

Government
of
Ontario



Gouvernement
de
l'Ontario

Healing Arts Radiation Protection Act

Revised Statutes of Ontario,
1980

Chapter 195

as amended by
1984, Chapter 9 and
1989, Chapter 72, s. 40

and

Ontario Regulation 344/84

as amended to
O. Reg. 461/88

Ontario Regulation 45/84

as amended to
O. Reg. 352/90

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Loi sur la protection contre les rayons X

Lois refondues de l'Ontario
de 1980

Chapitre 195

tel qu'il est modifié par
le chap. 9 de 1984 et
l'art. 40 du chap. 72 de 1989



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CHAPTER 195

Healing Arts Radiation Protection Act

Definitions

1.—(1) In this Act,R.S.O. 1980,
c. 20

- (a) “Appeal Board” means the Health Facilities Appeal Board under the *Ambulance Act*; (“Commission d’appel”)
- (b) “Commission” means the Healing Arts Radiation Protection Commission established under section 15; (“Commission”)
- (c) “Director” means the Director of X-ray Safety appointed under section 19; (“directeur”)
- (d) “inspector” means an inspector appointed under section 20; (“inspecteur”)
- (e) “owner”, when used with reference to an x-ray machine, means the owner or other person who has the management and control of the x-ray machine; (“propriétaire”)
- (f) “Minister” means the Minister of Health; (“ministre”)
- (g) “regulations” means the regulations made under this Act; (“règlements”)
- (h) “x-ray equipment” includes x-ray imaging systems, processing equipment and equipment directly related to the production of images for diagnosis or directly related to irradiation with x-rays for therapy; (“matériel de rayons X”)
- (i) “x-ray machine” means an electrically powered device the purpose and function of which is the production of x-rays for the irradiation of a human being for a therapeutic or diagnostic purpose; (“appareil à rayons X”)

CHAPITRE 195

Loi sur la protection contre les rayons X

1 (1) Les définitions qui suivent s'appliquent à la présente loi. Définitions

«appareil à rayons X» Installation électrique dont le but et la fonction sont de produire des rayons X pour irradier le corps humain à des fins thérapeutiques ou diagnostiques. («x-ray machine»)

«Commission» La Commission de protection contre les rayons créée en vertu de l'article 15. («Commission»)

«Commission d'appel» La Commission d'appel des établissements de santé visée par la *Loi sur les ambulances*. L.R.O. 1980,
chap. 20
(«Appeal Board»)

«directeur» Le directeur de la sécurité radiologique nommé en vertu de l'article 19. («Director»)

«inspecteur» Un inspecteur nommé en vertu de l'article 20. («inspector»)

«matériel de rayons X» S'entend en outre des systèmes d'imagerie radiologique, du matériel de développement et du matériel directement relié à la production d'images à des fins diagnostiques ou directement relié à l'irradiation par les rayons X à des fins thérapeutiques. («x-ray equipment»)

«ministre» Le ministre de la Santé. («Minister»)

«propriétaire» En ce qui a trait à un appareil à rayons X, le propriétaire ou une autre personne responsable de l'appareil à rayons X. («owner»)

«rayons X» Rayonnement électromagnétique produit artificiellement au moyen d'une énergie de pointe supérieure à cinq kilovolts. («x-rays»)

«règlements» Les règlements pris en application de la présente loi. («regulations»)

- (j) "x-rays" means artificially produced electromagnetic radiation with peak energy greater than five kilovolts. ("rayons X")

Shielding

(2) In this Act, a reference to the installation of an x-ray machine includes a reference to the shielding of the area in which the x-ray machine is installed. R.S.O. 1980, c. 195, s. 1.

Adminis-
tration of
Act

2. The Minister is responsible for the administration of this Act. R.S.O. 1980, c. 195, s. 2.

Approval of
installation

3.—(1) No person shall install an x-ray machine unless the Director has issued written approval for the installation.

Issuance of
approval

(2) Subject to subsection (3), any person who applies in accordance with this Act and the regulations for written approval for the installation of an x-ray machine and,

- (a) submits to the Director the plans, specifications and information prescribed by the regulations;
- (b) who meets the requirements of this Act and the regulations; and
- (c) pays the prescribed fee,

is entitled to be issued the written approval.

Criteria

(3) The Director may refuse to approve a proposed installation of an x-ray machine where,

- (a) the proposed installation will not comply with this Act or the regulations;
- (b) the application therefor is incomplete;
- (c) the plans, specifications and information required by this Act and the regulations in respect of the installation of the x-ray machine have not been submitted to the Director or are incomplete; or
- (d) any fees due are unpaid.

Installation

(4) Where the Director has issued written approval for the installation of an x-ray machine, no person shall install the x-ray machine other than in accordance with the plans, specifications and information on the basis of which the Director issued the written approval.

(2) Dans la présente loi, un renvoi à l'installation d'un appareil à rayons X comprend un renvoi à la protection de l'endroit où se trouve l'appareil à rayons X. L.R.O. 1980, chap. 195, art. 1.

Protection

2 Le ministre est chargé de l'application de la présente loi. L.R.O. 1980, chap. 195, art. 2.

Application de la loi

3 (1) Nul ne doit installer un appareil à rayons X sans l'approbation écrite du directeur.

Approbation de l'installation

(2) Sous réserve du paragraphe (3), est en droit de se faire délivrer une approbation écrite, quiconque, conformément à la présente loi et aux règlements, demande l'approbation écrite de l'installation d'un appareil à rayons X et :

Délivrance de l'approbation

- a) présente au directeur les plans, les devis et les renseignements que prescrivent les règlements;
- b) satisfait aux exigences de la présente loi et des règlements;
- c) paie les droits prescrits.

(3) Le directeur peut refuser d'approuver l'installation projetée d'un appareil à rayons X dans l'un ou l'autre des cas suivants :

Critères

- a) l'installation projetée n'est pas conforme à la présente loi et aux règlements;
- b) la demande à cet effet est incomplète;
- c) les plans, les devis et les renseignements requis par la présente loi et les règlements en ce qui concerne l'installation de l'appareil à rayons X n'ont pas été présentés au directeur ou sont incomplets;
- d) les droits prescrits n'ont pas été payés.

(4) Lorsque le directeur délivre une approbation écrite à l'égard de l'installation d'un appareil à rayons X, nul ne doit installer l'appareil à rayons X autrement que conformément aux plans, aux devis et aux renseignements sur lesquels le directeur a fondé l'approbation écrite.

Installation

- Revocation of approval (5) Subject to section 10, the Director may revoke an approval where it was issued on mistaken or false information.
- Approval of change (6) Where the Director has given written approval for the installation of an x-ray machine and the x-ray machine has been installed in accordance with the plans, specifications and other information on the basis of which the Director issued the approval, no person shall change the installation without the written approval of the Director for the change.
- Application of subss. (1-5) (7) Subsections (1) to (5) apply with necessary modifications in respect of a change in an installation of an x-ray machine and, for the purpose, changing an installation of an x-ray machine shall be deemed to be installing an x-ray machine. R.S.O. 1980, c. 195, s. 3.
- Registration **4.—**(1) The owner of an x-ray machine shall not operate the x-ray machine or cause or permit the x-ray machine to be operated for the irradiation of a human being unless the x-ray machine, the location of the x-ray machine and the name and business address of the owner of the x-ray machine are registered with the Director.
- Application (2) Upon the application of the owner of an x-ray machine and upon payment of the fee prescribed by the regulations, the Director shall register the x-ray machine, its location and the name and business address of the owner thereof.
- Notice of change (3) An owner of an x-ray machine registered with the Director who changes his business address shall give written notice of the change to the Director within fifteen days of the occurrence of the change.
- Transitional (4) An owner of an x-ray machine who is registered with the Ministry of Health immediately before the coming into force of this Act shall be deemed to have registered with the Director under subsection (1).
- Filing of material (5) The Director may require a person mentioned in subsection (4) to file with the Director plans, specifications and information in respect of the x-ray machine and its installation and every such person shall file the plans, specifications and information when so required. R.S.O. 1980, c. 195, s. 4.
- Use of x-ray machine **5.—**(1) No person shall operate an x-ray machine for the irradiation of a human being unless the person meets the qualifications and requirements prescribed by the regulations.

(5) Sous réserve de l'article 10, le directeur peut révoquer une approbation si elle est fondée sur des renseignements faux ou erronés.

Approbation
révoquée

(6) Si le directeur a délivré une approbation écrite à l'égard de l'installation d'un appareil à rayons X et que l'appareil à rayons X a été installé conformément aux plans, aux devis et aux renseignements sur lesquels le directeur a fondé l'approbation, nul ne doit changer l'installation sans l'approbation écrite du directeur à l'égard de ce changement.

Approbation
de change-
ment

(7) Les paragraphes (1) à (5) s'appliquent, avec les adaptations nécessaires, en ce qui concerne un changement de l'installation d'un appareil à rayons X et, à cette fin, un changement de l'installation d'un appareil à rayons X est réputé l'installation d'un appareil à rayons X. L.R.O. 1980, chap. 195, art. 3.

Application
des par. (1) à
(5)

4 (1) Le propriétaire de l'appareil à rayons X ne doit pas le faire fonctionner ni faire en sorte ou tolérer qu'une personne le fasse fonctionner pour irradier un corps humain, à moins que l'appareil à rayons X, son emplacement ainsi que le nom et l'adresse d'affaires du propriétaire ne soient enregistrés auprès du directeur.

Enregistre-
ment

(2) Sur demande du propriétaire de l'appareil à rayons X et sur paiement des droits prescrits par les règlements, le directeur enregistre l'appareil à rayons X, son emplacement ainsi que le nom et l'adresse d'affaires du propriétaire.

Demande

(3) Si le propriétaire d'un appareil à rayons X enregistré auprès du directeur change d'adresse d'affaires, il en avise le directeur par écrit dans les quinze jours du changement.

Avis du chan-
gement

(4) Le propriétaire d'un appareil à rayons X, enregistré au ministère de la Santé avant l'entrée en vigueur de la présente loi, est réputé être enregistré auprès du directeur conformément au paragraphe (1).

Disposition
transitoire

(5) Le directeur peut exiger de la personne mentionnée au paragraphe (4) qu'elle lui remette les plans, les devis et les renseignements relatifs à l'appareil à rayons X et à son installation. Le cas échéant, cette personne dépose les plans, les devis et les renseignements. L.R.O. 1980, chap. 195, art. 4.

Dépôt des
documents

5 (1) Nul ne doit faire fonctionner un appareil à rayons X pour irradier un corps humain, s'il ne satisfait pas aux qualités requises et aux exigences que prescrivent les règlements.

Utilisation de
l'appareil à
rayons X

Persons
deemed to
be qualified

(2) The following persons shall be deemed to meet the qualifications prescribed by the regulations:

1. A legally qualified medical practitioner.
2. A member of the Royal College of Dental Surgeons of Ontario.
3. A person registered as a chiropodist under the *Chiropody Act* on the 1st day of November, 1980.
4. A person registered as a chiropodist under the *Chiropody Act* after the 1st day of November, 1980, who is a graduate of a four-year course of instruction in chiropody accredited by the Council on Education of The Canadian Association of Chiropodists.
5. A person registered as a chiropractor under the *Drugless Practitioners Act*.
6. A person registered as an osteopath under the *Drugless Practitioners Act*.
7. A radiological technician registered under the *Radiological Technicians Act*.
8. A person registered as a dental hygienist by the Council of the Royal College of Dental Surgeons of Ontario.

R.S.O. 1980,
c. 72

R.S.O. 1980,
c. 127

R.S.O. 1980,
c. 430

Transitional

(3) Subsection (1) does not apply before the 1st day of January, 1984, or such later date as may be named by proclamation of the Lieutenant Governor in respect of a person who, prior to the coming into force of this section, was operating an x-ray machine for the irradiation of human beings. R.S.O. 1980, c. 195, s. 5.

Instructions
required

6. No person shall operate an x-ray machine for the irradiation of a human being unless the irradiation has been prescribed by,

- (a) a legally qualified medical practitioner;
- (b) a member of the Royal College of Dental Surgeons of Ontario;

(2) Les personnes suivantes sont réputées satisfaire aux qualités requises que prescrivent les règlements :

Personnes réputées satisfaire aux qualités requises

1. Un médecin dûment qualifié.
2. Un membre de l'Ordre royal des chirurgiens-dentistes de l'Ontario.
3. Une personne inscrite à titre de podologue en vertu de la *Loi sur les podologues* au 1^{er} novembre 1980.
4. Une personne inscrite à titre de podologue en vertu de la *Loi sur les podologues* après le 1^{er} novembre 1980, et qui est diplômée d'un programme d'études de quatre ans en podologie reconnu par le *Council on Education of The Canadian Association of Chiropodists*.
5. Une personne inscrite à titre de chiropraticien en vertu de la *Loi sur les praticiens ne prescrivant pas de médicaments*.
6. Une personne inscrite au titre d'ostéopathe en vertu de la *Loi sur les praticiens ne prescrivant pas de médicaments*.
7. Un technicien en radiologie inscrit en vertu de la *Loi sur les techniciens en radiologie*.
8. Une personne inscrite au titre de spécialiste en hygiène dentaire par le Conseil de l'Ordre royal des chirurgiens-dentistes de l'Ontario.

L.R.O. 1980,
chap. 72

L.R.O. 1980,
chap. 127

L.R.O. 1980,
chap. 430

(3) Le paragraphe (1) ne s'applique pas avant le 1^{er} janvier 1984 ou une date ultérieure que peut fixer par proclamation le lieutenant-gouverneur, en ce qui a trait à la personne qui, avant l'entrée en vigueur du présent article, faisait fonctionner un appareil à rayons X pour irradier des corps humains. L.R.O. 1980, chap. 195, art. 5.

Disposition
transitoire

6 Nul ne doit faire fonctionner un appareil à rayons X pour irradier un corps humain, à moins que l'irradiation n'ait été prescrite par :

Prescription
requis

- a) un médecin dûment qualifié;
- b) un membre de l'Ordre royal des chirurgiens-dentistes de l'Ontario;

- R.S.O. 1980,
c. 72
- (c) a person registered as a chiropodist under the *Chiropody Act* on the 1st day of November, 1980;
 - (d) a person registered as a chiropodist under the *Chiropody Act* after the 1st day of November, 1980, who is a graduate of a four-year course of instruction in chiropody accredited by the Council on Education of The Canadian Association of Chiropodists;
- R.S.O. 1980,
c. 127
- (e) a person registered as a chiropractor under the *Drugless Practitioners Act*; or
 - (f) a person registered as an osteopath under the *Drugless Practitioners Act*. R.S.O. 1980, c. 195, s. 6.

Causing or
permitting
use of x-ray
machine

7. On and after the 1st day of January, 1984, or such later date as may be named by proclamation of the Lieutenant Governor, no person shall cause or permit any other person to operate an x-ray machine for the irradiation of a human being unless the other person meets the qualifications and requirements prescribed by the regulations. R.S.O. 1980, c. 195, s. 7.

X-ray
machine
standards

8. No person shall operate an x-ray machine for the irradiation of a human being, unless the x-ray machine meets the standards prescribed by the regulations. R.S.O. 1980, c. 195, s. 8.

Radiation
protection
officer

9.—(1) The owner of an x-ray machine that is installed for the purpose of the irradiation of human beings shall designate a person who meets the qualifications prescribed by the regulations and who is,

- (a) a legally qualified medical practitioner;
 - (b) a member of the Royal College of Dental Surgeons of Ontario;
- R.S.O. 1980,
c. 72
- (c) a person registered as a chiropodist under the *Chiropody Act* on the 1st day of November, 1980;
 - (d) a person registered under the *Chiropody Act* after the 1st day of November, 1980 who is a graduate of a four-year course of instruction in chiropody accredited by the Council of Education of The Canadian Association of Chiropodists;

- c) une personne inscrite à titre de podologue en vertu de la *Loi sur les podologues* au 1^{er} novembre 1980; L.R.O. 1980, chap. 72
- d) une personne inscrite à titre de podologue en vertu de la *Loi sur les podologues* après le 1^{er} novembre 1980, et qui est diplômée d'un programme d'études de quatre ans en podologie reconnu par le *Council on Education of The Canadian Association of Chiropodists*;
- e) une personne inscrite à titre de chiropraticien en vertu de la *Loi sur les praticiens ne prescrivant pas de médicaments*; L.R.O. 1980, chap. 127
- f) une personne inscrite à titre d'ostéopathe en vertu de la *Loi sur les praticiens ne prescrivant pas de médicaments*. L.R.O. 1980, chap. 195, art. 6.

7 À partir du 1^{er} janvier 1984 ou d'une date ultérieure que peut fixer par proclamation le lieutenant-gouverneur, nul ne doit faire en sorte ou tolérer qu'une autre personne fasse fonctionner l'appareil à rayons X pour irradier un corps humain, à moins que cette autre personne ne satisfasse aux qualités requises et aux exigences que prescrivent les règlements. L.R.O. 1980, chap. 195, art. 7. Utilisation de l'appareil à rayons X

8 Nul ne doit faire fonctionner un appareil à rayons X pour irradier un corps humain si l'appareil à rayons X ne répond pas aux normes que prescrivent les règlements. L.R.O. 1980, chap. 195, art. 8. Normes relatives à l'appareil à rayons X

9 (1) Le propriétaire d'un appareil à rayons X installé pour l'irradiation des corps humains désigne, parmi les personnes suivantes, une personne qui satisfait aux qualités requises que prescrivent les règlements pour agir à titre d'agent de protection contre les rayons X pour l'établissement où est installé l'appareil à rayons X : Agent de protection contre les rayons X

- a) un médecin dûment qualifié;
- b) un membre de l'Ordre royal des chirurgiens-dentistes de l'Ontario;
- c) une personne inscrite à titre de podologue en vertu de la *Loi sur les podologues* au 1^{er} novembre 1980; L.R.O. 1980, chap. 72
- d) une personne inscrite à titre de podologue en vertu de la *Loi sur les podologues* après le 1^{er} novembre 1980, et qui est diplômée d'un programme d'études de quatre ans en podologie reconnu par le *Council*

R.S.O. 1980,
c. 127

- (e) a person registered as a chiropractor under the *Drugless Practitioners Act*; or
- (f) a person registered as an osteopath under the *Drugless Practitioners Act*,

as the radiation protection officer for the facility in which the x-ray machine is installed.

Idem,
portable
x-ray
machine

(2) The owner of a portable x-ray machine shall designate a person who meets the qualifications prescribed by the regulations and who is described in clause (1) (a), (b), (c), (d), (e) or (f) as the radiation protection officer for the portable x-ray machine.

Exception

(3) Subsection (2) does not apply in respect of a portable x-ray machine that is operated only in a facility for which a radiation protection officer has been appointed under subsection (1), but the radiation officer is responsible in respect of the portable x-ray machine in accordance with subsection (4).

Responsi-
bilities

(4) A radiation protection officer for a facility is responsible,

- (a) for ensuring that every x-ray machine operated in the facility is maintained in safe operating condition; and
- (b) for such other matters related to the safe operation of each x-ray machine in the facility as are prescribed by the regulations. R.S.O. 1980, c. 195, s. 9.

Proposal to
refuse to
issue or to
revoke an
approval

10.—(1) Where the Director proposes to refuse to issue or to revoke an approval under section 3 for the installation or for a change in the installation of an x-ray machine, the Director shall serve notice of his proposal, together with written reasons therefor, on the applicant or the person to whom the approval was issued, as the case may be.

Notice

(2) A notice under subsection (1) shall inform the applicant or person to whom the approval was issued that he is entitled to a hearing by the Appeal Board if, within fifteen days after the notice under subsection (1) is served on him, he gives written notice to the Director and the Appeal Board requiring a hearing by the Appeal Board and he may so require such a hearing.

on Education of The Canadian Association of Chiropodists;

e) une personne inscrite à titre de chiropraticien en vertu de la *Loi sur les praticiens ne prescrivant pas de médicaments;*

L.R.O. 1980,
chap. 127

f) une personne inscrite à titre d'ostéopathe en vertu de la *Loi sur les praticiens ne prescrivant pas de médicaments.*

(2) Le propriétaire d'un appareil à rayons X mobile désigne une personne qui satisfait aux qualités requises que prescrivent les règlements et qui est mentionnée à l'alinéa (1) a), b), c), d), e) ou f) pour agir à titre d'agent de protection contre les rayons X à l'égard de l'appareil à rayons X mobile.

Idem, appareil
à rayons X
mobile

(3) Le paragraphe (2) ne s'applique pas à l'appareil à rayons X mobile utilisé seulement dans un établissement où un agent de protection contre les rayons X a été nommé en vertu du paragraphe (1). L'agent de protection contre les rayons X est toutefois responsable de l'appareil à rayons X mobile conformément au paragraphe (4).

Exception

(4) L'agent de protection contre les rayons X d'un établissement est chargé :

Attributions

a) de faire en sorte que chaque appareil à rayons X utilisé dans l'établissement soit maintenu dans un état de fonctionnement sécuritaire;

b) de toutes les autres questions que prescrivent les règlements relativement au fonctionnement sécuritaire des appareils à rayons X se trouvant dans l'établissement. L.R.O. 1980, chap. 195, art. 9.

10 (1) Si le directeur a l'intention de refuser de délivrer ou de révoquer l'approbation prévue à l'article 3 à l'égard de l'installation ou d'un changement de l'installation d'un appareil à rayons X, il doit signifier un avis motivé et écrit de son intention à l'auteur de la demande ou à la personne à qui a été délivrée l'approbation, selon le cas.

Intention de
refuser de
délivrer ou de
révoquer l'ap-
probation

(2) L'avis prévu au paragraphe (1) doit informer l'auteur de la demande ou la personne à qui a été délivrée l'approbation qu'il a droit à une audience devant la Commission d'appel s'il remet au directeur et à la Commission d'appel, dans les quinze jours qui suivent la date de la signification de l'avis aux termes du paragraphe (1), un avis écrit exigeant une audience.

Avis

Powers of
Appeal
Board

(3) Where a hearing is required under subsection (2), the Appeal Board shall appoint a time for and hold the hearing and may direct the Director to carry out his proposal or refrain from carrying out his proposal and to take such action as the Appeal Board considers the Director ought to take in accordance with this Act and the regulations and, for such purposes, the Appeal Board may substitute its opinion for that of the Director. R.S.O. 1980, c. 195, s. 10.

Parties

11.—(1) The Director, the applicant or other person who has required the hearing and such other persons as the Appeal Board may specify are parties to proceedings before the Appeal Board under this Act.

Notice of
hearing

(2) Notice of a hearing shall afford the applicant or other person who has required the hearing a reasonable opportunity to show or to achieve compliance before the hearing with all lawful requirements for the issue of the approval of the Director.

Examination
of
documentary
evidence

(3) Any party to proceedings under section 10 shall be afforded an opportunity to examine before the hearing any written or documentary evidence that will be produced or any report the contents of which will be given in evidence at the hearing.

Members
holding
hearing not
to have
taken part in
investigation,
etc.

(4) Members of the Appeal Board holding a hearing shall not have taken part before the hearing in any investigation or consideration of the subject-matter of the hearing and shall not communicate directly or indirectly in relation to the subject-matter of the hearing with any person or with any party or his representative except upon notice to and opportunity for all parties to participate, but the Appeal Board may seek legal advice from an adviser independent from the parties and in such case the nature of the advice shall be made known to the parties in order that they may make submissions as to the law.

Recording of
evidence

(5) The oral evidence taken before the Appeal Board at a hearing shall be recorded and, if so required, copies of a transcript thereof shall be furnished upon the same terms as in the Supreme Court.

Findings of
fact

(6) The findings of fact of the Appeal Board pursuant to a hearing shall be based exclusively on evidence admissible or matters that may be noticed under sections 15 and 16 of the *Statutory Powers Procedure Act*.

R.S.O. 1980,
c. 484

L'auteur de la demande ou la personne peut ainsi exiger une audience.

(3) Si une audience est exigée en vertu du paragraphe (2), la Commission d'appel fixe la date et l'heure de l'audience et la tient. Elle peut ordonner au directeur de donner suite ou de s'abstenir de le faire, et de prendre, conformément à la présente loi et aux règlements, les mesures qui, selon elle, s'imposent. À cette fin, la Commission d'appel peut substituer son opinion à celle du directeur. L.R.O. 1980, chap. 195, art. 10.

Pouvoirs de la Commission d'appel

11 (1) Sont parties à l'instance devant la Commission d'appel en vertu de la présente loi, le directeur, l'auteur de la demande ou quiconque a exigé une audience et toute autre personne que la Commission d'appel peut désigner.

Parties

(2) L'avis d'audience doit offrir à l'auteur de la demande ou à quiconque a exigé une audience, une occasion raisonnable de démontrer qu'il s'est conformé, avant l'audience, aux exigences légales concernant l'approbation du directeur, ou une occasion raisonnable de se conformer à ces exigences avant l'audience.

Avis d'audience

(3) Une partie à une instance prévue à l'article 10 doit avoir l'occasion d'examiner, avant l'audience, les témoignages écrits ou la preuve documentaire qui y seront produits, ou les rapports dont le contenu y sera présenté en preuve.

Examen de la preuve documentaire

(4) Les membres de la Commission d'appel qui tiennent l'audience ne doivent pas avoir déjà participé à une enquête ou à une étude relative à l'objet de l'audience. Ils ne doivent pas communiquer à ce sujet, directement ou indirectement, avec une personne ou une partie ou son représentant, si ce n'est après en avoir avisé toutes les parties et leur avoir fourni l'occasion de participer. Toutefois, la Commission d'appel peut demander des conseils juridiques à un conseiller indépendant et, dans ce cas, la teneur de ces conseils est communiquée aux parties pour leur permettre de présenter des observations au sujet du droit applicable.

Les membres n'ont pas déjà participé à une enquête à ce sujet, etc.

(5) Les témoignages oraux entendus par la Commission d'appel à l'audience sont enregistrés et, si la demande en est faite, des copies de la transcription en sont fournies aux mêmes conditions qu'à la Cour suprême.

Témoignages enregistrés

(6) Lors d'une audience, la Commission d'appel fonde ses conclusions de fait uniquement sur la preuve admissible ou sur ce dont elle peut prendre connaissance en vertu des articles 15 et 16 de la *Loi sur l'exercice des compétences légales*.

Conclusions de fait

L.R.O. 1980, chap. 484

Only members at hearing to participate in decision

(7) No member of the Appeal Board shall participate in a decision of the Appeal Board pursuant to a hearing unless he was present throughout the hearing and heard the evidence and argument of the parties and, except with the consent of the parties, no decision of the Appeal Board shall be given unless all members so present participate in the decision.

Release of documentary evidence

(8) Documents and things put in evidence at a hearing shall, upon the request of the person who produced them, be released to him by the Appeal Board within a reasonable time after the matter in issue has been finally determined. R.S.O. 1980, c. 195, s. 11.

Appeal to court

12.—(1) Any party to the proceedings before the Appeal Board under this Act may appeal from its decision or order to the Divisional Court in accordance with the rules of court.

Record to be filed in court

(2) Where any party appeals from a decision or order of the Appeal Board, the Appeal Board shall forthwith file in the Supreme Court the record of the proceedings before it in which the decision was made, which, together with the transcript of evidence if it is not part of the Appeal Board's record, shall constitute the record in the appeal.

Minister entitled to be heard

(3) The Minister is entitled to be heard, by counsel or otherwise, upon the argument of an appeal under this section.

Powers of court on appeal

(4) An appeal under this section may be made on questions of law or fact or both and the court may affirm, alter or rescind the decision of the Appeal Board and may exercise all powers of the Appeal Board to direct the Director to take any action which the Appeal Board may direct him to take and as the court considers proper and for such purposes the court may substitute its opinion for that of the Director or of the Appeal Board, or the court may refer the matter back to the Appeal Board for rehearing, in whole or in part, in accordance with such directions as the court considers proper. R.S.O. 1980, c. 195, s. 12.

Order by Director or inspector

13.—(1) The Director or an inspector may make a written order directed to any one or more of,

- (a) the owner of an x-ray machine;
- (b) any person who operates the x-ray machine; or

(7) Nul ne doit participer à la décision de la Commission d'appel à moins d'avoir assisté à toute l'audience et d'avoir entendu la preuve et les plaidoiries. Sauf du consentement des parties, la Commission d'appel ne doit pas rendre de décision, à moins que tous les membres qui ont assisté à l'audience participent également à la décision.

Seuls les membres présents à l'audience prennent part à une décision

(8) La Commission d'appel rend les documents et les objets présentés en preuve à l'audience, à la personne qui les a produits, à sa demande, dans un délai raisonnable après le règlement définitif du litige. L.R.O. 1980, chap. 195, art. 11.

Remise de la preuve documentaire

12 (1) Une partie à l'instance introduite devant la Commission d'appel en vertu de la présente loi peut interjeter appel de la décision ou de l'ordonnance de la Commission d'appel devant la Cour divisionnaire, conformément aux règles de pratique.

Appel devant la Cour divisionnaire

(2) Si une partie interjette appel d'une décision ou d'une ordonnance de la Commission d'appel, celle-ci dépose sans délai auprès de la Cour suprême le dossier de l'instance à l'issue de laquelle a été rendue la décision. Ce dossier, accompagné de la transcription de la preuve déposée devant la Commission si elle ne fait pas partie de son dossier, constitue le dossier d'appel.

Dossier déposé auprès du tribunal

(3) Le ministre a le droit d'être entendu, par l'intermédiaire d'un avocat ou autrement aux débats de cet appel.

Droit d'audience du ministre

(4) L'appel interjeté aux termes du présent article peut porter sur des questions de droit ou de fait, ou sur les deux, et le tribunal peut confirmer, modifier ou annuler la décision de la Commission d'appel et exercer tous les pouvoirs de celle-ci pour ordonner au directeur de prendre les mesures que la Commission d'appel peut lui ordonner de prendre, selon ce que le tribunal juge approprié. À cette fin, le tribunal peut substituer son opinion à celle du directeur ou de la Commission d'appel ou il peut renvoyer l'affaire à la Commission d'appel pour qu'elle l'entende à nouveau, en totalité ou en partie, conformément aux directives qu'il juge appropriées. L.R.O. 1980, chap. 195, art. 12.

Pouvoirs de la cour

13 (1) Le directeur ou l'inspecteur peut donner un ordre écrit à l'une ou plusieurs des personnes suivantes :

Ordre du directeur ou de l'inspecteur

- a) le propriétaire d'un appareil à rayons X;
- b) toute personne qui fait fonctionner l'appareil à rayons X;

- (c) the radiation protection officer for the facility in which the machine is installed or, in the case of a portable x-ray machine, the radiation protection officer for the portable x-ray machine,

requiring the taking of such action as, in the opinion of the Director or inspector, upon reasonable and probable grounds, is necessary in order to achieve compliance with this Act or the regulations, or both, or is necessary or advisable to protect the health or safety of any patient or member of the public in or near the premises where the x-ray machine is operated.

Notice of
proposal to
make order

(2) The Director or the inspector who proposes to make an order under subsection (1) shall serve notice of the proposal, together with written reasons therefor, on the person to whom he proposes to direct the order.

Notice
requiring
hearing

(3) A notice under subsection (2) shall inform the person that he is entitled to a hearing by the Appeal Board if he gives notice in writing to the Director and the Appeal Board, within fifteen days after the notice under subsection (2) is served on him, requiring a hearing and he may so require such a hearing.

Power of
Director or
inspector
where no
hearing

(4) Where a person served with notice under subsection (2) does not require a hearing in accordance with subsection (3), the Director or inspector may carry out the proposal stated in his notice.

Powers of
Appeal
Board where
hearing

(5) Where a hearing is required under subsection (3), the Appeal Board shall appoint a time for and hold the hearing and by order may direct the Director or the inspector to carry out his proposal or refrain from carrying out his proposal and to take such action as the Appeal Board considers the Director or the inspector ought to take in accordance with this Act and the regulations and, for such purposes, the Appeal Board may substitute its opinion for that of the Director or the inspector.

Application
of ss. 11, 12

(6) Sections 11 and 12 apply with necessary modifications to proceedings under this section. R.S.O. 1980, c. 195, s. 13.

Emergency
order

14.—(1) Where the Director or an inspector is of the opinion, upon reasonable and probable grounds, that an emergency exists by reason of danger to the health or safety of any patient or member of the public in respect of an x-ray machine or the installation, operation or maintenance of an x-

- c) l'agent de protection contre les rayons X de l'établissement où l'appareil est installé ou l'agent de protection contre les rayons X à l'égard de l'appareil à rayons X mobile,

enjoignant à cette personne ou à ces personnes de prendre les mesures qui, de l'avis du directeur ou de l'inspecteur, fondé sur des motifs raisonnables et probables, sont nécessaires pour assurer la conformité avec la présente loi ou les règlements, ou les deux, ou sont nécessaires ou souhaitables pour protéger la santé ou assurer la sécurité des malades ou des membres du public dans les locaux où est utilisé l'appareil à rayons X ou près de ceux-ci.

(2) Le directeur ou l'inspecteur qui a l'intention de donner un ordre en vertu du paragraphe (1) doit signifier un avis motivé et écrit de son intention à la personne visée par l'ordre.

Avis d'intention de donner un ordre

(3) L'avis prévu au paragraphe (2) doit informer la personne qu'elle a droit à une audience devant la Commission d'appel si elle remet au directeur et à la Commission d'appel, dans les quinze jours qui suivent la date de la signification de l'avis aux termes du paragraphe (2), un avis écrit exigeant une audience. La personne peut ainsi exiger une audience.

Avis

(4) Si la personne à qui un avis est signifié en vertu du paragraphe (2) n'exige pas d'audience conformément au paragraphe (3), le directeur ou l'inspecteur peut donner suite à l'intention précisée dans son avis.

Pouvoir du directeur ou de l'inspecteur

(5) Si une audience est exigée en vertu du paragraphe (3), la Commission d'appel fixe la date et l'heure de l'audience et la tient. Elle peut ordonner au directeur ou à l'inspecteur de donner suite à son intention ou de s'abstenir de le faire, et de prendre, conformément à la présente loi et aux règlements, les mesures qui, selon elle, s'imposent. À cette fin, la Commission d'appel peut substituer son opinion à celle du directeur ou de l'inspecteur.

Pouvoirs de la Commission d'appel

(6) Les articles 11 et 12 s'appliquent, avec les adaptations nécessaires, à l'instance prévue au présent article. L.R.O. 1980, chap. 195, art. 13.

Application des art. 11, 12

14 (1) Si le directeur ou un inspecteur croit, en se fondant sur des motifs raisonnables et probables, qu'une situation d'urgence existe en raison d'un danger pour la santé ou la sécurité des malades ou des membres du public relativement à un appareil à rayons X ou à son installation, à son fonctionnement ou à son entretien, le directeur ou l'inspecteur peut don-

Ordre en cas d'urgence

ray machine, the Director or inspector may make an oral or written order directed to any one or more of,

- (a) the owner of the x-ray machine;
- (b) any person who operates the x-ray machine;
- (c) the radiation protection officer for the facility in which the x-ray machine is installed or, in the case of a portable x-ray machine, the radiation protection officer for the portable x-ray machine.

Contents of order (2) An order under subsection (1) may require the person to whom it is directed to stop operating or stop the operation of the x-ray machine either permanently or for a specific period of time.

Immediate appeal (3) A person affected by an order under subsection (1) may appeal therefrom in person or by an agent and by telephone or otherwise to the Director, and the Director, after receiving the submissions of the person and of the inspector, shall vary, rescind or confirm the order.

Written reasons for order (4) Where the Director makes an order under subsection (1) or varies or confirms an order under subsection (3), the Director shall forthwith thereafter serve a written copy of the order or the order as varied or confirmed, together with written reasons therefor, upon the person to whom the order is directed.

Notice (5) An order under subsection (1) or an order as varied or confirmed under subsection (3) shall inform the person to whom it is directed that he is entitled to a hearing by the Appeal Board if he gives to the Director and the Appeal Board, within fifteen days after a copy of the order or the order as varied or confirmed is served on him, notice in writing requiring a hearing and he may so require such a hearing.

Effect of order (6) Notwithstanding that an appeal is taken against an order under subsection (1) or an order as varied or confirmed under subsection (3), the order is effective at and from the time it is communicated to the person to whom it is directed until it is confirmed, varied or rescinded on appeal and the person shall comply with the order immediately.

Powers of Appeal Board (7) Where a hearing is required under subsection (5), the Appeal Board shall appoint a time for and hold the hearing and the Appeal Board by order may confirm, alter or rescind the order of the Director and for such purposes the Appeal Board may substitute its opinion for that of the Director.

ner un ordre écrit ou verbal à l'une ou plusieurs des personnes suivantes :

- a) le propriétaire de l'appareil à rayons X;
- b) toute personne qui fait fonctionner l'appareil à rayons X;
- c) l'agent de protection contre les rayons X de l'établissement où l'appareil à rayons X est installé ou l'agent de protection contre les rayons X à l'égard de l'appareil à rayons X mobile.

(2) Un ordre donné en vertu du paragraphe (1) peut exiger que la personne visée cesse de faire fonctionner l'appareil à rayons X ou arrête son fonctionnement de façon permanente ou pour une période déterminée.

Contenu de l'ordre

(3) La personne touchée par un ordre donné en vertu du paragraphe (1) peut interjeter appel auprès du directeur, en personne ou par l'entremise d'un représentant, par téléphone ou autrement. Le directeur, après avoir reçu les arguments de la personne et de l'inspecteur, modifie, annule ou confirme l'ordre.

Appel immédiat

(4) Si le directeur donne un ordre en vertu du paragraphe (1) ou modifie ou confirme un ordre en vertu du paragraphe (3), il doit signifier ensuite sans délai une copie motivée de l'ordre donné, modifié ou confirmé à la personne visée par l'ordre.

Ordre motivé

(5) L'ordre donné en vertu du paragraphe (1) ou un ordre modifié ou confirmé en vertu du paragraphe (3) informe la personne visée de son droit à une audience devant la Commission d'appel, si elle remet au directeur et à la Commission d'appel, dans les quinze jours qui suivent la date de la signification d'une copie de l'ordre donné ou de l'ordre qui est modifié ou confirmé, un avis écrit exigeant une audience. La personne peut ainsi exiger une audience.

Avis

(6) Malgré un appel interjeté à l'encontre d'un ordre donné en vertu du paragraphe (1) ou de l'ordre modifié ou confirmé en vertu du paragraphe (3), l'ordre prend effet à compter de la date où il est communiqué à la personne visée jusqu'à ce qu'il soit confirmé, modifié ou annulé en appel, et la personne est tenue de se conformer à l'ordre immédiatement.

Prise d'effet de l'ordre

(7) Si une audience est exigée en vertu du paragraphe (5), la Commission d'appel fixe la date et l'heure de l'audience et la tient. Elle peut, par ordonnance confirmer, modifier ou

Pouvoirs de la Commission d'appel

- Application of ss. 11, 12 (8) Sections 11 and 12 apply with necessary modifications to proceedings under this section.
- Where order rescinded by Director (9) The Director by an order may rescind an order made under subsection (1) or an order as varied or confirmed and in such case shall serve a copy of the order upon the person to whom the order or the order as varied or confirmed was directed. R.S.O. 1980, c. 195, s. 14.
- Commission established **15.**—(1) There is hereby established a commission to be known as the Healing Arts Radiation Protection Commission.
- Composition (2) The Commission shall be composed of five persons.
- Disqualification (3) No person who is or has been a member of the governing body of, or who is or has been registered under any Act governing a health discipline or a health practice, shall be a member of the Commission.
- Chairman and vice-chairman (4) The Lieutenant Governor in Council shall appoint the members of the Commission and shall designate a chairman and a vice-chairman from among the members of the Commission.
- Terms of office (5) The members of the Commission may be appointed for a term of one, two or three years and members may be reappointed, but in no case shall a member serve for more than six consecutive years.
- Vacancy (6) Every vacancy on the Commission caused by the death, resignation or incapacity of a member may be filled by the appointment by the Lieutenant Governor in Council of a person to hold office for the remainder of the term of the member.
- Remuneration (7) The members of the Commission shall be paid such remuneration and expenses as are determined by the Lieutenant Governor in Council.
- Staff R.S.O. 1980, c. 418 (8) Such employees as are necessary to carry out the duties of the Commission shall be employed under the *Public Service Act*. R.S.O. 1980, c. 195, s. 15.
- Duties of Commission **16.**—(1) The Commission,
- (a) shall advise the Minister on matters relating to the health and safety of persons in respect of irradiation by x-rays;

annuler l'ordre du directeur et, à cette fin, elle peut substituer son opinion à celle du directeur.

(8) Les articles 11 et 12 s'appliquent, avec les adaptations nécessaires, à l'instance prévue au présent article.

Application des art. 11, 12

(9) Le directeur peut, au moyen d'un ordre, annuler un ordre donné en vertu du paragraphe (1) ou un ordre qui est modifié ou confirmé et, dans ce cas, il doit signifier une copie de l'ordre à la personne visée par l'ordre donné ou l'ordre qui est modifié ou confirmé. L.R.O. 1980, chap. 195, art. 14.

Ordre annulé par le directeur

15 (1) Est créée la Commission de protection contre les rayons X.

Création de la Commission

(2) La Commission se compose de cinq personnes.

Composition

(3) Ne peut être membre de la Commission le membre ou l'ancien membre du corps dirigeant d'une science de la santé ou la personne qui est ou a été inscrite conformément à une loi régissant une science de la santé.

Incompatibilité

(4) Le lieutenant-gouverneur en conseil nomme les membres de la Commission et désigne le président et le vice-président parmi ces derniers.

Président et vice-président

(5) Les membres de la Commission peuvent être nommés pour un, deux ou trois ans et leur mandat est renouvelable. Cependant, aucun mandat ne peut dépasser six années consécutives.

Durée du mandat

(6) Le lieutenant-gouverneur en conseil peut combler la vacance qui résulte du décès, de la démission ou de l'empêchement d'un membre en nommant une personne qui reste en fonction jusqu'à la fin du mandat de son prédécesseur.

Vacance

(7) Les membres de la Commission reçoivent la rémunération et les indemnités que fixe le lieutenant-gouverneur en conseil.

Rémunération

(8) Le personnel nécessaire à l'exécution des travaux de la Commission est employé conformément à la *Loi sur la fonction publique*. L.R.O. 1980, chap. 195, art. 15.

Personnel
L.R.O. 1980,
chap. 418

16 (1) La Commission :

Fonctions de la Commission

- a) conseille le ministre sur toute question qui concerne la santé et la sécurité des personnes relativement à l'irradiation par les rayons X;

- (b) is responsible for the continuing development of an X-ray Safety Code;
- (c) shall review the contents of courses in the operation of x-ray machines and x-ray equipment and approve the courses it considers satisfactory;
- (d) shall examine, study and report to the Minister on such matters, including health screening programs involving the use of x-rays, as the Minister may refer to the Commission for the purpose; and
- (e) shall perform such other duties as are assigned to it by or under this or any other Act.

Annual
report

(2) The Commission shall submit an annual report on its activities to the Minister which shall include such additional information as the Minister may require. R.S.O. 1980, c. 195, s. 16.

Advisory
committees

17.—(1) The Commission shall establish advisory committees to assist it in the continuing development of an X-ray Safety Code and to assist it in respect of safety in relation to irradiation from x-rays in each of the following disciplines:

1. Chiropody.
2. Chiropractic.
3. Dentistry.
4. Medical radiology.
5. Radiological technology.

Idem

(2) Subject to the approval of the Minister, the Commission may establish additional advisory committees to assist it in respect of safety in relation to irradiation from x-rays.

Composition

(3) Subject to the approval of the Minister, the Commission shall fix the total number of members of each advisory committee established under subsection (1) or (2).

Remuneration

(4) The members of an advisory committee appointed under subsection (1) or (2) may be paid such remuneration on a daily or other basis, and such necessary expenses, as may be fixed or approved by the Minister. R.S.O. 1980, c. 195, s. 17.

- b) est chargée d'un programme permanent d'élaboration d'un code de sécurité radiologique;
- c) examine le contenu des cours sur le fonctionnement des appareils à rayons X et du matériel de rayons X, et approuve les cours qu'elle juge satisfaisants;
- d) examine et étudie toute question, y compris les programmes de dépistage systématique comportant l'utilisation de rayons X, que le ministre peut lui confier, et fait un rapport au ministre à cet égard;
- e) exécute les autres fonctions qui lui sont attribuées par la présente loi ou une autre loi ou en vertu de la présente loi ou d'une autre loi.

(2) La Commission présente au ministre un rapport annuel de ses activités de même que les renseignements complémentaires que le ministre peut exiger. L.R.O. 1980, chap. 195, art. 16. Rapport annuel

17 (1) La Commission crée des comités consultatifs pour l'aider dans son programme permanent d'élaboration d'un code de sécurité radiologique et pour l'aider en matière de sécurité relative à l'irradiation par les rayons X dans les disciplines suivantes : Comités consultatifs

1. Podologie.
2. Chiropraxie.
3. Dentisterie.
4. Radiologie médicale.
5. Technologie radiologique.

(2) Sous réserve de l'approbation du ministre, la Commission peut créer des comités consultatifs supplémentaires pour l'aider en matière de sécurité relative à l'irradiation par les rayons X. Idem

(3) Sous réserve de l'approbation du ministre, la Commission fixe le nombre total des membres de chaque comité consultatif créé en vertu du paragraphe (1) ou (2). Composition

(4) Les membres d'un comité consultatif créé en vertu du paragraphe (1) ou (2) reçoivent la rémunération, sur une base journalière ou autre, et les indemnités nécessaires que fixe ou approuve le ministre. L.R.O. 1980, chap. 195, art. 17. Rémunération

Professional
and other
assistance

18. Subject to the approval of the Minister, the Commission may engage scientific, technical and professional consultants in matters relating to protection from irradiation by x-rays. R.S.O. 1980, c. 195, s. 18.

Director of
X-ray Safety

19. The Minister shall appoint an employee of the Ministry of Health as Director of X-ray Safety for the purposes of this Act and the regulations. R.S.O. 1980, c. 195, s. 19.

Inspectors

20.—(1) The Minister may appoint in writing one or more employees of the Ministry of Health or other persons as inspectors for the purposes of this Act and the regulations and in an appointment may limit the authority of an inspector in such manner as the Minister considers necessary or advisable.

Certificate of
appointment

(2) The Minister shall issue to every inspector appointed under subsection (1) a certificate of his appointment.

Production of
certificate

(3) Every inspector, in the execution of his duties under this Act and the regulations, shall produce his certificate of appointment upon request.

Inspection

(4) An inspector at all reasonable times may enter and inspect the premises and may inspect the operations and all records and radiographs where an x-ray machine is installed or operated and may require the production of proof that any person who operates an x-ray machine meets the qualifications and requirements prescribed by the regulations to ensure that the provisions of this Act and the regulations are complied with.

Powers of
inspector

(5) Upon an inspection under this section, an inspector is entitled to make tests and examinations to determine whether or not x-ray machines are installed and used in compliance with this Act and the regulations.

Copies

(6) Upon an inspection under this Act, an inspector, upon giving a receipt therefor, may remove any material that relates to the purpose of the inspection in order to make a copy thereof, but the copying shall be carried out with reasonable dispatch and the material in question shall be promptly thereafter returned to the person being inspected.

Admissibility
of copies

(7) Any copy made as provided in subsection (6) and purporting to be certified by an inspector is admissible in evidence in any action, proceeding or prosecution as *prima facie* proof of the original.

18 Sous réserve de l'approbation du ministre, la Commission peut retenir les services de spécialistes pour traiter des questions relatives à la protection contre l'irradiation par les rayons X. L.R.O. 1980, chap. 195, art. 18.

Aide spécialisée

19 Le ministre nomme un employé du ministère de la Santé pour agir à titre de directeur de la sécurité radiologique aux fins de la présente loi et des règlements. L.R.O. 1980, chap. 195, art. 19.

Directeur de la sécurité radiologique

20 (1) Le ministre peut nommer par écrit un ou plusieurs employés du ministère de la Santé ou d'autres personnes pour agir à titre d'inspecteurs aux fins de la présente loi et des règlements. Il peut, dans une nomination, limiter le pouvoir d'un inspecteur de la façon qu'il juge nécessaire ou souhaitable.

Inspecteurs

(2) Le ministre délivre à chaque inspecteur nommé en vertu du paragraphe (1) une attestation de nomination.

Attestation de nomination

(3) Lorsqu'il exerce ses fonctions conformément à la présente loi et aux règlements, l'inspecteur présente, sur demande, l'attestation de sa nomination.

Présentation de l'attestation

(4) Un inspecteur peut, à toute heure convenable, pénétrer dans les locaux et les inspecter. Il peut aussi examiner les activités, les dossiers et les radiographies à l'endroit où l'appareil à rayons X est installé ou utilisé. Afin de s'assurer du respect de la présente loi et des règlements, il peut demander la preuve que toute personne qui fait fonctionner l'appareil à rayons X satisfait aux qualités requises et exigences que prescrivent les règlements.

Inspection

(5) Au cours d'une inspection prévue au présent article, un inspecteur a le droit de faire des essais et des vérifications afin de déterminer si les appareils à rayons X sont installés et utilisés en conformité avec la présente loi et les règlements.

Pouvoirs de l'inspecteur

(6) Au cours d'une inspection prévue par la présente loi, un inspecteur peut, sur remise d'un récépissé à cet effet, emporter tout document qui se rapporte à l'inspection en vue d'en faire une copie. Celle-ci doit être faite avec une diligence convenable et le document en question, retourné sans délai à la personne qui fait l'objet de l'inspection.

Copies

(7) Toute copie faite conformément au paragraphe (6) et présentée comme étant certifiée conforme par un inspecteur est admissible en preuve dans toute action, poursuite ou instance comme preuve *prima facie* de l'original.

Admissibilité des copies

Obstruction

(8) No person shall obstruct an inspector or withhold or destroy, conceal or refuse to furnish any information or thing required by the inspector for the purposes of an inspection. R.S.O. 1980, c. 195, s. 20.

Information confidential

21.—(1) Each member of the Commission, each employee of the Commission, each consultant engaged by the Commission, the Director, each inspector appointed under this Act and each person engaged in the administration of this Act and the regulations shall preserve secrecy with respect to all matters that come to his knowledge in the course of his employment or duties pertaining to the health of any person and shall not communicate any such matter to any other person except as provided in this Act.

Exceptions

(2) A person referred to in subsection (1) may furnish information pertaining to the health of a person,

- (a) in connection with the administration of this Act or any Act of Ontario or of Canada related to the delivery of health services or to safety in relation to irradiation from x-rays or regulations made thereunder;
- (b) in proceedings under this Act or the regulations;
- (c) to the person who provided a service to which the information is related, his solicitor or personal representative, the executor, administrator or committee of his estate, his trustee in bankruptcy or other legal representative; or
- (d) to the person who received the service to which the information is related, his solicitor, personal representative, another person who has lawful custody of or is guardian for the person or other legal representative of the person.

Exception for professional discipline

(3) The Director may communicate information of the kind referred to in subsection (2) and any other information related thereto to the statutory body governing the profession or to a professional association of which a person who provides a service referred to in subsection (2) is a member or governing the health practice practised by the person. R.S.O. 1980, c. 195, s. 21.

Regulations

22. The Lieutenant Governor in Council may make regulations,

(8) Nul ne peut entraver l'action d'un inspecteur ou cacher, détruire, dissimuler ou refuser de donner des renseignements ou des objets que l'inspecteur demande aux fins de l'inspection. L.R.O. 1980, chap. 195, art. 20. Entrave

21 (1) Les membres et les employés de la Commission, les spécialistes dont celle-ci retient les services, le directeur, les inspecteurs nommés conformément à la présente loi et les personnes qui assurent l'application de la présente loi et des règlements sont tenus au secret sur toute question qui vient à leur connaissance au cours de leur emploi ou dans l'exercice de leurs fonctions relativement à la santé des personnes et, sous réserve de la présente loi, ne peuvent rien divulguer à qui que ce soit. Renseignements confidentiels

(2) Une personne mentionnée au paragraphe (1) peut donner des renseignements sur la santé d'une personne : Exception

- a) relativement à l'application de la présente loi ou de toute autre loi de l'Ontario ou du Canada ayant trait aux services de santé qui sont fournis ou à la sécurité concernant l'irradiation par les rayons X, ou relativement aux règlements pris en application de ces lois;
- b) dans une instance sous le régime de la présente loi et des règlements;
- c) à la personne qui a assuré le service auquel sont reliés des renseignements, à son procureur ou à son représentant successoral, à l'exécuteur testamentaire, à l'administrateur ou au curateur de ses biens, à son syndic de faillite ou autre ayant droit;
- d) à la personne qui a reçu le service auquel sont reliés des renseignements, à son procureur, à son représentant successoral, à une autre personne qui en a la garde légitime, ou qui en est le tuteur ou à un autre ayant droit de la personne.

(3) Le directeur peut divulguer le genre de renseignement prévu au paragraphe (2) ou tout autre renseignement qui y est relié à l'organisme qui régit la profession ou à l'association professionnelle dont est membre la personne qui assure le service mentionné au paragraphe (2) ou qui régit la science de la santé qu'exerce cette personne. L.R.O. 1980, chap. 195, art. 21. Discipline professionnelle

22 Le lieutenant-gouverneur en conseil peut, par règlement : Règlements

- (a) prescribing any matter required or authorized by this Act to be, or referred to in this Act as, prescribed by the regulations;
- (b) prescribing classes of or in respect of any matter that is or may be prescribed under the regulations;
- (c) limiting the application of any regulation to any one or more of the classes prescribed under clause (b);
- (d) exempting any class of persons, x-ray machines or facilities from any provision of this Act or the regulations and attaching conditions to any such exemption;
- (e) governing or limiting, or both, the purposes for which any class of persons may operate x-ray machines or any class of x-ray machines;
- (f) prescribing an X-ray Safety Code including,
 - (i) prescribing standards for the installation of x-ray machines,
 - (ii) prescribing standards for darkrooms and dark-room procedures associated with the operation of x-ray machines or any class of x-ray machines,
 - (iii) prescribing standards and procedures for the operation of x-ray machines and x-ray equipment or any class of x-ray machines or x-ray equipment,
 - (iv) prescribing physical standards for persons who operate x-ray machines or x-ray equipment,
 - (v) prescribing standards and procedures for the purpose of minimizing exposure to x-rays of patients and members of the public,
 - (vi) governing the testing of x-ray machines and x-ray equipment including, but not limited to, prescribing tests in respect of x-ray machines and x-ray equipment and requiring persons operating x-ray machines and x-ray equipment and radiation protection officers to perform the tests,

- a) prescrire une question dont la présente loi requiert ou autorise la réglementation ou que la présente loi mentionne comme étant prescrite par les règlements;
- b) prescrire des catégories de questions ou des catégories concernant des questions qui sont ou peuvent être prescrites par les règlements;
- c) restreindre l'application de tout règlement à une ou plusieurs des catégories établies en vertu de l'alinéa b);
- d) soustraire toute catégorie de personnes, d'appareils à rayons X ou d'établissements à l'application d'une disposition de la présente loi ou des règlements et *assortir cette exemption de conditions*;
- e) régir ou restreindre, ou les deux, les fins auxquelles toute catégorie de personnes peut faire fonctionner des appareils à rayons X ou une catégorie d'appareils à rayons X;
- f) prévoir un code de sécurité radiologique, notamment :
 - (i) prescrire des normes pour l'installation des appareils à rayons X,
 - (ii) prescrire des normes relatives aux chambres noires et la procédure à suivre dans ces chambres noires relativement au fonctionnement des appareils à rayons X ou de toute catégorie d'appareils à rayons X,
 - (iii) prescrire des normes et la procédure à suivre pour le fonctionnement des appareils à rayons X ou du matériel de rayons X, ou d'une catégorie de ceux-ci,
 - (iv) prescrire des normes physiques pour les personnes qui font fonctionner les appareils à rayons X ou le matériel de rayons X,
 - (v) prescrire des normes et la procédure à suivre afin de réduire au minimum le temps d'exposition aux rayons X des malades et des membres du public,
 - (vi) régir la vérification des appareils à rayons X et du matériel de rayons X, notamment pres-

- (vii) prescribing programs for evaluation of performance of procedures and observance of standards,
 - (viii) prescribing additional duties of radiation protection officers and persons who own or operate x-ray machines,
 - (ix) prescribing standards of design, construction, operation and performance for x-ray machines and x-ray equipment operated in Ontario,
 - (x) requiring compliance with any matter prescribed or governed under subclauses (i) to (ix);
- (g) governing the keeping of records by persons who own or operate x-ray machines and by radiation protection officers and requiring and governing returns by them to the Director;
 - (h) prescribing classes of radiation protection officers and restricting or limiting the types of facilities or x-ray machines or both for which any such class may be designated as radiation protection officers;
 - (i) prescribing subject-matters for courses of study in the operation of x-ray machines and x-ray equipment and prohibiting approval by the Commission of any course of study that does not include a subject-matter so prescribed for the course of study;
 - (j) prescribing additional duties and powers of the Commission, the Director and inspectors;
 - (k) prescribing forms and providing for their use;
 - (l) adopting by reference, in whole or in part, with such changes as the Lieutenant Governor in Council considers necessary, any code or standard and requiring compliance with any code or standard that is so adopted;

crire des essais concernant les appareils à rayons X et le matériel de rayons X et demander aux personnes qui les font fonctionner ainsi qu'aux agents de protection contre les rayons X de procéder aux essais,

- (vii) prescrire des programmes pour évaluer l'exécution de la procédure à suivre et l'observation des normes,
 - (viii) prescrire des fonctions supplémentaires aux agents de protection contre les rayons X et aux propriétaires des appareils à rayons X ou aux personnes qui les font fonctionner,
 - (ix) prescrire des normes de conception, de construction, d'utilisation et de fonctionnement des appareils à rayons X et du matériel de rayons X utilisés en Ontario,
 - (x) exiger l'observation de toute question prescrite ou régie par les sous-alinéas (i) à (ix);
- g) régir la tenue de dossiers par les propriétaires des appareils à rayons X ou par les personnes qui les font fonctionner et par les agents de protection contre les rayons X; et exiger qu'ils fassent des rapports au directeur et régir ces rapports;
 - h) prescrire des catégories d'agents de protection contre les rayons X, restreindre les types d'établissements ou d'appareils à rayons X, ou les deux, pour lesquels une catégorie d'agents de protection contre les rayons X peut être désignée;
 - i) prescrire les sujets des programmes d'études portant sur le fonctionnement des appareils à rayons X et du matériel de rayons X, et interdire que la Commission approuve un programme d'études qui ne comprend pas un sujet ainsi prescrit;
 - j) étendre les pouvoirs et les fonctions de la Commission, du directeur et des inspecteurs;
 - k) prescrire des formules et prévoir les modalités de leur emploi;
 - l) adopter par renvoi, en tout ou en partie, avec les changements que le lieutenant-gouverneur en con-

- (m) prescribing fees for registrations and approvals.
R.S.O. 1980, c. 195, s. 22.

Definition
R.S.O. 1980,
c. 410

22a.—(1) In this section, “hospital” has the same meaning as in the *Public Hospitals Act*. (“hôpital”)

C.A.T.
scanners

(2) No person shall install or operate or cause or permit the installation or operation of a computerized axial tomography scanner except,

- (a) in a hospital or other facility;
- (b) in a hospital within a class of hospitals; or
- (c) in a facility within a class of facilities,

prescribed by the regulations.

Idem

(3) No person shall install or operate or cause or permit the installation or operation of more computerized axial tomography scanners,

- (a) in a hospital or other facility;
- (b) in a hospital within a class of hospitals; or
- (c) in a facility within a class of facilities,

than the number of computerized axial tomography scanners prescribed by the regulations in respect of the hospital or other facility or the class of hospitals or facilities of which the hospital or facility is a member. 1984, c. 9, s. 1 (1).

NOTE: Section 22a does not apply in respect of a computerized axial tomography scanner that was installed before May 1st, 1984. See—1984, c. 9, s. 1 (2).

Offences

23.—(1) Every person who,

- (a) knowingly furnishes false information in an application under this Act or in any statement or return required to be furnished under this Act or the regulations;

seil juge nécessaires, tout code ou norme, et exiger l'observation du code ou de la norme ainsi adopté;

- m) prescrire les droits d'enregistrement et d'approbation. L.R.O. 1980, chap. 195, art. 22.

22a (1) Dans le présent article, «hôpital» a le même sens que dans la *Loi sur les hôpitaux publics*. («hospital»)

Définition
L.R.O. 1980,
chap. 410

(2) Nul ne doit installer ou faire fonctionner ou faire en sorte ou tolérer qu'une personne installe ou fasse fonctionner un scanographe, sauf :

Scanographe

- a) dans un hôpital ou un autre établissement;
- b) dans un hôpital compris dans une catégorie d'hôpitaux;
- c) dans un établissement compris dans une catégorie d'établissements,

que prescrivent les règlements.

(3) Nul ne doit installer ou faire fonctionner, ou faire en sorte ou tolérer qu'une personne installe ou fasse fonctionner :

Idem

- a) dans un hôpital ou un autre établissement;
- b) dans un hôpital compris dans une catégorie d'hôpitaux;
- c) dans un établissement compris dans une catégorie d'établissements,

un nombre de scanographes supérieur à celui que prescrivent les règlements en ce qui concerne l'hôpital ou autre établissement ou la catégorie d'hôpitaux ou d'établissements dont fait partie l'hôpital ou l'établissement. 1984, chap. 9, par. 1 (1).

REMARQUE : L'article 22a ne s'applique pas aux scanographes installés avant le 1^{er} mai 1984. Voir—1984, chap. 9, par. 1 (2).

23 (1) Quiconque, selon le cas :

Infractions

- a) donne sciemment de faux renseignements dans une demande présentée sous le régime de la présente loi, ou dans une déclaration ou un rapport exigé par la présente loi ou des règlements;

- (b) fails to comply with any order, direction or other requirement made under this Act; or
- (c) contravenes any provision of this Act or the regulations,

and every director or officer of a corporation who knowingly concurs in such furnishing, failure or contravention is guilty of an offence and on conviction is liable to a fine of not more than \$10,000. R.S.O. 1980, c. 195, s. 23 (1); 1989, c. 72, s. 40, *part*.

Corporations (2) Where a corporation is convicted of an offence under subsection (1), the maximum penalty that may be imposed upon the corporation is \$50,000 and not as provided therein. R.S.O. 1980, c. 195, s. 23 (2); 1989, c. 72, s. 40, *part*.

Proceedings to prohibit continuation or repetition of contravention **24.** Where any provision of this Act or the regulations or any order issued under this Act by the Director is contravened, notwithstanding any other remedy or any penalty imposed, the Director may apply to the Supreme Court by originating motion for an order prohibiting the continuation or repetition of the contravention or the carrying on of any activity specified in the order that, in the opinion of the court, will or is likely to result in the continuation or repetition of the contravention by the person committing the contravention, and the court may make the order and it may be enforced in the same manner as any other judgment of the Supreme Court. R.S.O. 1980, c. 195, s. 24.

Protection from personal liability **25.—**(1) No action or other proceeding for damages shall be instituted against the Director or an inspector for any act done in good faith in the execution or intended execution of his duty or for any alleged neglect or default in the execution in good faith of his duty.

Crown not relieved of liability R.S.O. 1980, c. 393 (2) Subsection (1) does not, by reason of subsections 5 (2) and (4) of the *Proceedings Against the Crown Act*, relieve the Crown of liability in respect of a tort committed by an agent or servant of the Crown to which it would otherwise be subject and the Crown is liable under that Act for any such tort in a like manner as if subsection (1) had not been enacted. R.S.O. 1980, c. 195, s. 25.

Service **26.—**(1) Any notice, order, decision or other document required to be given, served or delivered under this Act or the regulations is sufficiently given, served or delivered if delivered personally or sent by registered mail addressed to the person to whom it is required to be given, served or delivered at the latest address for service appearing on the records of

- b) ne respecte pas un ordre, une directive ou une exigence découlant de la présente loi;
- c) enfreint une disposition de la présente loi ou des règlements,

et l'administrateur ou le dirigeant d'une personne morale qui participe sciemment à un tel acte, sont coupables d'une infraction et passibles, sur déclaration de culpabilité, d'une amende d'au plus 10 000 \$. L.R.O. 1980, chap. 195, par. 23 (1); 1989, chap. 72, art. 40, *en partie*.

(2) Si une personne morale est reconnue coupable d'une infraction prévue au paragraphe (1), la peine maximale qui peut être imposée est de 50 000 \$. L.R.O. 1980, chap. 195, par. 23 (2); 1989, chap. 72, art. 40, *en partie*.

Personnes
morales

24 Si une disposition de la présente loi ou des règlements, ou un ordre donné par le directeur en vertu de la présente loi est enfreint, indépendamment de tout autre recours ou de toute autre peine imposée, le directeur peut, par voie de requête, demander à la Cour suprême une ordonnance interdisant la poursuite ou la répétition de la contravention ou l'exercice de toute activité précisée dans l'ordonnance qui, de l'avis de la cour, mènera ou mènera vraisemblablement à la poursuite ou à la répétition de la contravention par son auteur et la cour peut rendre l'ordonnance. L'ordonnance peut être exécutée de la même manière qu'un jugement de la Cour suprême. L.R.O. 1980, chap. 195, art. 24.

Procédures
afin d'inter-
dire la pour-
suite ou la
répétition de
contravention

25 (1) Est irrecevable l'action ou autre poursuite en dommages-intérêts intentée contre le directeur ou un inspecteur et fondée sur un acte omis ou accompli de bonne foi dans l'exécution ou l'exécution prévue de ses fonctions, ou fondée sur une négligence relativement à l'exécution de bonne foi de ses fonctions.

Immunité contre la responsabilité
personnelle

(2) Malgré les paragraphes 5 (2) et (4) de la *Loi sur les instances introduites contre la Couronne*, le paragraphe (1) ne dégage pas la Couronne de la responsabilité qu'elle serait autrement tenue d'assurer à l'égard d'un délit civil commis par un de ses agents ou employés. L.R.O. 1980, chap. 195, art. 25.

Responsabilité
de la Cour-
ronne
L.R.O. 1980,
chap. 393

26 (1) Tout avis, ordre, décision ou autre document qui doit être donné, signifié ou remis en vertu de la présente loi ou des règlements l'est valablement s'il est remis à personne ou envoyé par courrier recommandé à la dernière adresse connue du destinataire figurant sur les registres du ministère ou, à

Signification

the Ministry or, where there is no address for service so appearing, at the address, if any, last known to the Director.

When service
deemed
made

(2) Where service is made by registered mail in accordance with subsection (1), the service shall be deemed to be made on the seventh day after the day of mailing unless the person on whom service is being made establishes that he did not, acting in good faith, through absence, accident, illness or other cause beyond his control, receive the notice, order, decision or other document until a later date. R.S.O. 1980, c. 195, s. 26.

défaut, à la dernière adresse connue du directeur, le cas échéant.

(2) Si la signification a été effectuée par courrier recommandé, conformément au paragraphe (1), la signification est réputée avoir été effectuée le septième jour qui suit la date de la mise à la poste à moins que le destinataire ne démontre qu'il ne l'a reçue, en toute bonne foi, qu'à une date ultérieure par suite de son absence, d'un accident, d'une maladie ou pour tout autre motif indépendant de sa volonté. L.R.O. 1980, chap. 195, art. 26.

Signification
réputée effec-
tuée

ONTARIO REGULATION 344/84

under the Healing Arts Radiation Protection Act

**HOSPITALS PRESCRIBED FOR THE
INSTALLATION AND OPERATION OF
COMPUTERIZED AXIAL TOMOGRAPHY
SCANNERS**

1. Each hospital listed in Column 1 of the following Table is prescribed as a hospital that may install, operate or cause or permit the installation or operation of the number of computerized axial tomography scanners set out opposite thereto in Column 2 of the following Table:

TABLE

ITEM	COLUMN 1	COLUMN 2
1.	Chedoke McMaster	1
2.	Children's Hospital of Eastern Ontario	1
3.	Etobicoke General	1
4.	Hamilton Civic	1
5.	Hamilton Henderson	1
6.	Kingston General	1
7.	Kitchener-Waterloo	1
8.	London University	1
9.	London Victoria	2
10.	Mississauga General	1
11.	Mt. Sinai-Toronto	1
12.	North York General	1
13.	Oshawa General	1
14.	Ottawa Civic	1
15.	Ottawa General	1
16.	St. Catharines General	1
17.	St. Joseph's Hamilton	1
18.	St. Joseph's Health Centre-Toronto	1
19.	St. Joseph's London	1
20.	Scarborough General	1
21.	Sudbury General	1
22.	Thunder Bay McKellar	1

ITEM	COLUMN 1	COLUMN 2
23.	The Toronto Hospital	2
24.	Toronto Humber Memorial	1
25.	Toronto Princess Margaret	1
26.	Toronto St. Michael's	1
27.	Hospital for Sick Children	2
28.	Toronto Sunnybrook	2
29.	Toronto Wellesley	1
30.	REVOKED: O. Reg. 241/87, s. 1 (1), <i>part.</i>	1
31.	Windsor Hotel Dieu	1
32.	Toronto East General	1
33.	Toronto York Finch	1
34.	Peterborough Civic	1
35.	Oakville Trafalgar	1
36.	Scarborough Centenary	1
37.	Sarnia General	1
38.	Joseph Brant Memorial Burlington	1
39.	Grey Bruce Regional Health Centre	1
40.	General Hospital, Sault Ste. Marie	1
41.	York County Hospital, Newmarket	1
42.	Peel Memorial Hospital	1
43.	Brantford General Hospital	1
44.	Credit Valley Hospital Mississauga	1
45.	Metropolitan General Hospital Windsor	1

O. Reg. 344/84, s. 1; O. Reg. 237/86, s. 1; O. Reg. 557/86, s. 1; O. Reg. 24/87, s. 1; O. Reg. 241/87, s. 1; O. Reg. 461/88, s. 1.

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ONTARIO REGULATION 45/84

under the Healing Arts Radiation Protection Act

X-RAY SAFETY CODE

1. In this Regulation,

"aluminum equivalent" of a material means the thickness of aluminum (Aluminum Association Type 1100) that affords the same attenuation as the material where the aluminum and the material are irradiated under the same conditions;

"attenuation" means the decrease in radiation intensity caused by absorption and scattering of x-rays in a medium;

"automatic exposure control" means a device that delivers a predetermined quantity of radiation to the image receptor by automatically controlling one or more technique factors;

"average peak kilovoltage" means the maximum kilovoltage developed in a single pulse of voltage applied to the anode of an x-ray tube averaged over at least twelve successive pulses;

"backscatter" means radiation reaching a point from material located more distant from the x-ray source than the point;

"beam limiting device" means a device that restricts the dimensions of the useful beam;

"cephalometric x-ray machine" means a dental x-ray machine that is used for the examination of the maxillofacial skeleton;

"chiropractic x-ray machine" means an x-ray machine that is used for the examination of the foot;

"coefficient of variation" means the ratio of the estimated standard deviation to the mean value of a series of measurements calculated using the following equation:

$$C = \frac{S}{\bar{X}} = \frac{1}{\bar{X}} \left[\frac{\sum_{i=1}^n (X_i - \bar{X})^2}{n-1} \right]^{1/2}$$

where X_i = i^{th} measurement

\bar{X} = mean value of the measurements

S = estimated standard deviation

n = number of measurements

C = the coefficient of variation;

"control booth" means a defined area in which an x-ray worker operates an x-ray machine;

"control panel" means that part of an x-ray machine that contains the switches, knobs, keys, buttons or other controls accessible to the x-ray operator that are used to set technique factors manually or automatically;

"darkroom" means an enclosed space that is constructed to process light sensitive materials;

"density unit" means the relative amount of light transmitted through a processed film expressed on a common logarithmic scale;

"dental x-ray machine" means an x-ray machine that is used outside the mouth to examine teeth, jaws and related structures;

"diagnostic x-ray machine" means an x-ray machine that is used for the examination of a human being but does not include a radiation therapy simulator or a computerized transaxial tomographic x-ray machine;

"dose equivalent" means a quantity that expresses on a common scale the energy absorbed by a small mass of a body irradiated by a beam of radiation weighted by a factor describing the biological effectiveness of the radiation concerned;

"filter" means material that is placed in the useful beam to attenuate preferentially the lower energy or a specific energy range of x-rays;

"fluoroscopic x-ray machine" means an x-ray machine, an image receptor and the equipment associated with the x-ray machine and the image receptor that is used in fluoroscopy;

"fluoroscopy" means a mode of x-ray exposure in which the image receptor and associated equipment produce and display a visible image that is viewed by the operator during or subsequent to the exposure;

"general-purpose radiographic x-ray machine" means a radiographic x-ray machine that is not limited by design or adaptation to radiographic examination of a specific anatomical region;

- "half-value layer" means the thickness of a specified material that attenuates the x-ray beam under conditions that minimize scattered radiation such that the exposure is reduced to one-half of its original value;
- "image receptor" means a device that converts incident x-radiation into a visible image or into a form that can be made into a visible image by further transformation;
- "lead equivalent" of material means the thickness of lead that affords the same attenuation as the material where the lead and the material are irradiated under the same conditions;
- "leakage radiation" means all the radiation except the useful beam that comes from within the housing of an energized x-ray tube or the radiation that is produced when the exposure switch or timer of an x-ray machine is not activated;
- "light field" means the area of light at a specified plane that is directly outlined by a beam limiting device;
- "mammographic x-ray machine" means an x-ray machine that is used for the examination of the breast;
- "manual exposure control" means a device that is used by an x-ray operator to set technique factors in order to deliver a predetermined quantity of radiation to the image receptor;
- "mobile x-ray machine" means an x-ray machine that can be moved from one location to another;
- "occupancy" means the nature and extent of use of space adjacent to an x-ray machine;
- "optical density" means the degree of opacity to visible light of a processed film expressed in density units;
- "panoramic x-ray machine" means a tomographic unit used for the production of radiographs of the teeth, jaws and related structures on a single film or radiograph;
- "patient entrance exposure" means the x-ray exposure, excluding exposure arising from back-scattered radiation, in the centre of an x-ray beam at the position of the surface of the patient that is closest to the x-ray source;
- "phantom" means an object that simulates a patient when placed in an x-ray beam for the purpose of testing an x-ray machine or image receptor;
- "photofluorographic x-ray machine" means an x-ray machine that records photographically in reduced size the image produced on a fluorescent screen;
- "primary protective barrier" means a barrier that is sufficient to attenuate the useful beam to a specified degree;
- "protective accessory" means a device that is used to protect a person in an x-ray facility from receiving unnecessary radiation;
- "secondary protective barrier" means a barrier that is sufficient to attenuate stray radiation to a specified degree;
- "stationary x-ray machine" means an x-ray machine that is installed permanently in one location and includes a machine that is permanently installed in a truck, bus, train or other movable facility;
- "technique factors" means the following conditions of operation of a diagnostic x-ray machine that can be selected by the operator:
1. The peak tube potential.
 2. The tube current.
 3. The exposure time.
 4. The added filtration.
 5. A combination of the variables set out in paragraphs 1 to 4.
 6. The distance between the radiation source and the image receptor;
- "tube housing assembly" means an x-ray tube housing that has an x-ray tube installed in it;
- "useful beam" means the delineated beam of x-rays that passes through the tube housing and the beamlimiting aperture;
- "whole-body-dose-equivalent" means the weighted average of the dose-equivalents received by all tissues in the body of an irradiated person;
- "work-load" means the degree of use of an x-ray machine expressed in milliamperere minutes;
- "x-ray exposure" means a quantity of x-rays delivered at a defined point in space or in a medium that is expressed in terms of the amount of electric charge produced by the radiation in a small mass of air located at the point;
- "x-ray field" means the area of the intersection of a useful beam and one of the set of planes parallel to the plane of the image receptor;
- "x-ray room" means a defined area where one or more permanently fixed x-ray machines and equipment are located;
- "x-ray tube" means an evacuated envelope that is designed to produce x-rays by the bombardment of a metal target by accelerated electrons;

"x-ray worker" means a person who is qualified under the Act or the regulations to operate an x-ray machine. O. Reg. 511/85, s. 1.

2.—(1) The following information is prescribed for the purpose of clause 3 (2) (a) of the Act:

1. The name of the owner of the x-ray machine.
2. The number or identifying name of the X-ray room for which approval of installation is sought.
3. The name of the manufacturer and the model number of the x-ray machine, the anticipated maximum workload, the maximum tube voltage, and the maximum tube current.
4. The thickness and nature of materials that form the boundaries of the x-ray room.
5. The occupancy of the adjacent spaces, including spaces above and below the x-ray room.
6. The percentage of the working day each adjacent space is occupied.
7. The percentage of the exposure time the useful beam is projected toward each adjacent space.

(2) The following plan, to be submitted in duplicate, is prescribed for the purpose of clause 3 (2) (a) of the Act:

1. A floor plan drawn to a scale of not less than one to fifty that indicates,
 - i. the compass point North,
 - ii. the name of the owner and address of the installation,
 - iii. the limits of travel of the x-ray tube within the room,
 - iv. the location of the control booth or the exposure switch,
 - v. the position of each horizontal or erect x-ray film cassette holder, and
 - vi. the location of the darkroom and storage of unprocessed film.

(3) In addition to the requirements prescribed in subsection (2) where the application for approval is for the installation of an x-ray machine in a dental facility, the floor plans shall indicate,

- (a) the position and limits of rotation of the chair; and

- (b) the position of the head of the person being irradiated. O. Reg. 45/84, s. 2.

3.—(1) Every installation of an x-ray machine shall be shielded with a primary protective barrier and a secondary protective barrier so that,

- (a) no x-ray worker receives a whole-body-dose-equivalent of more than 1 millisievert (100 millirem) per week; and
- (b) no person, other than the patient undergoing an application of therapeutic or diagnostic x-rays, who is not an x-ray worker, receives a whole-body-dose-equivalent of more than 0.1 millisievert (10 millirem) per week.

(2) The barriers referred to in subsection (1) shall comply with the standards contained in Appendix 2 of Safety Code-20A—X-Ray Equipment in Medical Diagnosis Part A: Recommended Safety Procedures for Installation and Use, published by the Department of National Health and Welfare.

(3) Where lead shielding is used as a barrier, it shall be mounted in such a manner as to avoid sagging or damage to the lead shielding.

(4) Joints between different kinds of barrier material shall be constructed so that the overall attenuation of the barrier is not impaired.

(5) Windows, doors or other openings in a barrier shall be so constructed that they meet the same protection design standards referred to in subsection (2) that apply to barriers.

(6) All doors leading directly into an x-ray room shall be fitted with self-closing devices and, where the doors are accessible to the public, shall have prominently displayed on them warning signs sufficient to alert persons to the presence of the x-ray equipment.

(7) Unprocessed film shall be protected from X-rays being generated by x-ray machines in the facility so that during its storage the increase in optical density caused by unintentional irradiation is less than 0.02 density units. O. Reg. 45/84, s. 3.

4.—(1) The following subject-matters for courses of study in the operation of x-ray machines and x-ray equipment are prescribed:

1. Properties of radiation.
2. Interactions of radiation.
3. Biological effects of radiation.
4. Background radiation.
5. Measurement of radiation.
6. Production and characteristics of x-rays.

7. Relationship between technical factors that affect image quality and dose.
8. Radiation protection legislation.
9. Control of radiation hazards.
10. Quality control.

(2) The Commission shall not approve any courses of study in the operation of x-ray machines and x-ray equipment unless the courses include the subject-matters set out in subsection (1). O. Reg. 511/85, s. 2, *part*.

(3) Successful completion of one of the following requirements is prescribed for the purposes of sections 5 and 7 of the Act in respect of any person who operates an x-ray machine in a dental diagnostic x-ray facility:

1. A course in dental radiation safety approved by the Commission.
2. A program or course in dental assisting that is approved by the Commission at a College of Applied Arts and Technology.
3. On and after the 1st day of January, 1981, a dental assisting program that is approved by the Commission at,
 - i. Career Canada Limited,
 - ii. Career Canada (Hamilton) Limited,
 - iii. Lorne Park Secondary School,
 - iv. Etobicoke Collegiate Institute,
 - v. Sir Allan MacNab Secondary School,
 - vi. Toronto School of Business Inc., 5631 Yonge Street, Willowdale, Ontario, or
 - vii. Barnett—Christie Corporation carrying on business as the College of Business Training, 2820 Danforth Avenue, Toronto, Ontario.
4. A program or course in dental assisting offered by the Canadian Armed Forces. O. Reg. 511/85, s. 2, *part*; O. Reg. 722/87, s. 1.

(4) The following requirements are prescribed for the purposes of sections 5 and 7 of the Act in respect of any person who operates an x-ray machine in a medical diagnostic x-ray facility,

1. Successful completion of a course in medical diagnostic radiation safety approved by the Commission.

2. Successful completion of a clinical evaluation conducted by the Ontario Board of Radiological Technicians.

(5) Subsection (4) ceases to apply on and after the 1st day of January, 1986. O. Reg. 511/85, s. 2, *part*.

5.—(1) A person who is a member of a class of persons set out in Column 1 of Table 1 is exempt from the provision of subsection 5 (1) of the Act provided that the person only operates an x-ray machine under the supervision of a person set out opposite thereto in Column 2 of Table 1.

(2) The owner of an x-ray machine that is installed in a public hospital approved under the *Public Hospitals Act* or in a private radiological clinic that has no legally qualified medical radiologist on staff is exempt from the requirement of subsection 9 (1) of the Act provided that the owner designates a registered radiological technician who, in the opinion of the Director of x-ray Safety, is competent to act as radiation protection officer for the facility in which the x-ray machine is installed. O. Reg. 511/85, s. 2, *part*.

5a. Persons who are registered under the *Radiological Technicians Act* and who are employed or engaged by the Ontario Cancer Treatment and Research Foundation are exempt from section 6 of the Act in the operation of an x-ray machine for the irradiation of a human being if the irradiation is part of a breast cancer screening program administered by the Ontario Cancer Treatment and Research Foundation. O. Reg. 352/90, s. 1.

6. The classes of radiation protection officers set out in Column 1 of Table 2 are prescribed and may only act as radiation protection officers for the class of facility set out opposite thereto in Column 2 of Table 2. O. Reg. 511/85, s. 2, *part*.

7.—(1) Every radiation protection officer shall ensure that every person who operates an x-ray machine in the facility for which he is a radiation protection officer is qualified in accordance with this Regulation to operate an x-ray machine.

(2) Every radiation protection officer shall establish and maintain procedures and tests for the x-ray machines and x-ray equipment in the facility for which he is a radiation protection officer to ensure compliance with this Regulation.

(3) Every radiation protection officer shall ensure that protective accessories of at least 0.5 millimetres lead equivalent at 150 kilovolts peak are available for use by persons who may receive exposure to x-rays in the facility.

(4) Every radiation protection officer shall provide to the Director of x-ray Safety, within sixty days of the installation of a new x-ray machine in a facility where he is the radiation protection officer, written results of the tests conducted to verify whether or not

the x-ray machine complies with the provisions of the *Radiation Emitting Devices Act* (Canada) and the regulations made thereunder.

(5) Every radiation protection officer shall provide to the Director of x-ray Safety, within sixty days of the installation of a used x-ray machine in a facility where he is the radiation protection officer, written results of the tests conducted to verify whether or not the x-ray machine complies with the provisions of the Act and this Regulation.

(6) Every radiation protection officer shall ensure that records are maintained of each test required to be carried out under this section that set out,

- (a) the type and result of the test;
- (b) the frequency of testing where applicable; and
- (c) the action taken to correct each deficiency identified by the test.

(7) Every radiation protection officer shall ensure that the records referred to in subsection (6) are maintained for at least six years from the time of their making in the facility in which the x-ray machine to which the records referred to is operated.

(8) Every dental radiation protection officer shall ensure that at the facility where the officer acts, the procedures and tests set out in Column 1 of Table 3 are conducted at the frequencies set out opposite thereto in Column 2 of Table 3.

(9) Every chiropodic radiation protection officer shall ensure that at the facility where the officer acts, the procedures and tests set out in Column 1 of Table 4 are conducted at the frequencies set out opposite thereto in Column 2 of Table 4.

(10) Every medical radiation protection officer and every chiropractic radiation protection officer shall ensure that at the facility where the officer acts, the procedures and tests set out in Column 1 of Table 5 are conducted at the frequencies set out opposite thereto in Column 2 of Table 5.

(11) Every medical radiation protection officer, every chiropractic radiation protection officer and every chiropodic radiation protection officer shall ensure that at the facility where the officer acts, the entrance exposure of that part of a patient set out in Column 1 of Table 6 of a thickness set out opposite thereto in Column 2 of Table 6 that is a distance from the x-ray source set out opposite thereto in Column 3 of Table 6 does not exceed the exposure set out opposite thereto in Column 4 of Table 6.

(12) Every dental radiation protection officer shall ensure that at the facility where the officer acts, the entrance exposure of that part of a patient set out in Column 1 of Table 7 at the measured potential set out opposite thereto in Column 2 of Table 7 does not

exceed the exposure set out opposite thereto in Column 3 of Table 7.

(13) Every radiation protection officer shall notify the Director of x-ray Safety forthwith of the occurrence of,

- (a) an accident involving an x-ray machine; or
- (b) an overexposure to radiation involving a patient or patients,

in a facility where he is a radiation protection officer.

(14) In addition to the notice required under subsection (13), the radiation protection officer shall ensure that a written report of the accident or overexposure is received by the Director of x-ray Safety not later than five days after the occurrence of the accident or overexposure. O. Reg. 511/85, s. 2, *part*.

8.—(1) Every diagnostic x-ray machine shall bear either on the external surface of the main x-ray control panel or at the exposure switch location a warning sign that indicates that,

- (a) unauthorized use is prohibited; and
- (b) hazardous radiation is emitted when the x-ray machine is activated.

(2) Every diagnostic x-ray machine shall be so constructed that,

- (a) all controls, meters, lights or other indicators on the machine are readily recognizable and clearly identifiable as to function;
- (b) the x-ray tube is securely fixed and correctly aligned with the tube housing;
- (c) the x-ray tube housing maintains its required exposure position without significant drifting, tipping or vibration so as to affect the quality of the image;
- (d) there are recognizable warning lights or other indicators that indicate,
 - (i) when the machine is energized and is ready to produce x-rays, and
 - (ii) when the x-rays are produced;
- (e) where the machine has individual technique factors that are either fixed or can be selected manually by the operator, there are electrical meters, controls or other indicators to enable the x-ray operator to determine those selected technique factors before the patient is irradiated;
- (f) where the x-ray machine is used in the radiographic mode and has automatically controlled exposure or anatomically related

exposure selection or falling load, there is an electrical meter, control or other indicator that enables the x-ray operator to determine the kilovoltage before the patient is irradiated;

- (g) where the x-ray machine is battery powered, there is a visual indicator that shows whether the battery is charged for proper operation;
 - (h) it is not possible to energize more than one x-ray tube at the same time; and
 - (i) where there are two x-ray tubes, there is a visible indication of which x-ray tube is selected and ready to be activated at the control panel.
- (3) Every diagnostic x-ray machine shall be provided with,
- (a) an exposure switch, timer or other device that is controlled by the operator to initiate and terminate the irradiations; and
 - (b) filters that,
 - (i) are located in the exit port of the x-ray tube housing or beam limiting device or both,
 - (ii) intercept the entire useful beam, and
 - (iii) at a measured potential set out in Column 1 of Table 8 with a thickness of aluminum set out opposite thereto in Column 2 of Table 8, reduce the exposure at least by half. O. Reg. 511/85, s. 2, *part*.

9.—(1) Every exposure switch on an x-ray machine shall,

- (a) be so located that it cannot be conveniently operated outside a shielded area; and
 - (b) where it is part of a mobile machine, be equipped with a cable at least three metres in length.
- (2) Clause (1) (a) does not apply to an exposure switch that is used in conjunction with mobile x-ray machines, spot-film devices or fluoroscopy.
- (3) Every exposure switch on an x-ray machine shall be so constructed that it requires continuous pressure by the x-ray operator to produce x-rays, except where the x-ray machine is equipped with a serial changer.
- (4) Where an exposure switch on an x-ray machine is used in conjunction with a serial changer, the switch shall be so constructed that it permits the

x-ray operator to terminate an irradiation at any time.

(5) Every exposure switch on an x-ray machine that is a foot switch shall be so constructed as to prevent an unintended exposure if the switch is overturned. O. Reg. 511/85, s. 2, *part*.

10.—(1) Every diagnostic x-ray machine and every fluoroscopic x-ray machine shall be so constructed that the timing device on the machine terminates an irradiation on completion of,

- (a) a preset time interval;
- (b) a preset product of current and time; or
- (c) a preset number of pulses,

except where the x-ray machine is equipped with an automatic exposure control device.

(2) Where an x-ray machine is equipped with an automatic exposure control device, the device shall terminate the exposure to the patient when a predetermined amount of radiation is detected.

(3) Every timing device on a diagnostic x-ray machine and fluoroscopic x-ray machine shall be so constructed that it,

- (a) resets automatically to its original position or to ZERO on termination of an irradiation; and
- (b) prevents an irradiation from occurring at the ZERO or OFF position. O. Reg. 511/85, s. 2, *part*.

11. Every beam limiting device on an x-ray machine shall be so constructed that it affords the same attenuation of leakage radiation as that required of the tube housing assembly. O. Reg. 511/85, s. 2, *part*.

12.—(1) Every diagnostic x-ray machine that is equipped with an automatic exposure control shall be equipped with,

- (a) an indicator that shows when the automatic exposure control mode of operation has been selected;
- (b) a means of terminating the exposure,
 - (i) of an x-ray tube with a potential of less than fifty kilovolts peak, when the product of the x-ray tube current and the exposure time is 2,000 milliamperes-seconds per exposure, or
 - (ii) of an x-ray tube with a potential of fifty kilovolts peak or more, when,
 - (A) the product of the x-ray tube

current and the exposure time is 600 milliampere-seconds, or

- (B) the product of the peak x-ray tube potential, current and exposure time is sixty kilowatt-seconds per exposure; and

- (c) an indicator that warns the operator that a condition set out in subclause (b) (i) or (ii) has been reached.

(2) Every diagnostic x-ray machine shall be so constructed that,

- (a) over the normal range of use of the machine for any given combination of x-ray tube potential (in kilovolts peak), tube current (in milliamperes), exposure time (in seconds) or for selected radiation exposure to the image receptor (in milliroentgens),

- (i) the estimated coefficient of variation of any ten consecutive radiation exposure measurements taken at the same source-to-detector distance within a time period of one hour is no greater than 0.08, and

- (ii) each of the ten radiation exposures referred to in subclause (i) is within 20 per cent of the mean value of the ten measurements;

- (b) for any selected setting of the peak x-ray tube potential over the normal range of use of the machine, the average peak kilovoltage corresponds to the selected value to within ± 8 per cent;

- (c) the timer on the x-ray machine may be set to control irradiations as short as 1/30 second or five milliampere-seconds, whichever is greater;

- (d) at each setting over the normal range of use, the timer on the x-ray machine is accurate to within ± 10 per cent; and

- (e) at each setting over the normal range of use, the timer on the x-ray machine will comply with the reproducibility standards set out in clause (a).

(3) Subsection (2) does not apply to dental x-ray machines, chiropodic x-ray machines or to mammographic x-ray machines.

(4) Where a diagnostic x-ray machine is constructed so that the tube current (in milliamperes) has a range of preset values and both it and the exposure time (in seconds) can be selected individually, the average ratios of exposure (in milliroentgens) to the product of tube current and exposure time,

obtained at any two adjacent tube current settings for any fixed indicated value of x-ray tube potential (in kilovolts) over the normal range of use of the machine, shall not differ by more than 0.10 times their sum or

$$\left| \bar{x}_1 - \bar{x}_2 \right| \leq 0.10 (\bar{x}_1 + \bar{x}_2)$$

where x_1 and x_2 are the average mR/mAs (milliroentgens divided by milliampere-seconds) values obtained at the two selected settings of mA (milliamperes).

(5) Where a diagnostic x-ray machine is constructed so that the exposure selection can be made only as the tube current exposure time product (in milliampere-seconds) or where the milliampere value is continuously variable, the average ratios of exposure (in milliroentgens) to the product of tube current and exposure time, obtained at any two selections of milliampere-second differing by at least a factor of two, for any fixed indicated value of x-ray tube potential (in kilovolts) within the range of normal operation of the machine, shall not differ by more than 0.10 times their sum, or

$$\left| \bar{x}_1 - \bar{x}_2 \right| \leq 0.10 (\bar{x}_1 + \bar{x}_2)$$

where x_1 and x_2 are the average mR/mAs (milliroentgens divided by milliampere-seconds) values obtained at the two selected settings of mA (milliamperes). O. Reg. 511/85, s. 2, *part*.

13.—(1) The leakage radiation measured at a distance of one metre in any direction from an x-ray source shall not exceed 100 milliroentgens in one hour under any conditions.

(2) The leakage radiation measurements referred to in subsection (1) shall be averaged over an area of 100 square centimetres with no linear dimension greater than twenty centimetres. O. Reg. 511/85, s. 2, *part*.

14.—(1) Every general-purpose radiographic x-ray machine and every mobile radiographic x-ray machine shall be equipped with an x-ray beam limiting device that,

- (a) provides for stepless adjustment of the size of the x-ray field;

- (b) provides for a minimum field size that does not exceed five centimetres by five centimetres at a target-to-image-receptor distance of 100 centimetres; and

- (c) ensures that at each position, the x-ray field is aligned with the image receptor in such a manner that the x-ray field is always confined within the boundaries of the image receptor.

(2) An x-ray beam limiting device referred to in subsection (1) shall,

- (a) be equipped with an adjustable light beam diaphragm or other device that defines visually the outline of the x-ray field when the axis of the x-ray beam is perpendicular to the plane of the image; or
- (b) allow the operator to adjust the dimensions of the x-ray field at the image receptor to a size smaller than the dimensions of the image receptor.

(3) An adjustable light beam diaphragm or other device that defines visually the outline of the x-ray field shall be so constructed that,

- (a) misalignment of the visually defined field with respect to the x-ray field along either the length or width of the x-ray field does not exceed 2 per cent of the target-to-image-receptor distance; and
- (b) the size of the x-ray field in the plane of the image receptor is indicated at selected distances that are accurate to within 3 per cent of the target-to-image-receptor distance. O. Reg. 511/85, s. 2, *part*.

15. Every general-purpose radiographic x-ray machine that is used with only one size of image receptor at a fixed target-to-image-receptor distance shall be equipped with devices to ensure that,

- (a) the centre of the x-ray field is aligned with the centre of the image receptor to within 2 per cent of the target-to-image-receptor distance; and
- (b) the x-ray field in the plane of the image receptor does not extend beyond any edge of the image receptor. O. Reg. 511/85, s. 2, *part*.

16.—(1) Every fluoroscopic x-ray machine shall be equipped with,

- (a) an image intensification system that,
 - (i) includes a shielded protective barrier and shielding such that,
 - (A) the entire cross-section of the useful beam is intercepted within the protective barrier for any target-to-image distance, and
 - (B) the fluoroscopic x-ray tube is not capable of producing x-rays unless the shielding is in place to intercept the useful beam,

- (ii) in the case of a mobile fluoroscopic x-ray machine, is an integral part of the machine or is interlocked in such a manner that its removal prevents x-rays from being produced;

- (b) where it is a stationary machine, a means to prevent the x-ray tube from producing x-rays unless there is an image receptor in place to intercept the x-ray beam;

- (c) an audible signal that,

- (i) indicates completion of any preset time of use up to a maximum of five minutes, and

- (ii) continues to sound until the timer is reset whenever x-rays are produced after the preset time of use has expired, or,

a timer circuit that will,

- (iii) cut off the high tension voltage to the x-ray tube after a preset time of use up to a maximum of five minutes, and

- (iv) continue to prevent fluoroscopy until the timer has been reset manually;

- (d) electrical meters or other visual indicators on the control panel that will provide a continuous indication of current in milliamperes;

- (e) a means to limit the target-to-skin distance to not less than,

- (i) twenty-five centimetres for a mobile fluoroscopic machine,

- (ii) thirty-eight centimetres for a stationary fluoroscopic machine, or

- (iii) twenty centimetres for an image-intensified fluoroscopic machine used for special procedures that would not be possible at the minimum target-to-skin distance set out in sub-clause (ii);

- (f) an x-ray beam limiting device that,

- (i) allows the operator to adjust the dimensions of the x-ray field at the image receptor to a size smaller than the dimensions of the image receptor, and

- (ii) aligns the x-ray field with the image receptor in such a manner that the x-ray field is always confined within

the boundaries of the image receptor;

- (g) a shield of at least 0.25 millimetres lead equivalent at 100 kilovolts peak that intercepts scattered radiation originating in the patient that would otherwise reach the x-ray operator or other persons in the facility.
- (2) Clause (1) (b) does not apply to special purpose x-ray tubes or image intensifiers that are constructed to have free and independent movement within an x-ray room.
- (3) Clause (1) (g) does not apply to a mobile fluoroscopic x-ray machine.
- (4) The exposure rate limits of a fluoroscopic x-ray machine that uses a zinc cadmium sulphide input phosphor or a phosphor of similar efficiency calculated where the centre of the useful beam enters the patient at the shortest target-to-skin distance specified for the machine shall not exceed,
- (a) a maximum exposure rate of 12.5 roentgens per minute; and
- (b) an entrance exposure rate of five roentgens per minute for an average patient represented for test purposes by a twenty centimetre water phantom.
- (5) The exposure rate limit of a fluoroscopic x-ray machine that uses a cesium iodide input phosphor or a phosphor of similar efficiency calculated where the centre of the useful beam enters the patient at the shortest target-to-skin distance specified for the machine shall not exceed,
- (a) a maximum exposure rate of ten roentgens per minute; and
- (b) an entrance exposure rate of 2.5 roentgens per minute for an average patient represented for test purposes by a twenty centimetre water phantom.
- (6) Clauses (4) (a) and (5) (a) do not apply when the high-level control of the x-ray machine is activated.
- (7) A fluoroscopic x-ray machine that is equipped with an optional high-level control that allows higher exposure rates at the image receptor than the rates set out in subsections (4) and (5) shall be so constructed that,
- (a) the high-level control is activated by its own control separate from any other control; and
- (b) there is a continuous signal to the x-ray operator to indicate that the high-level control is being activated.

(8) A photofluorographic x-ray machine shall only be used when the primary image is enhanced by electronic image intensification. O. Reg. 511/85, s. 2, *part*.

17.—(1) Every x-ray machine that is used to conduct mammographic x-ray examinations shall be equipped with,

- (a) an x-ray beam limiting device that limits the useful beam so that at any target-to-image-receptor distance specified for the machine the x-ray field in the plane of the image receptor,
- (i) does not exceed the edge of the image receptor next to the chest wall by more than 2 per cent of the target-to-image-receptor distance, and
- (ii) except for the edge of an image receptor referred to in subclause (i), does not extend beyond any other edge of the image receptor;
- (b) an image receptor supporting device that is shielded sufficiently to ensure that for each activation of the x-ray tube the radiation exposure does not exceed 0.1 milliroentgens where,
- (i) the machine is operated,
- (A) in the mammographic mode,
- (B) at the maximum rated x-ray tube potential,
- (C) the maximum rated tube current-exposure product for that tube potential, and
- (D) at the minimum target-to-receptor distance attainable, and
- (ii) the radiation exposure is averaged over a detection area of 100 square centimetres, with no linear dimension greater than twenty centimetres and centred at five centimetres from an accessible surface beyond the plane of the support device; and
- (c) a device that will compress the breast of the patient being x-rayed.
- (2) A removable fixed-operative beam limiting device that is installed on an x-ray machine that is constructed or adapted to perform mammographic examinations shall bear on its external surface clearly visible permanent markings that state,
- (a) the image receptor size; and

(b) the target-to-image-receptor distance for which the beam limiting device is designed.

(3) Every mammographic x-ray machine shall be so constructed that the accuracy of kilovoltage calibration for the machine is ± 1 kilovolts for kilovoltage up to thirty-five and ± 4 per cent for kilovoltage above thirty-five.

(4) Every x-ray machine that is constructed or adapted to perform mammographic examinations shall be so constructed or adapted that,

- (a) for any selected combination of kilovoltage, current and time, the coefficient of variation of any ten consecutive radiation measurements taken at the same distance within a time period of one hour is not greater than 0.08;
- (b) where the timer is non-mechanical, it is accurate to within 1/30 second (two cycles) or 10 per cent of the set value, whichever is greater; and
- (c) where the timer is mechanical, it is accurate to within 1/20 second or 15 per cent, whichever is greater. O. Reg. 511/85, s. 2, *part*.

18. On and after the 1st day of January, 1988, only tungsten target x-ray tubes shall be used for xeroradiography. O. Reg. 511/85, s. 2, *part*.

19.—(1) Every dental x-ray machine and every chiropodic x-ray machine shall be so constructed that,

- (a) for any selected combination of kilovoltage, current and time, the estimated coefficient of variation of any ten consecutive radiation measurements taken at the same distance

within a time period of one hour is not greater than 0.08;

(b) when the x-ray machine is operating in the fixed milliamperage mode, the timer is, at each setting, accurate to within 1/30 second (two cycles) or 10 per cent of the set value; and

(c) for any selected setting of the peak x-ray tube potential, the actual peak kilovoltage corresponds to the selected value to within ± 8 per cent.

(2) Clause (1) (b) does not apply to equipment used for panoramic dental examinations. O. Reg. 511/85, s. 2, *part*.

20.—(1) Every dental x-ray machine shall be equipped with a beam limiting device that limits the size of the useful beam to a maximum linear dimension of seven centimetres at the end of the localizing cone or device.

(2) Subsection (1) does not apply to a panoramic x-ray machine or a cephalometric x-ray machine. O. Reg. 511/85, s. 2, *part*.

21. Every panoramic x-ray machine shall be equipped with a beam limiting device that limits the useful beam at the image receptor to a size not more than 2 per cent of the source-to-image-receptor distance at each dimension of the scanning slit. O. Reg. 511/85, s. 2, *part*.

22. Every cephalometric x-ray machine shall be equipped with a beam limiting device that limits the size of the useful beam to maximum linear dimensions of thirty-one centimetres by thirty-eight centimetres at the plane of the image receptor. O. Reg. 511/85, s. 2, *part*.

TABLE 1

ITEM	COLUMN 1	COLUMN 2
	Class of Student	Supervisor
1.	Medical student	Radiologist
2.	Dental student	Dentist
3.	Dental Hygiene student	Dentist
4.	Dental Assisting student	Dentist
5.	Chiropractic student	Chiropractor
6.	Radiological Technology student	Radiologist or Radiological Technician registered under the <i>Radiological Technicians Act</i>

TABLE 2

ITEM	COLUMN 1	COLUMN 2
	Class of Radiation Protection Officer	Class of Facility
1.	Medical radiation protection officer	Medical facility
2.	Dental radiation protection officer	Dental facility
3.	Chiropractic radiation protection officer	Chiropractic facility
4.	Chiropodic radiation protection officer	Chiropody facility

O. Reg. 511/85, s. 3, *part.*

TABLE 3

Dental Facility

ITEM	COLUMN 1	COLUMN 2
	Test or Procedure	Frequency
1.	Photographic quality control	Every operational day
2.	Patient entrance exposure measurements	Every twelve months and upon alteration or servicing of the machine
3.	Collimation	Every twelve months and upon alteration or of the machine
4.	Half-value layer	Every twelve months and upon alteration or servicing of the machine

O. Reg. 511/85, s. 3, *part.*

TABLE 4

Chiropodic Facility

ITEM	COLUMN 1	COLUMN 2
	Test or Procedure	Frequency
1.	Photographic quality control	Every operational day
2.	Patient entrance exposure measurements	Every twenty-four months and upon alteration or servicing of the machine
3.	Collimation	Every twelve months and upon alteration or servicing of the machine
4.	Half-value layer	Every twelve months and upon alteration or servicing of the machine

O. Reg. 511/85, s. 3, *part.*

TABLE 5

Medical and Chiropractic Facilities

ITEM	COLUMN 1	COLUMN 2
	Test or Procedure	Frequency
1.	Photographic quality control	Every operational day
2.	Patient entrance exposure measurements	Every six months and upon alteration or servicing of the machine
3.	Collimation	Every six months and upon alteration or servicing of the machine
4.	Half-value layer	Every six months and upon alteration or servicing of the machine
5.	Phototiming parameters including operation of back-up timer	Every six months
6.	Fluoroscopic parameters, including,	
	(a) maximum patient entrance exposure rate	Every six months and upon servicing of the machine
	(b) resolution	Every six months and upon servicing of the machine
	(c) limit timer	Every six months and upon servicing of the machine
	(d) automatic brightness control	Every six months and upon servicing of the machine
7.	Tomographic parameters, including fulcrum accuracy, thickness of cut and mechanical stability	Every six months

O. Reg. 511/85, s. 3, part.

TABLE 6

ITEM	COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
	Projection	Patient thickness*	Source-to-image distance	Maximum entrance exposure** expressed in milliroentgens
1.	Abdomen AP	23 cm	100 cm	450
2.	Cervical Spine AP	13 cm	100 cm	120
3.	Chest PA	23 cm	180 cm	20
4.	Foot (Dorso-Plantar) Direct Film	8 cm	100 cm	200
5.	Full Spine	23 cm	180 cm	250
6.	Intravenous Pyelogram	23 cm	100 cm	500
7.	Lumbar Spine AP	23 cm	100 cm	500
8.	Lumbar Spine Lateral	32 cm	100 cm	2,000
9.	Mammogram			
	(a) Film	4 cm (compressed)	As used	900
	(b) Xerox	4 cm (compressed)	As used	1,600

ITEM	COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
	Projection	Patient thickness*	Source-to-image distance	Maximum entrance exposure** expressed in milliroentgens
10.	Skull Lateral	15 cm	100 cm	170
11.	Thoracic Spine AP	23 cm	100 cm	400
* standard for test purposes ** exposures expressed as exposure in air without backscatter				

O. Reg. 511/85, s. 3, part.

TABLE 7

ITEM	COLUMN 1	COLUMN 2	COLUMN 3
	Projection	Peak Kilovoltage	Maximum entrance exposure expressed in milliroentgens
1.	Posterior Bitewings	50	550
2.		60	475
3.		70	360
4.		80	280
5.		90	220

O. Reg. 511/85, s. 3, part.

TABLE 8

ITEM	COLUMN 1	COLUMN 2
	Measured Potential (kilovolts peak)	Minimum Half-value Layer (millimetres of aluminum)
1.	30	0.3
2.	40	0.4
3.	49	0.5
4.	50	1.2
5.	60	1.3
6.	70	1.5
7.	71	2.1
8.	80	2.3
9.	90	2.5
10.	100	2.7
11.	110	3.0
12.	120	3.2
13.	130	3.5
14.	140	3.8

ITEM	COLUMN 1	COLUMN 2
	Measured Potential (kilovolts peak)	Minimum Half-value Layer (millimetres of aluminum)
15.	150	4.1

O. Reg. 511/85, s. 3, *part.*