*.

(3) Part XXXII of these regulations comes into force one year after the day on which these regulations come into force.

4 Oct 96 cO-1.1 Reg 1 s494.

## Appendix

**TABLE 1**

[Subclause 2(1)(g)(i), subsection 54(2)]

### Minimum Requirements for Class A Qualification

A First aid training course:

I Course duration: 14-16 hours

II Course Content:

The role of the first aid attendant  
Interaction with higher-level trained personnel and with medical care agencies  
Medico-legal aspects of first aid  
Responsibilities of the first aid attendant  
Knowledge of the ambulance system  
Basic anatomy and physiology: how the body systems work  
Patient assessment: primary and secondary surveys  
Assessment and monitoring of basic vital signs  
Respiratory emergencies: respiratory system review, management of airways  
Chest injuries: pneumothorax, flail chest, sucking chest wound  
Circulatory system review, heart attack, stroke  
Bleeding: wounds, control of bleeding and bandaging  
Barrier devices to prevent the transmission of pathogens  
Shock: signs and symptoms  
Abdominal injuries: system review by quadrant  
Stabilization: head, spine and pelvis injuries  
Upper and lower extremity injuries  
Medical emergencies: epilepsy, diabetes  
Assessment and treatment of burns  
Assessment and treatment of poisonings and acute effects of abused drugs  
Problems of heat and cold  
Emotional problems  
Movement of a casualty  
Situation simulations, reporting on the patient to higher-level trained personnel  
Understanding of and familiarity with relevant provisions of *The Occupational Health and Safety Regulations, 1996*.

B Cardiopulmonary resuscitation training course:

I Course duration: 4-6 hours

II Course Content:

Risk factors  
Signals and actions of heart attack and stroke  
Airway obstruction: prevention, causes, recognition  
Entrance into the emergency medical services system  
One rescuer cardiopulmonary resuscitation (adult)  
Treatment of an adult with an obstructed airway  
Turning of the casualty into the recovery position.

**TABLE 2**

[Subclause 2(1)(g)(ii)]

**First Aid Services Authorized by Class A Qualification**

Primary and secondary assessment  
 Cardiopulmonary resuscitation  
 Bandaging and splinting  
 Monitoring vital signs  
 Basic management of medical emergencies  
 Spine stabilization  
 Any other services for which the holder of the class A qualification has acquired additional training from an approved authority.

4 Oct 96 cO-1.1 Reg 1.

**TABLE 3**

[Subclause 2(1)(h)(i), subsection 54(2)]

**Minimum Requirements for Class B Qualification**

- A First aid training course:
- I Course duration: 60-80 hours  
 It is recommended that the review and practice time should be at least 20 hours.
- II Course content:
- Roles and responsibility: knowledge of emergency medical system, the place of the first aid attendant in the system, other skill levels in the system
  - The different phases of emergency medical care
  - Adequate training in the use of first aid equipment
  - The medico-legal aspects of first aid
  - Anatomy and physiology appropriate to the course
  - Primary and secondary survey of the casualty
  - Monitoring and assessment of vital signs
  - Bleeding: wounds, control of bleeding and bandaging
  - Barrier devices to prevent the transmission of pathogens
  - Airway management and use of relevant equipment (eg. bag valve, mask resuscitator, oxygen equipment)
  - Assessment and treatment of common medical emergencies
  - Assessment and treatment of shock
  - Trauma to head, spine, chest, abdomen and pelvis
  - Injuries to extremities
  - Environmental emergencies
  - Crisis intervention: provision of psychological support
  - First on the scene management skills, triage
  - Assessment and treatment of burns
  - Obstetrics: emergency delivery and post-partum haemorrhage
  - Recognition of the acute signs and symptoms of drug abuse and treatment of the casualty
  - Assessment and treatment of the acute (eg. distended or tender) abdomen
  - Basic extrication of the casualty from immediate danger
  - Record keeping: preservation of information necessary for subsequent action
  - Understanding of and familiarity with relevant provisions of *The Occupational Health and Safety Regulations, 1996*.

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B Cardiopulmonary resuscitation training course:

I Course duration: 8-10 hours

II Course content:

Risk factors  
Signals and actions of heart attack and stroke  
Airway obstruction: prevention, causes, recognition  
Entrance into the emergency medical services system  
One rescuer cardiopulmonary resuscitation  
Two rescuer cardiopulmonary resuscitation  
Treatment of an adult with an obstructed airway  
Mouth-to-mask resuscitation  
Spinal injuries  
Turning of the casualty into the recovery position.

4 Oct 96 cO-1.1 Reg 1; 31 Jan 97 SR 6/97 s14.

**TABLE 4**

[*Subclause 2(1)(h)(ii)*]

**First Aid Services Authorized by Class B Qualification**

Primary and secondary assessment  
Cardiopulmonary resuscitation while moving a patient  
Bandaging and splinting  
Monitoring vital signs  
Basic management of medical emergencies  
Airway management, the use of suction devices and bag-valve mask  
Proper procedures and conditions for the administration of oxygen  
Use of spinal immobilization devices  
Psychological support measures  
Any other services for which the holder of the Class B qualification has acquired additional training from an approved authority.

4 Oct 96 cO-1.1 Reg 1.

**TABLE 5**

[*Subsections 7(2) and 343(1) and section 344*]

**Asbestos Processes**

Part A – High Risk Asbestos Processes

- 1 The removal, encapsulation, enclosure or disturbance of anything but minor amounts of friable asbestos-containing material during the repair, alteration, maintenance, demolition, or dismantling of any part of a plant
- 2 The cleaning, maintenance or removal of air-handling equipment in buildings where sprayed fireproofing asbestos-containing materials have been applied to the airways or ventilation ducts

3 The dismantling or the major alteration or repair of a boiler, furnace, kiln or similar device, or part of a boiler, furnace, kiln or similar device, that is made of asbestos-containing materials

4 The use of power tools not equipped with HEPA filtration to grind, cut or abrade any asbestos-containing surface or product.

#### Part B – Moderate Risk Asbestos Processes

1 The use of a power tool equipped with HEPA filtration to cut, shape or grind any asbestos-containing surface or product

2 The removal of a false ceiling or part of a false ceiling where friable asbestos-containing material is, or is likely to be, lying on the surface of the false ceiling

3 The removal, the encapsulation or enclosure or the disturbance of minor amounts of friable asbestos-containing material during the repair, alteration, maintenance, demolition, or dismantling of a structure, machine or equipment or part of a structure, machine or equipment.

#### Part C – Low Risk Asbestos Processes

1 The installation or removal of manufactured asbestos-containing products where sanding, cutting or similar disturbance is not required

2 The use of hand tools to cut, shape, drill or remove a manufactured asbestos-containing product

3 The removal of drywall material where asbestos joint filling compounds have been used

4 The use of personal protective equipment made of asbestos-containing textiles

5 The transporting or handling of asbestos-containing materials in sealed containers

6 The cleaning or disposing of minor amounts of asbestos debris that has come loose or fallen from a friable surface

7 The removal of small samples of asbestos-containing material for the purpose of identification.

4 Oct 96 cO-1.1 Reg 1.

**TABLE 6**  
[Subsection 10(2)]

#### **Notifiable Medical Conditions Resulting from Occupational Exposure**

1 Acute, sub-acute or chronic disease of an organ resulting from exposure to lead, arsenic, beryllium, phosphorus, manganese, cadmium or mercury or their compounds or alloys

2 Neoplasia of the skin or mucous membrane resulting from exposure to tar, pitch, bitumen, mineral or cutting oils or arsenic or their compounds, products or residue

3 Neoplasia of the renal tract in a worker employed in rubber compounding, in dyestuff manufacture or mixing or in a laboratory



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- 4 Pneumoconiosis resulting from exposure to silica or silicate, including asbestos, talc, mica or coal
- 5 Toxic jaundice resulting from exposure to tetrachloroethane or nitro- or amido-derivatives of benzene or other hepato-toxic or haemato-toxic substances
- 6 Neoplasia or any form of sickness resulting from internal or external exposure to ionizing radiation or electro-magnetic radiation
- 7 Poisoning by the anti-cholinesterase action of an organophosphorous or carbamate compound
- 8 Any form of decompression illness
- 9 Toxic anaemia resulting from exposure to trinitrotoluene, or any other haematogenic poison, including chronic poisoning by benzene
- 10 Mesothelioma of the pleura or peritoneum
- 11 Angiosarcoma of the liver
- 12 Malignant neoplasm of the nasal cavities resulting from exposure to chromium or its compounds, wood dust or formaldehyde
- 13 Malignant neoplasm of the scrotum resulting from exposure to petroleum products
- 14 Malignant neoplasm of lymphatic or haematopoietic tissue resulting from exposure to benzene
- 15 Cataract resulting from exposure to ionizing radiation, electro-magnetic radiation or nitrophenols
- 16 Male infertility resulting from exposure to glycol ethers, lead or pesticides
- 17 Spontaneous abortion resulting from exposure to ethylene oxide or antineoplastic drugs
- 18 Inflammatory and toxic neuropathy resulting from exposure to organic solvents
- 19 Asthma resulting from exposure to isocyanates, red cedar, amines, acid anhydride, epoxy resin systems, reactive dyes, metal fumes or salts, enzymes or bisulphites
- 20 Extrinsic allergic alveolitis resulting from exposure to mould or organic dust.

**TABLE 7**  
*[Subsections 22(2) and 45(1)]*  
**Prescribed Places of Employment**

1. Types of places of employment:
  - (a) hospitals, nursing homes and home care;
  - (b) metal foundries and mills; and
  - (c) mines.
2. Places of employment at which the following types of work are performed:
  - (a) aerial crop spraying, operation of helicopters, water bombing;
  - (b) autobody and automotive paint repairing, bumper electroplating, auto rust proofing, auto glass installation, auto vinyl roofing, fibreglassing boats and autos;
  - (c) building construction;
  - (d) camp catering;
  - (e) farming and ranching;
  - (f) forestry work other than pulp and paper production;
  - (g) forwarding and warehousing as a business;
  - (h) metal manufacturing and machining, marble works, concrete block and ready mix manufacturing;
  - (i) oilwell servicing;
  - (j) oil and gas drilling, well servicing with a rig, water well drilling;
  - (k) processing meat, poultry and fish;
  - (l) road construction and earthwork, urban sewer and water construction, tunnelling;
  - (m) trucking;
  - (n) wholesale baking, dairy products, soft drinks and food preparation and packaging.

**TABLE 8**  
*[Clause 50(d)]*

**Activities That Constitute High Hazard Work**

Building construction  
Drilling for gas, oil and minerals  
Service for gas and oil wells and power tong service  
Logging  
Sawmilling  
Iron and steel processing and fabrication  
Road construction, earthwork, tunnelling and trenching  
Local and provincial hauling and trucking  
Mining and smelting  
Exploration drilling, shaft sinking, quarrying and crushing of rocks  
Manufacturing of concrete block, brick, artificial stone and other clay and cement products  
Power line construction and maintenance.

4 Oct 96 cO-1.1 Reg 1.

**TABLE 9**

[Clause 54(1)(a) and subsection 54(5)]

**Summary of First Aid Requirements<sup>1</sup>**

Minimum: Every place of employment requires a first aid box containing standard supplies (see Table 10), a manual, a register and emergency information. Additional requirements are listed below:

<b>Workers</b>	<b>Close</b> (1/2 hour or less to medical facility)	<b>Distant</b> (1/2 - 2 hours to medical facility)	<b>Isolated</b> (More than 2 hours' surface transport to medical facility, or normal mode of transport is aircraft)
1	minimum	minimum	minimum
2 - 4	minimum	minimum plus <ul style="list-style-type: none"> <li>blankets, stretcher and splints</li> <li>Class A attendant and supplies for high hazard work<sup>2</sup></li> </ul>	minimum plus <ul style="list-style-type: none"> <li>blankets, stretcher and splints</li> <li>Class A attendant and supplies for high hazard work<sup>2</sup></li> </ul>
5 - 9	minimum plus <ul style="list-style-type: none"> <li>Class A attendant and supplies for high hazard work<sup>2</sup></li> </ul>	minimum plus <ul style="list-style-type: none"> <li>Class A attendant and supplies</li> <li>blankets, stretcher and splints</li> </ul>	minimum plus <ul style="list-style-type: none"> <li>Class A attendant and supplies</li> <li>blankets, stretcher and splints</li> </ul>
10 - 20	minimum plus <ul style="list-style-type: none"> <li>Class A attendant and supplies</li> </ul>	minimum plus <ul style="list-style-type: none"> <li>Class A attendant and supplies</li> <li>blankets, stretcher and splints</li> </ul>	minimum plus <ul style="list-style-type: none"> <li>Class A attendant and supplies</li> <li>blankets, stretcher and splints</li> </ul>
21 - 40	minimum plus <ul style="list-style-type: none"> <li>Class A attendant and supplies</li> </ul>	minimum plus <ul style="list-style-type: none"> <li>Class A attendant and supplies</li> <li>blankets, stretcher and splints</li> </ul>	minimum plus <ul style="list-style-type: none"> <li>Class B attendant and supplies for high hazard work<sup>2</sup></li> <li>Class A attendant and supplies for other work</li> <li>blankets, stretcher and splints</li> </ul>

41 - 99	minimum plus • Class A attendant and supplies	minimum plus • Class B attendant and supplies for high hazard work <sup>2</sup> • Class A attendant and supplies for other work • blankets, stretcher and splints	minimum plus • Class A attendant for low hazard work <sup>3</sup> • EMT for high hazard work <sup>2</sup> • Class B attendant and supplies for other work • blankets, stretcher and splints
100 +	minimum plus • 2 Class A attendants and supplies	minimum plus • First aid room • 1 EMT and 1 Class B attendant and supplies for high hazard work <sup>2</sup> • 2 Class A attendants and supplies for other work • blankets, stretcher and splints	minimum plus • first aid room • 1 EMT, 1 Class B attendant and supplies for high hazard work <sup>2</sup> • 2 Class A attendants and supplies for low hazard work • 2 Class B attendants and supplies for other work. • blankets, stretcher and splints

<sup>1</sup>Hospitals, medical facilities and other health care facilities where a physician or registered nurse is always readily available and close places of employment where the work is entirely low-hazard work are exempt.

<sup>2</sup>Activities that constitute high hazard work are listed in Table 8.

<sup>3</sup>Low hazard work is work of an administrative, professional or clerical nature that does not require substantial physical exertion or exposure to work processes, substances or other conditions that are potentially hazardous.

**TABLE 10***[Subsection 54(5), clause 56(1)(a), section 59]***Required Contents of First Aid Box**

Amounts or quantities of the following supplies and equipment adequate for the expected emergencies, contained in a well-marked container:

Antiseptic, wound solution or antiseptic swabs  
 Bandage – adhesive strips and hypoallergenic adhesive tape  
 Bandage – triangular, 100-centimetre folded, and safety pins  
 Bandage – gauze roller, various sizes  
 Dressing – sterile and wrapped gauze pads and compresses, various sizes including abdominal pad size  
 Dressing – self-adherent roller, various sizes  
 Pad with shield or tape for eye  
 Soap  
 Disposable latex or vinyl gloves  
 Pocket mask with disposable one-way rebreathe valves  
 Forceps – splinter  
 Scissors – bandage.

4 Oct 96 cO-1.1 Reg 1.

**TABLE 11***[Subsection 54(5) and clause 60(2)(a)]***Additional Supplies and Equipment - Class A Qualification**

Bag – hot water or hot pack  
 Bag – ice or cold water  
 Bandage – elastic, 5-centimetre and 10-centimetre widths  
 Sterile burn sheet  
 Any other first aid supplies and equipment that are appropriate to the dangers and other circumstances of the place of employment and commensurate with the training of the first aid attendant.

4 Oct 96 cO-1.1 Reg 1.

**TABLE 12***[Subsection 54(5) and clause 60(2)(b)]***Additional Supplies and Equipment - Class B Qualification**

Bag – hot water or hot pack  
 Bag – ice or cold water  
 Bandage – elastic, 5-centimetre and 10-centimetre widths  
 Sterile burn sheet  
 Stethoscope with a bell  
 Sphygmomanometer  
 Thermometer  
 Where there are potential causes of spinal injury, short and long spine boards with adequate restraining straps and medium and large cervical collars  
 Emergency oxygen system  
 Bag valve and mask resuscitator  
 Any other first aid supplies and equipment that are appropriate to the dangers and other circumstances of the place of employment and commensurate with the training of the first aid attendant.

4 Oct 96 cO-1.1 Reg 1.

**TABLE 13**  
[Section 71]

**Minimum Numbers of Toilet Facilities**

Number of Toilet Facilities	
Number of Workers	Toilets
1 to 10	1
11 to 25	2
26 to 50	3
51 to 75	4
76 to 100	5
Add one toilet for each additional 30 workers or less.	

4 Oct 96 cO-1.1 Reg 1.

**TABLE 14**  
[Subsection 85(1)]

**Classification of Infectious Materials or Organisms According to Risk**

**RISK GROUP 2**

*Risk Group 2 Criteria (moderate individual risk, limited community risk)* A pathogen that can cause human disease but, under normal circumstances, is unlikely to be a serious hazard to healthy workers, the community or the environment. Exposures rarely cause infection leading to serious disease; effective treatment and preventive measures are available and the risk of spread is limited.

**Bacteria**

*Clostridium tetani* (where the work involves routine handling of or exposure to human or animal faecal material)

*Corynebacterium diphtheriae*

*Francisella tularensis* Type B, (biovar palaeartica)

*Salmonella typhi*

*Vibrio cholerae* (incl. El Tor)

**Viruses**

Hepatitis B, C or D  
 Measles  
 Poliomyelitis  
 Rubella

**Protozoa**

*Toxoplasma gondii* (where the work involves routine handling of or exposure to the excreta, or materials contaminated with the excreta, of carrier animal species)

**Parasites**

*Echinococcus* (gravid segments)

**RISK GROUP 3**

*Risk Group 3 Criteria (high individual risk, low community risk)* A pathogen that usually causes serious human disease, but does not ordinarily spread by casual contact from one individual to another. The disease may be treated by antimicrobial or antiparasitic agents.

**Bacteria**

*Bacillus anthracis*  
*Brucella* – all species  
*Chlamydia psittaci* – avian strains only  
*Coxiella burnetii*  
*Francisella tularensis*, type A (biovar tularensis)  
*Mycobacterium avium*; *M. bovis* (non-BCG strains); *M. tuberculosis*  
*Pasteurella multocida*, type B  
*Pseudomonas mallei*; *P. pseudomallei*  
*Rickettsia* – all species  
*Yersinia pseudotuberculosis*

**Fungi**

*Blastomyces dermatitidis*  
*Coccidioides immitis*  
*Histoplasma capsulatum* including var. *duboisii*  
*Paracoccidioides brasiliensis*

**Viruses**

Viruses are grouped within Family and/or Genus.

**Arenaviridae**

Lymphocytic choriomeningitis virus, neurotropic strains

**Bunyaviridae**

Hanta virus

**Flaviviridae**

Yellow fever virus (Wild type)  
 St. Louis encephalitis virus  
 Japanese encephalitis virus  
 Murray Valley encephalitis virus  
 Powassan



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Herpesviridae

Gammaherpesvirinae

Genus Rhadinovirus: *Herpesvirus ateles*; *Herpesvirus saimiri*

Retroviridae

Oncovirinae

Genus Oncornavirus C

Human T-cell leukemia/lymphoma virus

Genus Oncornavirus D

Mason-Pfizer monkey virus

Viruses from primates

Lentivirinae

Human immunodeficiency viruses (HIV – all isolates if cultured)

Rhabdoviridae

Genus Vesiculovirus

Piry

Genus Lyssavirus

Rabies virus (Street virus)

Togaviridae

Genus Alphavirus

Eastern equine encephalitis virus

Chikungunya (recent isolates)

Venezuelan equine encephalitis (except Strain TC-83)

Western equine encephalitis

Unclassified Viruses

Chronic infectious neuropathic agents (CHINAs):

Kuru, Creutzfeldt-Jakob agent

**RISK GROUP 4**

*Risk Group 4 Criteria (high individual risk, high community risk)* A pathogen that usually produces very serious human disease, often untreatable, and may be readily transmitted from one individual to another, or from animal to human, directly or indirectly, or by casual contact.

**Viruses**

Arenaviridae

Lassa, Junin, Machupo viruses

Bunyaviridae

Genus Nairovirus

Crimean-Congo haemorrhagic fever

Filoviridae

Marburg virus

Ebola virus

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## Flaviviridae

- Tick-borne encephalitis complex, including
  - Russian Spring-Summer Encephalitis
  - Kyasanur forest virus
  - Omsk haemorrhagic fever virus

## Herpesviridae

- Alphaherpesvirinae
  - Genus Simplexvirus: Herpes B virus (Monkey B virus)

## Poxviridae

- Genus Orthopoxvirinae
  - Variola
  - Monkeypox

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**TABLE 15**  
[Subsection 175(3)]

**Minimum Dimensions of Members of Light Duty Wooden<sup>1</sup> Scaffolds  
(Height Less Than 6 Metres)**

Dimensions of Members of Half-horse Scaffolds

1	Ledgers	38 x 140 millimetres
2	Legs	38 x 89 millimetres
3	Braces	19 x 140 millimetres
4	Bearers	19 x 140 millimetres

Dimensions of Members of Single-pole Scaffolds

1	Uprights	38 x 89 millimetres
2	Bearers	2 – 19 x 140 millimetres
3	Ledgers	19 x 140 millimetres
4	Braces	19 x 140 millimetres

Dimensions of Members of Double-pole Scaffolds

1	Uprights	38 x 89 millimetres
2	Bearers	2 – 19 x 140 millimetres
3	Ledgers	19 x 140 millimetres
4	Braces	19 x 140 millimetres

Dimensions of Members of Bracket Scaffolds

1	Uprights	38 x 89 millimetres
2	Bearers	38 x 89 millimetres
3	Braces	38 x 89 millimetres
4	Gusset <sup>2</sup>	19 millimetre plywood

<sup>1</sup> Number 1 structural grade spruce lumber or material of equivalent or greater strength.

<sup>2</sup> “Gusset” means a brace or angle bracket that is used to stiffen a corner or angular piece of work.

**TABLE 16**  
[Clause 204(1)(a)]

**Minimum Training Requirements for Competent Operator of a Crane**

I Course Content:

A *Occupational Health and Safety Regulations, 1996* Related to Cranes:

- Duties of employers and operators
- Protection of workers
- Approved standards for cranes
- Operation of cranes
- Maintenance of cranes
- Signalling

B Types of Cranes:

- Terminology
- Types of cranes
- Specific design of crane to be operated
- Basic geometry of cranes, including effect of configuration changes and operating in different quadrants

C Site Evaluation:

- Check route of travel, clearances and ground conditions, including the presence of structures, power lines or other equipment that may constitute a hazard
- Check site of operation, including the nature of ground, gradients, stabilizers, tire pressure and blocking under outriggers
- Identify potentially dangerous situations and the appropriate response

D Crane Controls:

- Identify and use controls
- Pre-start check
- Start-up
- Shut-down
- Post-operating check
- Perform operating adjustments

E Operation of Crane:

- Movement to location
- Set-up; extend stabilizers and outriggers
- Change configuration; insert boom sections; extensions; jibs; counterweights
- Check for safety of other persons before movement
- Safety precautions while crane is unattended, in storage or in transit

F Load Estimation

- Load gauge incorporated in the crane
- Calculation of load from material density and volume
- Incorporate weight of attachments, hook, block and headache ball

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**2003-2****G Establish Capability of Crane:**

Implications of moments, leverage and mechanical advantage on capability  
Use of load charts to determine capability  
Effect of boom length, angle and load radius  
Effect of configuration changes, boom extension and jib  
Centre of gravity  
Abnormal loading; wind velocity  
Multi-crane hoists

**H Rigging:**

Inspection of ropes and rigging equipment  
Reeving: sheaves; spools; drums; wire ropes  
Rigging loads: hooks; safety catches; shackles; end fittings and connections  
Rigging slings: configurations; angles; safe working loads  
Safety factors for loads and workers

**I Signalling:**

Designated signaller: position; visibility; number  
Methods of signalling: hand; radio  
Standard hand signals

**J Maintenance of Crane:**

Maintenance schedule; planned preventative maintenance  
Inspection and repair procedures  
Blocking and the safe position of parts during maintenance  
Wire rope inspection and maintenance

**K Log Books:**

Record inspections, maintenance, calibrations and work activities  
Hours of service  
Signed by employer and person performing inspection, maintenance and calibration

**II Course Duration:**

**A** Overhead travelling crane or hoist: 40 hours, classroom and practical.

**B** Tower or mobile crane: 100 hours, classroom and practical.

**C** Crane used to raise or lower a worker in a personnel-lifting unit on a hoist line: 20 hours of classroom and 200 hours of practical experience operating the crane in addition to the requirements set out in items A and B.

**TABLE 17**  
[Sections 262 and 263]

**Excavation and Trench Shoring**

Trench or Excavation Depth	Soil Type	Uprights	Braces				Wales
			Width of Excavation or Trench at Brace Location	Up to 1.8 m	Vertical	Horizontal	
3.0 m or less	1	50 mm x 200 mm at 1.2 m o/c 50 mm x 200 mm at 1.2 m o/c 50 mm x 200 mm at 10 mm gap 75 mm x 200 mm at 10 mm gap	1.8 m to 3.6 m	200 mm x 200 mm 200 mm x 200 mm 200 mm x 200 mm 250 mm x 250 mm	Up to 1.8 m	1.2 m	*200 mm x 200 mm *200 mm x 200 mm 250 mm x 250 mm 300 mm x 300 mm
	2					1.2 m	
	3					1.2 m	
	4					1.2 m	
Over 3.0 m to 4.5 m	1	50 mm x 200 mm with 10 mm gap 50 mm x 200 mm with 10 mm gap 50 mm x 200 mm with 10 mm gap	200 mm x 200 mm 200 mm x 200 mm 250 mm x 250 mm	150 mm x 150 mm 200 mm x 200 mm 250 mm x 250 mm	1.2 m 1.2 m 1.2 m	2.4 m	200 mm x 200 mm 250 mm x 250 mm 250 mm x 250 mm
	2					2.4 m	
	3					2.4 m	
Over 3.0 m to 4.0 m	4	75 mm x 200 mm with 10 mm gap	300 mm x 300 mm	300 mm x 300 mm	1.2 m	2.4 m	300 mm x 300 mm
Over 4.5 m to 6.0 m	1	50 mm x 200 mm with 10 mm gap 50 mm x 200 mm with 10 mm gap 50 mm x 200 mm with 10 mm gap	200 mm x 200 mm 250 mm x 250 mm 300 mm x 300 mm	200 mm x 200 mm 250 mm x 250 mm 300 mm x 300 mm	1.2 m 1.2 m 1.2 m	2.4 m	200 mm x 200 mm 250 mm x 250 mm 300 mm x 300 mm
	2					2.4 m	
	3					2.4 m	

\* Note: for excavations and trenches to 3 m deep in soil types 1 and 2, the wales can be omitted if the braces are used at 1.2 m horizontal spacings.

**TABLE 18**  
[Clause 282(1)(a)]

**Hours of Work and Rest Periods for Work in Compressed Air**

Column 1 Air pressure for one working period	Column 2 max. hours of work per 24 hours	Column 3 max. hours of work, 1st period	Column 4 min. hours of rest, 1st period	Column 5 max. hours of work, 2nd period	Column 6 min. hours of rest, 2nd period
Less than 96 kilopascals	7.5	3.75	1.25	3.25	0.25
96 kilopascals or more but less than 138 kilopascals	6	3	2.25	3	0.75
138 kilopascals or more but less than 180 kilopascals	4	2	3.5	2	1.5
180 kilopascals or more but less than 220 kilopascals	3	1.5	4.5	1.5	1.5
220 kilopascals or more but less than 262 kilopascals	2	1	5	1	2
262 kilopascals or more but less than 303 kilopascals	1.5	0.75	5.5	0.75	2
303 kilopascals or more but less than 345 kilopascals	1	0.5	6	0.5	2

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**TABLE 19**  
[Sections 305 and 311]

**Notifiable Chemical and Biological Substances**

- A. Any of the following chemical substances or any mixture containing more than 1% of any of them:

CAS Number	Chemical Substance
92-67-1	4-Aminobiphenyl
492-80-8	Auramine
92-87-5	Benzidine
542-88-1	bis(Chloromethyl) ether
119-90-4	o-Dianisidine
91-94-1	3,3'-Dichlorobenzidine
107-30-2	Methyl chloromethyl ether
50-60-2	Mustard gas
91-59-8	2-Naphthylamine
92-93-3	4-Nitrobiphenyl
75-01-4	Vinyl chloride

- B. Any of the following biological substances:

Genetically modified<sup>1</sup> microorganisms<sup>2</sup>

<sup>1</sup>“genetically modified” means genetic combinations not known to occur naturally.

<sup>2</sup>“microorganisms” means any organism or consortium of organisms of microscopic size, including bacteria, protozoa, fungi, algae and viruses.

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**TABLE 20**  
[Sections 306 and 311]

**Designated Chemical Substances**

1. Any mixture containing less than 1% of any chemical substance listed in Table 19.
2. Any of the following chemical substances:

CAS* NUMBER	CHEMICAL SUBSTANCE
75-07-0	Acetaldehyde
60-35-5	Acetamide
79-06-1	Acrylamide
107-13-1	Acrylonitrile
1402-68-2	Aflatoxins
60-09-3	para-Aminoazobenzene
97-56-3	ortho-Aminoazotoluene
61-82-5	Amitrole
90-04-0	ortho-Anisidine
1309-64-4	Antimony trioxide
7440-38-2	Arsenic and arsenic mixtures
1332-21-4	Asbestos
1912-24-9	Atrazine
71-43-2	Benzene
—	Benzidine-based dyes
—	Beryllium and beryllium compounds
75-27-4	Bromodichloromethane
106-99-0	1,3-Butadiene
3068-88-0	beta-Butyrolactone
—	Cadmium and cadmium compounds
2425-06-1	Captafol
56-23-5	Carbon tetrachloride
—	Chlordane isomers
115-28-6	Chlorendic acid
—	Chlorinated paraffins
67-66-3	Chloroform
95-57-8	2-Chlorophenol
108-43-0	3-Chlorophenol
106-48-9	4-Chlorophenol
—	Chlorophenoxy herbicides
95-83-0	4-Chloro-ortho-phenylenediamine
95-69-2	para-Chloro-ortho-toluidine
—	Chromium compounds, hexavalent
8007-45-2	Coal-tar pitches
8007-45-2	Coal-tars
—	Cobalt and cobalt compounds

\*CAS means the Chemical Abstracts Service Division of the American Chemical Society.

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CAS* NUMBER	CHEMICAL SUBSTANCE
8001-58-9	Creosotes
120-71-8	para-Cresidine
14901-08-7	Cycasin
—	DDT and isomers
613-35-4	N,N'-Diacetylbenzidine
615-05-4	2,4-Diaminoanisole
101-80-4	4,4'-Diaminodiphenyl ether
95-80-7	2,4-Diaminotoluene
96-12-8	1,2-Dibromo-3-chloropropane
106-46-7	para-Dichlorobenzene
764-41-0	1,4-Dichloro-2-butene
107-06-2	1,2-Dichloroethane
75-09-2	Dichloromethane
542-75-6	1,3-Dichloropropene (technical grade)
62-73-7	Dichlorovos
1464-53-5	Diepoxybutane
117-81-7	Di(2-ethylhexyl)phthalate
1615-80-1	1,2-Diethylhydrazine
64-67-5	Diethyl sulphate
101-90-6	Diglycidyl resorcinol ether
2973-10-6	Diisopropyl sulfate
79-44-7	Dimethylcarbamoyl chloride
68-12-2	Dimethylformamide
57-14-7	1,1-Dimethylhydrazine
540-73-8	1,2-Dimethylhydrazine
77-78-1	Dimethyl sulphate
—	Dinitropyrenes
25321-14-6	Dinitrotoluene
123-91-1	1,4-Dioxane
2475-48-8	Disperse blue
106-89-8	Epichlorohydrin
140-88-5	Ethyl acrylate
74-96-4	Ethyl bromide
106-93-4	Ethylene dibromide
75-21-8	Ethylene oxide
96-45-7	Ethylene thiourea
62-50-0	Ethyl methanesulphonate
759-73-9	N-Ethyl-N-nitrosourea
50-00-0	Formaldehyde
—	Gasoline
765-34-4	Glycidaldehyde
76-44-8	Heptachlor
118-74-1	Hexachlorobenzene
87-68-3	Hexachlorobutadiene
608-73-1	Hexachlorocyclohexanes
67-72-1	Hexachloroethane

\*CAS means the Chemical Abstracts Service Division of the American Chemical Society.



CAS* NUMBER	CHEMICAL SUBSTANCE
680-31-9	Hexamethylphosphoramide
302-01-2	Hydrazine
193-39-5	Indone[1,2,3-cd]pyrene
—	Inorganic-acid mists containing sulfuric acid
78-79-5	Isoprene
143-50-0	Kepone
—	Lead (+ compounds), inorganics
—	Man-made mineral fibres
—	Marine diesel fuels
75-55-8	2-Methylaziridine
101-14-4	4,4'-Methylene bis(2-chloroaniline)
838-88-0	4,4'-Methylene bis(2-methylaniline)
101-77-9	4,4'-Methylene dianiline
60-34-4	Methyl hydrazine
74-88-4	Methyl iodide
—	Methylmercury Compounds
66-27-3	Methyl methanesulphonate
129-15-7	2-Methyl-1-nitroanthraquinone
684-93-5	N-Methyl-N-nitrosourea
615-53-2	N-Methyl-N-nitrosourethane
8012-95-1	Mineral oils, untreated and mildly treated
2385-85-5	Mirex
50-60-2	Mustard gas
—	Nickel (+ compounds)
—	Nitrilotriacetic acid and its salts
1836-75-5	Nitrofen (technical grade)
51-75-2	Nitrogen mustard
79-46-9	2-Nitropropane
924-16-3	N-Nitrosodi-n-butylamine
1116-54-7	N-Nitrosodiethanolamine
55-18-5	N-Nitrosodiethylamine
62-75-9	N-Nitrosodimethylamine
621-64-7	N-Nitrosodi-N-propylamine
4549-40-0	N-Nitrosomethylvinylamine
59-89-2	N-Nitrosomorpholine
16543-55-8	N-Nitrosornicotine
100-75-4	N-Nitrosopiperidine
930-55-2	N-Nitrosopyrrolidine
13256-22-9	N-Nitrososarcosine
2646-17-5	Oil orange SS
—	Penta/hexa cyclic unsubstituted aromatic hydrocarbons
135-88-6	N-Phenyl-beta-naphthylamine
95-54-5	o-Phenylenediamine
100-63-0	Phenylhydrazine
36355-01-8	Polybrominated biphenyls

\*CAS means the Chemical Abstracts Service Division of the American Chemical Society.

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CAS* NUMBER	CHEMICAL SUBSTANCE
1336-36-3	Polychlorinated biphenyls
7758-01-2	Potassium bromate
1120-71-4	1,3-Propane sultone
57-57-8	$\beta$ -Propiolactone
75-55-8	Propylene imine
75-56-9	Propylene oxide
—	Residual fuel oils (heavy fuel oils)
94-59-7	Safrole
68308-34-9	Shale-oils
—	Silica crystalline (respirable size)
—	Soots from pyrolysis of heating fuels
100-42-5	Styrene
96-09-3	Styrene-7,8-oxide
95-06-7	Sulfallate
1746-01-6	2,3,7,8-Tetrachlorodibenzo-para-dioxin
127-18-4	Tetrachloroethylene
509-14-8	Tetranitromethane
62-55-5	Thioacetamide
62-56-6	Thiourea
119-93-7	ortho-Tolidine
584-84-9	Toluene diisocyanates
95-53-4	ortho-Toluidine
106-49-0	para-Toluidine
8001-35-2	Toxaphene
52-24-4	Tris(1-aziridiny)phosphine sulphide
126-72-7	Tris(2,3-dibromopropyl)phosphate
51-79-6	Urethane
108-05-4	Vinyl acetate
593-60-2	Vinyl bromide
100-40-3	4-Vinyl cyclohexene
106-87-6	Vinyl cyclohexene dioxide
1300-73-8	Xylidine isomers

\*CAS means the Chemical Abstracts Service Division of the American Chemical Society.

**TABLE 21**  
[Sections 307 and 309, clause 346(f)]

**Contamination Limits**

<u>CAS Number</u>	<u>Substance</u>	<u>8-hour average Contamination Limit mg/m<sup>3</sup>**</u>	<u>15-minute average Contamination Limit mg/m<sup>3</sup>**</u>
75-07-0	Acetaldehyde	**C45	—
64-19-7	Acetic acid	25	37
108-24-7	Acetic anhydride	20	30
67-64-1	Acetone	1780	2380
75-86-5	Acetone cyanohydrin, (asCN)	**C5	—
75-05-8	Acetonitrile	67	101
98-86-2	Acetophenone	49	74
79-27-6	Acetylene tetrabromide	14	21
50-78-2	Acetylsalicylic acid	5	10
107-02-8	Acrolein	0.23	0.7
79-06-1	Acrylamide	0.03	0.09
79-10-7	Acrylic acid	5.9	12
107-13-1	Acrylonitrile	4.3	8.6
124-04-9	Adipic acid	5	10
111-69-3	Adiponitrile	8.8	17.6
309-00-2	Aldrin	0.25	0.75
107-18-6	Allyl alcohol	4.8	9.5
107-05-1	Allyl chloride	3	6
106-92-3	Allyl glycidyl ether (AGE)	23	47
2179-59-1	Allyl propyl disulfide	12	18
—	Aluminum metal and oxide, (as Al)	10	20
—	Aluminum pyro powders, (as Al)	5	10
—	Aluminum welding fumes, (as Al)	5	10
—	Aluminum, soluble salts, (as Al)	2	4
—	Aluminum, alkyls, (as Al)	2	4
141-43-5	2-Aminoethanol (Ethanolamine)	7.5	15
504-29-0	2-Aminopyridine	1.9	4
7664-41-7	Ammonia	17	24
12125-02-9	Ammonium chloride, fume	10	20
3825-26-1	Ammonium perfluorooctanoate	0.1	0.3
7773-06-0	Ammonium sulfamate (Ammate)	10	20
628-63-7	n-Amyl acetate	532	665
626-38-0	sec-Amyl acetate	665	831
62-53-3	Aniline and homologues	7.6	15
—	Anisidine (o-, p-isomers)	0.5	1.5
7440-36-0	Antimony and compounds, (as Sb)	0.5	1.5

\*Milligrams of substance per cubic metre of air.

\*\*C denotes ceiling limit.

+See note at end of table.

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<u>CAS Number</u>	<u>Substance</u>	<u>8-hour average Contamination Limit mg/m<sup>3</sup>*</u>	<u>15-minute average Contamination Limit mg/m<sup>3</sup>*</u>
86-88-4	ANTU (a-Naphthyl thiourea)	0.3	0.9
7440-38-2	Arsenic, elemental, and inorganic compounds except arsine, (as As)	0.01	0.03
7784-42-1	Arsine	0.16	0.48
8052-42-4	Asphalt (petroleum) fumes	5	10
1912-24-9	Atrazine	5	10
86-50-0	Azinphos-methyl	0.2	0.6
7440-39-3	Barium, soluble compounds, (as Ba)	0.5	1.5
17804-35-2	Benomyl	10	20
106-51-4	p-Benzoquinone (Quinone)	0.4	1.2
98-88-4	Benzoyl chloride	C2.8	—
94-36-0	Benzoyl peroxide	5	10
140-11-4	Benzyl acetate	61	122
100-44-7	Benzyl chloride	5.2	10.4
7440-41-7	Beryllium and compounds, (as Be)	0.002	0.01
92-52-4	Biphenyl (diphenyl)	1.3	4
1304-82-1	Bismuth telluride	10	20
1304-82-1	Bismuth telluride, Se-doped	5	10
	Borates, tetra, sodium salts		
1303-43-4	Anhydrous	1	3
1304-82-1	Decahydrate	5	10
11130-12-4	Pentahydrate	1	3
1303-86-2	Boron oxide	10	20
10294-33-4	Boron tribromide	**C10	—
7637-07-2	Boron trifluoride	**C2.8	—
314-40-9	Bromacil	10	20
7726-95-6	Bromine	0.66	1.3
7789-30-2	Bromine pentafluoride	0.7	2
74-97-5	Bromochloromethane/ chlorobromomethane	1060	1325
75-25-2	Bromoform	5	10
106-97-8	Butane	1900	2375
106-99-0	1,3-Butadiene	4.4	8.8
111-76-2	2-Butoxyethanol (Butyl Cellosolve)	120	150
123-86-4	n-Butyl acetate	95	142
105-46-4	sec-Butyl acetate	950	1190
540-88-5	tert-Butyl acetate	950	1190
141-32-2	Butyl acrylate	52	78
71-36-3	n-Butyl alcohol	**C152	—
78-92-2	sec-Butyl alcohol	303	378

\*Milligrams of substance per cubic metre of air.

\*\*C denotes ceiling limit.

+See note at end of table.

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<u>CAS Number</u>	<u>Substance</u>	<u>8-hour average Contamination Limit mg/m<sup>3</sup>*</u>	<u>15-minute average Contamination Limit mg/m<sup>3</sup>*</u>
75-65-0	tert-Butyl alcohol	303	378
109-73-9	n-Butylamine	**C15	—
1189-85-1	tert-Butyl chromate, (as CrO <sub>3</sub> )	**C0.1	—
2426-08-6	n-Butyl glycidyl ether (BGE)	133	166
138-22-7	n-Butyl lactate	30	45
109-79-5	Butyl mercaptan	1.8	3.6
89-72-5	o-sec-Butylphenol	30	45
98-51-1	p-tert-Butyltoluene	6.1	12
7440-43-9	Cadmium, elemental and compounds, (as Cd)	0.02	0.06
1306-19-0	Cadmium oxide fume, (as Cd)	0.01	0.03
1317-65-3	Calcium carbonate	10	20
13765-19-0	Calcium Chromate, (as Cr)	0.001	0.003
156-62-7	Calcium cyanamide	0.5	1.5
1305-62-0	Calcium hydroxide	5	10
1305-78-8	Calcium oxide	2	4
1344-95-2	Calcium silicate	10	20
76-22-2	Camphor, synthetic	12	19
105-60-2	Caprolactam, dust	1	3
105-60-2	vapour	23	46
2425-06-1	Captafol	0.1	0.3
133-06-2	Captan	5	10
63-25-22	Carbaryl	5	10
1563-66-2	Carbofuran	0.1	0.3
1333-86-4	Carbon black	3.5	7
124-38-9	Carbon dioxide	9000	54,000
75-15-0	Carbon disulfide	30	45
630-08-0	Carbon monoxide	29	220
558-13-4	Carbon tetrabromide	1.4	4.1
75-44-5	Carbonyl chloride (Phosgene)	0.4	1.2
353-50-4	Carbonyl fluoride	5.4	13
120-80-9	Catechol (Pyrocatechol)	23	35
9004-34-6	Cellulose (paper fibre)	10	20
21351-79-1	Cesium hydroxide	2	4
57-74-9	Chlordane	0.5	1.5
8001-35-2	Chlorinated camphene	0.5	1
55720-99-5	Chlorinated diphenyl oxide	0.5	1.5
7782-50-5	Chlorine	1.5	2.9
10049-04-4	Chlorine dioxide	0.28	0.83

\*Milligrams of substance per cubic metre of air.  
\*\*C denotes ceiling limit.  
+See note at end of table.

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<u>CAS Number</u>	<u>Substance</u>	8-hour average Contamination <u>Limit mg/m<sup>3</sup>*</u>	15-minute average Contamination <u>Limit mg/m<sup>3</sup>*</u>
7790-91-2	Chlorine trifluoride	**C0.38	—
107-20-0	Chloroacetaldehyde	**C3.2	—
78-95-5	Choroacetone	**C3.8	—
532-27-4	a-Chloroacetophenone		
	(Phenacyl chloride)	0.3	0.9
79-04-9	Chloroacetyl chloride	0.23	0.69
108-90-7	Chlorobenzene (Monochlorobenzene)	46	69
2698-41-1	o-Chlorobenzylidene malonitrile	**C0.39	—
74-97-5	Chlorobromomethane	1060	1325
126-99-8	2-Chloro-1,3-butadiene		
	(b-Chloroprene)	36	54
75-45-6	Chlorodifluoromethane	3540	4425
107-07-3	2-Chloroethanol (Ethylene chlorohydrin)	**C3.3	—
600-25-9	1-Chloro-1-nitropropane	10	20
76-15-3	Chloropentafluoroethane	6320	7900
76-06-2	Chloropicrin	0.67	2
598-78-7	2-Chloropropionic acid	0.44	1.32
2039-87-4	o-Chlorostyrene	283	425
95-49-8	o-Chlorotoluene	259	323
2921-88-2	Chlorpyrifos	0.2	0.6
7440-47-3	Chromium metal and inorganic compounds, (as Cr)	0.5	1.5
—	Metal and Cr (III) compounds	0.5	1.5
—	Water soluble Cr (VI) compounds++	0.05	0.15
—	Insoluble Cr (VI) compounds++	0.01	0.03
14977-61-8	Chromyl chloride	0.15	0.45
2971-90-6	Clopidol	10	20
—	Coal dust (respirable size)+	2	4
65996-93-2	Coal tar pitch volatiles (benzene soluble fraction) (See Particulate polycyclic aromatic hydrocarbons)	0.2	0.6
7440-48-4	Cobalt metal, dust and fume, (as Co)	0.02	0.06
10210-68-1	Cobalt carbonyl, (as Co)	0.1	0.3
16842-03-8	Cobalt hydrocarbonyl, (as Co)	0.1	0.3
7440-50-8	Copper fume, (as Cu)	0.2	0.6
	dusts and mists, (as Cu)	1	2
—	Cotton dust, raw	0.2	0.6
1319-77-3	Cresol, all isomers	22	33

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<u>CAS Number</u>	<u>Substance</u>	<u>8-hour average Contamination Limit mg/m<sup>3</sup>*</u>	<u>15-minute average Contamination Limit mg/m<sup>3</sup>*</u>
4170-30-3	Crotonaldehyde	5.7	12
299-86-5	Cruformate	5	10
98-82-8	Cumene	245	365
420-04-2	Cyanamide	2	4
—	Cyanides, (as CN)	5	10
460-19-5	Cyanogen	20	30
506-77-4	Cyanogen chloride	**C0.75	—
110-82-7	Cyclohexane	1030	1290
108-93-0	Cyclohexanol	206	257
108-94-1	Cyclohexanone	100	125
110-83-8	Cyclohexene	1010	1265
108-91-8	Cyclohexylamine	40	60
121-82-4	Cyclonite (RDX)	1.5	3
542-92-7	Cyclopentadiene	203	250
287-92-3	Cyclopentane	1720	2580
13121-70-5	Cyhexatin	5	10
94-75-7	2,4-D		
	(2,4-Dichlorophenoxy-acetic acid)	10	20
50-29-3	DDT		
	(Dichlorodiphenyltrichloroethane)	1	3
17702-41-9	Decaborane	0.25	0.75
8065-48-3	Demeton	0.1	0.3
123-42-2	Diacetone alcohol		
	(4-hydroxy-4-methyl-2-pentanone)	238	300
61790-53-2	Diatomaceous earth uncalcined		
	(respirable size)+	3	6
333-41-5	Diazinon	0.1	0.3
334-88-3	Diazomethane	0.34	1
19287-45-7	Diborane	0.1	0.3
102-81-8	2-N-Dibutylaminoethanol	3.5	7
2528-36-1	Dibutyl phenyl phosphate	3.5	7.0
107-66-4	Dibutyl phosphate	8.6	17
84-74-2	Dibutyl phthalate	5	10
7572-29-4	Dichloroacetylene	**C0.39	—
95-50-1	o-Dichlorobenzene	150	301
106-46-7	p-Dichlorobenzene	60	90
764-41-0	1,4-Dichloro-2-butene	0.025	0.075
75-71-8	Dichlorodifluoromethane	4950	6200
118-52-5	1,3-Dichloro-5, 5-dimethyl hydantoin	0.2	0.4

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<u>CAS Number</u>	<u>Substance</u>	<u>8-hour average Contamination Limit mg/m<sup>3</sup>*</u>	<u>15-minute average Contamination Limit mg/m<sup>3</sup>*</u>
75-34-3	1,1-Dichloroethane	405	506
540-59-0	1,2-Dichloroethylene	790	990
111-44-4	Dichloroethyl ether	29	58
75-43-4	Dichloromonofluoromethane	40	60
594-72-9	1,1-Dichloro-1-nitroethane	12	24
542-75-6	Dichloropropene	4.5	9
75-99-0	2,2-Dichloropropionic acid	5.8	12
74-14-2	Dichlorotetrafluoroethane	6990	8750
62-73-7	Dichlorvos	0.9	2.7
141-66-2	Dicrotophos	0.25	0.75
77-73-6	Dicyclopentadiene	27	41
102-54-5	Dicyclopentadienyl iron	10	20
60-57-1	Dieldrin	0.25	0.75
111-42-2	Diethanolamine	2	4
109-89-7	Diethylamine	15	45
100-37-8	2-Diethylaminoethanol	9.6	19.2
111-40-0	Diethylene triamine	4.2	8.4
96-22-0	Diethyl ketone	705	881
84-66-2	Diethyl phthalate	5	10
75-61-6	Difluorodibromomethane	858	1073
2238-07-5	Diglycidyl ether (DGE)	0.5	1.5
108-83-8	Diisobutyl ketone	145	181
108-18-9	Diisopropylamine	20	30
127-19-5	N,N-Dimethyl acetamide	35	50
124-40-3	Dimethylamine	9.2	27.6
121-69-7	Dimethylaniline		
	(N,N-Dimethylaniline)	25	50
14857-34-2	Dimethylethoxysilane	2.1	6.4
68-12-2	Dimethylformamide	30	45
131-11-3	Dimethylphthalate	5	10
148-01-6	Dinitolmide	5	10
—	Dinitrobenzene (all isomers)	1	2
534-52-1	Dinitro-o-cresol	0.2	0.6
25321-14-6	Dinitrotoluene	0.15	0.3
123-91-1	1,4-Dioxane	90	135
78-34-2	Dioxathion	0.2	0.6
122-39-4	Diphenylamine	10	20
34590-94-8	Dipropylene glycol methyl ether	606	909
123-19-3	Dipropyl ketone	233	291

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<u>CAS Number</u>	<u>Substance</u>	<u>8-hour average Contamination Limit mg/m<sup>3</sup>*</u>	<u>15-minute average Contamination Limit mg/m<sup>3</sup>*</u>
231-36-7	Diquat (total dust)	0.5	1.5
	Respirable size+	0.1	0.3
117-81-7	Di-sec, octyl phthalate (Di-2-ethyhexyl phthalate)	5	10
97-77-8	Disulfiram	2	4
298-04-4	Disulfoton	0.1	0.3
128-37-0	2,6-Ditert butyl-p-cresol	10	20
330-54-1	Diuron	10	20
1321-74-0	Divinyl benzene	50	75
1302-74-5	Emery	10	20
115-29-7	Endosulfan	0.1	0.3
72-20-8	Endrin	0.1	0.3
13838-16-9	Enflurane	566	708
2104-64-5	EPN	0.1	0.3
64-17-5	Ethanol	1880	2350
563-12-2	Ethion	0.4	1.2
110-80-5	2-Ethoxyethanol (Glycol monoethyl ether)	18	27
111-15-9	2-Ethoxyethyl acetate (Cellosolve acetate)	27	41
141-78-6	Ethyl acetate	1440	1800
140-88-5	Ethyl acrylate	20	61
75-04-7	Ethylamine	9.2	27.6
541-85-5	Ethyl amyl ketone (5-Methyl-3-heptanone)	131	162
100-41-4	Ethyl benzene	435	543
74-96-4	Ethyl bromide	22	33
106-35-4	Ethylbutyl ketone (3-Heptanone)	230	288
75-00-3	Ethyl chloride	264	330
107-07-3	Ethylene chlorohydrin	**C3.3	—
107-15-3	Ethylenediamine	25	38
107-21-1	Ethylene glycol, as an aerosol	**C127	—
628-96-6	Ethylene glycol dinitrate	0.3	0.9
75-21-8	Ethylene oxide	1.8	3.6
60-29-7	Ethyl ether	1210	1520
109-94-4	Ethyl formate	300	450
16219-75-3	Ethylidene norbornene	**C25	—
75-08-1	Ethyl mercaptan	1.3	3.9
100-74-3	N-Ethylmorpholine	24	35

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78-10-4	Ethyl silicate	85	128
22224-92-6	Fenamiphos	0.1	0.3
115-90-2	Fensulfothion	0.1	0.3
55-38-9	Fenthion	0.2	0.6
14484-64-1	Ferbam	10	20
12604-58-9	Ferrovandium dust	1	3
—	Fluoride, (as F)	2.5	5
7782-41-4	Fluorine	1.6	3.1
944-22-9	Fonofos	0.1	0.3
50-00-0	Formaldehyde	**C0.37	—
75-12-7	Formamide	18	27
64-18-6	Formic acid	9.4	19
98-01-1	Furfural	7.9	16
98-00-0	Furfuryl alcohol	40	60
—	Gasoline	890	1480
7782-65-2	Germanium tetrahydride	0.6	1.8
111-30-8	Glutaraldehyde	**C0.82	—
56-81-5	Glycerin mist	10	20
556-52-5	Glycidol	75	113
—	Grain dust (oat, wheat, barley)	4	—
7782-42-5	Graphite, natural (respirable size)+	2	4
7778-18-9	Gypsum (Calcium sulphate)	10	20
7440-58-6	Hafnium	0.5	1.5
151-67-7	Halothane	400	500
76-44-8	Heptachlor	0.05	0.15
142-82-5	Heptane (n-Heptane)	1640	2050
118-74-1	Hexachlorobenzene	0.025	0.075
77-47-4	Hexachlorocyclopentadiene	0.1	0.3
67-72-1	Hexachloroethane	9.7	20
1335-87-1	Hexachloronaphthalene	0.2	0.6
684-16-2	Hexafluoroacetone	0.68	2
822-06-0	Hexamethylene Diisocyanate	0.034	0.1
110-54-3	Hexane (n-Hexane)	176	220
—	Hexane (other isomers)	1760	3500
124-09-4	Hexanediamine	2.3	4.6
108-84-9	sec-Hexyl acetate	295	369
107-41-5	Hexylene glycol	**C121	—
61788-32-7	Hydrogenated terphenyls	4.9	10
10035-10-6	Hydrogen bromide	**C9.9	—

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<u>CAS Number</u>	<u>Substance</u>	<u>8-hour average Contamination Limit mg/m<sup>3</sup>**</u>	<u>15-minute average Contamination Limit mg/m<sup>3</sup>**</u>
7647-01-0	Hydrogen chloride	**C7.5	—
74-90-8	Hydrogen cyanide, and cyanide salts, (as CN)	**C5	—
7664-39-3	Hydrogen fluoride, (as F)	**C2.6	—
7722-84-1	Hydrogen peroxide	1.4	2.8
7783-07-5	Hydrogen selenide, (as Se)	0.16	0.48
7783-06-4	Hydrogen sulfide	14	21
123-31-9	Hydroquinone	2	4
999-61-1	2-Hydroxypropyl acrylate	2.8	5.6
95-13-6	Indene	48	72
7440-74-6	Indium and Compounds, (as In)	0.1	0.3
7553-56-2	Iodine	**C1	—
75-47-8	Iodoform	10	20
1309-37-1	Iron oxide fume, (Fe <sub>2</sub> O <sub>3</sub> , as Fe)	5	10
13463-40-6	Iron pentacarbonyl, (as Fe)	0.23	0.45
—	Iron salts, soluble, (as Fe)	1	2
123-92-2	Isoamyl acetate	532	665
123-51-3	Isoamyl alcohol	360	452
110-19-0	Isobutyl acetate	713	891
78-83-1	Isobutyl alcohol	150	188
26952-21-6	Isooctyl alcohol	266	333
78-59-1	Isophorone	**C28	—
4098-71-9	Isophorone diisocyanate	0.045	0.135
109-59-1	Isopropoxyethanol	106	131
108-21-4	Isopropyl acetate	1040	1290
67-63-0	Isopropyl alcohol	983	1230
75-31-0	Isopropylamine	12	24
768-52-5	N-Isopropylaniline	10	20
108-20-3	Isopropyl ether	1040	1300
4016-14-2	Isopropyl glycidyl ether (IGE)	238	356
1332-58-7	Kaolin (respirable size)+	2	4
463-51-4	Ketene	0.86	2.6
7439-92-1	Lead, elemental and inorganic compounds, (as Pb)	0.15	0.45
1317-65-3	Limestone	10	20
58-89-9	Lindane	0.5	1.5
7580-67-8	Lithium hydride	0.025	0.075
68476-85-7	L.P.G. (liquified petroleum gas)	1800	2250
546-93-0	Magnesite	10	20

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<u>CAS Number</u>	<u>Substance</u>	<u>8-hour average Contamination Limit mg/m<sup>3</sup>*</u>	<u>15-minute average Contamination Limit mg/m<sup>3</sup>*</u>
1309-48-4	Magnesium oxide fume	10	20
121-75-5	Malathion	10	20
108-31-6	Maleic anhydride	1	3
7439-96-5	Manganese, elemental and inorganic compounds, (as Mn)	5	5
—	Manganese, fume (as Mn)	1	3
12079-65-1	Manganese cyclopentadienyl tricarbonyl, (as Mn)	0.1	0.3
7439-97-6	Mercury, (as Hg)		
—	Alkyl compounds	0.01	0.03
—	Aryl compounds	0.1	0.3
—	Inorganic forms, including metallic mercury	0.025	0.075
141-79-7	Mesityl oxide	60	100
79-41-4	Methacrylic acid	70	105
16752-77-5	Methomyl	2.5	5
72-43-5	Methoxychlor	10	20
109-86-4	2-Methoxyethanol (Methylcellosolve)	16	24
110-49-6	2-Methoxyethyl acetate (Methyl cellosolve acetate)	24	36
150-76-5	4-Methoxyphenol	5	10
79-20-9	Methyl acetate	606	757
74-99-7	Methyl acetylene	1640	2040
—	Methyl acetylene-propadiene mixture (MAPP)	1640	2050
96-33-3	Methyl acrylate	7	14
126-98-7	Methylacrylonitrile	2.7	5.4
109—87-5	Methylal (dimethoxy methane)	3110	3875
67-56-1	Methyl alcohol (methanol)	262	328
74-89-5	Methylamine	6.4	19
110-43-0	Methyl n-amyl ketone (2-Heptanone)	233	291
100-61-8	N-Methylaniline	2.2	4.4
74-83-9	Methyl bromide	19	29
1634-04-4	Methyl tert-butyl ether		
591-78-6	Methyl n-butyl ketone	20	30
74-87-3	Methyl chloride	103	207
137-05-3	Methyl 2-cyanoacrylate	9.1	18
108-87-2	Methylcyclohexane	1610	2000
25639-42-3	Methylcyclohexanol	234	293
583-60-8	o-Methylcyclohexanone	229	344

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<u>CAS Number</u>	<u>Substance</u>	<u>8-hour average Contamination Limit mg/m<sup>3</sup>*</u>	<u>15-minute average Contamination Limit mg/m<sup>3</sup>*</u>
12108-13-3	2-Methylcyclopentadienyl manganese tricarbonyl, (as Mn)	0.2	0.6
8022-00-2	Methyl demeton	0.5	1.5
101-68-8	Methylene bisphenyl isocyanate (MDI)	0.051	0.153
5124-30-1	Methylene bis (4-cyclo-hexylisocyanate)	0.054	0.162
75-09-2	Methylene chloride (dichloromethane)	174	218
101-77-9	4,4'-Methylene dianiline	0.8	2.4
78-93-3	Methyl ethyl ketone	590	885
1338-23-4	Methyl ethyl ketone peroxide	**C1.5	—
107-31-3	Methyl formate	246	368
110-12-3	Methyl isoamyl ketone	234	293
108-11-2	Methyl isobutyl carbinol	104	167
108-10-1	Methyl isobutyl ketone	205	307
624-83-9	Methyl isocyanate	0.05	0.15
563-80-4	Methyl isopropyl ketone	705	881
74-93-1	Methyl mercaptan	1	3
80-62-6	Methyl methacrylate	410	513
298-00-0	Methyl parathion	0.2	0.6
107-87-9	Methyl propyl ketone	705	881
681-84-5	Methyl silicate	6	12
98-83-9	a-Methyl styrene	242	483
21087-64-9	Metribuzin	5	10
7786-34-7	Mevinphos	0.092	0.27
12001-26-2	Mica (respirable size)+	3	6
7439-98-7	Molybdenum, (as Mo)		
	Soluble compounds	5	10
	Insoluble compounds	10	20
6923-22-4	Monocrotophos	0.25	0.75
110-91-8	Morpholine	70	105
300-76-5	Naled	3	6
91-20-3	Naphthalene	52	79
—	Nickel, elemental	0.50	1.50
	soluble compounds (as Ni)	0.05	0.15
	insoluble compounds (as Ni)	0.10	0.30
54-11-5	Nicotine	0.5	1.5
1929-82-4	Nitrapyrin	10	20
7697-37-2	Nitric acid	5.2	10.4
10102-43-9	Nitric oxide	31	47

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<u>CAS Number</u>	<u>Substance</u>	<u>8-hour average Contamination Limit mg/m<sup>3</sup>*</u>	<u>15-minute average Contamination Limit mg/m<sup>3</sup>*</u>
100-01-6	p-Nitroaniline	3	6
98-95-3	Nitrobenzene	5	10
100-00-5	p-Nitrochlorobenzene	0.64	1.9
79-24-3	Nitroethane	307	383
10102-44-0	Nitrogen dioxide	5.6	9.4
7783-54-2	Nitrogen trifluoride	29	44
55-63-0	Nitroglycerin	0.46	1.4
75-52-5	Nitromethane	50	75
108-03-2	1-Nitropropane	90	135
—	Nitrotoluene isomers	11	16
10024-97-2	Nitrous oxide	90	135
111-84-2	Nonane	1050	1300
2234-13-1	Octachloronaphthalene	0.1	0.3
111-65-9	Octane	1400	1750
8012-95-1	Oil mist, mineral, severely refined	5	10
20816-12-0	Osmium tetroxide, (as Os)	0.0016	0.0047
144-62-7	Oxalic acid	1	2
7783-41-7	Oxygen difluoride	**C0.11	—
10028-15-6	Ozone	0.1	0.4
8002-74-2	Paraffin wax fume	2	4
4685-14-7	Paraquat, total dust	0.5	1.5
4685-14-7	Paraquat, (respirable sizes)+	0.1	0.3
56-38-2	Parathion	0.1	0.3
—	Particulate polycyclic aromatic hydrocarbons (PPAH), as benzene solubles	0.2	0.6
—	Particulates, NOC++	10	20
—	Respirable size+	3	6
19624-22-7	Pentaborane	0.013	0.039
1321-64-8	Pentachloronaphthalene	0.5	1.5
82-68-8	Pentachloronitrobenzene	0.5	1.5
87-86-5	Pentachlorophenol	0.5	1.5
115-77-5	Pentaerythritol	10	20
109-66-0	Pentane	1770	2210
594-42-3	Perchloromethyl mercaptan	0.76	2.2
7616-94-6	Perchloryl fluoride	13	25
382-21-8	Perfluoroisobutylene	**C0.082	—
93763-70-3	Perlite	10	20
108-95-2	Phenol	19	29
92-84-2	Phenothiazine	5	10

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<u>CAS Number</u>	<u>Substance</u>	<u>8-hour average Contamination Limit mg/m<sup>3</sup>**</u>	<u>15-minute average Contamination Limit mg/m<sup>3</sup>**</u>
—	Phenylene diamine isomers	0.1	0.3
101-84-8	Phenyl ether (vapour)	7	14
122-60-1	Phenyl glycidyl ether (PGE)	0.6	1.8
100-63-0	Phenyl hydrazine	0.44	1.32
108-98-5	Phenyl mercaptan	2.3	4.6
638-21-1	Phenylphosphine	**C0.23	—
298-02-2	Phorate	0.05	0.2
7803-51-2	Phosphine	0.42	1.4
7664-38-2	Phosphoric acid	1	3
7723-14-0	Phosphorus (yellow)	0.1	0.3
10025-87-3	Phosphorous oxychloride	0.63	1.9
10026-13-8	Phosphorous pentachloride	0.85	2.6
1314-80-3	Phosphorous pentasulfide	1	3
7719-12-2	Phosphorous trichloride	1.1	2.8
85-44-9	Phthalic anhydride	6	12
626-17-5	m-Phthalodinitrile	5	10
1918-02-1	Picloram	10	20
88-89-1	Picric acid	0.1	0.3
83-26-1	Pindone	0.1	0.3
142-64-3	Piperazine dihydrochloride	5	10
7778-18-9	Plaster of Paris	10	20
7440-06-4	Platinum metal	1	3
—	Platinum, Soluble salt, (as Pt)	0.002	0.006
65997-15-1	Portland cement	10	20
1310-58-3	Potassium hydroxide	**C2	—
107-19-7	Propargyl alcohol	2.3	6.9
57-57-8	β-Propiolactone	1.5	3
79-09-4	Propionic acid	30	45
114-26-1	Propoxur	0.5	1.5
109-60-4	n-Propyl acetate	835	1040
71-23-8	Propyl alcohol	492	614
78-87-5	Propylene dichloride	347	508
6423-43-4	Propylene glycol dinitrate	0.34	0.1
107-98-2	Propylene glycol monomethyl ether	369	553
75-56-9	Propylene oxide	48	72
627-13-4	n-Propyl nitrate	107	172
8003-34-7	Pyrethrum	5	10
110-86-1	Pyridine	16	32
108-46-3	Resorcinol	45	90

\*Milligrams of substance per cubic metre of air.

\*\*C denotes ceiling limit.

+See note at end of table.

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<u>CAS Number</u>	<u>Substance</u>	<u>8-hour average Contamination Limit mg/m<sup>3</sup>*</u>	<u>15-minute average Contamination Limit mg/m<sup>3</sup>*</u>
7440-16-6	Rhodium metal and insoluble compounds, (as Rh)	1	3
—	Rhodium, Soluble compounds, (as Rh)	0.01	0.03
299-84-3	Ronnel	10	20
83-79-4	Rotenone (commercial)	5	10
—	Rouge	10	20
8030-30-6	Rubber solvent (Naphtha)	1590	2000
7782-49-2	Selenium and compounds, (as Se)	0.2	0.6
7783-79-1	Selenium hexafluoride, (as Se)	0.16	0.45
136-78-7	Sesone	10	20
	Silica Amorphous (respirable size)+		
69012-46-2	Silica, fume	2	—
60676-86-0	Silica, fused	0.1	—
	Silica - Crystalline (respirable size)+		
14464-46-1	Cristobalite	0.05	—
14808-60-7	Quartz	0.1	—
15468-32-3	Tridymite	0.05	—
1317-95-9	Tripoli	0.1	—
112926-00-8	Silica gel and precipitated silica	10	20
7440-21-3	Silicon	10	20
409-21-2	Silicon carbide	10	20
7803-62-5	Silicon tetrahydride (Silane)	6.6	13
7440-22-4	Silver, metal	0.1	0.3
—	Silver soluble compounds, (as Ag)	0.01	0.03
—	Soapstone (total dust)	6	—
—	Soapstone (respirable size)+	3	6
26628-22-8	Sodium azide		
	as Sodium azide	**C0.29	—
	as Hydrazoic acid vapour	**C0.2	—
7631-90-5	Sodium bisulfite	5	10
62-74-8	Sodium fluoroacetate	0.05	0.15
1310-73-2	Sodium hydroxide	**C2	—
7681-57-4	Sodium metabisulfite	5	10
9005-25-8	Starch	10	20
—	Stearates	10	20
7803-52-3	Stibine	0.5	1.5
8052-41-3	Stoddard solvent	525	656
57-24-9	Strychnine	0.15	0.45
100-42-5	Styrene, monomer	213	426
1395-21-7	Subtilisins (Proteolytic enzymes as 100% pure crystalline enzyme)	**C0.00006	—

\*Milligrams of substance per cubic metre of air.

\*\*C denotes ceiling limit.

+See note at end of table.



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<u>CAS Number</u>	<u>Substance</u>	8-hour average Contamination <u>Limit mg/m<sup>3</sup>*</u>	15-minute average Contamination <u>Limit mg/m<sup>3</sup>*</u>
57-50-1	Sucrose	10	20
74222-97-2	Sulfometuron methyl	5	10
3689-24-5	Sulfotep	0.2	0.6
7446-09-5	Sulfur dioxide	5.2	13
2551-62-4	Sulfur hexafluoride	5970	7480
7664-93-9	Sulfuric acid	1	3
10025-67-9	Sulfur monochloride	**C5.5	—
5714-22-7	Sulfur pentafluoride	**C0.1	—
7783-60-0	Sulfur tetrafluoride	**C0.44	—
2699-79-8	Sulfuryl fluoride	21	42
35400-43-2	Sulprofos	1	3
14807-96-6	Talc (respirable size)+	2	—
7440-25-7	Tantalum metal and oxide, (as Ta)	5	10
13494-80-9	Tellurium and compounds, (as Te)	0.1	0.3
7783-80-4	Tellurium hexafluoride, (as Te)	0.1	0.3
3383-96-8	Temephos	10	20
107-49-3	TEPP	0.05	0.15
100-21-0	Terephthalic acid	10	20
26140-60-3	Terphenyls	**C5	—
76-11-9	1,1,1,2-Tetrachloro-2, 2-difluoroethane	4170	5210
76-12-0	1,1,2,2-Tetrachloro-1, 2-difluoroethane	4170	5210
79-34-5	1,1,2,2-Tetrachloroethane	6.9	14
127-18-4	Tetrachloroethylene (Perchloroethylene)	170	685
1335-88-2	Tetrachloronaphthalene	2	4
78-00-2	Tetraethyl lead, (as Pb)	0.1	0.3
109-99-9	Tetrahydrofuran	590	737
75-74-1	Tetramethyl lead, (as Pb)	0.15	0.45
3333-52-6	Tetramethyl succinonitrile	2.8	5.6
509-14-8	Tetranitromethane	0.04	0.12
7722-88-5	Tetrasodium pyrophosphate	5	10
479-45-8	Tetryl (2,4,6-trinitrophenyl-methyl nitramine)	1.5	3.0
7440-28-0	Thallium and soluble compounds, (as Tl)	0.1	0.3
96-69-5	4,4'-Thiobis (6-tert-butyl-m-cresol)	10	20
68-11-1	Thioglycolic acid	3.8	8
7719-09-7	Thionyl chloride	**C4.9	—
137-26-8	Thiram	1	3
7440-31-5	Tin metal	2	4
—	Tin oxide and inorganic compounds except SnH <sub>4</sub> , (as Sn)	2	4

\*Milligrams of substance per cubic metre of air.

\*\*C denotes ceiling limit.

+See note at end of table.

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<u>CAS Number</u>	<u>Substance</u>	<u>8-hour average Contamination Limit mg/m<sup>3</sup>*</u>	<u>15-minute average Contamination Limit mg/m<sup>3</sup>*</u>
—	Tin organic compounds, (as Sn)	0.1	0.2
13463-67-7	Titanium dioxide	10	20
108-88-3	Toluene (toluol)	188	235
584-84-9	Toluene-2,4-diisocyanate (TDI)	0.036	0.14
95-53-4	o-Toluidine	8.8	17.6
108-44-1	m-Toluidine	8.8	17.6
106-49-0	p-Toluidine	8.8	17.6
126-73-8	Tributyl phosphate	2.2	4.4
76-03-9	Trichloroacetic acid	6.7	13.4
120-82-1	1,2,4-Trichlorobenzene	**C37	—
75-55-6	1,1,1-Trichloroethane	1910	2460
79-00-5	1,1,2-Trichloroethane	55	83
79-01-6	Trichloroethylene	269	537
75-69-4	Trichlorofluoromethane	**C5620	—
1321-65-9	Trichloronaphthalene	5	10
96-18-4	1,2,3-Trichloropropane	60	90
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	7670	9590
102-71-6	Triethanolamine	5	10
121-44-8	Triethylamine	4.1	20.7
75-63-8	Trifluoromonobromomethane	6090	7300
552-30-7	Trimellitic anhydride	**C0.04	—
75-50-3	Trimethylamine	12	36
25551-13-7	Trimethyl benzene	123	154
121-45-9	Trimethyl phosphite	10	20
118-96-7	2,4,6-Trinitrotoluene (TNT)	0.5	1.5
78-30-8	Triorthocresyl phosphate	0.1	0.3
603-34-9	Triphenylamine	5	10
115-86-6	Triphenyl phosphate	3	6
7440-33-7	Tungsten, (as W)		
	Insoluble compounds	5	10
	Soluble compounds	1	3
8006-64-2	Turpentine	556	695
—	Uranium compounds, (as U)	0.1	—
—	Uranium and insoluble compounds, (as U)	0.050	—
110-62-3	n-Valeraldehyde	176	219
1314-62-1	Vanadium pentoxide, as V <sub>2</sub> O <sub>5</sub> , (respirable size)+ dust and fume	0.05	0.15
—	Vegetable oil mists	10	20
108-05-4	Vinyl acetate	35	53
75-35-4	Vinylidene chloride	20	79

\*Milligrams of substance per cubic metre of air.

\*\*C denotes ceiling limit.

+See note at end of table.

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<u>CAS Number</u>	<u>Substance</u>	<u>8-hour average Contamination Limit mg/m<sup>3</sup>*</u>	<u>15-minute average Contamination Limit mg/m<sup>3</sup>*</u>
25013-15-4	Vinyl toluene	242	483
8032-32-4	VM and P Naphtha	1370	1712
81-81-2	Warfarin	0.1	0.3
—	Welding fumes	5	10
—	Wood dust (soft wood)	5	10
—	Wood dust (certain hard woods as beech and oak)	1	3
—	Xylene (o, m-, p-isomers)	434	651
1477-55-0	m-Xylene a,'a-diamine	**C0.1	—
1300-73-8	Xylidine	2.5	5
7440-65-5	Yttrium metal and compounds, (as Y)	1	3
7646-85-7	Zinc chloride fume	1	2
1314-13-2	Zinc oxide fume	5	10
1314-13-2	Zinc oxide dust	10	20
7440-67-7	Zirconium and compounds, (as Zr)	5	10

\*Milligrams of substance per cubic metre of air.

\*\*C denotes ceiling limit.

+ Note: For the application of this limit, respirable size is that fraction of dust passing a size selector with the following characteristics:

<u>Aerodynamic Diameter (µm) (unit density sphere)</u>	<u>% Passing selector</u>
0	100
1	97
2	91
3	74
4	50
5	30
6	17
7	9
8	5
10	1

**TABLE 22**  
[Section 465]

**Minimum Distances from Exposed Energized  
High Voltage Electrical Conductors**

Risk Factor		Column 1	Column 2	Column 3
Voltage Phase to Phase	Voltage to Ground	Non-Electrical Workers, Material, Equipment	Qualified Electrical Workers	Vehicles and Load
kV	kV	Metres	Metres	Metres
230	133	6.1	1.4	1.83
138	79.8	4.6	1.0	1.22
72	41.6	4.6	0.6	0.8
25	14.4	3	0.3	0.6
15	8.6	3	0.3	0.6
4.16	2.4	3	0.15	0.6

4 Oct 96 cO-1.1 Reg 1.