

*The  
Radiation Health  
and Safety  
Regulations, 2005*

*being*

[Chapter R-1.1 Reg 2](#) (effective March 10, 2005).

**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 R-1.1 REG 2**  
*The Radiation Health and Safety Act, 1985*

PART I  
**Title and Interpretation**

**Title**

1 These regulations may be cited as *The Radiation Health and Safety Regulations, 2005*.

**Interpretation**

2(1) In these regulations:

- (a) **“absorbed dose”**, with respect to any medium, means the ionizing radiation energy absorbed per unit mass, expressed in grays;
- (b) **“Act”** means *The Radiation Health and Safety Act, 1985*;
- (c) **“approved”**, with respect to equipment, means that:
  - (i) the equipment meets:
    - (A) a relevant Canadian standard acceptable to an officer; or
    - (B) a standard that is prepared and publicly issued by the department; or
  - (ii) the equipment has been approved by an officer in writing on an individual basis;
- (d) **“chief occupational medical officer”** means the person appointed as the chief occupational medical officer pursuant to section 79 of *The Occupational Health and Safety Act, 1993*;
- (e) **“chiropractic clinic”** means a place in which radiation equipment is used by or under the direction of a chiropractor for diagnostic or therapeutic purposes with respect to a patient;
- (f) **“commercial tanning salon”** means a tanning parlour, health spa, fitness centre, sports or recreational centre, beauty salon or any other establishment that is open to the public or to members of a club or association and in which a person’s skin is deliberately exposed to ultraviolet radiation, but does not include any hospital or medical clinic where exposures to ultraviolet radiation are administered under medical supervision for therapeutic purposes;
- (g) **“committed dose”** means the equivalent dose received by any organ or tissue of the body of a person from the intake of any radioactive substance, other than radon or radon progeny, during the period of 50 years immediately following the intake;

- (h) “**dental clinic**” means a place in which radiation equipment is used by or under the direction of a dentist, as defined in *The Dental Disciplines Act*, for diagnostic or therapeutic purposes with respect to a patient;
- (i) “**effective dose**” means the sum of the products, in sieverts, obtained by multiplying the equivalent dose of radiation received by and committed to each organ or tissue set out in column 1 of Table 2 by the weighting factor set out in column 2 for that item;
- (j) “**electromagnetic radiation**” means energy in the form of electromagnetic fields emitted from any source, and includes extremely low frequency radiation, radio frequency radiation, infrared radiation, visible light, ultraviolet radiation, x-rays and gamma rays;
- (k) “**equivalent dose**” means the product, in sieverts, obtained by multiplying the absorbed dose of radiation and the appropriate radiation weighting factor set out in Table 1;
- (l) “**external source**” means any source of ionizing radiation other than radioactive isotopes that:
- (i) have been ingested or inhaled by an occupational worker; and
  - (ii) are irradiating tissues from within the occupational worker’s body;
- (m) “**extremely low frequency radiation**” means electromagnetic radiation in the frequency range below three kilohertz;
- (n) “**five-year dosimetry period**” means the period of five calendar years beginning on January 1, 2001 and every period of five calendar years after that period;
- (o) “**irradiance**” means radiant power incident per unit area expressed in watts per square metre;
- (p) “**laser**” means an optical source that emits coherent, monochromatic radiation from a solid state, gaseous or liquid lasing source;
- (q) “**laser device**” means a device that incorporates a laser;
- (r) “**laser light show**” means a form of entertainment that incorporates the use of any laser or laser device;
- (s) “**medical clinic**” means a place, other than a hospital, dental clinic or a chiropractic clinic, in which radiation equipment is used for diagnostic or therapeutic purposes with respect to a patient, and includes a medical laboratory within the meaning of *The Medical Laboratory Licensing Act, 1994*;
- (t) “**medical ultrasound equipment**” means ultrasound equipment that is designed for use in a hospital, medical clinic or other place in carrying out diagnostic or therapeutic procedures on patients;
- (u) “**National Dose Registry**” means the centralized record-keeping system containing the dose information of radiation workers in Canada that is maintained by Health Canada;
- (v) “**one-year dosimetry period**” means the period of one calendar year beginning on January 1 of each year;

- (w) **“patient”** means a person who is undergoing diagnosis or treatment by or under the direction of a health care professional;
- (x) **“Radiation Safety Unit”** means the Radiation Safety Unit of the department;
- (y) **“radio frequency radiation”** means electromagnetic radiation in the frequency range from three kilohertz to 300 gigahertz;
- (z) **“radon progeny”** means any of the radioactive decay products of radon 222, namely bismuth 214, lead 214, polonium 214 and polonium 218;
- (aa) **“ultrasound”** means longitudinal pressure waves with frequencies greater than 15 kilohertz;
- (bb) **“ultraviolet radiation”** means electromagnetic radiation in the wavelength range from 100 nanometres to 400 nanometres;
- (cc) **“veterinary clinic”** means a place in which radiation equipment is used by or under the direction of a member, as defined in *The Veterinarians Act, 1987*, for diagnostic or therapeutic purposes with respect to an animal, as defined in *The Veterinarians Act, 1987*;
- (dd) **“working level”** means the unit of concentration of radon progeny in one cubic metre (1 m<sup>3</sup>) of air that has the potential alpha energy of 2.08 x 10<sup>-5</sup> joules;
- (ee) **“working level month”** means the exposure that results from the inhalation of air containing one working level for 170 hours and is the amount WLM, calculated in accordance with the following formula:

$$1 \text{ WLM} = 3.54 \text{ mJh/m}^3$$

where:

mJ is millijoules

h is hours

m is metres.

- (2) In these regulations:
- (a) references to tables are references to the tables set out in Part I of the Appendix;
- (b) references to figures are references to the figures set out in Part II of the Appendix; and
- (c) references to forms are references to the forms set out in Part III of the Appendix.

## PART II Ionizing Radiation

### Dose limits

3(1) An owner of ionizing radiation equipment must ensure that the effective dose received by and committed to a person described in column 1 of Table 6 during a period set out in column 2 of that table is as low as is reasonably achievable with economic and social factors taken into consideration and does not exceed the effective dose set out in column 3 of that Table.

(2) If the effective dose received by an occupational worker in a one-year dosimetry period exceeds 20 millisieverts, the owner of ionizing radiation equipment must submit to the Radiation Safety Unit a written report explaining in full the circumstances in which the dose arose and summarizing the steps that will be taken to minimize the possibility of similar doses arising in the future.

(3) Every owner of ionizing radiation equipment must ensure that the equivalent dose received by and committed to an organ or tissue set out in column 1 of Table 7 of a person described in column 2 of that item, during the period set out in column 3 of that item, does not exceed the equivalent dose set out in column 4 of that item.

18 Mar 2005 cR-1.1 Reg 2 s3.

### Effective dose calculation

4(1) In this section:

- (a) “**ALI**”, as the acronym for annual limit on intake, means the activity, in becquerels, of a radionuclide that will deliver an effective dose of 20 millisieverts during the 50-year period after it is taken into the body of an adult or during the period beginning at intake and ending at age 70 after it is taken into the body of a person less than 18 years of age;
- (b) “**E**” means the portion of the effective dose, in millisieverts:
  - (i) received by a person from sources outside the body and includes x-rays, Canadian Nuclear Safety Commission (CNSC) licensed activities or other sources of radiation arising from human activity; and
  - (ii) received by and committed to the person from sources inside the body, measured directly or from excreta;
- (c) “**I**” means the activity, in becquerels, of any radionuclide that is taken into the body, excluding radon progeny and the activity of other radionuclides accounted for in the determination of E;
- (d) “**Rn**” means the average annual concentration in the air, in becquerels per cubic metre (m<sup>3</sup>), of radon 222 that is attributable to a CNSC licensed activity;
- (e) “**RnP**” means the exposure to radon progeny in working level months that is attributable to a CNSC licensed activity;
- (f) “ $\Sigma I/ALI$ ” means the sum of the ratios of I to the corresponding ALI.

(2) For the purposes of item 1 of Table 6, the effective dose is the amount ED, expressed in millisieverts, calculated in accordance with the following formula:

$$ED = E + 5 \text{ RnP} = 20 \sum \frac{I}{ALI}$$

(3) For the purposes of item 2 of Table 6, the effective dose is the amount ED, expressed in millisieverts, calculated in accordance with the following formula:

$$ED = E + 20 \sum \frac{I}{ALI}$$

(4) For the purposes of item 3 of Table 6, the effective dose is the amount ED, expressed in millisieverts, calculated in accordance with either of the following formulas:

$$(a) \text{ ED} = E + \frac{\text{Rn}}{60} + 20 \sum \frac{I}{ALI} ;$$

$$(b) \text{ ED} = E + 4 \text{ RnP} + 20 \sum \frac{I}{ALI} .$$

18 Mar 2005 cR-1.1 Reg 2 s4.

#### Monitoring of dose

5(1) An owner of ionizing radiation equipment must ensure that the effective dose and equivalent dose received by an occupational worker is systematically determined.

(2) An owner of ionizing radiation equipment must ensure that the dose of an occupational worker determined by monitoring pursuant to subsection (1) is reported to the National Dose Registry and to the Radiation Safety Unit not less than once every three months.

(3) Subsection (2) does not apply to a dose of less than 0.25 millisieverts received by an occupational worker in a period of three months.

(4) For the purpose of assessing compliance with the limits set by the Act and these regulations, the current reading entered into the National Dose Registry with respect to an occupational worker is deemed to be the actual dose received by the occupational worker.

(5) If, in the opinion of an officer, the circumstances warrant it, the officer may require an owner to investigate the exposure of an occupational worker to ionizing radiation and report the results of the investigation to the Radiation Safety Unit without delay.

18 Mar 2005 cR-1.1 Reg 2 s5.

**Monitoring procedure**

**6** If an occupational worker may receive an effective dose greater than 1 millisievert in a one-year period, the owner of the ionizing radiation equipment must arrange for a thermoluminescent dosimeter to be issued by a dosimetry service provider licensed pursuant to the Regulatory Standard S-106 (E), *Technical and Quality Assurance Standards for Dosimetry Services in Canada*, A Joint Federal-Provincial Standard published by the Atomic Energy Control Board, March 20, 1998.

18 Mar 2005 cR-1.1 Reg 2 s6.

**Records of dose**

**7(1)** An owner or operator who employs occupational workers or who is in charge of training occupational workers must maintain a separate cumulative record on a continuous permanent basis for each worker showing:

- (a) all measurements pertaining to the actual dose received, both externally and internally, by the worker for the current one-year and five-year dosimetry periods; and
- (b) the committed doses received from any radioactive substances deposited within the body of the worker that have been determined by any monitoring or sampling procedures followed at the place of employment or from any bio-assay procedures that have been carried out.

**(2)** An owner or operator mentioned in subsection (1) must inform each occupational worker of his or her dose at intervals not exceeding three months.

18 Mar 2005 cR-1.1 Reg 2 s7.

**Pregnancy of occupational worker**

**8(1)** An occupational worker who becomes aware that she is pregnant must immediately inform the owner or operator of the ionizing radiation equipment or ionizing radiation installation that she is pregnant.

**(2)** An owner or operator who employs occupational workers or who is in charge of training occupational workers must advise those occupational workers:

- (a) of their obligation pursuant to subsection (1); and
- (b) that, if an occupational worker suspects she is pregnant, she should inform the owner or operator.

**(3)** On being informed by an occupational worker that she is pregnant or suspects she is pregnant, the owner or operator of the ionizing radiation equipment or ionizing radiation installation must, in order to comply with subsection 3(1), reassess and, if necessary, revise the employment duties or educational activities of the worker.

18 Mar 2005 cR-1.1 Reg 2 s8.

**Mobile x-ray equipment**

**9(1)** For the purposes of clause 4(2)(a) of the Act, an owner of mobile ionizing radiation equipment must furnish the statement required by subsection 4(1) of the Act before the equipment is used in Saskatchewan.



(2) Subsection (1) does not apply to an owner of mobile ionizing radiation equipment used in medical, dental, chiropractic or other health care facilities for the purpose of making a diagnosis on a patient or used exclusively in a veterinary practice.

(3) For the purposes of clause 4(2)(b) of the Act, an owner of mobile ionizing radiation equipment to which subsection (1) applies must:

- (a) furnish the department with an itinerary for the equipment; and
- (b) from time to time, furnish the department with updates to the itinerary.

(4) For the purposes of clause 4(2)(a) of the Act, an owner of mobile ionizing radiation equipment mentioned in subsection (2) must furnish the statement required by subsection 4(1) of the Act within one month after the day on which the equipment comes under the owner's control.

(5) For the purposes of subsection (3), an itinerary is to contain the following particulars:

- (a) the days on which the equipment will be used;
- (b) the locations where the equipment will be used on the days of equipment use; and
- (c) a phone number through which the operator can be contacted on the days of equipment use.

18 Mar 2005 cR-1.1 Reg 2 s9.

#### **Change of use**

**10** No owner of ionizing radiation equipment shall cause or permit the equipment to be used for any function or purpose other than the function or purpose for which it is intended or was designed unless the owner first obtains the written approval of an officer.

18 Mar 2005 cR-1.1 Reg 2 s10.

#### **Modifications to equipment**

**11(1)** No owner of ionizing radiation equipment shall cause or permit the modification or alteration of the equipment or the structural shielding of the equipment unless the modification or alteration is approved by:

- (a) the equipment manufacturer; or
- (b) an officer.

(2) An owner of ionizing radiation equipment must give notice to the Radiation Safety Unit of any modification or alteration of the structural shielding, not later than 15 days after the modification or alteration is made.

18 Mar 2005 cR-1.1 Reg 2 s11.

**Qualifications of operators**

**12(1)** For the purposes of clause 6(7)(a) of the Act, the operator of an ionizing radiation installation, or of ionizing radiation equipment, that is used for industrial radiography must comply with the requirements of Health Canada, *Radiation Protection and Safety for Industrial X-ray Equipment, Safety Code 34, 1993* and must:

- (a) have successfully completed the Canadian General Standards Board CNSC Exposure Device Operators Examination;
  - (b) have successfully completed the equivalent of the CGSB Level 1 Certification Examination in Industrial Radiography; or
  - (c) be under the direct supervision and continuous observation of a person who satisfies clause (a) or (b).
- (2) For the purposes of clause 6(7)(a) of the Act, the operator of an ionizing radiation installation, or of ionizing radiation equipment, that is used for a purpose other than diagnosis or treatment relating to human beings or animals or for industrial radiography must be trained to carry out, in a safe manner, the procedures for which the equipment is to be used, and:

- (a) in the case of baggage x-ray equipment, must be familiar with and adhere to the requirements of Health Canada, *Requirements for the Safe Use of Baggage X-Ray Inspection Systems, Safety Code 29, 1993*; or
- (b) in the case of analytical x-ray equipment, must be familiar with and adhere to the requirements of Health Canada, *Safety Requirements and Guidance for Analytical X-Ray Equipment, Safety Code 32, 1994*.

18 Mar 2005 cR-1.1 Reg 2 s12.

**Safety and preventive maintenance inspections**

**13(1)** An owner of ionizing radiation equipment and associated apparatus that is used in a hospital or medical clinic must arrange for the inspection of that equipment and apparatus by a qualified person in a manner and to a degree that is satisfactory to an officer to ensure that the equipment and apparatus:

- (a) is in safe operating condition; and
  - (b) has undergone a radiation calibration, the results of which are recorded on a form supplied by the department.
- (2) For the purposes of subsection (1), a person who holds a valid restricted x-ray journey person's licence issued pursuant to *The Electrical Licensing Act* is a qualified person.
- (3) An owner of ionizing radiation equipment that is used in a dental, chiropractic or veterinary clinic must arrange for the inspection of the equipment in accordance with subsection (1).
- (4) A person who conducts an inspection pursuant to subsection (1) or (3) shall, within 30 days after completing the inspection, submit to the Radiation Safety Unit on the form mentioned in clause (1)(b) details of all tests carried out and all measurements made in the course of the inspection.

18 Mar 2005 cR-1.1 Reg 2 s13.

**Frequency of inspections**

- 14(1) Subject to subsections (2) to (4), an inspection required by subsection 13(1) is to be carried out not less than once per year.
- (2) Except in the case of mobile x-ray equipment, an inspection required by subsection 13(1) is to be carried out not less than twice per year if the equipment or associated apparatus:
- (a) is used to perform 5,000 to 10,000 diagnostic examinations per year;
  - (b) is 15 to 19 years of age; or
  - (c) is equipment or apparatus that has an image intensifier.
- (3) Except in the case of mobile x-ray equipment, an inspection required by subsection 13(1) is to be carried out not less than three times per year if the equipment or associated apparatus:
- (a) is used to perform more than 10,000 diagnostic examinations per year; or
  - (b) is 20 years old or older.
- (4) In the case of mobile x-ray equipment, an inspection required by subsection 13(1) is to be carried out not less than twice per year if the equipment:
- (a) is used in a hospital with a capacity greater than 200 beds; or
  - (b) is equipped with an image intensifier.
- (5) Subject to subsections (6) and (7), an inspection required by subsection 13(3) is to be carried out not less than:
- (a) once every three years for dental or chiropractic x-ray equipment; and
  - (b) once every five years for veterinary x-ray equipment.
- (6) No inspection is required pursuant to subsection 13(3) until five years have elapsed since the date of manufacture of the equipment.
- (7) In the case of chiropractic x-ray equipment 15 years of age or older, an inspection required by subsection 13(3) is to be carried out not less than once per year.
- (8) The approval of an officer is required if two consecutive inspections mentioned in this section are to be carried out at intervals of less than 60 days.

18 Mar 2005 cR-1.1 Reg 2 s14.

**Certification of equipment**

- 15(1) A vendor of ionizing radiation equipment or associated apparatus must, after the equipment or apparatus is installed or otherwise placed in the premises of a prospective owner and before the equipment or apparatus is transferred to the control of the prospective owner:
- (a) complete radiological safety tests of the equipment or apparatus to ensure the equipment or apparatus is operating within the written specifications prescribed by the equipment or apparatus manufacturer; and
  - (b) complete an inspection of the electrical and mechanical components of the equipment or apparatus to ensure that the equipment or apparatus is operating within the written specifications prescribed by the equipment or apparatus manufacturer.

(2) A vendor mentioned in subsection (1) must notify the department within 30 days after completing the installation of the inspection on a form supplied by the department certifying that the equipment or associated apparatus has been properly installed and can be safely used.

(3) If an owner is reinstalling non-mobile ionizing radiation equipment or associated apparatus, the owner must ensure that, on reinstallation, the installer completes an inspection of the electrical and mechanical components of the equipment or associated apparatus and ensures that the equipment is operating within the written specifications prescribed by the equipment or associated apparatus manufacturer.

(4) An installer mentioned in subsection (3) must notify the department within 30 days after completing the installation of the inspection on a form supplied by the department certifying that the equipment or associated apparatus has been properly reinstalled and can be safely used.

18 Mar 2005 cR-1.1 Reg 2 s15.

#### **Quality assurance**

**16(1)** An owner of ionizing radiation equipment that is used for diagnosis or treatment of human beings must ensure that a quality assurance procedures manual that meets the requirements of subsection (2) is prepared for use with that equipment.

(2) The quality assurance procedures manual must:

- (a) be acceptable to an officer in form and content;
- (b) clearly specify the quality assurance procedures that are to be followed by the operators and other occupational workers; and
- (c) be appropriate to:
  - (i) the extent of use of ionizing radiation by the facility; and
  - (ii) the level of expertise of the operators and other occupational workers.

(3) An owner of ionizing radiation equipment that is used for diagnosis relating to human beings must ensure that:

- (a) at the times specified by an officer, the operators of the equipment participate in the Radiation Safety Unit's postal quality assurance program by:
  - (i) conducting the tests that are required as part of the program; and
  - (ii) returning the exposed test package to the department promptly;
- (b) in the case of a hospital, a medical clinic or a chiropractic clinic, the operators have ongoing access to the test phantom and step wedge used for carrying out the tests mentioned in subclause (a)(i); and

- (c) for each x-ray unit, a quality assurance file is established containing:
  - (i) all raw data for quality assurance carried out on the unit during the last 12 months; and
  - (ii) summaries of results from all quality assurance procedures from when the machine is first used on a patient until three years after a decommissioned machine was last used on a patient.

18 Mar 2005 cR-1.1 Reg 2 s16.

#### **X-ray fluoroscopy**

**17** An owner of ionizing radiation equipment used for x-ray fluoroscopy must ensure that x-ray fluoroscopy is not used solely for positioning a patient for radiographic examination except if this has been authorized in writing for a specific patient by a radiologist before the examination.

18 Mar 2005 cR-1.1 Reg 2 s17.

#### **Display of radiation hazard sign**

**18** If ionizing radiation equipment capable of producing dose rates greater than 25 microsieverts per hour is operated, the owner must ensure that:

- (a) in the case of a room used solely for medical diagnosis of patients, a sign bearing the word “X-Ray” is prominently displayed on each door that gives access to the room;
- (b) in the case of a room that houses analytical, therapy or industrial ionizing radiation equipment, a sign bearing the word “X-Ray” or the word “Radiation” and the radiation hazard symbol shown in Figure 1 and described in section 19 or any other symbol approved by an officer is prominently displayed on each door that gives access to the room; and
- (c) in the case of an open area:
  - (i) a mobile barrier is erected to enclose the area in which a dose rate greater than 25 microsieverts per hour may be produced; and
  - (ii) signs bearing the radiation hazard symbols mentioned in clause (b) are placed on the barrier so that at least one sign is always clearly visible as the area is approached.

18 Mar 2005 cR-1.1 Reg 2 s18.

#### **Radiation hazard symbol**

**19(1)** The radiation hazard symbol is to be:

- (a) as prominent as is practicable; and
- (b) of a size that:
  - (i) is consistent with the size of the object to which it is affixed;
  - (ii) permits the symbol to be recognized from a safe distance; and
  - (iii) maintains the proportions illustrated in Figure 1.

**(2)** Unless the circumstances do not permit, the radiation hazard symbol is to be oriented with one blade pointed downward and centred on the vertical axis.

- (3) No wording is to be superimposed on the radiation hazard symbol.
- (4) The three blades and the centre disc of the radiation hazard symbol are to be black or magenta and located on a yellow background.

18 Mar 2005 cR-1.1 Reg 2 s19.

### PART III Non-ionizing Radiation

#### DIVISION 1 Ultraviolet Radiation

##### Exposure limits to ultraviolet radiation - general

**20(1)** In any place of employment where an occupational worker may be exposed to ultraviolet radiation from ultraviolet radiation equipment or industrial processes, the owner of the equipment or process must ensure that exposure from the equipment or industrial processes is limited to levels listed under “Ultraviolet Radiation” of the *Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices (2003)*, published by the American Conference of Governmental Industrial Hygienists (ACGIH).

(2) If the spectral composition of the radiation is not known, the owner of the equipment must ensure that the total radiant exposure of an occupational worker’s unprotected eyes or skin in any period of eight hours does not exceed 30 joules per square metre.

(3) For the purposes of subsection (2), an exposure for eight hours to a maximum continuous irradiance of one milliwatt per square metre is deemed to be equal to a total radiant exposure of 30 joules per square metre.

(4) In any place where a member of the public may be exposed to ultraviolet radiation from ultraviolet radiation equipment, the owner of the equipment must ensure that the total radiant exposure of a member of the public does not exceed the exposure limits for occupational workers established by this section.

(5) Subsection (4) does not apply with respect to persons who:

- (a) voluntarily undergo exposure to ultraviolet radiation in a commercial tanning salon; or
- (b) receive exposure to ultraviolet radiation in the course of diagnosis or treatment carried out by or under the direction of a duly qualified medical practitioner.

18 Mar 2005 cR-1.1 Reg 2 s20.

##### Exposure limits to ultraviolet radiation – photosensitivity

**21(1)** If the conditions at a place of employment may lead to chemically-induced photosensitivity in an occupational worker, the owner of ultraviolet radiation equipment must ensure that the exposure to ultraviolet radiation of the occupational worker’s eyes or skin, in any period of eight hours, does not exceed the values that are recommended by the chief occupational medical officer.

(2) Values recommended by the chief occupational medical officer for the purposes of subsection (1) must not exceed the values mentioned in section 20.

(3) If an owner of ultraviolet radiation equipment knows or ought to know that an occupational worker shows inherited photosensitivity to ultraviolet radiation or is under treatment with a photosensitizing drug, the owner must ensure that:

- (a) the worker's exposure to ultraviolet radiation is limited in accordance with the advice of a duly qualified medical practitioner; or
- (b) the worker is issued with any eye and skin protection that is specified by:
  - (i) a duly qualified medical practitioner; or
  - (ii) an officer.

18 Mar 2005 cR-1.1 Reg 2 s21.

**Protection where exposure limits cannot be complied with**

**22** If the exposure limits set out in section 20 and subsection 21(1) cannot be complied with, an owner of ultraviolet radiation equipment must issue to each occupational worker whose exposure to ultraviolet radiation may exceed those limits:

- (a) any eye and skin protection that is specified by:
  - (i) a duly qualified medical practitioner; or
  - (ii) an officer; and
- (b) if required by an officer, a personal monitoring device to evaluate the exposure of the worker to ultraviolet radiation.

18 Mar 2005 cR-1.1 Reg 2 s22.

**Commercial tanning salons – safety features**

**23** An owner of a commercial tanning salon must ensure that each tanning enclosure is designed, constructed and maintained in accordance with *Radiation Emitting Devices Regulations* (Canada), Part XI, Tanning equipment.

18 Mar 2005 cR-1.1 Reg 2 s23.

**Shields for tanning equipment**

**24** The owner of a commercial tanning salon must ensure that each tanning enclosure is designed with shields or other means to prevent the user from coming into direct contact with the ultraviolet lamp.

18 Mar 2005 cR-1.1 Reg 2 s24.

**DIVISION 2  
Laser Radiation**

**Laser classification**

**25** The owner of a laser or laser device must ensure that the laser or laser device is installed, operated, labelled and maintained in accordance with American National Standards Institute (*ANSI*) *Z136.1-2000, Safe Use of Lasers*; and

- (a) if the laser or laser device is a medical laser in a health care facility, the laser or laser device is installed, operated, and maintained in accordance with American National Standards Institute (*ANSI*) *Z136.3-2004, Safe Use of Lasers in Health Care Facilities*; or

(b) if the laser or laser device is part of an optical fiber communication system utilizing laser diode and LED sources, the laser or laser device is installed, operated, and maintained in accordance with American National Standards Institute (*ANSI Z136.2-1997, Safe Use of Optical Fiber Communication Systems Utilizing Laser Diode and LED Sources*).

18 Mar 2005 cR-1.1 Reg 2 s25.

#### Duty to inform

**26** An owner of a laser or a laser device must:

- (a) fully inform all occupational workers who may be exposed to radiation from a laser or laser device of class 2, 3a, 3b or 4 as to the hazards of this radiation under the conditions of use; and
- (b) without limiting the generality of clause (a), draw the attention of the occupational workers to the viewing restrictions that are indicated on the laser classification label.

18 Mar 2005 cR-1.1 Reg 2 s26.

#### Exposure to class 3 or 4 lasers

**27** The owner of a class 3 or class 4 laser or laser device must ensure that no part of the body of any person is deliberately exposed to the direct beam of the laser except under the direction of:

- (a) a duly qualified medical practitioner;
- (b) a dentist who is licensed pursuant to *The Dental Disciplines Act*;
- (c) a chiropractor who is registered pursuant to *The Chiropractic Act, 1994*;
- (d) a physical therapist who is registered pursuant to *The Physical Therapists Act, 1998*;
- (e) a certified athletic therapist who is registered with the Saskatchewan Athletic Therapists Association; or
- (f) in the case of a non-medical laser procedure, a person who:
  - (i) has been formally trained to carry out the procedure for which the laser or laser device is to be used; and
  - (ii) can demonstrate to the satisfaction of an officer his or her knowledge of the equipment, the biological effects associated with its use and the necessary safety procedures.

18 Mar 2005 cR-1.1 Reg 2 s27.

#### Qualifications of operators

**28** The owner of a class 3b or class 4 laser or laser device must ensure that each operator of the laser or laser device:

- (a) is:
  - (i) a duly qualified medical practitioner;
  - (ii) a dentist who is licensed pursuant to *The Dental Disciplines Act*;
  - (iii) a veterinarian who is registered pursuant to *The Veterinarians Act, 1987*;



- (iv) a physical therapist who is registered pursuant to *The Physical Therapists Act, 1998*;
  - (v) a chiropractor who is registered pursuant to *The Chiropractic Act, 1994*; or
  - (vi) a certified athletic therapist who is registered with the Saskatchewan Athletic Therapists Association;
- (b) works under the direct supervision of a person described in clause (a); or
  - (c) is, in the case of a non-medical laser, a person who:
    - (i) has been formally trained to carry out the procedures for which that laser or laser device is to be used; and
    - (ii) can demonstrate to the satisfaction of an officer his or her knowledge of the equipment, the biological effects associated with its use and the necessary safety procedures.

18 Mar 2005 cR-1.1 Reg 2 s28.

### DIVISION 3 Laser Light Shows

#### Statement re laser light shows

**29(1)** For the purposes of section 8 of the Act, an owner of a laser light show that is permanently installed must:

- (a) furnish the department with a statement in Form A not less than 30 days before the equipment is used in Saskatchewan; and
- (b) notify the department of any change in the information supplied in Form A within seven days after the occurrence of the change.

**(2)** For the purposes of section 8 of the Act, an owner of a mobile laser light show must, not less than seven days before the equipment is used in Saskatchewan:

- (a) notify the department of the time and place of all displays that are to be presented while the show is in Saskatchewan; and
- (b) furnish the department with:
  - (i) a statement in Form A; and
  - (ii) a floor plan showing the laser working area and the beam termination points.

**(3)** If it is not possible for an owner of a mobile laser light show to give seven days' notice in accordance with clause (2)(a), an officer may permit the owner to present a light show if the owner presents evidence satisfactory to the officer to demonstrate that no hazard to the public will result from the light show.

18 Mar 2005 cR-1.1 Reg 2 s29.

#### Standards for laser light shows

**30(1)** An owner of a laser light show must ensure that only lasers or laser devices that operate within the wavelength range from 400 to 700 nanometres are used in the laser light show.

- (2) An operator of a laser light show must ensure that the intensity of laser radiation measured at all locations that are normally accessible to the audience or the performers does not exceed the limits set out in Table 3.
- (3) An owner of a laser light show must:
- (a) during set-up when the operator must have access to laser beams, ensure that neither the operator nor any other person is inadvertently exposed to laser radiation of an intensity that exceeds the limits set out in Table 3;
  - (b) ensure that the laser projection equipment incorporates safety features that will prevent the exposure of any person to laser radiation of an intensity that exceeds the limits set out in Table 3 in the event of the failure of any component of the equipment, including the scanning mechanism;
  - (c) unless physical barriers prevent access by the audience to that position, ensure that laser radiation power from the beam:
    - (i) is measured; and
    - (ii) does not exceed one milliwatt:
      - (A) at any point that is less than three metres above any surface to which the audience has access; or
      - (B) at any point that is less than 2.5 metres laterally from any position to which the audience has access;
  - (d) ensure that the laser projection equipment is provided with one or more controls that:
    - (i) are readily accessible to the operator; and
    - (ii) terminate the laser radiation emission in the event of an emergency created by equipment malfunction, audience unruliness or other unsafe conditions;
  - (e) ensure that one person has been designated as operator to be in charge of the equipment during the show; and
  - (f) ensure that a notice is prominently displayed forbidding the use of direct optical viewing devices such as binoculars and telescopes during the operation of the laser light show.
- (4) For the purposes of clause (3)(c), the measurement of laser radiation power must be made with a detector having a circular aperture with a diameter of seven millimetres and an acceptance solid angle of  $2\pi$  steradian.

DIVISION 4  
**Ultrasound Equipment**

**Statement re medical ultrasound equipment**

**31** For the purposes of section 8 of the Act, an owner of medical ultrasound equipment must:

- (a) furnish the department with a statement in Form B with respect to a unit of medical ultrasound equipment within 30 days after the day on which:
  - (i) the unit of medical ultrasound equipment comes under the owner's control; or
  - (ii) the unit of medical ultrasound equipment that is under the owner's control is substantially altered; and
- (b) during the month of January in each year, furnish the department with a statement setting forth particulars of all medical ultrasound equipment then under the owner's control.

18 Mar 2005 cR-1.1 Reg 2 s31.

**Qualifications of operators – diagnostic**

**32** An owner of medical ultrasound equipment used for diagnosis must ensure that each operator of the equipment is:

- (a) a duly qualified medical practitioner;
- (b) a medical ultrasonographer who possesses the qualifications necessary for membership in the Saskatchewan Association of Diagnostic Medical Sonographers;
- (c) a student who is under the direct supervision of a person who possesses the qualifications set out in clause (a) or (b); or
- (d) a person who has been formally trained:
  - (i) to carry out the procedures for which the equipment is to be used; and
  - (ii) can demonstrate to the satisfaction of an officer his or her knowledge of the equipment, the biological effects associated with its use and the necessary safety procedures.

18 Mar 2005 cR-1.1 Reg 2 s32.

**Qualifications of operators – therapeutic**

**33** An owner of medical ultrasound equipment used for therapy must ensure that each operator of the equipment is:

- (a) a physical therapist who is registered pursuant to *The Physical Therapists Act, 1998*;
- (b) a duly qualified medical practitioner;
- (c) a chiropractor who is registered pursuant to *The Chiropractic Act, 1994*;

- (d) a certified athletic therapist who is registered with the Saskatchewan Athletic Therapists Association;
- (e) a student who is under the direct supervision of a person who possesses the qualifications set out in clause (a), (b), (c) or (d);
- (f) a formally trained physiotherapist assistant who works under the supervision of a person described in clause (a); or
- (g) a person who has been formally trained:
  - (i) to carry out the procedures for which the equipment is to be used; and
  - (ii) can demonstrate to the satisfaction of an officer his or her knowledge of the equipment, the biological effects associated with its use and the necessary safety procedures.

18 Mar 2005 cR-1.1 Reg 2 s33.

**Quality assurance for ultrasound procedures**

**34(1)** An owner of medical ultrasound equipment must ensure that a quality assurance procedures manual is prepared that:

- (a) clearly outlines the quality assurance procedures that are to be followed by the operators using the equipment;
  - (b) is appropriate for the frequency of ultrasound procedures in the place where this equipment will be used;
  - (c) is appropriate for the level of training and experience of the operators who will be using the equipment; and
  - (d) is acceptable to an officer in form and content.
- (2) A quality assurance file must be established for each medical ultrasound unit containing:
- (a) all raw data for quality assurance carried out on the unit during the last 12 months; and
  - (b) summaries of results from all quality assurance procedures from when the machine is first used on a patient until three years after a decommissioned machine was last used on a patient.

18 Mar 2005 cR-1.1 Reg 2 s34.

**Safe use of ultrasound equipment**

**35(1)** The owner of medical equipment that emits ultrasonic energy for the purpose of yielding information on a function or structure of the body must ensure that the equipment is used in accordance with the practices and procedures identified in Health Canada, *Guidelines for the Safe Use of Diagnostic Ultrasound, 2001*.

(2) The owner of industrial equipment that emits ultrasonic energy must ensure that the equipment is used in accordance with the practices and procedures identified in Health Canada, *Guidelines for the Safe Use of Ultrasound: Part II - Industrial and Commercial Applications, Safety Code 24, 1991*.

(3) Subject to subsection (4), the owner of medical equipment that emits ultrasonic energy for therapeutic purposes must ensure that the equipment is used in accordance with the practices and procedures identified in clauses 4.1.2 to 4.1.6 of Health Canada, *Guidelines for the Safe Use of Ultrasound, Part I Medical and Paramedical Applications, Safety Code 23, 1989*.

(4) Medical equipment that emits ultrasonic energy for therapeutic purposes must be calibrated at least once per year to ensure that the ultrasonic power is indicated with an accuracy of  $\pm 20\%$ .

18 Mar 2005 cR-1.1 Reg 2 s35.

## DIVISION 5 Radiofrequency Radiation

### Radio frequency radiation – exposure limits

**36(1)** Subject to subsections (2) and (3), an owner of equipment that generates radio frequency fields in the frequency range from three kilohertz to 300 gigahertz must ensure that the exposure limits specified in Health Canada, *Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz, Safety Code 6, 1999* are not exceeded.

(2) With respect to radio frequency electromagnetic fields from short-wave diathermy devices, the owner must ensure that exposure is limited to the maximum exposure levels of Health Canada, *Short-Wave Diathermy Guidelines for Limiting Radiofrequency Exposure, Safety Code 25, 1983*.

(3) With respect to magnetic fields from magnetic resonance clinical systems, the owner must ensure that exposure is limited to the maximum exposure levels of Health Canada, *Guidelines on Exposure to Electromagnetic Fields from Magnetic Resonance Clinical Systems, Safety Code 26, 1987*.

18 Mar 2005 cR-1.1 Reg 2 s36.

### Microwave ovens

**37** An owner of a microwave oven must ensure that the oven is maintained in accordance with *Radiation Emitting Devices Regulations (Canada), Part III, Microwave Ovens*.

18 Mar 2005 cR-1.1 Reg 2 s37.

## PART IV Ionizing and Non-ionizing Radiation

### Design change notification

**38(1)** The vendor, owner, operator or manufacturer must give notice in writing to the department in accordance with subsection (2), if:

(a) subsequent to its manufacture, radiation equipment or associated apparatus or any component of that equipment or apparatus has been discovered by the manufacturer, vendor, owner or operator to be hazardous; and

(b) it has been necessary to remove or replace any assembly or component of the equipment or apparatus.

- (2) A notice required pursuant to subsection (1) must include:
- (a) the name and mailing address of the vendor;
  - (b) the name and address of the owner to whom the equipment, apparatus, assembly or component is to be or has been transferred;
  - (c) the identification and brand name of the equipment, apparatus, assembly or component;
  - (d) the model and serial number or other identification of the equipment, apparatus, assembly or component; and
  - (e) the actions, if any, that have been taken by the vendor or manufacturer to:
    - (i) remove from operation or to make safe the equipment, apparatus, assembly or component; and
    - (ii) prevent any occurrence of the hazard in other similar equipment.

18 Mar 2005 cR-1.1 Reg 2 s38.

#### **Maintenance schedules**

- 39(1)** Every vendor of radiation equipment or associated apparatus must, within 30 days after an officer's request, provide the officer with a copy of any recommended maintenance schedules or inspection check lists that have been established by the manufacturer for that equipment or apparatus.
- (2) Every owner of radiation equipment or associated apparatus must, within 30 days after an officer's request, provide the officer with a copy of any recommended maintenance schedules or inspection check lists that have been established by the manufacturer or developed by the owner for that equipment or apparatus.

18 Mar 2005 cR-1.1 Reg 2 s39.

#### **Accident reporting**

- 40(1)** A vendor, owner, operator or manufacturer must immediately give written notice to the department in accordance with subsection (2) if an accident:
- (a) involves the manufacturing, testing or use of radiation equipment but does not involve radiation;
  - (b) is reported to or known to the manufacturer, vendor, owner or operator of radiation equipment or associated apparatus; and
  - (c) causes injury to any person.
- (2) A notice required pursuant to subsection (1) must include:
- (a) the day and location at which the accident occurred and the name of the person giving the notice;
  - (b) the name of the manufacturer and the type and model number of the radiation equipment and associated apparatus involved;
  - (c) the circumstances surrounding the accident;

- (d) the number of persons involved or harmed, the nature and magnitude of their injuries and, if requested by an officer, the names of the persons involved or harmed; and
- (e) the actions, if any, that have been taken by the manufacturer, vendor or owner to control, correct or eliminate the cause of the accident and to prevent further accidents.

18 Mar 2005 cR-1.1 Reg 2 s40.

**Accidental radiation exposure**

41(1) An owner of radiation equipment must take all reasonable steps to minimize the possibility of unnecessary irradiation of occupational workers or members of the public arising from malfunction of the equipment or any associated apparatus.

(2) If a malfunction of radiation equipment or associated apparatus leads to the possibility of unnecessary irradiation of an occupational worker or a member of the public, the owner must immediately take all necessary steps to:

- (a) minimize the risk of accidental radiation exposure of any individual; and
- (b) terminate the risk as quickly as possible.

(3) The owner must immediately notify an officer and confirm this notification in writing within 48 hours if the risk described in subsection (2):

- (a) results in the irradiation:
  - (i) of an occupational worker by ionizing radiation to an extent that is equal to or greater than 10 millisieverts; or
  - (ii) of a member of the public by ionizing radiation to an extent that is equal to or greater than 0.25 millisieverts; and
- (b) cannot be completely terminated within a period of six hours.

(4) The owner must immediately notify an officer and confirm this notification in writing within 48 hours if the risk described in subsection (2):

- (a) results in the irradiation of an occupational worker or a member of the public by a form of non-ionizing radiation to an extent that is equal to or greater than the exposure limit prescribed in Part III for that form of radiation; and
- (b) cannot be terminated within a period of six hours.

(5) If the risk described in subsection (2) has been completely terminated within six hours, the owner must, within 10 days after the malfunction, make a full report to the department of:

- (a) the circumstances of the malfunction; and
- (b) the actions taken to eliminate the risk.

(6) An owner of radiation equipment must inform the department immediately if an injury to any person is reported to the owner by a duly qualified medical practitioner as an injury that is known or suspected to have been caused or exacerbated by exposure of the person to radiation equipment or associated apparatus that is under the control of the owner.

18 Mar 2005 cR-1.1 Reg 2 s41.

**Radiation warning signs**

**42(1)** In addition to any other requirement of these regulations with respect to signs or notices, an officer may require an owner of radiation equipment or associated apparatus to display one or more of the following to demarcate an area where a hazard from radiation exists:

- (a) a warning notice issued by the department;
- (b) a sign in a form specified by the officer.

(2) An owner of radiation equipment or associated apparatus must, if so directed in writing by an officer, prominently display a warning notice or sign described in subsection (1) so that the notice or sign is readily seen by any occupational worker or member of the public who may be exposed to radiation from the equipment or apparatus.

(3) No person shall display or cause to be displayed any symbol required by these regulations in any manner that implies that a radiation hazard exists if this is not the case.

18 Mar 2005 cR-1.1 Reg 2 s42.

## PART V General

**Furnishing statements, etc., to department**

**43** Any statement, notice or other document to be provided to the department or any fee payable to the department pursuant to any provision of the Act or these regulations is to be given or paid, as the case may be, to the Radiation Safety Unit.

18 Mar 2005 cR-1.1 Reg 2 s43.

**Registration fees**

**44** The owner of any radiation equipment for which a statement pursuant to section 4 or 8 of the Act is required to be furnished to the department must pay to the department the annual registration fee set out in Table 4.

18 Mar 2005 cR-1.1 Reg 2 s44.

**Fees for leak test analysis**

**45** The fee payable to the department for carrying out a leak test analysis of sealed radioactive sources is \$40 for one to four wipes and \$10 for each additional wipe.

18 Mar 2005 cR-1.1 Reg 2 s45.

**Fees for radon measurement**

**46** The fee payable to the department for carrying out a radon gas measurement on request is \$35 for each measurement.

18 Mar 2005 cR-1.1 Reg 2 s46.

**Calibration fees**

**47** The fee payable to the department for carrying out the calibration of radiation monitoring equipment or a radiation monitoring device is the fee set out in Table 5.

18 Mar 2005 cR-1.1 Reg 2 s47.



**Fees for consulting services**

**48(1)** No fee is payable for consulting services unless an officer advises in writing before the services are provided that a fee is required to be paid.

(2) The fee payable to the department for services provided pursuant to clause 17(a) of the Act is \$75 per hour or any portion of an hour, plus travel, accommodation and sustenance expenses calculated in accordance with the amounts approved from time to time for employees in the classified division of the public service of Saskatchewan.

18 Mar 2005 cR-1.1 Reg 2 s48.

**Inspection fees**

**49** The department may charge the owner of radiation equipment and associated apparatus or a radiation installation an inspection fee of \$50 per hour or any portion of an hour, plus travel, accommodation and sustenance expenses calculated in accordance with the amounts approved from time to time for employees in the classified division of the public service of Saskatchewan, for:

- (a) each inspection of corrective work required pursuant to clause 16(5)(a) of the Act;
- (b) each visit requested by the owner that is made by an officer to inspect a radiation installation or radiation equipment or associated apparatus; and
- (c) each inspection or investigative visit, including any time spent in correspondence or communication, that:
  - (i) is related to:
    - (A) the overexposure of any person to radiation from radiation equipment, associated apparatus or a radiation installation belonging to the owner; or
    - (B) the malfunction of any radiation equipment, associated apparatus or a radiation installation belonging to the owner; or
  - (ii) is made because the owner failed to supply a statement that is required by section 4 or 8 of the Act.

18 Mar 2005 cR-1.1 Reg 2 s49.

**Examination fees**

**50** A person who sits an examination invigilated by the Radiation Safety Unit must pay to the department:

- (a) the examination sitting fee set by the examining body; or
- (b) if no fee has been set by the examining body, \$40 for each paper attempted.

18 Mar 2005 cR-1.1 Reg 2 s50.

**PART VI**  
**Repeal and Coming into Force**

**R.R.S c.R-1.1 Reg 1 repealed**

**51** *The Radiation Health and Safety Regulations are repealed.*

18 Mar 2005 cR-1.1 Reg 2 s51.

**Coming into force**

**52** These regulations come into force on the day on which they are filed with the Registrar of Regulations.

18 Mar 2005 cR-1.1 Reg 2 s52.

**Appendix**

**PART I**

**Tables**

**TABLE 1**

[*Clause 2(1)(k)*]

**Radiation Weighting Factors**

Type and energy range		Radiation weighting factor, $w_R$
Photons, all energies (x-rays, gamma rays)		1
Electron and muons, all energies (beta rays)		1
Neutrons, energy	< 10 keV	5
	10 keV to 100 keV	10
	> 100 keV to 2 MeV	20
	> 2 MeV to 20 MeV	10
	> 20 MeV	5
Protons, other than recoil protons, energy > 2 MeV		5
Alpha particles, fission fragments, heavy nuclei		20

keV = kiloelectron Volt

MeV = megaelectron Volt

18 Mar 2005 cR-1.1 Reg 2.

TABLE 2  
[Clause 2(1)(i)]

**Organ or Tissue Weighting Factors**

<b>Item</b>	<b>Column 1 Organ or Tissues</b>	<b>Column 2 Weighting Factor</b>
1	Gonads (testes or ovaries)	0.20
2	Red bone marrow	0.12
3	Colon	0.12
4	Lung	0.12
5	Stomach	0.12
6	Bladder	0.05
7	Breast	0.05
8	Liver	0.05
9	Oesophagus	0.05
10	Thyroid gland	0.05
11	Skin <sup>1</sup>	0.01
12	Bone surfaces	0.01
13	All organs and tissues not listed in items 1 to 12 (remainder organs and tissues) collectively, including the adrenal gland, brain, extra-thoracic airway, small intestine, kidney, muscles, pancreas, spleen, thymus and uterus <sup>2, 3</sup>	0.05
14	Whole body	1.00

<sup>1</sup> The weighting factor for skin applies only when the skin of the whole body is exposed.

<sup>2</sup> When the equivalent dose received by and committed to one of these remainder organs and tissues exceeds the equivalent dose received by and committed to any one of the organs and tissues listed in items 1 to 12, a weighting factor of 0.025 must be applied to that remainder organ or tissue and a weighting factor of 0.025 must be applied to the average equivalent dose received by and committed to the rest of the remainder organs and tissues.

<sup>3</sup> Hands, feet and the lens of an eye have no weighting factor.

TABLE 3  
[Subsection 30(2), clauses 30(3)(a) and(b)]

**Exposure Limits for Laser Light Shows**

<b>Time Interval (t) (seconds)</b>	<b>Maximum Exposure</b>
$<1.8 \times 10^{-5}$	$5.0 \times 10^{-3} \text{ J/m}^2$
$\geq 1.8 \times 10^{-5}$ and $<10$	$1.8 \times 10 \text{ t}^{3/4} \text{ J/m}^2$
$\geq 10$ and $<10^4$	$10^2 \text{ J/m}^2$
$\geq 10^4$	$10^{-2} \text{ W/m}^2$

t = any time between the limits specified

J = joule

W = watt

18 Mar 2005 cR-1.1 Reg 2.

TABLE 4  
[Section 44]

**Annual Registration Fee For Radiation Equipment**

<b>Type of Equipment</b>	<b>First X-Ray Unit</b>	<b>Each Additional X-Ray Unit</b>	<b>Each Ultrasound Unit</b>	<b>Maximum Total Fee</b>
Medical	\$100	\$50	\$50	\$1,000
Dental	\$ 50	\$30	—	\$ 200
Veterinary	\$ 50	\$30	—	\$ 200
Industrial	\$ 50	\$30	—	\$ 400
Educational	\$ 50	\$30	—	\$ 200

18 Mar 2005 cR-1.1 Reg 2.

TABLE 5  
[Section 47]

**Instrument Calibration Fees**

<b>Type of Instrument</b>	<b>Fee</b>
Gamma monitor	\$100 plus \$50 for each additional energy calibration point
X-ray monitor	\$100 plus \$50 for each additional energy calibration point
Microwave oven monitor	\$40
Surface contamination monitor	\$100 for each isotope calibration

18 Mar 2005 cR-1.1 Reg 2.

TABLE 6  
[Subsections 3(1) and 4(2), (3) and (4)]

**Effective Dose Limit**

<b>Item</b>	<b>Column 1 Person</b>	<b>Column 2 Period</b>	<b>Column 3 Effective Dose(millisievert)</b>
1	Occupational worker, including a pregnant occupational worker	(a) One-year dosimetry period	50
		(b) Five-year dosimetry period	100
2	Pregnant occupational worker	Balance of the pregnancy	4
3	A person who is not an occupational worker	One calendar year	1

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TABLE 7  
[Subsection 3(3)]

**Specific Equivalent Dose Limits**

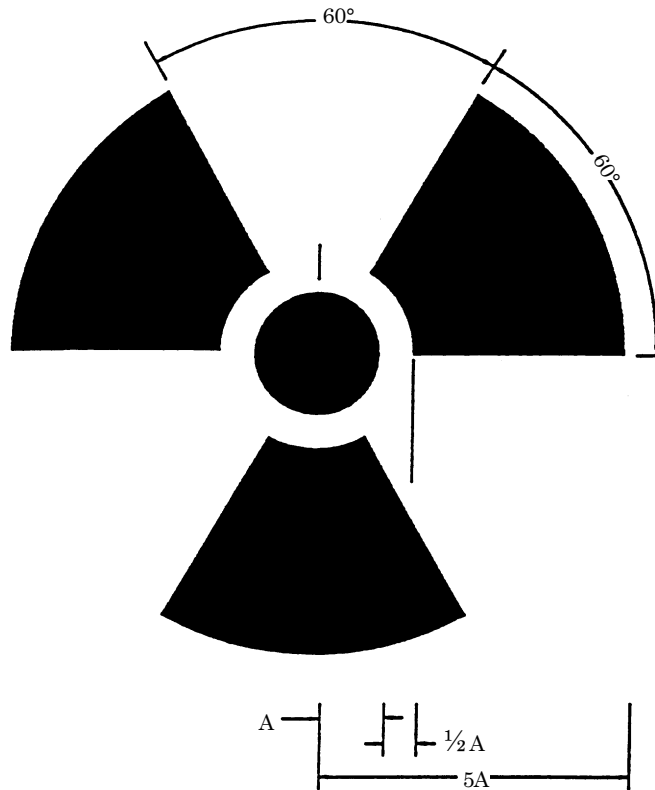
<b>Item</b>	<b>Column 1 Organ or Tissue</b>	<b>Column 2 Person</b>	<b>Column 3 Period</b>	<b>Column 4 Equivalent Dose (millisievert)</b>
1	Lens of an eye	(a) Occupational Worker	One-year dosimetry period	150
		(b) Any other person	One calendar year	15
2	Skin <sup>1</sup>	(a) Occupational Worker	One-year dosimetry period	500
		(b) Any other person	One calendar year	50
3	Hands and feet	(a) Occupational Worker	One-year dosimetry period	500
		(b) Any other person	One calendar year	50

<sup>1</sup> When skin is unevenly irradiated, the equivalent dose received by the skin is the average equivalent dose over the 1 cm<sup>2</sup> area that received the highest equivalent dose.

PART II  
Figures

FIGURE 1  
[Clause 18(b) and subclause 19(1)(b)(iii)]

Radiation Hazard Symbol



$A$  = Radius of the central disc

*Note:* Construction lines do not appear in the actual symbol

18 Mar 2005 cR-1.1 Reg 2.

## PART III

## Forms

## FORM A

[Subsections 29(1) and (2)]

**Registration of Laser Light Show Installation****General Information**

Name of Owner: \_\_\_\_\_

Address: \_\_\_\_\_ Telephone No.: \_\_\_\_\_

Location of Laser Installation: \_\_\_\_\_

Person in Charge: \_\_\_\_\_

Names of Operators: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_**Equipment Information**

Manufacturer: \_\_\_\_\_ Model No.: \_\_\_\_\_ S/N: \_\_\_\_\_

Type:  Gas  Solid State  Other: (specify) \_\_\_\_\_

Emission: Wavelength: \_\_\_\_\_ Others: \_\_\_\_\_

Beam Diameter (cm): \_\_\_\_\_ Beam Divergence (rad or degrees): \_\_\_\_\_

Operation:  Continuous Wave  Pulsed

Rating: Power (watts): \_\_\_\_\_ Energy (joules): \_\_\_\_\_

Power Density (W/m<sup>2</sup>): \_\_\_\_\_ Energy Density (J/m<sup>2</sup>): \_\_\_\_\_

Pulse Duration (second): \_\_\_\_\_

Pulse Repetition Frequency: \_\_\_\_\_

\_\_\_\_\_  
(date) (Signature)\_\_\_\_\_  
(position)

Complete and return this form to Radiation Safety Unit, 1870 Albert Street, Regina, Saskatchewan, S4P 3V7

18 Mar 2005 cR-1.1 Reg 2.



FORM B  
[Clause 31(a)]

**Registration of Medical Ultrasound Equipment**

**General Information**

Name of Owner: \_\_\_\_\_

Address: \_\_\_\_\_ Telephone No.: \_\_\_\_\_

Location of Ultrasound Unit: \_\_\_\_\_

Person in Charge: \_\_\_\_\_

**Equipment Information**

Manufacturer: \_\_\_\_\_

Control: Model No.: \_\_\_\_\_ S/N: \_\_\_\_\_ Year New: \_\_\_\_\_

Transducer No. 1: Model No.: \_\_\_\_\_ S/N: \_\_\_\_\_ Year New: \_\_\_\_\_

Area (cm<sup>2</sup>): \_\_\_\_\_ Frequency (Hz): \_\_\_\_\_

Transducer No. 2: Model No.: \_\_\_\_\_ S/N: \_\_\_\_\_ Year New: \_\_\_\_\_

Area (cm<sup>2</sup>): \_\_\_\_\_ Frequency (Hz): \_\_\_\_\_

Transducer No. 3: Model No.: \_\_\_\_\_ S/N: \_\_\_\_\_ Year New: \_\_\_\_\_

Area (cm<sup>2</sup>): \_\_\_\_\_ Frequency (Hz): \_\_\_\_\_

*\*\*If you have additional transducers, please list them on the back of this form.*

Operation:  Continuous Wave  Pulsed

Rating: Power (watts): \_\_\_\_\_ Energy (joules): \_\_\_\_\_

Power Density (W/m<sup>2</sup>): \_\_\_\_\_ Energy Density (J/m<sup>2</sup>): \_\_\_\_\_

Pulse Duration (second): \_\_\_\_\_

Pulse Repetition Frequency: \_\_\_\_\_

**Equipment Use**

Diagnostic  Therapeutic  Bone Densitometry

\_\_\_\_\_  
(date)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(position)

Complete and return this form to Radiation Safety Unit, 1870 Albert Street, Regina, Saskatchewan, S4P 3V7

18 Mar 2005 cR-1.1 Reg 2.

