SOUTH AUSTRALIA

IONIZING RADIATION REGULATIONS, 1985

RADIATION PROTECTION AND CONTROL ACT, 1982

Ionizing Radiation Regulations, 1985

being

No. 47 of 1985: *Gaz*. 4 April 1985, p. 993[1]

as varied by

No. 165 of 1985: *Gaz*. 29 August 1985, p. 635
No. 193 of 1988: *Gaz*. 8 September 1988, p. 1004[2]
No. 234 of 1988: *Gaz*. 24 November 1988, p. 1830[3]
No. 115 of 1991: *Gaz*. 27 June 1991, p. 2204[4]
No. 161 of 1991: *Gaz*. 18 July 1991, p. 309
No. 245 of 1991: *Gaz*. 12 December 1991, p. 1862
No. 82 of 1995: *Gaz*. 10 May 1995, p. 2056[5]
No. 115 of 1996: *Gaz*. 30 May 1996, p. 2723[6]
No. 96 of 1997: *Gaz*. 13 May 1997, p. 1900[7]

1 Came into operation 1 September 1985 except regs. 2(1), 5, 8-152, 202, 205-207 which came into operation 1 April 1986: reg. 1(2).
2 Came into operation 30 September 1988: reg. 2.
3 Came into operation 1 February 1989: reg. 2.
4 Came into operation 1 July 1991: reg. 2.
5 Came into operation 10 September 1995: reg. 2.
6 Came into operation 1 July 1996: reg. 2.
7 Came into operation 1 July 1997: reg. 2.

Note: Asterisks indicate repeal or deletion of text. For further explanation see Appendix.

PART I—GENERAL

DIVISION I—Preliminary

1. (1) These regulations may be cited as the *Ionizing Radiation Regulations, 1985*.

(2) These regulations shall take effect as follows:

(a) regulations 1, 2(2), 3, 4, 6, 7; Divisions IV, V, VI, VII and IX of Part IV; Division VIII of Part IV with the exception of regulation 202; Division II of Part V and Part VI shall take effect from 1 September 1985; and

(b) all other regulations shall take effect from 1 April 1986.

2. (1) The *Radioactive Substances and Irradiating Apparatus Regulations, 1962*, made under the *Health Act, 1935*, on 29 March 1962 and published in the *Government Gazette* of the same day at page 661, as varied, are revoked.

(2) The *Ionizing Radiation (Radioactive Ores) Regulations, 1982* (No. 201 of 1982) made under the Act on 28 October 1982 and published in the *Government Gazette* of the same day at page 1245 are revoked.

3. These regulations are divided into Parts as follows:

PART I—General

Division I—Preliminary
Division II—Definitions
Division III—Application
Division IV—General Provisions for Radiation Protection Division V—Radiation Protection Standards and Limits Division VI—Radiation Safety Officers
Division VII—Monitoring
Division VIII—Records, Reports and Investigations
Division IX—Radiation Incidents, Radiation Accidents and Radiation Emergencies
Division X—Medical Examinations

PART II—Irradiation of Humans for Diagnostic, Therapeutic or Research Purposes

Division I—Diagnostic and Therapeutic Purposes
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PART III—Ionizing Radiation Apparatus

Division I—Sale or Disposal of Apparatus
Division II—Licence to Operate Apparatus
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Division IV—Special Requirements for Apparatus

PART IV—Radioactive Substances

A—General

B—Sealed Radioactive Sources

C—Unsealed Radioactive Substances

D—Uranium, Thorium and Radioactive Ores

PART V—Miscellaneous

PART VI—Schedules

DIVISION II—Definitions

4. (1) In these regulations, unless the contrary intention appears:

"Act" means the *Radiation Protection and Control Act, 1982*;

"adequately shielded" in relation to a component of an X-ray analysis apparatus, means that the air kerma rate as measured at any accessible point 50mm from the surface of the component does not exceed 25 microgray per hour when the X-ray tube is operated at any of the permissible ratings specified by the manufacturer of the X-ray analysis apparatus;

"aperture" means a gap in the protective material of a tube housing through which ionizing radiation from an X-ray tube within the tube housing may pass with little or no attenuation;

"apparatus" means ionizing radiation apparatus;

"approved" means approved by the Commission;

"bore hole logging" means the use of a sealed radioactive source to acquire geophysical information about geological strata by lowering the source and a detector down a bore hole which has been drilled through the strata being investigated;

"bore hole logging tool" means a device containing a sealed radioactive source that is designed and constructed to be lowered and raised at the end of a cable during bore hole logging;

"cabinet X-ray unit" means apparatus in a shielded enclosure into which articles may be placed for radiographic (including fluoroscopic) examination;

"chiropodist" means a registered chiropodist as defined in the *Chiropodists Act 1950*;

"chiropractor" means a registered chiropractor as defined in the *Chiropractors Act, 1979*;

"committed effective dose equivalent" means the effective dose equivalent to the body, organ or tissue that will be accumulated as a result of the intake of radionuclides over 50 years from the time of the intake;

"consumer product" means a device, article or thing that contains a radioactive substance and is designed and constructed for personal or domestic use and not for use during the course of employment or the carrying on of any occupation, but does not include an approved ionization chamber smoke detector;

"cumulative" means the sum of all the results obtained for a parameter since the beginning of the relevant year;

"dental therapist" has the same meaning as in section 85 of the *Dentists Act 1984*;

"dentist" means a person registered as a dentist under the *Dentists Act 1984*;

"dermatologist" means a medical practitioner registered as a specialist in dermatology under the *Medical Practitioners Act, 1983*;

"designated employee" means a designated employee as defined in the Radiation Protection (Mining and Milling) Code;

"disposal" in relation to a radioactive substance does not include sale;

"durably marked" in relation to an article, device or thing, means that the article, device or thing is so marked that it is likely to retain the marking:

(a) during its normal working life; and

(b) notwithstanding any occurrence or accident that is reasonably foreseeable as being likely to happen to the article, device or thing, or in which the article, device or thing may become involved;

"emergency exposure" means a voluntary exposure to ionizing radiation in an emergency situation;

"enclosed X-ray analysis apparatus" means X-ray analysis apparatus that complies with regulation 87(3) of these regulations;

"external radiation" in relation to the exposure of a natural person to ionizing radiation, means ionizing radiation that is not internal radiation;

"fail safe" in relation to a warning device or interlock means that the failure of the device or interlock results in the inability to produce useable ionizing radiation from the apparatus or sealed radioactive source to which the device or interlock is connected;

"fixed apparatus" means any apparatus that is neither a mobile apparatus nor a portable apparatus;

"fully protected enclosure" in relation to industrial radiography, means an enclosure on or in respect of which:

(a) all doors and other openings into the enclosure are interlocked with either the apparatus or the source control mechanism so that the apparatus is de-energized or the source is returned to the shielded ("off") position whenever a door or other opening is opened;

(b) a warning device inside the enclosure sounds continuously for at least 5 seconds when an exposure commences;

(c) a red warning light marked "Radiation On" that remains on throughout an exposure, is readily visible from all normal routes of access;

(d) the warning lights are fail safe;

(e) the air kerma rate at a distance of 50mm from any readily accessible point on the surface of the enclosure never exceeds 25 microgray per hour; and

(f) a door can be readily opened from inside the enclosure;

"gaseous tritium light device" means an instrument, device, article or thing that contains one or more gaseous tritium light sources;

"gaseous tritium light source" means a sealed glass container filled with gaseous tritium and coated internally with a phosphor;

"general objective" means the objective contained in section 23 of the Act;

"group" in relation to a radionuclide, means the group to which the radionuclide is assigned in Schedule 1;

"industrial radiography" means the process of radiographing the whole or any part of any pipes, welds, vessels, or any other constructed, fabricated or manufactured object or article by the use of a sealed radioactive source or an apparatus other than a cabinet X-ray unit;

"internal radiation" in relation to the exposure of a natural person to ionizing radiation, means ionizing radiation from an unsealed radioactive substance located within the person’s body;

"ionization chamber smoke detector" means a device containing a radioactive substance that is designed and constructed to detect the presence of smoke or other combustion product aerosols;

"laboratory" means premises in which unsealed radioactive substances:

(a) are used for the purposes of scientific investigation or testing;

(b) are prepared for use for the treatment of patients or for medical or scientific investigation or testing; or

(c) are prepared for sale;

"medical practitioner" means a medical practitioner as defined by the *Medical Practitioners Act, 1983*;

"member of the public" means a person who is not a radiation worker;

"mobile apparatus" means apparatus that is designed and constructed so as to be moveable from place to place for use as required but does not include a portable apparatus;

"normal operation" in relation to X-ray analysis apparatus, means the step-by-step procedures necessary to accomplish X-ray analysis, including sample insertion and manipulation, equipment alignment and data recording;

"nuclear medicine physician" means a medical practitioner registered as a specialist in nuclear

medicine under the *Medical Practitioners Act, 1983*;

"open-beam X-ray analysis system" means an X-ray analysis system that does not comply with regulation 87(3) or regulation 84(4) of these regulations but does comply with regulation 87(5) of these regulations;

"ophthalmologist" means a medical practitioner registered as a specialist in ophthalmology under the *Medical Practitioners Act 1983*;

"oral surgeon" means a dentist registered as a specialist in oral and maxillo facial surgery under the *Dentists Act 1984*;

"partly enclosed X-ray analysis apparatus" means X-ray analysis apparatus that does not comply with regulation 87(3) of these regulations, but does comply with regulation 87(4) of these regulations;

"physiotherapist" means a person registered as a physiotherapist under the *Physiotherapists Act 1945*;

"plain radiography" means the technique of producing an image on film following the transmission of X-rays through matter, where:

(a) the X-ray tube is stationary throughout the exposure;

(b) the film is exposed by:

(i) the X-ray beam; or

(ii) light emission from intensifying screens which are excited by the X-ray beam; and

(c) a contrast medium has not been introduced;

"portable apparatus" means any apparatus that is designed to be carried manually from place to place for use as required;

"primary beam" means that part of the X-radiation that passes through an aperture of a tube housing by a direct path from an X-ray tube;

"radiation accident" is an abnormal occurrence in which a source of ionizing radiation is out of control and in which one or more of the following occurs:

(a) control over the source of ionizing radiation is not totally regained;

(b) a significant dispersal of radioactive substances takes place; or

(c) a person receives or is likely to have received a dose equivalent or intake of radioactive substances of at least twice the amount of that which he is likely to receive during the course of operations normally carried out with the source of ionizing radiation involved;

"radiation emergency" means a situation in which a source of ionizing radiation is out of control to such an extent that the continued exposure of a person to excessive amounts of ionizing radiation while the source of ionizing radiation remains out of control is unavoidable unless the normal functions or operations of the facility or place in which the source of ionizing radiation is being used are grossly disrupted, and for the purposes of this definition "excessive amounts of ionizing radiation" means dose equivalents or intakes of radioactive substances which, if continued for the normal hours of occupancy of the facility or place for three months, would result in an exposure contrary to Part I, Division V of these regulations;

"radiation incident" means an abnormal occurrence in which a source of ionizing radiation is temporarily out of control, but in which no significant dispersal of any radioactive substance takes place, and in which no person receives or is likely to have received a dose equivalent or an intake of any radioactive substance more than twice that which is likely to occur during any operation normally carried out with that source of ionizing radiation and for the purposes of this definition, an abnormal occurrence involving radioactive substances is not to be regarded as being a radiation incident unless:

(a) where the occurrence is one in which a radioactive substance is swallowed by a person, the activity of the radioactive substance swallowed exceeds the following amounts:

for group 1 radionuclides : 5 kBq
for group 2 radionuclides : 50 kBq
for group 3 radionuclides : 500 kBq
for group 4 radionuclides : 5 MBq; or

(b) in any other case, the activity of the radioactive substance involved exceeds the following amounts:

for group 1 radionuclides : 50 kBq
for group 2 radionuclides : 500 kBq
for group 3 radionuclides : 5 MBq
for group 4 radionuclides : 50 MBq;

"radiation gauge" means a device containing a sealed radioactive source which uses the detection of a beam of radiation transmitted through or scattered by an item or material of interest to measure a parameter associated with the item or material of interest, including the whole of the device, consisting of the sealed source, the source container or housing, and the detector and associated controls, but does not include a device that does not need to be permanently fixed in place to be used;

"radiation oncologist" means a medical practitioner registered as a specialist in radiation oncology under the *Medical Practitioners Act 1983*;

"*Radiation Protection (Mining and Milling) Code*" means the *Code of Practice on Radiation Protection in the Mining and Milling of Radioactive Ores*, approved under section 9 of the *Environment Protection (Nuclear Codes) Act 1978* of the Commonwealth, as in force from time to time;

"radiation symbol" means the radiation symbol described and depicted in Schedule 2;

"Radiation Protection (Mining and Milling) Code (1980)" means the Code of Practice on Radiation Protection in the Mining and Milling of Radioactive Ores 1980 approved under section 9 of the Environment Protection (Nuclear Codes) Act 1978 of the Commonwealth;

"radiation worker" means a person who by reason of his profession, trade or occupation:

(a) uses any source of ionizing radiation;

(b) is directly involved in any activity or operation in which any source of ionizing radiation is used and who may be exposed to ionizing radiation from that source as a result of being directly involved in such activity or operation;

(c) is a designated employee;

or

(d) is directly involved in the transport of a radioactive substance and is likely in the course of that profession, trade or occupation to receive an annual total dose (within the meaning of regulation 15) in excess of 1 millisievert;

"radiologist" means a medical practitioner registered as a specialist in diagnostic radiology under the *Medical Practitioners Act, 1983*;

"registrable device" means a device or instrument that contains a sealed radioactive source which is required to be registered under section 30 of the Act;

"registered nurse" means a registered nurse within the meaning of the *Nurses Registration Act, 1920*;

"revoked Health Act regulations" means the regulations revoked by regulation 2(1) of these regulations;

"sell" means:

(a) sell;

(b) supply by way of barter, exchange or gift;

(c) let on hire;

(d) bail; or

(e) authorize, direct, cause, suffer or permit any of the acts referred to in paragraphs *(a)* to *(d)* of this definition;

"shutter" means a controllable aperture cover that adequately shields an aperture when closed;

"significant dispersal" means a dispersal of a radioactive substance where the activity of that radioactive substance exceeds the following amounts:

for group 1 radionuclides	:	50 kBq
for group 2 radionuclides	:	500 kBq
for group 3 radionuclides	:	5 MBq
for group 4 radionuclides	:	50 MBq,

but does not include the dispersal of a radioactive substance that is in accordance with Part IV, Division IV of these regulations;

"site radiography" means industrial radiography other than that done within a fully protected enclosure;

"source container" means an enclosure for a sealed radioactive source that provides, by shielding and by distance, protection against radiation emitted by the source;

"source holder" in relation to bore hole logging, means the component of a bore hole logging tool that:

(a) houses the sealed radioactive source to protect it from damage;

(b) fits into the source container when the source is not being used; and

(c) fits onto the bore hole logging tool when the source is being used;

"source of ionizing radiation" means an apparatus or a radioactive substance to which these regulations apply;

"specified employer" means a person:

(a) who employs a radiation worker;

(b) who is a registered occupier;

(c) in whose name a sealed radioactive source or ionizing radiation apparatus is registered under Part III of the Act;

or

(d) who holds a licence granted under section 24 of the Act;

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"technologically enhanced" in relation to exposure to natural background radiation, means exposure resulting from natural sources of radiation whose original state has been changed by human activity in such a way that the exposure of any person to ionizing radiation has been increased;

"thyroid intake" in relation to Iodine-125 or Iodine-131 means the total activity of Iodine-125 or Iodine-131 taken into a person's thyroid over a period of time, as estimated using the method set out in Schedule 3;

"tube housing" in relation to an ionizing radiation apparatus means a container in which an X-ray tube is mounted for normal use, providing protection against electric shock and against ionizing radiation except for an aperture for the useful beam;

"type" in relation to premises in which an unsealed radioactive substance is kept or handled, means the type of premises established by the classification scheme set out in Schedule 4;

"veterinary surgeon means a person registered as a veterinary surgeon under the *Veterinary Surgeons Act, 1935*;

"X-ray analysis apparatus" means an apparatus which is used to analyse the properties or composition of materials by the techniques of X-ray fluorescence or X-ray diffraction;

"X-ray analysis system" means apparatus that consists of an X-ray analysis apparatus and ancillary devices or equipment necessary to determine the elemental composition or to examine the microstructure of matter, but does not include power supplies, transformers, amplifiers, readout devices and associated electronics and control panel;

"X-ray tube" in relation to an ionizing radiation apparatus, means an evacuated glass envelope in which electrons are accelerated for the purposes of the production of ionizing radiation.

(2) Where in these regulations there is a reference to a radiation worker being employed by a specified employer, the reference to being employed shall be construed so to include the acceptance of a person as:

(a) a voluntary worker; or

(b) a student,

and the person who accepts a person as a voluntary worker or student shall, for the purposes of these regulations, be a specified employer in relation to that person.

(3) Where a person who is a specified employer engages an independent contractor to carry out radiation work for him, being radiation work of a kind normally carried out by the specified employer, that person shall, for the purposes of these regulations, be a specified employer in relation to:

(a) that independent contractor; and

(b) any person employed by that independent contractor to do the radiation work which that independent contractor has been engaged to carry out.

(4) For the purposes of subregulation (3) of this regulation "radiation work" means work of the kind referred to in the definition of radiation worker.

(5) In these regulations a reference to a radioactive substance or to a sealed radioactive source shall be construed as a reference to a radioactive substance or to a sealed radioactive source to which these regulations apply.

(6) Where in these regulations there is a requirement upon a specified employer to do or provide any matter or thing for or in relation to a radiation worker employed by him such requirement shall, in relation to a specified employer who is himself a radiation worker, be construed so as to require such person to do or provide for himself any matter or thing that a specified employer would be required to provide for or in relation to a radiation worker employed by him.

DIVISION III—Application

5. These regulations shall apply to all apparatus except:

(a) a television set, visual display terminal, video monitor, cathode ray oscilloscope, or other device containing a cathode ray tube that satisfies the requirements of section 4 "Ionizing Radiation" of Australian Standard 3159 - 1980 "Approval and Test Specification for Electronic Sound and Vision Equipment";

(b) an electron microscope, electronic valve, vacuum tube, or similar device in which atomic particles are accelerated, but not a device referred to in paragraph *(a)* of this regulation, in which the production of ionizing radiation is incidental to the use of the device, provided that the air kerma rate 50mm from any readily accessible point or points on the surface of the device does not at any time exceed 5 microgray per hour.

6. Pursuant to and for the purposes of the definition of "radioactive ore" contained in section 5 of the Act, the prescribed concentrations of uranium and thorium are:

(a) where uranium occurs in the ore, but thorium does not, a concentration of 0.02 per centum by weight;

(b) where thorium occurs in the ore, but uranium does not, a concentration of 0.05 per centum by weight;

(c) where both uranium and thorium occur in the ore, a concentration "x" of uranium, expressed as a percentage by weight, and a concentration "y" of thorium, expressed as a percentage by weight, provided that:

$$\frac{x}{0.02} + \frac{y}{0.05} \text{ is greater than or equal to one,}$$

where "x" is the percentage by weight of uranium in the ore, and "y" is the percentage by weight of thorium in the ore.

7. (1) Subject to subregulations (2) and (3) of this regulation, these regulations shall apply only to those radioactive substances which:

(a) contain more than the concentrations of uranium and thorium specified in regulation 6 of these regulations; or

(b) not being uranium or thorium:

(i) have a specific activity of more than 35 kBq/kg; and

(ii) contain one or more radionuclides so that:

$$\frac{A1}{5} + \frac{A2}{50} + \frac{A3}{500} + \frac{A4}{5000}$$

is more than or equal to one.

(2) These regulations shall not apply to tritium contained in an instrument, device, article or thing if:

(a) less than 20 GBq of tritium is contained in the instrument, device, article or thing;

(b) the tritium is wholly confined to a gaseous tritium light source;

(c) the gaseous tritium light source is accessible only with the use of a tool designed for the specific task of gaining access to the gaseous tritium light source in the instrument, article, device or thing;

(d) the activity in the form of tritiated water is less than 50 MBq; and

(e) the instrument, article, device or thing is not a consumer product.

(3) For the purposes of this regulation:

"A1" means the total activity of group 1 radionuclides (in kBq);

"A2" means the total activity of group 2 radionuclides (in kBq);

"A3" means the total activity of group 3 radionuclides (in kBq);

"A4" means the total activity of group 4 radionuclides (in kBq).

DIVISION IV—General Provisions for Radiation Protection

8. (1) This regulation applies to:

(a) apparatus;

(b) source control mechanisms and other devices containing a sealed radioactive source;

(c) radiation monitoring equipment;

(d) radiation warning devices;

(e) protective clothing, fume cupboards, interlocks, signs, labels and any other radiation protection equipment or device,

supplied by a specified employer for his use during the course of his profession, trade or occupation or for the use of any radiation worker employed by him during the course of that employment.

(2) A specified employer shall at all times keep or cause to be kept in good working order and condition any article, device or thing to which subregulation (1) of this regulation applies.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

9. (1) Where a specified employer discovers a fault or defect in any article, device or thing to which regulation 8 of these regulations applies, and such fault or defect is likely to increase the exposure to ionizing radiation of any person, he shall:

(a) forthwith inform all persons who use, work with, inspect, test, handle, are protected from exposure to ionizing radiation by or otherwise deal with the article, device or thing of the nature of the fault or defect; and

(b) have the fault or defect remedied as soon as is reasonably practicable.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

10. (1) Before a radiation worker first commences any of his duties as a radiation worker the specified employer by whom he is employed shall:

(a) inform such worker of the potential hazards from ionizing radiation to which he is likely to be subject during the course of his employment;

(b) inform such worker of the name of the radiation safety officer appointed by the specified employer together with the name of any assistant radiation safety officer who has responsibilities pertaining to such worker’s duties;

(c) inform such worker of all safety arrangements that have been made to protect him from the effects of ionizing radiation;

(d) give directions in the form of working rules to such worker as to all steps that he must take in order to achieve the general objective;

(e) inform such worker of the existence of the Act, these regulations and any radiation safety manual prepared pursuant to regulation 11 of these regulations; and

(f) make available to such worker for his perusal a copy of the Act, these regulations and any radiation safety manual prepared pursuant to regulation 11 of these regulations.

(2) Wherever there is a change in any of the matters referred to in paragraphs *(a)* to *(f)* of subregulation (1) of this regulation, a specified employer shall forthwith inform a radiation worker who is likely to be affected by any such change of the particulars of such change.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

11. (1) A specified employer who employs any radiation worker shall prepare a radiation safety manual.

(2) A radiation safety manual must contain the following:

(a) information on the potential hazards in respect of exposure to ionizing radiation that any radiation worker is likely to face during the course of his employment;

(b) the name and telephone number of the radiation safety officer and the name and telephone numbers of the assistant radiation safety officers who have been appointed;

(c) the arrangements made by the specified employer for the radiation protection of all persons employed by him;

(d) the directions which the specified employer has given pursuant to regulation 10(1)*(d)* of these regulations as to the steps to be taken to achieve the general objective;

(e) the requirements of regulation 13 of these regulations.

(3) A radiation safety manual must be prepared within a reasonable time of the date upon which this regulation took effect if on that date a specified employer employs a radiation worker, otherwise it must be prepared within a reasonable time of a specified employer first employing a radiation worker.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

12. (1) A specified employer who has prepared a radiation safety manual shall supply a copy of the manual to the Commission if the Commission serves on him a notice in writing directing him to do so.

(2) Where a specified employer has supplied a copy of a radiation safety manual to the Commission pursuant to this regulation, the Commission may serve on him a notice directing him to make such changes to the manual as the Commission regards as appropriate, having regard to the general objective.

(3) A notice served by the Commission pursuant to subregulation (2) of this regulation must:

(a) be in writing; and

(b) specify the changes which are to be made.

(4) A specified employer shall comply with any notice served on him by the Commission pursuant to this regulation.

(5) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

13. (1) A radiation worker shall:

(a) obey all notices displayed in accordance with these regulations;

(b) not wilfully:

(i) do any act; or

(ii) omit to do any act,

the doing or omission of which is likely to result in a radiation incident, radiation accident or radiation emergency;

(c) not recklessly:

(i) do any act; or

(ii) omit to do any act,

the doing or omission of which is likely to result in a radiation incident, radiation accident or radiation emergency;

(d) report forthwith to his supervisor any fault or defect in any device, article or thing that he uses, inspects, tests, handles or otherwise deals with during the course of his employment, and which fault or defect is likely to result in a radiation incident, radiation accident or radiation emergency;

(e) use, in the manner set out in these regulations and in the radiation safety manual applicable to the duties he performs, all radiation protection equipment furnished for his use in accordance with these regulations and that manual; and

(f) where she believes she is pregnant, and such belief is confirmed by a medical practitioner, forthwith inform her employer of that fact.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

14. (1) A person must not exhibit, display or otherwise use, or cause or permit another to exhibit, display or otherwise use, the radiation symbol except—

(a) on a container used for the storage of a sealed radioactive source;

(b) on apparatus to which these regulations apply (see reg. 5);

(c) on a sign erected in connection with—

(i) premises registered under section 29 of the Act;

(ii) a place in which a radioactive substance to which these regulations apply (see reg. 7) is stored;

(iii) a place in which radioactive material within the meaning of the *Radiation Safety (Transport of Radioactive Substances) Regulations 1984* is stored;

(iv) a place in which apparatus to which these regulations apply (see reg. 5) is installed, stored or used;

or

(d) as required by these regulations or any other law.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

DIVISION V—Radiation Protection Standards and Limits

15. (1) In this Division, unless the context otherwise requires:

"total dose" means the sum of—

(a) the effective dose equivalent received from external radiation;

and

(b) the committed effective dose equivalent received from radionuclides taken into the body;

"annual total dose" means the total dose received during any period of 12 months commencing on 1 January.

(2) For the purposes of the definition of total dose:

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(b) where only a part or parts of the body are irradiated by external radiation, the effective dose equivalent received from external radiation shall be determined by calculating the sum of $H_T W_T$ over all the organs and tissues irradiated, where:

(i) H_T is the dose equivalent received by any particular organ or tissue; and

(ii) W_T is the weighting factor for that organ or tissue as set out in Schedule 5.

16. (1) For the purpose of this division, the committed effective dose equivalent received from radionuclides taken into the body must—

(a) if the intake of radionuclides arises from operations to which the *Radiation Protection (Mining and Milling) Code* applies—be calculated using the method set out in clause 13 of that Code;

(b) in any other case—be calculated using the methods recommended by the International Commission on Radiological Protection in its Publication 30 *Limits for Intakes of Radionuclides by Workers* and, where applicable, Table 4 of its Publication 50 *Lung Cancer Risk from Indoor Exposures to Radon Daughters*.

(2) For the purposes of subregulation (1)*(b)* of this regulation, where some of the data relevant to the circumstances of the case is not available, the data recommended or adopted by the International Commission on Radiological Protection in the publications referred to in that subregulation shall be used in the calculation.

(3) For the purposes of subregulation (2) of this regulation, where the International Commission on Radiological Protection recommends or adopts more than one value for an item of data, and where the information required so as to choose which of those values is relevant to the circumstances of the case has not been obtained by the specified employer, that value which gives rise to the largest value of committed dose equivalent shall be used in the calculation.

17. (1) A specified employer shall not expose, suffer, cause or permit himself or a radiation worker employed by him to be exposed:

(a) to an annual total dose in excess of 50 millisievert; or

(b) where an organ or tissue of a radiation worker is irradiated, to an annual dose equivalent for that organ or tissue in excess of the annual dose equivalent limit for that organ or tissue set out in Schedule 5.

(2) A specified employer shall not expose, suffer, cause or permit a member of the public to be exposed:

(a) to an annual total dose in excess of 5 millisievert; or

(b) where an organ or tissue of a member of the public is irradiated, to an annual dose equivalent for that organ or tissue in excess of one-tenth of the annual dose equivalent limit for that organ or tissue set out in Schedule 5.

(3) Where a specified employer is informed by a radiation worker employed by him that:

(a) she believes that she is pregnant; and

(b) such belief has been confirmed by a medical practitioner,

the specified employer shall take all reasonable steps to prevent the total dose received by her during the course of her employment for the remainder of her pregnancy from exceeding 7 millisievert.

(4) In calculating an annual total dose or an annual dose equivalent for a specified employer, radiation worker or a member of the public, the following shall not be taken into account:

(i) doses due to natural background radiation, except such doses as are received from natural background radiation which is technologically enhanced;

(ii) doses received as a patient for the purposes of diagnosis or treatment; and

(iii) dose equivalents and effective dose equivalents received as a result of an emergency exposure.

(5) A specified employer who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

DIVISION VI—Radiation Safety Officers

18. (1) A specified employer shall appoint a person to be a radiation safety officer.

(2) A radiation safety officer must be appointed within three months of the date upon which this regulation took effect, if on that date a person is a specified employer, otherwise one must be appointed within three months of a person becoming a specified employer.

(3) A specified employer shall make such an appointment in respect of each separate establishment:

(a) at which he carries on any operation for the mining or milling of radioactive ore;

(b) of which he is a registered occupier; or

(c) at which he employs a radiation worker.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

19. The duties of a radiation safety officer appointed by a specified employer are:

(a) to assist the specified employer in complying with the requirements of the Act and these regulations;

(b) to advise the specified employer on all aspects of radiation safety applicable to the activities carried out by the specified employer; and

(c) to perform the duties imposed upon a radiation safety officer by these regulations.

20. (1) A specified employer shall make available to the radiation safety officer appointed by him such equipment, time and assistance, including such assistant radiation safety officers, as are necessary to enable the radiation safety officer to satisfactorily perform his duties under these regulations.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

21. (1) A specified employer shall not appoint a person to be a radiation safety officer unless that person has detailed knowledge of the principles and practices of all aspects of radiation protection applicable to the activities carried out by the specified employer at the establishment in respect of which the radiation safety officer is appointed.

(2) A specified employer shall not appoint a person to be an assistant radiation safety officer unless that person has detailed knowledge of the principles and practices of all aspects of radiation protection applicable to those activities of the specified employer in respect of which he is to assist the radiation safety officer.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

22. (1) Where a specified employer appoints:

(a) a radiation safety officer; or

(b) an assistant radiation safety officer,

he shall within 7 days of making the appointment serve on the Commission a notice that complies with this regulation.

(2) in order to comply with this regulation a notice must:

(a) be in writing;

(b) contain the full name and date of birth of the person appointed;

(c) contain the business and residential address of the person appointed including his telephone number and telex number at such addresses;

(d) contain details of the educational qualifications of the person appointed;

(e) contain details of any formal training in radiation protection undergone by the person appointed;

(f) contain details of the practical experience in radiation protection of the person appointed; and

(g) contain, where it refers to an assistant radiation safety officer, details of the activities of the specified employer in respect to which the assistant radiation safety officer will assist the radiation safety officer.

(3) Subregulation (1) of this regulation does not apply to a specified employer who:

(a) holds a licence under section 28 of the Act or a licence under section 31 of the Act;

(b) is the only such licensed person working at the establishment under his control; and

(c) is the radiation safety officer for that establishment.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

23. (1) Where a specified employer has served a notice on the Commission in accordance with regulation 22 of these regulations and subsequent to the service of that notice:

(a) any information contained in that notice relating to the radiation safety officer or an assistant radiation safety officer has changed; or

(b) the specified employer becomes aware of additional information relating to the radiation safety officer or assistant radiation safety officer,

and such changed or additional information is of a kind that he would have been required by these regulations to have included in the notice had he known of it at the time he served the notice, then the specified employer shall, within 14 days of his becoming aware of such information serve on the Commission a notice that complies with this regulation.

(2) In order to comply with this regulation a notice must:

(a) be in writing; and

(b) contain full details of any change to the information supplied or any additional information as is required by this regulation.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

24. In any of the regulations appearing in these regulations after this regulation a reference to a radiation safety officer:

(a) in relation to an establishment, means the radiation safety officer appointed for that establishment;

(b) in relation to a specified employer, means a radiation safety officer appointed by him;

(c) in relation to a radiation worker, means the radiation safety officer appointed for the establishment at which he works;

(d) shall be construed as including the appropriate assistant radiation safety officer where one or more assistant radiation safety officers have been appointed.

DIVISION VII—Monitoring

25. (1) A specified employer shall issue to each radiation worker employed by him an approved personal monitoring device or devices for detecting and measuring a time integrated exposure to ionizing radiation, so that each radiation worker has such a device or devices on issue to him at all times while he is at his place of employment.

(2) Where the type of ionizing radiation emitted by a source of ionizing radiation is of such a nature that there is no approved personal monitoring device for measuring a person’s exposure to that type of radiation, the specified employer shall:

(a) forthwith advise the Commission accordingly and set out the arrangements he proposes to make to monitor the exposure to ionizing radiation of persons employed by him; and

(b) make such arrangements as the Commission directs in writing for the monitoring of that type of radiation and for the calculation of personal exposures from that monitoring.

(3) A specified employer who issues a personal monitoring device to a radiation worker shall:

(a) subject to paragraph *(b)* of this subregulation, give to the radiation worker instructions; or

(b) if directed in writing by the Commission to do so, give to the radiation worker approved instructions, on the wearing, operation or use of the personal monitoring device.

(4) A radiation worker to whom a personal monitoring device is issued shall wear, operate or use, as the case requires, the personal monitoring device:

(a) in accordance with any instructions or approved instructions given to him under subregulation (3) of this regulation; and

(b) whenever he is likely to be exposed to ionizing radiation as a result of his employment.

(5) A specified employer who has issued to a radiation worker a personal monitoring device shall, whenever it is necessary for the device to be examined or for any film or other substance used to detect ionizing radiation therein to be processed in order to ascertain the amount of ionizing radiation to which the radiation worker has been exposed while wearing, operating or using the personal device, cause:

(a) the device or any film or substance therein to be examined or processed, as the case requires, in such manner, by such persons and at such times; and

(b) any film in the device to be changed, and the dose equivalents received by the radiation worker to be measured, at such intervals,

as is approved.

(6) A specified employer who issues a personal monitoring device to a radiation worker shall not subsequently issue the same device to any other person unless the dose measured by the device has been assessed and recorded.

(7) A radiation worker shall not permit any other person to wear, operate or use a personal monitoring device issued to him during the period for which it is so issued.

(8) Any person who contravenes, or fails to comply with, this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

26. (1) A specified employer shall, if directed in writing by the Commission to do so, place on any premises at which any radiation worker is employed by him, from time to time in accordance with that direction, approved equipment or devices for detecting and measuring ionizing radiation for the purpose of monitoring the presence and amounts of ionizing radiation on those premises.

(2) A person who has placed approved equipment or devices in accordance with a direction given under subregulation (1) of this regulation shall, whenever it is necessary for the approved equipment or devices to be examined, or for any film or other substance used to detect ionizing radiation therein to be processed in order to ascertain the amount of radiation present on the premises concerned, cause the approved equipment or devices to be examined, or that film or substance to be processed or changed, and the amount of ionizing radiation detected to be measured, in such manner, by such persons and at such times as the Commission directs in writing.

(3) Any person who contravenes, or fails to comply with, this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

27. (1) Where any premises are in proximity to any other premises at which an activity is carried on by a specified employer which activity involves the use or handling of a source of ionizing radiation and the Commission is of the opinion that the first-mentioned premises (in this regulation referred to as the "affected premises") are likely to be affected by ionizing radiation emanating from the second-mentioned premises the Commission may by notice in writing:

(a) direct the specified employer to place on the affected premises, from time to time, in accordance with such direction, approved equipment or devices for detecting and measuring ionizing radiation for the purpose of monitoring the presence and amounts of ionizing radiation on the affected premises;

(b) direct the owner of the affected premises to permit the specified employer to enter into and upon the affected premises from time to time and to place on the affected premises in accordance with such direction approved equipment or devices for detecting and measuring ionizing radiation for the purpose of monitoring the presence and amounts of ionizing radiation on the affected premises.

(2) A person who has placed approved equipment or devices in accordance with a direction given under subregulation (1) of this regulation shall, whenever it is necessary for the approved equipment or devices to be examined, or for any film or other substance used to detect ionizing radiation therein to be processed in order to ascertain the amount of radiation present on the premises concerned, cause the approved equipment or devices to be examined, or that film or substance to be processed or changed, and the amount of ionizing radiation detected to be measured, in such manner, by such persons and at such times as the Commission directs in writing.

(3) The owner of any affected premises upon which a specified employer has placed approved equipment or devices pursuant to this regulation shall permit such specified employer to enter into and upon the affected premises at all reasonable times so as to enable the specified employer to comply with subregulation (2) of this regulation.

(4) Any person who contravenes, or fails to comply with, this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

28. (1) The Commission may, by notice published in the Government Gazette, approve any monitoring device or any kind or class of monitoring device as is specified in the notice to be an approved monitoring device for the purposes of this Division.

(2) The Commission may, by notice in writing served upon the person to whom the notice is addressed, give such directions and indicate such approvals as are referred to in this Division.

DIVISION VIII—Records, Reports and Investigations

29. (1) A specified employer shall forthwith establish a personal radiation exposure record in respect of each radiation worker employed by him.

(2) A specified employer shall maintain such record and keep it up to date at all times.

(3) A specified employer shall forthwith inform a radiation worker that such a record has been established and is being maintained.

(4) A specified employer shall allow each radiation worker to have access to his own personal radiation exposure record.

(5) A specified employer shall not destroy or dispose of a personal radiation exposure record except:

(a) as may be approved; or

(b) in the case of disposal, if the record is transferred to another specified employer pursuant to regulation 33 of these regulations.

(6) A personal radiation exposure record must contain the following information:

(a) the full name, sex and date of birth of the radiation worker;

(b) the current home address of the radiation worker, and if no longer employed by the specified employer his last known home address;

(c) the date of commencement of employment (and if applicable the date of cessation) as a radiation worker;

(d) the kind of work performed by the radiation worker;

(e) details of the types of ionizing radiation to which the radiation worker may have been exposed as a result of his work, including information about radioactive substances in unsealed form (if any) to which he may have been exposed;

(f) the monitoring devices worn by the radiation worker;

(g) the results of monitoring the levels of radiation exposure of the radiation worker in accordance with these regulations, and the conditions, if any, on the authority of the specified employer, indicating:

(i) the measurement periods of such monitoring, the result for each period, and the cumulative result since the beginning of the calendar year;

(ii) the cumulative result for each calendar year; and

(iii) the cumulative result for previous calendar years and the calendar year being recorded; and

(h) if applicable, the value of the personal radiation exposure index of the radiation worker calculated in accordance with regulation 30 of these regulations, and the dates upon which it was calculated.

(7) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

30. (1) A specified employer must calculate in respect of each year the personal radiation exposure index (PREI) for—

(a) each designated employee;

and

(b) each radiation worker in respect of whom the Commission has given directions under regulation 25(2)*(b)*.

(2) The calculations must be made cumulatively at the end of each three month period, within five weeks after the end of that period.

(2a) The calculations must be made in accordance with the following formula:

$$PREI = \frac{12}{n} \times \frac{td}{50}$$

where, in relation to the exposure of the employee in the period for which the calculation is made—

td = the total dose as defined in regulation 15, in millisieverts.

n = the number of months in that period.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

31. (1) Where an entry has been made in a personal radiation exposure record relating to the levels of radiation exposure received by a radiation worker, or the value of the personal radiation exposure index of a radiation worker, no person shall change the entry unless the change:

(a) is to correct an arithmetical error or transcription error; or

(b) is made following a report signed by the radiation safety officer, such report stating that the entry to be changed does not accurately record the levels of radiation exposure received by the worker or the value of the personal radiation exposure index of the worker, and the Commission has received the report and has approved of the change to be made.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

32. (1) Subject to subregulation (2) of this regulation no person shall disclose to any other person information which is contained in a personal radiation exposure record established under this Division.

(2) A person may disclose information contained in a personal radiation exposure record to another person where:

(a) to do so is a normal part of his duties as an employee;

(b) being a specified employer, he does so in order to comply with these regulations;

(c) such disclosure is authorized by the radiation worker to whom the record relates;

(d) such disclosure is approved by the Commission;

(e) such disclosure is otherwise authorized by the law of the State; or

(f) such disclosure is in the form of statistical or other information that could not reasonably be expected:

(i) to identify any particular radiation worker; or

(ii) to relate to any particular radiation worker.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

33. (1) Where a specified employer employs a person as a radiation worker he shall, before that person first commences his duties as a radiation worker, ask that person whether or not he has been employed previously as a radiation worker.

(2) Where a specified employer makes enquiries of a radiation worker pursuant to subregulation (1) of this regulation the radiation worker shall:

(a) confirm whether or not he has been employed previously as a radiation worker; and

(b) if he has been so employed, supply details of such employment.

(3) Where an employer discovers that a radiation worker has been employed previously as a radiation worker he shall request the former employer of that worker to supply him with any personal radiation exposure record which is in his possession and which relates to that worker.

(4) Where a person makes a request pursuant to subregulation (3) of this regulation, a former employer shall forthwith comply with that request.

(5) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

34. (1) A specified employer who receives a direction from the Commission pursuant to regulation 26 or 27 of these regulations shall maintain records of all measurements made by him in accordance with the direction.

(2) The records maintained pursuant to subregulation (1) of this regulation must contain:

(a) the type of measurements made;

(b) the times and places at which the measurements were made;

(c) the results of the measurements;

(d) details of the instruments and methods used to make the measurements;

(e) details of the calibration of the radiation monitoring equipment used to make the measurements; and

(f) such additional information relating to the matters referred to in paragraphs *(a)* to *(e)* of this subregulation as the Commission directs the specified employer to make by notice, in writing, served on him.

(3) The Commission may by notice, in writing, served on the specified employer, require him to record such additional information on the records as is referred to in subregulation (2)*(f)* of this regulation.

(4) The specified employer shall not destroy or dispose of any records kept pursuant to this regulation except as may be approved.

(5) The specified employer shall, if directed in writing to do so by the Commission, supply the Commission with a copy of any record kept pursuant to this regulation.

(6) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

35. (1) Wherever:

(a) a radiation worker’s cumulative effective dose equivalent received from external ionizing radiation in any calendar year exceeds a value (in millisieverts) of 1.3 multiplied by n, where "n" is the number of months since the beginning of the calendar year for which data are available; or

(b) the value of PREI for a radiation worker exceeds 0.3,

the specified employer shall cause an investigation to be carried out forthwith in order to ascertain whether the exposure of the worker to ionizing radiation is in accordance with the general objective.

(2) Where an investigation is carried out pursuant to this regulation, the person carrying out the investigation must:

(a) compile a written report of the investigation made by him; and

(b) hand the report to the specified employer immediately after it is completed.

(3) Where:

(a) subregulation (1) of this regulation applies to more than one radiation worker; and

(b) all such radiation workers are employed in circumstances which are similar as to radiation exposure and the methods by which such exposure is controlled,

then for the purposes of this regulation, all of such radiation workers shall be regarded as a class, and it shall be sufficient compliance with this regulation if there is one investigation and a report of that investigation, both of which relate to the radiation workers of the class.

(4) Wherever:

(a) a radiation worker's cumulative effective dose equivalent received from external ionizing radiation in any calendar year exceeds a value (in millisievert) of 2.1 multiplied by n; or

(b) the value of PREI for a radiation worker exceeds 0.5,

the specified employer shall forthwith serve on the Commission a notice in writing informing the Commission of that fact.

(5) For the purposes of this regulation the effective dose equivalent received by a radiation worker from external ionizing radiation shall be deemed to be the dose equivalent as measured by a personal monitoring device or devices worn in accordance with regulation 25 of these regulations.

(6) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

DIVISION IX—Radiation Incidents, Radiation Accidents and Radiation Emergencies

36. (1) Where a radiation worker is involved in a radiation incident that occurs during the course of his employment he shall as soon as is reasonably practicable after the incident report the incident to the specified employer.

(2) For the purposes of subregulation (1) of this regulation a report must:

(a) be in writing and be signed by the radiation worker; and

(b) set out in full the details of the radiation incident including the probable cause, the length of time the source of ionizing radiation was temporarily out of control, and the extent of any dispersal of any radioactive substance.

(3) Where more than one radiation worker is involved in a radiation incident it shall not be necessary for each radiation worker to report the incident, provided that a report is made in accordance with this regulation and each of the radiation workers involved in the incident has assisted in compiling the report and each of them has signed the report.

(4) Any radiation worker who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

37. (1) A specified employer shall:

(a) forthwith investigate all radiation incidents reported to him pursuant to regulation 36 of these regulations; and

(b) maintain a register of radiation incidents.

(2) Where a specified employer receives a report of a radiation incident pursuant to regulation 36 of these regulations he shall forthwith enter in the register of radiation incidents:

(a) the date, time and place of the incident;

(b) the name of any radiation worker involved in the incident;

(c) full details of the incident, including the probable cause, the length of time the source of ionizing radiation was temporarily out of control, the extent of any dispersal of any radioactive substance that may have occurred and the name of any person involved;

(d) the result of any investigation undertaken in respect of the incident; and

(e) details of any steps that have been taken to minimize the possibility of any further incident occurring.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

38. (1) Where a radiation worker is involved in a radiation accident which occurs during the course of his employment he shall as soon as is reasonably practicable report the accident to:

(a) the radiation safety officer; and

(b) the specified employer.

(2) For the purposes of this regulation:

(a) a report to the radiation safety officer may be made orally and must include full details of the radiation accident including the time and place it occurred, the probable cause, possible effects and the name of any person likely to have been affected by it;

(b) a report to the specified employer must be in writing and be signed by the radiation worker and must contain:

(i) full details of the accident indicating the time the source of ionizing radiation was out of control, and the extent of any dispersal of any radioactive substance;

(ii) the time it was reported to the radiation safety officer; and

(iii) the probable cause of the accident.

(3) Where more than one radiation worker is involved in a radiation accident it shall not be necessary for each radiation worker to report the accident to the radiation safety officer, provided that one of the radiation workers makes a report and the other radiation workers know or have reasonable cause to believe that such a report has been made.

(4) Where more than one radiation worker is involved in a radiation accident it shall not be necessary for each radiation worker to report the accident to the specified employer, provided that a report is made to the specified employer in accordance with this regulation and each of the radiation workers involved in the accident has assisted in compiling the report and each of them has signed the report.

(5) Any radiation worker who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

39. (1) A specified employer shall:

(a) forthwith investigate all radiation accidents reported to him pursuant to regulation 38 of these regulations; and

(b) maintain a register of radiation accidents.

(2) The investigation referred to in subregulation (1) of this regulation shall include the making of estimates of any dose equivalents that may have been received by any person.

(3) Where a specified employer receives a report of a radiation accident pursuant to regulation 38 of these regulations he shall forthwith enter in the register of radiation accidents:

(a) the date, time and place of the accident;

(b) the name of any radiation worker involved in the accident;

(c) full details of the accident including the length of time the source of ionizing radiation was out of control, the extent of any dispersal of any radioactive substance, the estimate of dose equivalents received by any person, the time it was reported to the radiation safety officer and the probable cause;

(d) the result of any investigation undertaken in respect of the accident;

(e) details of steps taken to minimize the possibility of any similar accident occurring in the future.

(4) Where a specified employer has made an entry in the register of radiation accidents pursuant to subregulation (3) of this regulation, he shall within 7 days of making such entry serve a copy of such entry on the Commission.

(5) A specified employer who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

40. (1) This regulation applies to the following kinds of events:

(a) radiation emergencies;

(b) radiation accidents in which control is not fully regained;

(c) loss or theft of any apparatus;

(d) loss or theft of any radioactive substance with an activity in excess of the following amounts:

for group 1 radionuclides	:	50 kBq
for group 2 radionuclides	:	500 kBq
for group 3 radionuclides	:	5 MBq
for group 4 radionuclides	:	50 MBq; or

(e) damage to any sealed radioactive source resulting in leakage or suspected leakage of its contents.

(2) Where an event of a kind to which this regulation applies occurs, a specified employer shall give or cause to be given to the Commission a report of the event.

(3) A report must be given as soon as is reasonably practicable after the specified employer becomes aware of the event and may be given orally.

(4) A report shall contain as much detail of the event as is known to the specified employer.

(5) A specified employer who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

41. (1) Where any written report is made to a specified employer pursuant to regulation 38 of these regulations, the specified employer shall within 7 days of receiving the report serve on the Commission a copy of such report.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

42. (1) A specified employer must, in respect of every kind of operation carried out by him, being an operation that involves the use, handling, storage or disposal of any radioactive substance, prepare in respect of that operation a contingency plan.

(2) Subject to subregulation (3) of this regulation, the contingency plan must be prepared before the commencement of the kind of operation to which it relates.

(3) Where, at the date upon which this regulation took effect, an operation of a kind referred to in subregulation (1) of this regulation is being carried out by a specified employer, a contingency plan relating to that operation must be prepared before the expiration of three months after that date.

(4) A contingency plan must:

(a) take into account every radiation accident and radiation emergency that is reasonably foreseeable;

(b) contain specific instructions as to how each such accident and emergency is to be dealt with, paying particular regard as to how control may be restored and the exposure of persons may be kept to a minimum; and

(c) be incorporated into the radiation safety manual prepared in accordance with regulation 11 of these regulations.

(5) Any specified employer who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty of not exceeding $10 000.

43. (1) A specified employer shall provide the equipment and facilities including any monitoring instrument, detector or alarm that is necessary for the effective operation of the contingency plan.

(2) Where a specified employer discovers that any monitoring instrument, detector, or alarm that is required by this regulation is not in correct working order, he shall forthwith replace it by a monitoring instrument, detector, or alarm that is in correct working order.

(3) A specified employer who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

44. (1) The Commission may, by notice in writing served on a specified employer, require a specified employer to supply to the Commission a copy of any contingency plan which the owner has prepared pursuant to this Division.

(2) Where a specified employer is served with a notice pursuant to subregulation (1) of this regulation he shall comply with that notice.

(3) Any specified employer who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

DIVISION X—Medical Examinations

45. (1) The Commission may, by notice in writing served on a specified employer, direct a specified employer to undergo or to cause a radiation worker employed by him to undergo a medical examination to be conducted in accordance with the notice.

(2) The notice must specify:

(a) the name of the person to be examined;

(b) the purpose for which the examination is to be carried out;

(c) the nature and content of the examination; and

(d) the period within which the examination is to be carried out.

46. (1) Where a specified employer is served with a notice under regulation 45 of these regulations that relates to a radiation worker employed by him, he must:

(a) inform the radiation worker that he has been served with such a notice;

(b) request the radiation worker to undergo the medical examination;

(c) arrange for the radiation worker to undergo the medical examination; and

(d) organize the radiation worker's duties so that the radiation worker is able to undergo the medical examination.

(2) Where a specified employer:

(a) informs a radiation worker that he has been served with a notice under regulation 45 of these regulations that relates to that radiation worker;

(b) requests the radiation worker to undergo the medical examination as required by the notice;

(c) arranges for the radiation worker to undergo the medical examination; and

(d) organizes the radiation worker's duties so that he is able to undergo the medical examination,

the radiation worker shall undergo the medical examination as required by the notice.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

47. (1) Where a specified employer is requested to undergo a medical examination pursuant to regulation 45 of these regulations he shall comply with the request.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

48. (1) A medical examination shall be carried out in accordance with the notice referred to in regulation 45 of these regulations.

(2) The medical practitioner who carries out a medical examination shall prepare a report of his findings.

(3) Any person who wilfully contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

49. (1) Any person who employs a designated employee must make such arrangements as are necessary for such employee to undergo a medical examination conducted in accordance with this Division:

(a) within a period of four weeks prior to the date upon which he commences his employment or within a period of 4 weeks after that date;

(b) at intervals during the period of his employment, such intervals to be no longer than two years apart; and

(c) on the date upon which he ceases his employment or within a period of 4 weeks after that date unless:

(i) the period of his employment was for less than six months; or

(ii) he had undergone a medical examination conducted in accordance with this Division within the period of eight weeks immediately preceding the date upon which his employment ceased.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

50. (1) Where the employer of a designated employee makes an arrangement for such employee to undergo a medical examination to be conducted in accordance with this Division, the employer shall inform the designated employee of the arrangements he has made, and such employee shall comply with such arrangement.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

51. (1) Where a medical examination of a designated employee is conducted, a questionnaire for uranium industry workers in the form of Form 1 in Schedule 6 must be completed in respect of that employee.

(2) The person to be examined shall complete as far as he is able to do so, that part of the questionnaire under the heading "TO BE COMPLETED BY YOU".

(3) The person to be examined shall hand the completed questionnaire to the examining medical practitioner.

(4) The examining medical practitioner shall peruse the questionnaire in the presence of the person to be examined, and complete that part of the questionnaire under the heading "TO BE COMPLETED BY THE EXAMINING DOCTOR".

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52. (1) Where a medical practitioner carries out a medical examination under this Division he shall send:

(a) in the case of an examination conducted pursuant to regulation 49 of these regulations, a copy of the questionnaire completed by him and by the person examined; or

(b) in the case of an examination conducted pursuant to regulation 45 of these regulations, a copy of the report prepared by him,

to:

(a) the person examined;

(b) the employer of the person examined; and

(c) the Commission.

(2) A medical practitioner shall send the copies of the questionnaire or report within 21 days of his completing the medical examination.

(3) A medical practitioner who wilfully contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

53. (1) Where a copy of a report or questionnaire prepared in accordance with this Division is received by a specified employer he shall retain it for as long as the person examined is employed by him.

(2) A specified employer or any person employed by him shall not reveal the contents of any report or questionnaire received in accordance with this Division except to:

(a) the person examined; or

(b) the Commission.

(3) A specified employer shall not contravene or fail to comply with this regulation if the contents of any report or questionnaire are revealed to another employee, provided that such other employee is engaged to keep records of which such report or questionnaire may become part.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

54. The cost of any medical examination conducted in accordance with this Division and of any report supplied upon any such examination shall be borne by the specified employer:

(a) where he is the person examined; or

(b) where he is the employer of the person examined.

PART II—IRRADIATION OF HUMANS FOR DIAGNOSTIC, THERAPEUTIC OR RESEARCH PURPOSES

DIVISION I—Diagnostic and Therapeutic Purposes

55. (1) No person shall expose himself or any other person to ionizing radiation for the purposes of diagnosis or treatment unless such exposure has first been authorized in accordance with this Division.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

56. (1) An exposure to ionizing radiation for the purposes of diagnostic radiography or for purposes associated with treatment may be authorized by a medical practitioner.

(2) An exposure to ionizing radiation for the purposes of diagnostic radiography of the dento-maxillo-facial region and of the hand and wrist may be authorized by a dentist.

(3) An exposure to ionizing radiation for the purposes of diagnostic radiography of the spine, pelvis or limbs distal to and including the shoulder or hip but not involving tomography, fluoroscopy or the use of contrast media, may be authorized by a chiropractor.

(4) An exposure to ionizing radiation involving bite-wing diagnostic radiography of the teeth may be authorized by a dental therapist.

(5) An exposure to ionizing radiation for the purposes of nuclear medicine diagnosis may be authorized by a nuclear medicine physician.

(6) An exposure to ionizing radiation for the purposes of radiotherapy may be authorized by a radiation oncologist.

(7) An exposure to ionizing radiation for the purposes of the radiotherapy of disorders of the skin may be authorized by a dermatologist.

(8) An exposure to ionizing radiation (other than by fluoroscopy or the use of contrast media) for the purpose of diagnostic radiography of the lower limbs distal to the knee may be authorized by a chiropodist.

(9) An exposure to ionizing radiation for the purpose of ophthalmic brachytherapy may be authorized by an ophthalmologist.

(10) An exposure to ionizing radiation by plain radiography for the purpose of diagnostic radiography of the musculo-skeletal system to be interpreted by a radiologist, may be authorized by a physiotherapist.

(11) An exposure to ionizing radiation by plain radiography for the purpose of diagnostic radiography may be authorized by an oral surgeon.

(12) An exposure to ionizing radiation by plain radiography for the purpose of diagnostic radiography of the chest or abdomen may, if urgent circumstances exist in which the life or health of a patient is seriously threatened, be authorized by a dentist.

57. (1) Subject to subregulations (2) and (3) of this regulation an authorization under this Division must:

(a) be in writing;

(b) contain details of the examination or treatment that is to be authorized;

(c) contain the clinical indications for the examination or treatment;

(d) be signed by the person giving the authorization; and

(e) be given before the examination or treatment which is the subject of the authorization has been given.

(2) An authorization under this Division need not be given where the person who carries out the examination or treatment is a person who may lawfully authorize the examination or treatment under this Division.

(3) An authorization under this Division need not comply with paragraphs *(a)*, *(b)*, *(c)* and *(d)* of subregulation (1) of this regulation where the examination or treatment is given in an emergency.

(4) Where an authorization under this Division is given in accordance with subregulation (3) of this regulation the person who gave the authorization must confirm the authorization within 24 hours of his giving the authorization and such confirmation must:

(a) be in writing;

(b) contain details of the examination or treatment that had been authorized;

(c) contain the clinical indications for the examination or treatment; and

(d) be signed by the person who gave the authorization.

(5) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

58. (1) Where a person authorizes the exposure of any person to ionizing radiation for the purposes of radiotherapy, the person authorizing such exposure must forthwith after giving such authorization make a record which complies with this regulation.

(2) In order to comply with this regulation, a record must contain the following information:

(a) the full name, date of birth and residential address of the person to be treated;

(b) the type of ionizing radiation to be given as treatment;

(c) the date on which treatment was authorized;

(d) the absorbed doses to be given;

(e) details of the organs and tissues (or anatomical regions) to be given those absorbed doses; and

(f) the indications for the treatment.

(3) A person carrying out a treatment referred to in subregulation (1) of this regulation shall, forthwith after carrying out that treatment:

(a) enter in the record:

(i) the date upon which the treatment was carried out; and

(ii) full details of the treatment factors and parameters actually employed to deliver the dose to the patient;

(b) sign the entry immediately after it has been made.

(4) Where a record is made pursuant to this regulation no person shall destroy or dispose of the record except as is approved.

(5) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

DIVISION II—Research Purposes

59. This Division applies to in vivo research the subject of which is a human being and during the course of which that human being is exposed to ionizing radiation which he would not have received but for the research and a reference to "research" in this Division is to be construed as a reference to research of the kind to which the Division applies.

60. (1) No person shall undertake any research without first obtaining the approval of the Commission.

(2) Any person who contravenes, or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

61. (1) A person who wishes to obtain the approval of the Commission pursuant to regulation 60 of these regulations shall apply to the Commission, in writing, setting out:

(a) full details of the research he intends to undertake;

(b) the reasons why it is necessary to expose a person to ionizing radiation for the purposes of the research;

(c) the number of persons who may be exposed to ionizing radiation in the course of such research;

(d) the extent to which such persons may be exposed;

(e) the possible benefits of the research to the community;

(f) the steps he intends to take to monitor the levels of ionizing radiation to which such persons may be exposed; and

(g) the precautions that he will be taking to keep such exposure to a minimum.

(2) In considering whether to grant approval to an application made under regulation 60 of these regulations the Commission shall have regard to:

(a) the levels of ionizing radiation to which any person may be exposed;

(b) the number of persons who may be exposed;

(c) the steps to be taken by the applicant to monitor radiation levels;

(d) the steps to be taken by the applicant to keep such exposure to a minimum;

(e) the purpose of the research;

(f) the possible benefits of the research to the community;

(g) the risk, if any, to the health of the community that may be caused by the research; and

(h) the general objective.

62. (1) No person shall expose himself or any other person to ionizing radiation in the course of research unless the research has first been approved by the Commission and the person exposed has prior to being so exposed consented in writing to being so exposed.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

PART III—IONIZING RADIATION APPARATUS

DIVISION I—Sale or Disposal of Apparatus

63. (1) No person shall carry on a business during the course of which he sells, installs or maintains any apparatus unless he has first served on the Commission a notice that complies with this regulation.

(2) A person who was carrying on a business of a kind referred to in subregulation (1) of this regulation on the date immediately preceding the date upon which this regulation took effect shall not continue to carry on such business unless he has first served on the Commission a notice that complies with this regulation.

(3) In order to comply with this regulation a notice must:

(a) be in writing;

(b) contain the full name and address of the person carrying on the business or in the case of a company the name of the company and the address of its registered office;

(c) state whether it is intended to hold a stock of apparatus, and if so, what kind of apparatus is likely to be held, where it is likely to be held and in what quantities;

(d) state whether any apparatus that is likely to be held in stock is likely to be operable;

(e) state whether any person (whether the person carrying on the business or his employees) is likely to be called upon to operate any apparatus in the course of carrying on the business;

(f) where apparatus is likely to be sold during the course of carrying on the business, contain a statement setting out full details of the kind of apparatus that is likely to be sold.

(2) Any person who contravenes, or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

64. (1) Where during the course of carrying on a business of a kind referred to in regulation 63 of these regulations a person sells or installs apparatus and after such sale or installation becomes aware that:

(a) the apparatus he has sold or installed has a defect; or

(b) apparatus of the same class or kind as the apparatus he has sold or installed has a defect,

he shall serve on the Commission a notice that complies with this regulation.

(2) In order to comply with this regulation a notice must:

(a) be in writing; and

(b) contain:

(i) details of the defect;

(ii) the class or kind of apparatus affected by the defect;

(iii) the likely effects of the defect; and

(iv) details of the steps the person is taking or intends to take to rectify the defect.

(3) The person required to serve a notice in accordance with this regulation must serve such notice on the Commission within 7 days of his becoming aware of the defect.

(4) In this regulation "defect" means a fault in the design or construction of the apparatus that is likely to increase the dose of ionizing radiation that may be received by any person from the apparatus.

(5) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $50 000, or imprisonment for a term not exceeding 5 years or both.

(6) An offence against this regulation is declared to be a minor indictable offence.

65. (1) Where a person serves a notice on the Commission pursuant to regulation 64 of these regulations, he shall:

(a) if he becomes aware of any change in the information he has supplied; or

(b) if he becomes aware of any additional information relating to the information supplied,

serve on the Commission a further notice in writing setting out in full the details of any change to or information additional to the information supplied.

(2) A notice required by subregulation (1) of this regulation must be served on the Commission within 7 days of the person becoming aware of the changed or additional information.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and be liable to a penalty of $10 000.

66. (1) Where a person has served a notice or supplied any information to the Commission in accordance with this Division the Commission may require him, by notice in writing served on him, to supply to the Commission such additional information as the Commission thinks fit.

(2) A person who is served with a notice pursuant to this regulation shall supply, in writing, the information requested by such notice within 28 days of the day upon which the notice requiring the information is served on him.

(3) Any person who wilfully refuses to comply with a notice given to him in accordance with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

67. (1) Where a person who carries on a business of a kind referred to in regulation 63 of these regulations receives an order for the sale of any apparatus, he must, if he intends to accept the order, serve on the person making the order:

(a) a notice in the form of Form 3 in Schedule 7; and

(b) an application form in the form of Form 5 in Schedule 7.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

68. (1) Where a person who carries on a business of a kind referred to in regulation 63 of these regulations delivers to any person any portable or mobile apparatus, he must within 7 days of the delivery serve on the Commission a notice that complies with this regulation.

(2) In order to comply with this regulation, a notice must:

(a) be in writing;

(b) contain the name of the person selling the apparatus;

(c) contain the name of the person to whom the apparatus has been sold; and

(d) contain a statement setting out the make, model, class or kind of apparatus that has been sold, and the address to which it has been delivered.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

69. (1) Where a person who carries on a business of a kind referred to in regulation 63 of these regulations intends to install any fixed apparatus, he shall, at least 7 days before he commences the installation, serve on the Commission a notice that complies with this regulation.

(2) In order to comply with this regulation a notice must:

(a) be in writing;

(b) contain the name of the person selling the apparatus;

(c) contain the name of the person to whom the apparatus has been sold; and

(d) contain a statement setting out the make, model, class or kind of apparatus that has been sold and the address at which it will be installed.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

70. (1) Where a person who carries on a business of a kind referred to in regulation 63 of these regulations sells or replaces:

(a) the X-ray tube housing in a medical, dental or veterinary apparatus;

(b) the high voltage generator in a medical, dental or veterinary apparatus; or

(c) the high voltage generator, tube housing or sample changer in an X-ray analysis apparatus,

he shall, within 7 days of carrying out the sale or replacement, serve on the Commission a notice that complies with this regulation.

(2) In order to comply with this regulation, a notice must:

(a) be in writing;

(b) identify the owner of the apparatus;

(c) contain the address at which the apparatus is located; and

(d) contain details of the make and model of the components sold or replaced.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

71. (1) Where a person, not being a person who carries on a business of a kind referred to in regulation 63 of these regulations, sells or otherwise disposes of any apparatus he shall within 14 days of such sale or disposal serve on the Commission a notice that complies with this regulation.

(2) In order to comply with this regulation a notice must:

(a) be in writing;

(b) contain a statement setting out:

(i) the name and address of the person making the sale or disposal;

(ii) the registration number of the apparatus sold or disposed of;

(iii) the date of the sale or disposal;

(iv) the manner of the sale or disposal; and

(v) the name and address of any person to whom the apparatus was sold.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

72. (1) A person who sells or otherwise disposes of apparatus and believes on reasonable grounds that the apparatus will not be operated after such sale or disposal shall make the apparatus incapable of operation before he sells or otherwise disposes of it.

(2) For the purposes of this regulation apparatus is "incapable of operation" if it would require specialist knowledge to make the apparatus operable.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

DIVISION II—Licence to Operate Apparatus

73. (1) Pursuant to and for the purposes of section 31(2) of the Act each of the following classes of apparatus is apparatus of a prescribed class:

(a) apparatus to which these regulations do not apply by reason of Part I, Division III of these regulations;

(b) closed cabinet X-ray equipment for the examination of letters, packages, baggage, freight and other articles which has been designed and constructed so as to prevent a person entering the cabinet while the equipment is being put to its normal use.

(2) Pursuant to and for the purposes of section 31(2) of the Act, the prescribed classes of persons consist of persons:

(a) who operate apparatus according to the instructions of a veterinary surgeon who:

(i) holds a licence under section 31 of the Act;

(ii) is present in the room or other place in which the apparatus is located; and

(iii) is not able to operate the apparatus himself by reason of the nature of the radiological examination being carried out;

(b) who operate any enclosed X-ray analysis apparatus, but only when the interlocked barriers are in place and who operate such apparatus under the directions of a person who holds a licence under section 31 of the Act; or

(c) who operate for the purposes of industrial radiography an apparatus that is located in a fully protected enclosure, and who operate such apparatus under the directions of a person who holds a licence under section 31 of the Act.

74. Pursuant to section 31(3) of the Act a person who wishes to apply for a licence under section 31 of the Act must:

(a) complete and sign a form in the form of Form 4 set out in Schedule 7; and

(b) send such form to the Commission together with the application fee where applicable, and the licence fee.

75. (1) Pursuant to section 31(3) of the Act the prescribed fee for a licence is $43.00, and the application fee for a licence is $43.00 provided that:

(a) no application fee is payable by a person who, on the date immediately prior to the date upon which these regulations were made, held a licence to use irradiating apparatus under the revoked Health Act regulations; and

(b) no additional licence fee or application fee is payable by a person who applies for a temporary licence and a permanent licence at the same time where the subject matter of both applications is the same.

(2) Where for any reason an application for a licence is not successful, the licence fee shall be returned to the applicant.

76. For the purposes of section 31(4)*(b)*(i) of the Act, the qualifications listed below are prescribed in relation to the operations listed opposite.

Operations	*Qualifications*
The practice of diagnostic radiography	*(a)* A Diploma of Qualification as a diagnostic radiographer, or the Certificate of Competence in diagnostic radiography, issued by the Conjoint Board of the Royal Australasian College of Radiologists and the Australian Institute of Radiography; or *(b)* A Statement of Accreditation as a diagnostic radiographer issued by the Professional Accreditation and Education Board of the Australian Institute of Radiography.
Diagnostic radiography in the practice of radiology	Registration as a specialist in diagnostic radiology under the *Medical Practitioners Act 1983*.
Diagnostic radiography (except fluoroscopy or tomography) in the practice of medicine	*(a)* A licence, held as at January 1983, to use irradiating apparatus under the revoked Health Act regulations; and *(b)* completion of a conversion course established by the Commission for such licensees.

Diagnostic radiography in the practice of chiropractic	Registration as a chiropractor under the *Chiropractors Act 1979* and— *(a)* a degree of Bachelor of Applied Science in Chiropractic granted by the Phillip Institute of Technology, Victoria; *(b)* a Graduate Diploma in Chiropractic, or a Diploma of Doctor of Chiropractic, granted by the Sydney College of Chiropractic, New South Wales after November 1983; *(c)* a degree of Master of Chiropractic granted by Macquarie University, New South Wales; or *(d)* successful completion of the short course in Radiology for South Australian Chiropractors conducted by the School of Chiropractic of the Phillip Institute of Technology, Victoria.
Diagnostic radiography in the practice of dentistry	*(a)* Registration as a dentist or dental hygienist under the *Dentists Act 1984*; *(b)* The qualifications and experience determined by the Minister under section 85 of the *Dentists Act 1984* as necessary to be held by a dental therapist; or *(c)* Successful completion of the Post-Certificate Study Course in Dental Radiography to the satisfaction of the Dental Assistants Education Council of Australia.
Diagnostic radiography in the practice of veterinary science	Registration as a veterinary surgeon or veterinary practitioner under the *Veterinary Surgeons Act 1985*.
The practice of radiation oncology	Registration as a specialist in radiation oncology under the *Medical Practitioners Act 1983*.
The practice of therapy radiography	*(a)* A Diploma of Qualification as a therapy radiographer, or the Certificate of Competence in therapeutic radiography, issued by the Conjoint Board of the Royal Australasian College of Radiologists and the Australian Institute of Radiography; or *(b)* A Statement of Accreditation as a therapy radiographer issued by the Professional Accreditation and Education Board of the Australian Institute of Radiography.

77. (1) Where the address for service of a holder of a licence granted under section 31 of the Act is changed, the holder of the licence shall serve on the Commission a notice in writing informing the Commission of his new address for service.

(2) The notice referred to in subregulation (1) of this regulation shall be served on the Commission within 14 days of the change occurring.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

DIVISION III—Registration of Apparatus

78. Pursuant to and for the purposes of section 32(3) of the Act each of the following classes of apparatus is apparatus of a prescribed class:

(a) apparatus to which these regulations do not apply by reason of Part I, Division III of these regulations;

(b) apparatus made incapable of operation in accordance with Division I of this Part of these regulations;

(c) apparatus which is held as stock by a person who has complied with regulation 63 of these regulations;

(d) apparatus which is being installed by a person who has complied with regulation 63 of these regulations; and

(e) apparatus which is the subject of an application for registration in accordance with these regulations, such application being under consideration by the Commission.

79. A person who wishes to register any apparatus pursuant to section 32 of the Act must:

(a) complete and sign a form in the form of Form 5 set out in Schedule 7; and

(b) send such form to the Commission together with the application fee, where applicable, and the registration fee.

80. (1) Pursuant to section 32(4) of the Act the prescribed registration fee is:

(a) where the registration is for one year, $74.00; or

(b) where the registration is for three years, $222.00.

(2) The application fee for registration is $43.00: provided that no application fee shall be payable in respect of an apparatus which on the date immediately prior to the date upon which these regulations were made, was registered under the revoked Health Act regulations.

(3) Where for any reason an application for registration of an apparatus is not successful, the registration fee shall be returned to the applicant.

81. (1) Where the address for service of the registered owner of an apparatus is changed, the registered owner shall serve on the Commission a notice in writing informing the Commission of his new address for service.

(2) Where the location of any fixed apparatus is changed, the registered owner of that apparatus shall serve on the Commission a notice in writing informing the Commission of the new location of that apparatus.

(3) The notices referred to in subregulations (1) and (2) of this regulation shall be served on the Commission within 14 days of the change occurring.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

DIVISION IV—Special Requirements for Apparatus

82. All apparatus must have attached to, or adjacent to, the control which actuates the production of ionizing radiation a label which:

(a) bears the radiation symbol;

(b) bears the words "RADIATION PRODUCED WHEN ENERGIZED" or words to that effect in letters the height of which shall be not less than 10mm; and

(c) is such that the colour and shape conform with those for a caution (warning) sign specified in Table 2.2 and paragraphs 2.3, 3.2, and 4.2.2 of Australian Standard AS 1319—1983 "Safety Signs for the Occupational Environment" published by the Standards Association of Australia.

83. (1) Subject to subregulation (3), a sign complying with subregulation (2) of this regulation must be clearly displayed at each entrance to any room:

(a) in which a fixed apparatus is installed; or

(b) which is designated as the room in which a mobile or portable apparatus is normally kept and used.

(2) The sign:

(a) must bear the radiation symbol;

(b) must have a total surface area of not less than 4 500mm^2;

(c) where it bears words and those words are in addition to or other than the word "CAUTION", must bear the words "RADIATION AREA" or "X-RAYS" or words of similar effect; and

(d) must conform with those requirements of Australian Standard AS 1319—1983 "Safety Signs for the Occupational Environment" published by the Standards Association of Australia relating to caution (warning) signs.

(3) Subregulation (1) does not apply to an entrance to the room from a place or another room which can only be entered from the room.

84. (1) A cabinet X-ray unit must be constructed so that it conforms with the requirements of the *Revised Statement on Cabinet X-ray Equipment for Examination of Letters, Packages, Baggage, Freight and Other Articles for Security, Quality Control and Other Purposes* approved by the National Health and Medical Research Council in 1987 as such statement is modified in accordance with this regulation.

(2) Paragraph 5.1 of Section 5 "Access" of the Statement is to be modified as follows:

"Where a door is provided for insertion of items to be examined, it shall have a minimum of two safety interlocks, which shall be arranged so that any one of them will disconnect the supply of the high voltage transformer when the door is opened.".

(3) Section 8 "X-ray indicator lights" is modified by inserting the following sentence immediately after the third sentence:

"Alternatively, only one indicator light may be used, provided that:

(a) it is readily visible from all doors, ports and access panels; and

(b) the failure of this single indicator light results in the failure of the unit to produce X-rays.".

(4) The Statement shall be construed as if Section 9 "Warning Sign" is deleted.

85. (1) The owner of a cabinet X-ray unit shall, at periods not exceeding three months, test the operation of every safety interlock and fail safe indicator light fitted to the unit.

(2) The test shall consist of determining whether the production of ionizing radiation ceases when the door or access panel, with which the interlock is associated, is opened.

(3) Where the unit is fitted with a fail safe indicator light, the test shall consist of determining whether the production of ionizing radiation is possible if the light is removed.

(4) An owner who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

86. (1) An owner of a cabinet X-ray unit shall establish a register of all tests done pursuant to regulation 85 of these regulations.

(2) After each test has been carried out the owner shall forthwith make an entry in the register and each entry must specify:

(a) the date on which the test was done;

(b) the name of the person doing the test;

(c) the kind of test done; and

(d) the results of the test.

(3) The person who carries out the test shall forthwith after the entry has been made add his signature at the end of the entry.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

87. (1) Every X-ray analysis system used for fluorescence analysis must comply with either:

(a) the requirements of subregulation (3) of this regulation; or

(b) the requirements of subregulation (4) of this regulation.

(2) Every X-ray analysis system used for diffraction analysis must comply with:

(a) the requirements of subregulation (3) of this regulation;

(b) the requirements of subregulation (4) of this regulation; or

(c) the requirements of subregulation (5) of this regulation.

(3) In order to comply with this subregulation, an X-ray analysis system must incorporate an adequately shielded enclosure which:

(a) completely encloses the primary X-ray beams generated within the apparatus;

(b) prevents access to such X-ray beams during normal operations with such apparatus; and

(c) is comprised of sections which are permanently attached to each other or are interlocked so that removal of any part of the complete enclosure:

(i) can be done only when the shutter admitting the primary beam to that part of the enclosure is closed, and the shutter can be opened only when the enclosure is complete;

(ii) de-energizes the X-ray tube; or

(iii) closes the shutter.

(4) In order to comply with this subregulation, an X-ray analysis system must incorporate an adequately shielded enclosure which:

(a) encloses the primary X-ray beam to the extent that it prevents entry of any part of the body into the primary beam, the enclosure being comprised of sections which:

(i) are securely attached to each other;

(ii) are interlocked so that the removal of any part of the enclosure de-energises the X-ray tube; or

(iii) are such that the removal of any part of the enclosure:

(A) can be done only when the shutter admitting the primary beam to that part of the enclosure is closed;

(B) prevents the shutter from being opened; or

(C) closes the shutter; and

(b) is constructed so that all operations other than adjustments and alignments can be performed when all sections of the enclosure are in place and all interlocks in operation.

(5) In order to comply with this subregulation, an X-ray analysis system must be such that:

(a) under all conditions the absorbed dose rate at any point on the surface of a volume defined by:

(i) the floor of the room in which the analysis system is housed;

(ii) the vertical projection of the plan outline of the analysis system;

(iii) a horizontal plane whose height above the floor is the height of the highest point of the X-ray analysis system,

does not exceed 25 microgray per hour; and

(b) radiation shielding used to assist in complying with subparagraph *(a)* of this subregulation is securely attached to:

(i) the X-ray analysis system; or

(ii) except in the case of a mobile apparatus, the walls, floor or ceiling.

(6) Any person who operates an X-ray analysis apparatus which does not comply with subregulation (5) of this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

88. (1) Every X-ray tube incorporated in an X-ray analysis apparatus must be enclosed in a tube housing every aperture of which is covered:

(a) by a shutter; or

(b) by a completely shielded enclosure, all entrances to which (apart from the aperture) are interlocked so that the opening of any such entrance immediately de-energizes the X-ray tube.

(2) The tube housing and the enclosure referred to in subregulation (1) of this regulation must be adequately shielded.

(3) The X-ray tube and the tube housing of every X-ray analysis apparatus must be interlocked so that the removal of one from the other de-energizes the X-ray tube.

(4) Where a cover providing direct access to the inside of the X-ray tube housing is removed from an X-ray analysis apparatus, the X-ray tube must be de-energized.

89. Every shutter fitted to an X-ray analysis apparatus must:

(a) be fitted with a closing device which, in the absence of an external applied force, keeps the shutter closed; and

(b) either:

(i) be fitted to the apparatus so that the use of a tool is required to remove it; or

(ii) be interlocked so that removal of the shutter de-energizes the X-ray tube.

90. (1) Every X-ray analysis apparatus must be fitted with an illuminated sign or a combination of a light and sign which:

(a) is activated only when the X-ray tube is energized;

(b) when activated, indicates that the X-ray tube is operating;

(c) is readily visible from all accessible sides of the apparatus; and

(d) bears letters which are legible and readily discernible from a distance of 2 metres.

(2) Every shutter fitted to an X-ray analysis apparatus must be linked to a light which:

(a) is illuminated only when the shutter to which it is linked is open; and

(b) clearly indicates which shutter is open.

(3) Each of the lights referred to in subregulations (1) and (2) of this regulation must be red or amber in colour and:

(a) be fail safe; or

(b) consist of two lights, each of which is on a separate circuit from the other.

91. (1) The owner of an open-beam X-ray analysis system shall display a sufficient number of signs that comply with subregulation (2) of this regulation to be clearly visible from all normal routes of access to the X-ray analysis system.

(2) In order to comply with this subregulation a sign must:

(a) be clearly legible from a distance of 2 metres;

(b) consist of two panels as described for the regulatory class of signs in Table 2.2 of Australian Standard AS 1319—1983 "Safety Signs for the Occupational Environment";

(c) have a top panel which bears the word "DANGER" and which is as described in Clause 4.2.3 of AS 1319—1983; and

(d) have a bottom panel which:

(i) is as described in Clause 4.2.3 of AS 1319—1983;

(ii) bears the words "OPEN BEAM X-RAY ANALYSIS UNIT"; and

(iii) bears the radiation symbol.

(3) The signs referred to in subregulation (1) of this regulation shall be displayed no closer to the X-ray tube than the surface of the volume referred to in regulation 87(5) of these regulations.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

92. (1) The registered owner of an X-ray analysis apparatus shall carry out regular radiation monitoring surveys of the apparatus in order to detect unintended radiation emissions from the apparatus.

(2) The surveys referred to in subregulation (1) of this regulation shall be conducted at least once every six months.

(3) The registered owner shall carry out an additional radiation monitoring survey in order to detect unintended radiation emissions from that apparatus:

(a) wherever a new X-ray analysis apparatus is installed;

(b) after the apparatus has been reassembled; and

(c) after any radiation incident or radiation accident in which the apparatus has been involved.

(4) The surveys referred to in subregulations (1) and (3) of this regulation shall be conducted:

(a) by using a monitoring instrument of the kind referred to in regulation 98 of these regulations; and

(b) with the X-ray tube of the apparatus operated at the maximum rated voltage and the maximum rated current for continuous operation at that voltage.

(5) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

93. (1) The registered owner of an X-ray analysis apparatus shall carry out regular checks of the operation of every interlock or warning light fitted to an X-ray analysis system.

(2) The checks referred to in subregulation (1) of this regulation shall be conducted at least every six months.

(3) The checks referred to in subregulation (1) of this regulation need not include checks on interlocks the checking of which is not possible unless other interlocks are deliberately over-ridden.

(4) In addition to the checks required by subregulation (1) of this regulation, additional checks of all interlocks shall be done:

(a) after or during the reassembly of the apparatus; and

(b) after any radiation incident or radiation accident in which the apparatus has been involved.

(5) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

94. (1) The registered owner of an X-ray analysis apparatus may permit a person specified by him to bypass a safety device or interlock fitted to an X-ray analysis apparatus for a period specified by the owner.

(2) Where any person has bypassed a safety device or interlock, he shall at all times while the safety device or interlock is bypassed display on the control panel of the apparatus a sign bearing the words "WARNING — SAFETY DEVICE NOT WORKING".

(3) The sign referred to in subregulation (2) of this regulation must:

(a) comply with the requirements of Australian Standard AS 1319—1983 "Safety Signs for the Occupational Environment" for text type caution (warning) signs; and

(b) be clearly discernible and legible from a distance of 2 metres.

(4) Subregulation (2) of this regulation shall not apply where the interlock or safety device is bypassed for the purpose of converting an X-ray analysis system to an open beam X-ray analysis system.

(5) No person shall bypass a safety device or interlock fitted to an X-ray analysis apparatus unless he has been permitted by the registered owner to do so.

(6) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

95. (1) Where an X-ray analysis system is used so that the configuration of the system changes or is likely to change from any one of the three categories described by subregulations (3), (4) and (5) of regulation 87 of these regulations to any other such category, the registered owner of such apparatus shall prepare separate working rules in accordance with regulation 10(1)*(d)* of these regulations relevant to each category to which the apparatus is likely to belong.

(2) Where the configuration of an X-ray analysis system is changed so that the category of the apparatus is changed, the registered owner of the apparatus shall forthwith notify, in writing, all persons who operate the apparatus that such a change has been made.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

96. (1) The registered owner of an open-beam X-ray analysis system shall:

(a) keep the system in a room or other enclosed area that has a door that is capable of being locked;

(b) display on the outside of all doors of the room or other enclosed area a sign which:

(i) conforms with the colour and shape of a text type regulatory sign as described in Table 2.2 of Australian Standard AS 1319—1983 "Safety Signs for the Occupational Environment";

(ii) bears the word "DANGER" in the top panel;

(iii) bears the words "KEEP OUT" in the bottom panel;

(iv) is clearly legible from a distance of 2 metres.

(2) Where a person has been operating an open-beam X-ray analysis system in a room or other enclosed area and on leaving that room or other enclosed area, the X-ray analysis system remains energized and that room or other enclosed area is left unsupervised, he shall lock all doors to the room or other enclosed area.

(3) Where a person, being a person who holds a licence under section 31 of the Act is in a room or other enclosed area which contains an open-beam X-ray analysis system that is energized and in which other persons are present none of whom holds such a licence, the licensed person shall not leave the room or other enclosed area whilst those other persons remain there.

(4) A person who holds a licence under section 31 of the Act may, so as to enable him to lawfully leave a room or other enclosed area that contains an open beam X-ray analysis system that is energized, request any person who is not the holder of a licence under section 31 of the Act to leave that room or other enclosed area.

(5) Where a person who is not the holder of a licence under section 31 of the Act is requested to leave a room or other enclosed area by a person who is the holder of such a licence and such request is made pursuant to subregulation (4) of this regulation, he shall forthwith comply with that request.

(6) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

97. (1) The registered owner of any X-ray analysis apparatus shall maintain a record of all radiation surveys and checks performed on the apparatus pursuant to regulations 92 and 93 of these regulations.

(2) The registered owner shall make in respect of each survey or check an entry which:

(a) identifies the apparatus involved;

(b) contains the date upon which each survey or check took place;

(c) in the case of surveys, records whether any change in radiation emission was detected since the previous survey, and if so, what that change was;

(d) in the case of checks on safety devices, records which of the safety devices were checked, and whether they passed or failed the check;

(e) records the name of the person performing the survey or carrying out the checks; and

(f) indicates what action, if any, was taken as a result of the survey or check.

(3) The registered owner shall make each entry referred to in subregulation (2) of this regulation within 7 days of the survey or check to which the entry refers.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

98. (1) The registered owner of an X-ray analysis apparatus shall have or make available a radiation monitoring instrument that complies with this regulation for the purpose of carrying out the radiation surveys required by regulation 92 of these regulations.

(2) In order to comply with this regulation, a radiation monitoring instrument must:

(a) be accurate to within ± 50% for the energy range of the primary beam radiation produced over the operating kilovoltage range of the X-ray analysis apparatus for which it is to be used;

(b) have a sensitivity which gives a positive response at an air kerma rate of at least 10 microgray per hour, measured in a field of radiation uniform over the sensitive volume of the detector with the energy range specified in paragraph *(a)* of this subregulation;

(c) have a meter or similar read-out device which:

(i) is calibrated in units of exposure rate, air kerma rate or absorbed dose rate; or

(ii) is calibrated in arbitrary units, but has indicated on the instrument the appropriate method of conversion from those units to exposure rate, air kerma rate or absorbed dose rate for a radiation field uniform over the sensitive volume of the detector.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

99. (1) Where the user of an X-ray analysis apparatus detects or suspects an unnecessary or unexpected radiation field he shall forthwith:

(a) de-energize the apparatus; and

(b) notify the radiation safety officer of the unnecessary or unexpected radiation field.

(2) No person shall re-energize or modify an apparatus which has been de-energized pursuant to subregulation (1) of this regulation until such time as the radiation safety officer has:

(a) inspected the apparatus; and

(b) approved of the proposed action.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

100. (1) No person shall carry out site radiography using apparatus unless he is, at all times while engaged in carrying out site radiography, accompanied by a person who has been trained in the emergency procedures to be carried out in the event of a radiation incident, radiation accident or other mishap of a kind that is reasonably foreseeable during the course of site radiography.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

101. (1) No person shall carry out, or assist in the carrying out, of site radiography using apparatus unless:

(a) he is wearing or has affixed to his person a device of a kind specified in subregulation (2) of this regulation; and

(b) he has a radiation survey meter of a kind specified in subregulation (3) of this regulation immediately available for his use.

(2) The device referred to in subregulation (1)*(a)* of this regulation (commonly known as a "chirper") must be a device which:

(a) is capable of detecting the type and energy of radiation being used;

(b) emits an audible signal upon detecting radiation, the rate at which the audible signal is produced being proportional to the absorbed dose rate incident upon the device; and

(c) is of a kind that has been approved.

(3) The radiation survey meter referred to in subregulation (1)*(b)* of this regulation must be a device which:

(a) is designed to measure radiation of the type and energy emitted by the apparatus in use;

(b) has a measurement range of absorbed dose rate (or its equivalent exposure rate) from 10 microgray per hour to at least 10 000 microgray per hour;

(c) continues to indicate, either visibly or audibly, when the radiation level exceeds the maximum of the measurement range being used; and

(d) indicates the measured quantity with a measurement uncertainty of no more than ± 30%, inclusive of uncertainty due to variations in response with energy over the range of energies of the radiation to be measured.

(4) An owner of apparatus used for site radiography shall provide every person who uses apparatus of which he is the owner with the chirper and radiation survey meter of the kind required by subregulation (1) of this regulation.

(5) It shall be sufficient compliance with subregulation (1) of this regulation if the same radiation survey meter is available for use by the person carrying out the site radiography and the person assisting him.

(6) An owner of apparatus used for site radiography shall, in respect of a radiation survey meter he provides under subregulation (4) of this regulation:

(a) calibrate the survey meter at intervals not exceeding 12 months;

(b) cause the calibration of the survey meter to be carried out by an approved body or organization; and

(c) keep a record of each calibration, which record may consist of calibration certificates issued by the body or organization that performed the calibration.

(7) An owner of apparatus used for site radiography shall in respect of a chirper he provides pursuant to subregulation (4) of this regulation:

(a) test the chirper at intervals not exceeding 3 months; and

(b) make or cause to be made records of each test so performed.

(8) The test referred to in subregulation (7) of this regulation shall:

(a) test the response of the chirper to the type and energies of radiation used by the owner for the purposes of site radiography;

(b) test the dependence of the chirp rate upon the absorbed dose rate received by the chirper; and

(c) be of an approved kind.

(9) An owner of an apparatus used for site radiography shall maintain in good order and condition the chirper and survey meter provided by him pursuant to this regulation.

(10) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

102. (1) Where the owner of an apparatus used for site radiography carries out site radiography using that apparatus on premises owned by another person, the owner of the apparatus and the person on whose behalf the site radiography is being carried out shall comply with this regulation.

(2) Before the owner of the apparatus begins to carry out the site radiography:

(a) he shall provide the person on whose behalf the site radiography is to be carried out with an instrument in writing, such instrument to set out the safety precautions to be adopted so that the exposure to ionizing radiation of any person who is likely to be on the premises on which the site radiography is being carried out (not being the person carrying out or assisting in the carrying out of the site radiography) is as low as is reasonably achievable and is no more than the exposure limits for members of the public;

(b) he shall request the person on whose behalf the site radiography is to be carried out to nominate a person who is to be responsible for ensuring that the safety precautions referred to in paragraph *(a)* of this subregulation are carried out; and

(c) the person on whose behalf the site radiography is to be carried out shall have nominated a person to be responsible for carrying out the safety precautions referred to in paragraph *(a)* of this subregulation.

(3) Where a person on whose behalf site radiography is to be carried out is requested to nominate a person to be responsible for carrying out the safety precautions referred to in subregulation (2) of this regulation, he shall comply with that request before the owner of the apparatus begins to carry out the site radiography.

(4) During the time site radiography using apparatus is being carried out on the premises:

(a) the person nominated as being responsible for carrying out the safety precautions referred to in subregulation (2)*(a)* of this regulation shall give such instructions as are necessary so that such safety precautions are carried out by all persons who are on the premises, not being the persons who are carrying out or assisting in the carrying out of the site radiography; and

(b) all persons on the premises not being the persons carrying out or assisting in the carrying out of the site radiography shall obey all reasonable instructions given to them by the person nominated as being responsible for carrying out the safety precautions referred to in subregulation (2)*(a)* of this regulation.

(5) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

103. (1) A person shall not carry out site radiography that involves the use of apparatus unless the apparatus incorporates a collimating device that is designed to limit the primary beam to a size that is, as far as is reasonably practicable, limited to the minimum necessary for the radiographic exposure.

(2) Where a person carries out site radiography involving the use of apparatus with a remote control unit he shall locate the remote control unit so that the absorbed dose rate at the remote control unit is as low as is reasonably achievable.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

104. (1) Where a person intends to carry out site radiography which involves the use of apparatus he shall, before he commences to do so, mark out the area around the exposure site with barriers and signs that comply with subregulations (2) and (3) of this regulation.

(2) The barriers must:

(a) be marked with bunting of a vivid colour; and

(b) be placed so that the absorbed dose rate outside the barrier does not exceed 25 microgray per hour.

(3) The signs must:

(a) comply with subregulation (4) of this regulation; and

(b) be located in such positions so that they are visible from all modes of access to the exposure site.

(4) Each sign must:

(a) be at least 600mm long by 450mm high;

(b) be divided into two panels as described for the regulatory class of signs in Table 2.2 of Australian Standard AS 1319—1983 "Safety Signs for the Occupational Environment";

(c) have a top panel which bears the word "DANGER" and is as described in Clause 4.2.3 of AS 1319—1983;

(d) have a bottom panel that must:

(i) be as described in AS 1319—1983;

(ii) bear the words "RADIATION: KEEP OUT"; and

(iii) bear the radiation symbol; and

(e) have letters the height of which shall be at least 60mm.

(5) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

105. (1) This regulation shall apply to all apparatus used for industrial radiography.

(2) The owner of apparatus to which this regulation applies shall have the apparatus inspected by a competent person at intervals not exceeding three months, such inspection being for the purpose of determining whether or not the apparatus is in good working order and condition.

(3) A person who carries out an inspection of an apparatus pursuant to subregulation (2) of this regulation shall check the apparatus to determine whether or not it is in good working order and condition.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

106. (1) No person shall use a device, article, or thing in the course of industrial radiography unless such device, article or thing is in good working order and condition.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

107. (1) Apparatus used for industrial radiography must be durably marked with a label containing the following information:

(a) the serial number of the apparatus;

(b) the maximum accelerating voltage (kV) at which the tube can be operated; and

(c) the maximum continuous current (mA) at which the tube can be operated.

(2) Apparatus used for industrial radiography must:

(a) have a key operated device which controls, and when locked, prevents the supply of power to the high voltage generator; and

(b) have a red or amber fail safe light that indicates when X-rays are being produced.

108. (1) Wherever site radiography is carried out using apparatus a red or amber rotating or flashing light visible at all points along the barriers referred to in regulation 104 of these regulations must be provided and activated whenever the X-ray tube is energized.

(2) No person shall carry out or cause or permit any other person to carry out site radiography using apparatus unless warning devices as specified in subregulation (1) of this regulation have been provided in accordance with that subregulation.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

109. (1) Apparatus, not including orthopantomographic or cephalometric apparatus, that is used for dental radiography with an extra-oral X-ray tube must:

(a) where the apparatus had been registered under the revoked Health Act regulations, comply with:

(i) the requirements of subregulations (3), (7), (10), (11), (12), (13), (14)*(b)*, (15)*(a)* and (19) of this regulation;

(ii) the requirements of subregulation (5) of this regulation, except that the beam limiting device need not be open ended;

(iii) the requirements of subregulation (6) of this regulation, except that the minimum distance referred to shall be 100m; and

(iv) the requirements of either subregulations (8)*(a)* and (9) or subregulation (8)*(b)*;

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(b) in any other case, comply with the requirements of subregulations (2) to (20) of this regulation.

(2) The X-ray tube must be enclosed in a housing in such a manner that the air kerma rate from leakage radiation at a distance of 1 metre from the focus of the tube does not exceed 1 milligray in 1 hour at every rating specified by the manufacturer for that tube in the housing and, to determine compliance with this requirement, measurements shall be made over an area not larger than 10 000mm^2 at a distance of 1 metre from that tube.

(3) The X-ray tube housing must remain stationary when placed in position for radiography.

(4) Any device that serves to limit the size of the useful beam must be constructed so that, in combination with the tube housing, it complies with the leakage radiation limits set out in subregulation (2) of this regulation.

(5) The X-ray tube housing must be fitted with an open ended beam limiting device that limits the maximum dimension of the useful beam in a plane at right angles to the central ray of the beam located at the end of that cone or diaphragm to a length not exceeding 60mm.

(6) Any beam limiting device referred to in subregulation (5) of this regulation must be constructed so that the minimum distance from the outer end of the cone or diaphragm to the X-ray tube focus is not less than 200mm.

(7) The half value layer of the primary beam must:

(a) where the nominal kilovoltage is less than 50kV, be not less than 1.2mm of aluminium;

(b) where the nominal kilovoltage is equal to or more than 50kV, be not less than the value appropriate to the nominal kilovoltage set out in Schedule 9.

(8) The apparatus must incorporate a device that provides a warning to the operator whenever the tube is energized and that warning must consist of:

(a) a red or amber light; and

(b) an audible signal provided by a device incorporated into the apparatus for that purpose.

(9) There must be no indicator light on the control panel of the apparatus of the same colour as the light referred to in subregulation (8) of this regulation other than that complying with that subregulation.

(10) The exposure control switch must be arranged so that the operator can remain:

(a) outside the useful X-ray beam and at least 2 metres from the X-ray tube and from the patient; or

(b) behind a fixed protective barrier which complies with subregulation (12) of this regulation,

while the X-ray tube is energized.

(11) Whenever the primary beam from such apparatus is likely to be directed at an area normally occupied by a person, which area is less than 5 metres from the X-ray tube, a fixed protective barrier which complies with subregulation (12) of this regulation must be provided.

(12) The protective barrier referred to in subregulations (10) and (11) of this regulation must have a lead equivalent of at least 0.15mm.

(13) The exposure control switch must have a circuit closing contact that can be maintained only by continuous pressure and it must not be possible to make repeat exposures without releasing the switch.

(14) A timer must be provided that will terminate the exposure after a preset time setting or at a preset product of current and time and:

(a) termination of exposure must cause automatic resetting of the timer to its initial setting or zero; and

(b) it must not be possible to energize the X-ray tube if the timer is set to zero.

(15) Where X-ray tube potential, current or exposure time:

(a) are capable of being varied, control settings must be provided so that the required value of tube potential, current or exposure time or a combination thereof can be set without a trial exposure being made; or

(b) are not capable of being varied, the values of that potential, current or exposure time shall be indicated on labels affixed to the tube housing or to the control panel.

(16) The apparatus must have a mains switch that controls the supply of mains power to the apparatus but does not control the supply of power to any other device and a mains indicator light to indicate when the control panel is energized and the mains switch is in the "ON" position.

(17) The position of the focal spot must be clearly indicated on the X-ray tube housing.

(18) When more than one X-ray tube can be operated from a single control panel, it must not be possible to energize more than one X-ray tube at the same time and there must be an indication at or near each tube housing and on the control panel showing which X-ray tube is selected.

(19) The apparatus must produce a consistent radiation output so that the coefficient of variation of at least five measurements of the radiation output of the machine, each taken at the same control settings, is less than or equal to 0.05.

(20) The apparatus must produce a linear radiation output so that if at least five measurements of radiation output of the machine are made at a range of exposure times from 0.1 second to 1 second, the coefficient of variation of the quotients formed by dividing each radiation output by the associated timer setting is less than or equal to 0.1.

110. (1) Apparatus that is used for dental radiography and is designed to be so used with the X-ray tube in the patient's mouth must:

(a) where the apparatus had been registered under the revoked Health Act regulations, comply with:

(i) the requirements of subregulations (2), (3), (4), (5), (7), (8), (9), (10), (11), (12) and (13) of this regulation; and

(ii) the requirements of either subregulations (6)*(a)* and (16) or subregulation (6)*(b)*;

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(b) in any other case, comply with the requirements of subregulations (2) to (18) of this regulation.

(2) The X-ray tube must be fitted with a collimating device or protective beam applicator capable of minimizing exposure to tissues which do not need to be irradiated for the purpose of producing a satisfactory radiograph.

(3) The total filtration provided in the primary beam shall be not less than the equivalent of 3mm of aluminium at the maximum kilovoltage available on the apparatus.

(4) The apparatus shall not be operable at X-ray tube potential differences of less than 50 kilovolts.

(5) The X-ray tube housing must remain stationary when placed in position for radiography.

(6) The apparatus must incorporate a device that provides a warning to the operator whenever the tube is energized and that warning must consist of:

(a) a red or amber light; and

(b) an audible signal provided by a device incorporated into the apparatus for that purpose.

(7) The exposure control switch must be arranged so that the operator can remain:

(a) outside the useful X-ray beam and at least 2 metres from the X-ray tube and from the patient; or

(b) behind a fixed protective barrier that complies with subregulation (9) of this regulation,

while the X-ray tube is energized.

(8) Whenever the primary beam from such apparatus is likely to be directed at an area normally occupied by a person, which area is less than 5 metres from the X-ray tube, a fixed protective barrier that complies with subregulation (9) of this regulation must be provided.

(9) The protective barrier referred to in subregulations (7) and (8) of this regulation must have a lead equivalent of at least 0.15mm.

(10) The exposure control switch must have a circuit closing contact that can be maintained only by continuous pressure and it must not be possible to make repeat exposures without releasing the switch.

(11) A timer must be provided that will terminate the exposure after a preset time setting or after a preset product of current and time and:

(a) termination of exposure must cause automatic resetting of the timer to its initial setting or zero; and

(b) it must not be possible to energize the X-ray tube if the timer is set to zero.

(12) Where X-ray tube potential, current or exposure time:

(a) are capable of being varied, control settings must be provided so that the required value of tube potential, current or exposure time or a combination thereof can be set without a trial exposure being made; or

(b) are not capable of being varied, the values of that potential, current or exposure time shall be indicated on labels affixed to the tube housing or to the control panel.

(13) The apparatus must produce a consistent radiation output so that the coefficient of variation of at least five measurements of the radiation output of the machine, each taken at the same control settings, is less than or equal to 0.05.

(14) The X-ray tube must be enclosed in a housing so that the air kerma rate from leakage radiation at a distance of 1 metre from the focus of that tube does not exceed 1 milligray in 1 hour at every rating specified by the manufacturer for that tube in the housing and, to determine compliance with this requirement, measurements shall be made over an area not larger than 10 000mm^2 at a distance of 1 metre from that tube.

(15) Any device that serves to limit the size of the useful beam must be constructed so that, in combination with the tube housing, it complies with the leakage radiation limits set out in subregulation (14) of this regulation.

(16) There must be no indicator light on the control panel of the apparatus of the same colour as the light referred to in subregulation (6) of this regulation other than that complying with that subregulation.

(17) The apparatus must have a mains switch that controls the supply of mains power to the apparatus but does not control the supply of power to any other device and a mains indicator light to indicate when the control panel is energized and the mains switch is in the "ON" position.

(18) The apparatus must produce a linear radiation output so that the coefficient of variation of at least five values of the ratio of radiation output to charge, where the radiation output is measured at a fixed kilovoltage and the charge is that given by the product of the tube current and the timer setting, where a range of timer settings from 0.1 second to 1 second is used, must be less than or equal to 0.1.

111. (1) Subject to subregulation (2) of this regulation fixed apparatus that is used for medical or veterinary diagnostic radiography or by a chiropractor, but is not used for fluoroscopy, computed tomography, mammography, or soft tissue radiography must:

(a) where the apparatus had been registered under the revoked Health Act regulations:

(i) comply with the requirements of subregulations (4), (5), (6), (7)*(a)*, (8), (9) and (12) of this regulation;

(ii) except in the case of a special purpose fixed geometry apparatus, comply with subregulation (3) of this regulation; and

(iii) comply with the requirements of either subregulations (10)*(a)* and (11) or subregulation (10)*(b)*;

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(b) in any other case, comply with the requirements of subregulations (3) to (18) of this regulation.

(2) This regulation shall not apply to:

(a) an apparatus which is capable of both fluoroscopy and plain radiography; or

(b) orthopantomographic apparatus.

(3) The X-ray tube must be fitted with a continuously adjustable collimator that:

(a) has a light beam:

(i) the centre of which is indicated;

(ii) the edge of which does not fall inside the irradiated area; and

(iii) the edge of which does not fall outside the edge of the irradiated area by more than 10mm at a focal spot to image receptor distance of 1 metre;

(b) can be rotated around the centre of the X-ray beam; and

(c) the minimum distance of which between the focal spot and the patient’s entrance surface is 300mm.

(4) Where X-ray tube potential, current or exposure time:

(a) are capable of being varied, control settings must be provided on the control panel so that the required value of tube potential, current and exposure time or a combination thereof can be set without a trial exposure being made; or

(b) are not capable of being varied, the values of that potential, current or exposure time shall be indicated on the control panel.

(5) The half value layer of the primary beam must, for every available kilovoltage, be not less than the value of half value layer shown in the table set out in Schedule 9 as being appropriate to the selected kilovoltage.

(6) The apparatus must be fitted with a device that will terminate the exposure after a preset:

(a) time interval;

(b) product of tube current and time; or

(c) programmed exposure.

(7) The exposure switch fitted to the apparatus must:

(a) have a circuit closing contact that:

(i) can be maintained only by continuous pressure;

(ii) makes it impossible to make repeat exposures without releasing the switch; and

(iii) in the case of programmed exposures, makes it possible to interrupt the exposure at any stage of the programme; and

(b) not be operable in parallel with any other exposure switch.

(8) The X-ray tube housing must be supported so that it remains stationary when placed in position for plain radiography.

(9) The apparatus must produce a consistent, linear radiation output so that:

(a) the coefficient of variation of at least five measurements of radiation output taken at the same exposure settings must be less than or equal to 0.05; and

(b) the coefficient of variation of at least five values of the ratio of radiation output to charge, where the radiation output is measured at a fixed kilovoltage and the charge is that indicated on the control panel and is varied from measurement to measurement, must be less than or equal to 0.1.

(10) The apparatus must incorporate a device that provides a warning to the operator whenever the tube is energized and the warning must consist of:

(a) a red or amber light; and

(b) an audible signal provided by a device incorporated into the apparatus for that purpose.

(11) The apparatus must not have an indicator light on the control panel that is the same colour as the light referred to in subregulation (10) of this regulation other than that complying with that subregulation.

(12) The apparatus must have a readily accessible mains switch to control the supply of mains power to the apparatus and a mains indicator light to indicate when the control panel is energized and the mains switch is in the "ON" position.

(13) The X-ray tube must be enclosed in a housing so that the air kerma rate from leakage radiation at a distance of 1 metre from the focus of that tube does not exceed 1 milligray in 1 hour at each rating specified by the manufacturer for that tube in that housing and, in order to determine compliance with this requirement, measurements must be made over an area not larger than 10 000mm^2 at a distance of 1 metre from that tube.

(14) Any diaphragm, cone or collimator used to limit the useful beam to the area of clinical interest must be so constructed that, in combination with the tube housing, it complies with the leakage radiation limits set out in subregulation (13) of this regulation;

(15) A continuously adjustable collimator fitted to an X-ray tube must:

(a) have a light beam the illuminance of which is not less than 100 lux at a distance of 1 metre from the light source; and

(b) where provision is made for the automatic adjustment of the size of the irradiated area, be fitted with a manual override that permits the selection of a smaller area.

(16) Where more than one X-ray tube can be operated from a single control panel, except in the case of diagnostic X-ray apparatus specifically designed for two tube techniques, it must not be possible to energize more than one X-ray tube at the same time and there must be an indication showing which X-ray tube is selected:

(a) on the control panel; and

(b) except in the case of the undertable and associated overtable X-ray tubes on fluoroscopic apparatus, at or near the tube housing.

(17) Where an apparatus is fitted with an automatic exposure control:

(a) the selection of the control must, when it takes place, be clearly indicated on the control panel;

(b) the control must limit the exposure time to no more than six seconds; and

(c) where an exposure has been terminated after the period referred to in paragraph *(b)* of this subregulation, a visible or audible signal must indicate that termination has occurred and manual resetting of the control must then be required before further automatically timed exposures can be made.

(18) The position of the focal spot must be clearly indicated on the tube housing.

112. (1) Portable or mobile apparatus that is used for medical plain radiography or mobile apparatus used for veterinary plain radiography, not including fluoroscopy or tomography, must:

(a) where the apparatus had been registered under the revoked Health Act regulations, comply with:

(i) the requirements of subregulations (2), (3)*(a)*, (3a), (4), (5), (6), (7), (8)*(a)* and (11) of this regulation;

(ii) the requirements of either subregulations (9)*(a)* and (10) or subregulation (9)*(b)*;

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(iv) in the case of an apparatus other than a capacitor discharge apparatus, the requirements of subregulations (8)*(b)* and (12)*(a)* of this regulation; and

(v) in the case of a capacitor discharge apparatus:

(A) which is not fitted with a multiple exposure facility, the requirements of subregulation (12)*(a)* of this regulation; or

(B) which is fitted with a multiple exposure facility, the requirements of subregulation (12)*(a)* of this regulation when that facility is not activated; and

(b) in any other case, comply with:

(i) the requirements of subregulations (2), (3), (3a), (4), (5), (6), (7), (8)*(a)*, (9), (10), (11), (12)*(b)*, (14), (15), (16), (17) and (18) of this regulation;

(ii) in the case of apparatus other than capacitor discharge apparatus, the requirements of subregulation (8)*(b)* of this regulation;

(iii) in the case of an apparatus other than a capacitor discharge apparatus fitted with a multiple exposure facility, the requirements of subregulation (12)*(a)* of this regulation; and

(iv) in the case of a capacitor discharge apparatus fitted with a multiple exposure facility:

(A) the requirements of subregulation (12)*(a)* of this regulation when that facility is not activated; or

(B) the requirements of subregulation (13) of this regulation when that facility is activated.

(2) The cord attaching the exposure switch to the apparatus must be no shorter than 2 metres.

(3) The X-ray tube must be fitted with a continuously adjustable collimator that:

(a) must have a light beam:

(i) the centre of which is indicated;

(ii) the edge of which does not fall inside the irradiated area; and

(iii) the edge of which does not fall outside the edge of the irradiated area by more than 10mm at a focal spot image receptor distance of 1 metre;

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(c) can be rotated around the centre of the X-ray beam.

(3a) Where the apparatus is used for medical plain radiography, the focal spot of the X-ray tube must not be less than 300mm from the patient's skin.

(4) Where X-ray tube potential, current or exposure time:

(a) are capable of being varied, control settings must be provided on the control panel so that the required value of tube potential, current and exposure time or a combination thereof can be set without a trial exposure being made; or

(b) are not capable of being varied, the values of that potential, current or exposure time shall be indicated on the control panel.

(5) The half value layer of the primary beam must, for every available kilovoltage, be not less than the value of half value layer shown in the table set out in Schedule 9 as being appropriate to the selected kilovoltage.

(6) The apparatus must be fitted with a device that will terminate the exposure after a preset:

(a) time interval;

(b) product of tube current and time; or

(c) programmed exposure.

(7) The X-ray tube housing must be supported in such a way that it remains stationary when placed in position for plain radiography.

(8) The apparatus must produce a consistent, linear radiation output so that:

(a) the coefficient of variation of at least five measurements of radiation output taken at the same exposure settings must be less than or equal to 0.05; and

(b) the coefficient of variation of at least five values of the ratio of radiation output to charge, where the radiation output is measured at a fixed kilovoltage, the charge is that indicated on the control panel and is varied from measurement to measurement, must be less than or equal to 0.1.

(9) The apparatus must incorporate a device that provides a warning to the operator whenever the tube is energized and that warning must consist of:

(a) a red or amber light; and

(b) an audible signal provided by a device incorporated into the apparatus for that purpose.

(10) The apparatus must not have an indicator light on the control panel that is the same colour as the light referred to in subregulation (9) of this regulation other than that complying with that subregulation.

(11) The apparatus must have a readily accessible mains switch to control the supply of mains power to the apparatus and a mains indicator light to indicate when the control panel is energized and the mains switch is in the "ON" position.

(12) The exposure switch fitted to the apparatus must:

(a) have a circuit closing contact that:

(i) can be maintained only by continuous pressure;

(ii) makes it impossible to make repeat exposures without releasing the switch; and

(iii) in the case of programmed exposures, makes it possible to interrupt the exposure at any stage of the programme; and

(b) not be operable in parallel with any other exposure switch.

(13) Capacitor discharge apparatus fitted with a multiple exposure facility must:

(a) be fitted with a control by means of which the operator of the apparatus can select the number of exposures in the multiple exposure; and

(b) during a multiple exposure, cease producing ionizing radiation when:

(i) the preset number of exposures has occurred; or

(ii) the operator of the apparatus releases the exposure switch.

(14) The X-ray tube must be enclosed in a housing so that the air kerma rate from leakage radiation at a distance of 1 metre from the focus of that tube does not exceed 1 milligray in 1 hour at each rating specified by the manufacturer for that tube in that housing and, in order to determine compliance with this requirement, measurements must be made over an area not larger than 10 000mm^2 at a distance of 1 metre from that tube.

(15) Any diaphragm, cone or collimator used to limit the useful beam to the area of clinical interest must be constructed so that, in combination with the tube housing, it complies with the leakage radiation limits set out in subregulation (14) of this regulation.

(16) A continuously adjustable collimator fitted to an X-ray tube must:

(a) have a light beam the illuminance of which is not less than 100 lux at a distance of 1 metre from the light source; and

(b) where provision is made for the automatic adjustment of the size of the irradiated area, be fitted with a manual override that permits the selection of a smaller area.

(17) Where an apparatus is fitted with an automatic exposure control:

(a) the selection of the control must, when it takes place, be clearly indicated on the control panel;

(b) the control must limit the exposure time to no more than six seconds; and

(c) where an exposure has been terminated after the period referred to in paragraph *(b)* of this subregulation, a visible or audible signal must indicate that termination has occurred and manual resetting of the control must then be required before further automatically timed exposures can be made.

(18) The position of the focal spot must be clearly indicated on the tube housing.

113. Capacitor discharge apparatus must be such that:

(a) the air kerma rate from the X-ray tube when the exposure switch or timer is not activated must not exceed 20 microgray per hour at 50mm from any accessible surface of the X-ray tube or associated diaphragm or collimator with the collimator fully open and, to determine compliance with this regulation, measurements must be made over an area not exceeding 10 000mm^2 with no linear dimension greater than 200mm; and

(b) at least four different values of the product of the tube current and exposure time are available.

114. (1) Portable apparatus that is used for veterinary plain radiography must:

(a) where the apparatus had been registered under the revoked Health Act regulations, comply with:

(i) the requirements of subregulations (2), (3), (4), (5), (6), (7), (8)*(a)*, (9) and (12) of this regulation; and

(ii) the requirements of either subregulations (10)*(b)* and (11) or subregulation (10)*(a)*;

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(b) in any other case, comply with the requirements of subregulations (2) to (16) of this regulation.

(2) The apparatus must be provided with an X-ray tube stand designed and constructed to support the X-ray tube during radiography.

(3) The cord attaching the exposure switch to the apparatus must be no shorter than 2 metres.

(4) The X-ray tube must be fitted with a continuously adjustable collimator that must have a light beam:

(i) the centre of which must be indicated;

(ii) the edge of which does not fall outside or inside the edge of the irradiated area by more than 10mm at a focal spot image receptor distance of 800mm.

(5) Where X-ray tube potential, current or exposure time:

(a) are capable of being varied, control settings must be provided on the control panel so that the required value of tube potential, current and exposure time or a combination thereof can be set without a trial exposure being made; or

(b) are not capable of being varied, the values of that potential, current or exposure time shall be indicated on the control panel.

(6) The half value layer of the primary beam must, for every available kilovoltage, be not less than the value of the half value layer shown in the table set out in Schedule 9 as being appropriate to the selected kilovoltage.

(7) The apparatus must be fitted with a device that will terminate the exposure after a preset:

(a) time interval;

(b) product of tube current and time; or

(c) programmed exposure.

(8) The exposure switch fitted to the apparatus must:

(a) have a circuit closing contact that:

(i) can be maintained only by continuous pressure;

(ii) makes it impossible to make repeat exposures without releasing the switch;

(iii) in the case of programmed exposures, makes it possible to interrupt the exposure at any stage of the programme; and

(b) not be operable in parallel with any other exposure switch.

(9) The apparatus must produce a consistent radiation output so that the coefficient of variation of at least five measurements of radiation output taken at the same exposure settings must be less than or equal to 0.05.

(10) The apparatus must incorporate a device that provides a warning to the operator whenever the tube is energized and that warning must consist of:

(a) an audible signal provided by a device incorporated into the apparatus for that purpose; and

(b) a red or amber light.

(11) The apparatus must not have an indicator light on the control panel that is the same colour as the light referred to in subregulation (10) of this regulation other than that complying with that subregulation.

(12) The apparatus must have a readily accessible mains switch to control the supply of mains power to the apparatus and a mains indicator light to indicate when the control panel is energized and the mains switch is in the "ON" position.

(13) The collimator must be provided with a device or other means to indicate the X-ray field size at various focus-film distances.

(14) The X-ray tube must be enclosed in a housing so that the air kerma rate from leakage radiation at a distance of 1 metre from the focus of that tube does not exceed 1 milligray in 1 hour at each rating specified by the manufacturer for that tube in that housing and, in order to determine compliance with this requirement, measurements must be made over an area not larger than 10 000mm^2 at a distance of 1 metre from that tube.

(15) Any collimator used to limit the useful beam to the area of clinical interest must be constructed so that, in combination with the tube housing, it complies with the leakage radiation limits set out in subregulation (14) of this regulation.

(16) The position of the focal spot must be clearly indicated on the tube housing.

115. (1) Orthopantomographic apparatus must:

(a) where the apparatus had been registered under the revoked Health Act regulations comply with:

(i) the requirements of subregulations (2), (3), (4), (5), (6), (7)*(a)*, (10), (11), (12) and (13) of this regulation; and

(ii) the requirements of either subregulations (8)*(a)* and (9) or subregulation (8)*(b)*;

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(b) in any other case, comply with the requirements of subregulations (2) to (4) and subregulations (6) to (17) of this regulation.

(2) The focal spot to skin distance determined by the location of the X-ray tube and the patient positioning device must not be less than 180mm at any time during the exposure.

(3) The X-ray beam at the secondary collimator must not fall outside the aperture in the secondary collimator.

(4) The primary beam must not fall outside the film.

(5) Where the apparatus must be energized in order to preset the current, it must be provided with a lead protective cap designed to fit over the exit slit of the X-ray tube.

(6) The half value layer of the primary beam must, for every available kilovoltage, be not less than the value of half value layer shown in the table set out in Schedule 9 as being appropriate to the selected kilovoltage.

(7) The exposure switch fitted to the apparatus must:

(a) have a circuit closing contact that:

(i) can be maintained only by continuous pressure;

(ii) makes it impossible to make repeat exposures without releasing the switch; and

(iii) in the case of programmed exposures, makes it possible to interrupt the exposure at any stage of the programme; and

(b) not be operable in parallel with any other exposure switch.

(8) The apparatus must incorporate a device that provides a warning to the operator whenever the tube is energized and that warning must consist of:

(a) a red or amber light; and

(b) an audible signal provided by a device incorporated into the apparatus for that purpose.

(9) The apparatus must not have an indicator light on the control panel that is the same colour as the light referred to in subregulation (8) of this regulation other than that complying with that subregulation.

(10) The apparatus must have a readily accessible mains switch to control the supply of mains power to the apparatus and a mains indicator light to indicate when the control panel is energized and the mains switch is in the "ON" position.

(11) The exposure control switch must be arranged so that the operator can remain:

(a) outside the useful X-ray beam and at least 2 metres from the X-ray tube and from the patient; or

(b) behind a fixed protective barrier that complies with subregulation (13) of this regulation,

while the X-ray tube is energized.

(12) Whenever the primary beam from such apparatus is likely to be directed at an area normally occupied by a person, which area is less than 5 metres from the X-ray tube, a fixed protective barrier that complies with subregulation (13) of this regulation must be provided.

(13) The protective barrier referred to in subregulations (11) and (12) of this regulation must have a lead equivalent of at least 0.15mm.

(14) The X-ray tube must be enclosed in a housing so that the air kerma rate from leakage radiation at a distance of 1 metre from the focus of that tube does not exceed 1 milligray in 1 hour at each rating specified by the manufacturer for that tube in that housing and, in order to determine compliance with this requirement, measurements must be made over an area not larger than 10 000mm^2 at a distance of 1 metre from that tube.

(15) Any diaphragm, cone or collimator used to limit the useful beam to the area of clinical interest must be so constructed that, in combination with the tube housing, it complies with the leakage radiation limits set out in subregulation (14) of this regulation;

(16) Where X-ray tube potential, current or exposure time:

(a) are capable of being varied, control settings must be provided on the control panel so that the required value of tube potential, current and exposure time or a combination thereof can be set without a trial exposure being made; or

(b) are not capable of being varied, the values of that potential, current or exposure time must be indicated on the control panel.

(17) The position of the focal spot must be clearly indicated on the tube housing.

116. (1) No person shall use, or cause, suffer or permit any other person to use orthopantomographic apparatus so that a person is positioned in the apparatus while the tube current is being preset.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

117. (1) Apparatus that is used for mammography or soft tissue radiography must:

(a) where the apparatus had been registered under the revoked Health Act regulations, comply with:

(i) the requirements of subregulations (2), (3), (4), (5), (6)*(a)*, (7), (8) and (11) of this regulation; and

(ii) the requirements of either subregulations (9)*(a)* and (10) or subregulation (9)*(b)*;

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(b) in any other case, comply with the requirements of subregulations (2) to (16) of this regulation.

(2) Any device or stand designed to hold the image receptor must have a protective backing with a lead equivalent of at least 0.25mm.

(3) Where X-ray tube potential, current or exposure time:

(a) are capable of being varied, control settings must be provided on the control panel so that the required value of tube potential, current and exposure time or a combination thereof can be set without a trial exposure being made; or

(b) are not capable of being varied, the values of that potential, current or exposure time must be indicated on the control panel.

(4) The half value layer of the primary beam must, for every available kilovoltage, be not less than the value of half value layer shown in the table set out in Schedule 9 as being appropriate to the selected kilovoltage.

(5) The apparatus must be fitted with a device that will terminate the exposure after a preset:

(a) time interval;

(b) product of tube current and time; or

(c) programmed exposure.

(6) The exposure switch fitted to the apparatus must:

(a) have a circuit closing contact that:

(i) can be maintained only by continuous pressure;

(ii) makes it impossible to make repeat exposures without releasing the switch; and

(iii) in the case of programmed exposures, makes it possible to interrupt the exposure at any stage of the programme; and

(b) not be operable in parallel with any other exposure switch.

(7) The X-ray tube housing must be supported so that it remains stationary when placed in position for radiography.

(8) The apparatus must produce a consistent linear radiation output so that:

(a) the coefficient of variation of at least five measurements of radiation output taken at the same exposure settings must be less than or equal to 0.05; and

(b) the coefficient of variation of at least five values of the ratio of radiation output to charge, where the radiation output is measured at a fixed kilovoltage and the charge is that indicated on the control panel and is varied from measurement to measurement, must be less than or equal to 0.1.

(9) The apparatus must incorporate a device that provides a warning to the operator whenever the tube is energized and that warning must consist of:

(a) a red or amber light; and

(b) an audible signal provided by a device incorporated into the apparatus for that purpose.

(10) The apparatus must not have an indicator light on the control panel that is the same colour as the light referred to in subregulation (9) of this regulation other than that complying with that subregulation.

(11) The apparatus must have a readily accessible mains switch to control the supply of mains power to the apparatus and a mains indicator light to indicate when the control panel is energized and the mains switch is in the "ON" position.

(12) Where the apparatus is not fitted with an adjustable light beam collimator, it must not be possible for the X-ray beam to fall outside the area provided for the image receptor.

(13) The X-ray tube must be enclosed in a housing so that the air kerma rate from leakage radiation, measured at a distance of 1 metre from the focus of that tube over a detection area not larger than 10 000mm^2, does not exceed 1 milligray in 1 hour at each rating specified by the manufacturer for that tube in that housing.

(14) Where more than one X-ray tube can be operated from a single control panel, except in the case of diagnostic X-ray apparatus specifically designed for two tube techniques, it must not be possible to energize more than one X-ray tube at the same time and there must be an indication:

(a) on the control panel; and

(b) at or near the tube housing,

showing which X-ray tube is selected.

(15) Where an apparatus is fitted with an automatic exposure control:

(a) the selection of that control must, when it takes place, be clearly indicated on the control panel;

(b) the control must limit the exposure time to no more than six seconds; and

(c) where an exposure has been terminated after the period referred to in paragraph *(b)* of this subregulation, a visible or audible signal must indicate that termination has occurred and manual resetting of the control must then be required before further automatically timed exposures can be made.

(16) The position of the focal spot must be clearly indicated on the tube housing.

118. (1) Apparatus that is used for medical or veterinary fluoroscopy including apparatus capable of both fluoroscopy and plain radiography must:

(a) where the apparatus had been registered under the revoked Health Act regulations, comply with:

(i) the requirements of subregulations (3), (4), (5), (6), (7), (8), (10), (11), (12)*(a)* and (15) of this regulation;

(ii) in the case of an apparatus fitted with an automatic collimation system, the requirements of subregulation (16) of this regulation; and

(iii) the requirements of subregulation (9) of this regulation, provided that, if an optional high level control is not provided, the maximum absorbed dose rate must not exceed 100 milligray per minute; and

(iv) in respect of the operation in radiographic mode of apparatus that is capable of both fluoroscopy and plain radiography, the requirements of regulation 111(4), (5), (6), (7)*(a)*, (8), (9), (12) and either (10)*(a)* and (11) or (10)*(b)*;

(b) in any other case, comply with:

(i) the requirements of subregulations (2) to (26) of this regulation; and

(ii) except in the case of fixed apparatus, as from 1 April 1987, the requirements of subregulation (27) of this regulation; and

(iii) in respect of the operation in radiographic mode of apparatus that is capable of both fluoroscopy and plain radiography, the requirements of regulation 111(4) to (18).

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(3) Where a fixed apparatus is fitted with an automatic collimation system that complies with subregulation (16) of this regulation, it must be fitted with a manual override that permits the selection of a smaller radiation field.

(4) The apparatus must be fitted with an image intensifier.

(5) The apparatus must be fitted with electrical meters or other visual indicators on the control panel that provide a continuous indication of X-ray tube potential and current.

(6) Except in the case of over table fluoroscopic X-ray tubes, a fluoroscopic exposure switch must be located at the image explorator.

(7) A fluoroscopic table designed also for radiography must be provided with a bucky slot radiation protective cover.

(8) Where the apparatus is fitted with an optional high level control, the control must:

(a) require continuous activation by the operator of the apparatus for its operation; and

(b) have a continuous signal audible to the operator to indicate that the high level control is being employed.

(9) For any combination of X-ray tube potential and current, the air kerma rate:

(a) in the cases of mobile apparatus and fixed apparatus with an over table or lateral fluoroscopic tube, at a distance of 400mm from the focal spot; or

(b) in any other case, at the patient entrance surface,

during fluoroscopy, but not during the recording of images from the image intensifier on film, must not exceed:

(a) 50 milligray per minute; or

(b) where an optional high level control is provided, 100 milligray per minute with the high level control activated.

(10) In the case of a fixed undertable fluoroscopic X-ray tube, the apparatus must be provided with removable drapes that:

(a) have a lead equivalent of no less than 0.5mm; and

(b) are designed to attach to the lower edge of the image explorator.

(11) The half value layer of the primary beam must, for every available kilovoltage, be not less than the value of half value layer shown in the table set out in Schedule 9 as being appropriate to the selected kilovoltage.

(12) The exposure switch fitted to the apparatus must:

(a) have a circuit closing contact that:

(i) can be maintained only by continuous pressure;

(ii) makes it impossible to make repeat exposures without releasing the switch; and

(iii) in the case of programmed exposures, makes it possible to interrupt the exposure at any stage of the programme; and

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(13) The apparatus must incorporate a device that provides a warning to the operator whenever the tube is energized and that warning must consist of:

(a) a red or amber light incorporated on the explorator of the apparatus; or

(b) an audible signal provided by a device incorporated into the apparatus for that purpose.

(14) Where the apparatus incorporates a device that provides a warning to the operator and that device consists of a red or amber light required by subregulation (13) of this regulation the apparatus must not have an indicator light on the control panel that is the same colour as the light referred to in subregulation (13) of this regulation other than that complying with that subregulation.

(15) The apparatus must have a readily accessible mains switch to control the supply of mains power to the apparatus and a mains indicator light to indicate when the control panel is energized and the mains switch is in the "ON" position.

(16) The X-ray tube, collimating device, spot film device, and image intensifier must be linked together so that under all operating conditions:

(a) in radiographic mode, the X-ray field at the image receptor is not larger than the area being imaged on the film to the extent that none of the error distances defined in Schedule 10 exceeds the limits set out in that Schedule; and

(b) in all other modes, the X-ray field at the input phosphor of the image intensifier is not larger than the area being imaged on the television monitor to the extent that none of the error distances defined in Schedule 11 exceeds the limits set out in that Schedule.

(17) The apparatus must be interlocked so that the fluoroscopic X-ray tube is de-energized whenever the image receptor is taken out of the path of the primary X-ray beam.

(18) The apparatus must be fitted with an adjustable timing device that is activated when the X-ray tube is activated for fluoroscopy, and which has a maximum setting of 10 minutes in order to give the operator of the apparatus an audible signal at the termination of a preset time.

(19) Where the apparatus is fitted with a foot actuated exposure switch, the switch must have a cover designed to prevent accidental activation.

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(21) The position of the focal spot must be clearly indicated on the tube housing.

(22) The X-ray tube must be enclosed in a housing so that the air kerma rate from leakage radiation at a distance of 1 metre from the focus of that tube does not exceed 1 milligray in 1 hour at each rating specified by the manufacturer for that tube in that housing and, in order to determine compliance with this requirement, measurements must be made over an area not larger than 10 000mm^2 at a distance of 1 metre from that tube.

(23) Any collimator used to limit the useful beam to the area of clinical interest must be constructed so that, in combination with the tube housing, it complies with the leakage radiation limits set out in subregulation (22) of this regulation.

(24) Where more than one X-ray tube can be operated from a single control panel, except in the case of diagnostic X-ray apparatus specifically designed for two tube techniques, it must not be possible to energize more than one X-ray tube at the same time and there must be an indication:

(a) on the control panel; and

(b) except in the case of the undertable and associated overtable X-ray tubes on fluoroscopic apparatus, at or near the tube housing,

showing which X-ray tube is selected.

(25) In the case of a fixed undertable fluoroscopic X-ray tube, the drapes referred to in subregulation (10) of this regulation must:

(a) consist of overlapping sheets;

(b) be attached to the image explorator in such a way that there is no gap between the drape and the image explorator;

(c) reach the table top when the image explorator is in its maximum vertical position; and

(d) be adjustable to protect the operator of the apparatus when the table is in the tilted position.

(26) In the case of apparatus with an overtable fluoroscopic tube:

(a) the collimator must be a light beam unit;

(b) an exposure switch must be located at the control panel; and

(c) there must not be an exposure switch at the table.

(27) In the case of mobile apparatus, the apparatus must be fitted with an image storage device that is capable of storing an image and maintaining that image on a television monitor without subjecting the patient to further irradiation.

119. (1) Fixed fluoroscopic apparatus that had not been registered under the revoked Health Act regulations must be designed and constructed so that the minimum distance between the focus of the X-ray tube and the patient entrance surface is not less than 400mm.

(2) Fixed fluoroscopic apparatus that had been registered under the revoked Health Act regulations must be designed and constructed so that the minimum distance between the focus of the X-ray tube and the patient entrance surface is not less than 300mm.

(3) Mobile fluoroscopic apparatus must be designed and constructed so that—

(a) the distance between the focus of the X-ray tube and the patient entrance surface is not less than 200mm;

and

(b) the radiographic exposure switch is attached to the apparatus by a cord that is not less than 2 metres in length.

120. (1) Except in those cases where it is not reasonably practicable to do so, no person shall operate mobile fluoroscopic apparatus so that the distance between the focus of the X-ray tube and the patient entrance surface is less than 300mm.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

121. (1) Where apparatus is used for treatment at accelerating voltages of up to and including 0.5 megavolts, it must comply with subregulations (2) to (13) of this regulation.

(2) The X-ray tube must be enclosed in such a housing that, at every specified rating of that tube in that housing, the air kerma rate from the leakage radiation:

(a) at a distance of 1 metre from the focus, does not exceed 10 milligray per hour, nor 300 milligray per hour at any position accessible to the patient at a distance of 50mm from the surface of that housing or its accessory equipment; and

(b) in the case of an X-ray tube which is operated at a peak potential of 50 kilovolts or less, does not exceed 1 milligray per hour at any position 50mm from the surface of that housing or its accessory equipment.

(3) For the purpose of determining compliance with subregulation (2) of this regulation, measurements shall be made over an area not exceeding 10 000mm^2 at a distance of 1 metre or 1 000mm^2 at a distance of 50mm, as the case requires, from the X-ray tube housing.

(4) Control settings, meters or other means must be provided at the control panel of the apparatus to indicate X-ray tube potential and current when these can be varied and for indication of the filtration being used.

(5) Permanent diaphragms or cones fitted to the apparatus must be so constructed that, in combination with the X-ray tube housing, they comply with the requirements for leakage radiation set out in subregulation (2) of this regulation.

(6) Additional diaphragms or cones provided with the apparatus must not transmit more than 2% of the primary beam.

(7) The apparatus must have a clear mark on the exterior of the X-ray tube housing to indicate the position of the focal spot.

(8) The X-ray tube housing must remain stationary during stationary portal treatment.

(9) The apparatus must have a clearly visible indicator on the control panel that indicates when X-rays are being produced.

(10) Apparatus in which the useful beam is controlled by a shutter must have clearly visible indicators on the control panel that indicate whether the shutter is open or closed.

(11) The apparatus must be provided with an automatic timer that terminates an exposure by de-energizing the X-ray tube after the preset time has elapsed and that timer must preserve its accumulated response in the event of any failure or interruption in the operation of the apparatus during treatment.

(12) Apparatus that can operate at tube potentials exceeding 150 kilovolts must be provided with a transmission monitoring ionization chamber or equivalent device positioned in the useful beam to provide a continuous check on the constancy of the radiation output, and, when that chamber is also employed as an integrating meter, the integrating meter must preserve its accumulated response in the event of any failure or interruption in the operation of the apparatus during treatment.

(13) Apparatus that had not been registered under the revoked Health Act regulations must be provided with a means of selecting the filtration to be used at the control panel so that it cannot be operated:

(a) without the filtration selected being placed in the primary beam; and

(b) at unintended combinations of kilovoltage and filtration.

122. (1) Apparatus that produces either X-rays or an electron beam with energies above 0.5 megaelectronvolts and less than 20 megaelectronvolts and is operated or used for medical therapy must comply with the requirements of subregulations (2) and (3) of this regulation.

(2) The apparatus must be shielded so that the air kerma rate due to leakage radiation (excluding neutrons):

(a) at any point outside the maximum useful beam, but inside a plane circular area of radius 2 metres centred around, and perpendicular to, the central axis of the beam at 1 metre from the focal spot, must not exceed 0.2% of the air kerma rate on the axis at the same distance; and

(b) at 1 metre from the path of the electrons between their origin and the target or the electron window must not exceed 0.5% of the air kerma rate on the central axis of the beam at 1 metre from the focal spot for areas not included in paragraph *(a)* of this subregulation.

(3) The apparatus must have two independent dose monitoring systems so that any failure or malfunction in one system does not influence the function of the other system and both systems must be capable of independently terminating the irradiation.

123. (1) Fixed apparatus used for medical, veterinary or chiropractic radiography, including fluoroscopy, tomography, computed tomography, mammography and including apparatus designed for soft tissue radiography, but excluding orthopantomographic apparatus, must be installed in premises so that:

(a) where the apparatus had been installed before the date upon which this regulation took effect, subregulations (2), (3), (4) and (5)*(a)* of this regulation are complied with; or

(b) in any other case, subregulations (2) to (10) of this regulation are complied with.

(2) The control panel must be isolated:

(a) in a room, space or enclosure adjacent to but separate from the room, space or enclosure in which the apparatus is installed; or

(b) behind a fixed screen, situated within the room, space or enclosure in which the apparatus is installed, such screen to include radiation shielding material and, where reasonably practicable, arranged so that the radiation emitted by the apparatus is scattered at least twice before it can enter the area behind the screen from which the apparatus is operated.

(3) The apparatus must be installed so that the operator of the apparatus is able to see the patient:

(a) by means of closed circuit television or a mirror; or

(b) through a viewing window.

(4) The apparatus must be installed so that the operator of the apparatus is able to communicate with the patient from a shielded position.

(5) The room, space or enclosure in which such apparatus is installed must be of sufficient size to:

(a) allow all the uses to which the apparatus is to be put to be readily carried out; and

(b) allow distance from the X-ray tube and from the primary X-ray beam to be used as a means of complying with the general objective.

(6) The air kerma rate:

(a) 50mm from any wall, door, window, floor or ceiling outside a room, space or enclosure in which the apparatus is installed, being:

(i) an area continuously occupied by a radiation worker; or

(ii) a corridor, walkway, lift, stairway, carpark, toilet or other area that is normally occupied by a member of the public for a short time; and

(b) 50mm from behind a protective screen,

must not exceed 25 microgray per hour when the apparatus is operated at its maximum rated X-ray tube potential and one half of its maximum continuous tube current at that potential.

(7) The air kerma rate 50mm from any wall, door, window, floor or ceiling outside a room, space or enclosure in which the apparatus is installed, being an area occupied by a member of the public for other than a short period of time, must not exceed 2.5 microgray per hour when the apparatus is operated at its maximum rated X-ray tube potential and one tenth of its maximum continuous tube current at that potential.

(8) The viewing window referred to in subregulation (3) of this regulation must be at least 300mm wide and 400mm high.

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(10) The protective screen referred to in subregulation (2)*(b)* of this regulation must have a minimum height of 2 metres and a minimum width of 1 metre.

124. (1) Radiotherapy apparatus that can operate at voltages above 50 kilovolts must be installed so that:

(a) the control panel for the apparatus is located outside the treatment room and in a shielded position;

(b) safety interlocks are provided so that when any door to the treatment room is opened:

(i) the production of ionizing radiation ceases; or

(ii) the air kerma rate within the treatment room is reduced to a maximum of 100 microgray per hour at a distance of 1 metre in any direction from the source of radiation;

(c) where an interlock referred to in paragraph *(b)* of this regulation has caused the apparatus to cease producing useful ionizing radiation, useful ionizing radiation must not be produced when the door is closed until the apparatus is re-activated from the control panel;

(d) a red warning light to indicate the production of ionizing radiation is fitted adjacent to any door to the treatment room which is not visible from the control panel;

(e) a shielded window, mirror, closed circuit television system or other means are provided so that it is possible to continuously observe and communicate with the patient undergoing treatment from the control panel;

(f) the air kerma rate 50mm from any wall, door, entrance, window, floor or ceiling outside a room, space or enclosure in which the apparatus is installed, being:

(i) an area continuously occupied by a radiation worker; or

(ii) a corridor, walkway, lift, stairway, carpark, toilet or other area that is normally occupied by a member of the public for a short time,

does not exceed 25 microgray per hour when the apparatus is operated at the maximum potential to be used and one half of the maximum radiation output available at that potential; and

(g) the air kerma rate 50mm from any wall, door, window, entrance, floor or ceiling outside a room, space or enclosure in which the apparatus is installed, being an area occupied by a member of the public for other than a short period of time, does not exceed 2.5 microgray per hour when the apparatus is operated at the maximum potential to be used and one half of the maximum radiation output available at that potential.

(2) Paragraphs 69*(f)* and *(g)* of subregulation (1) of this regulation do not apply to apparatus capable of operating at energies above 10MeV.

125. (1) Where an apparatus:

(a) had not been registered under the revoked Health Act regulations;

(b) is designed for medical, dental or chiropractic use; and

(c) is the subject of an application for registration in accordance with these regulations, the application being under consideration by the Commission,

the Commission may serve on the owner a notice in writing that contains a direction to the effect that the owner or any other person shall not operate the apparatus until the apparatus has been registered under section 32 of the Act.

(2) Where a person has been served with a notice under subregulation (1) of this regulation, he shall comply with that notice, but for the purposes of this regulation the testing of apparatus, where such testing is concerned solely with the irradiation of inanimate objects, shall not be regarded as the operation of the apparatus.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

126. (1) No person licensed to operate apparatus in accordance with section 31 of the Act shall cause, suffer or permit any person other than the patient, during any medical, dental, veterinary or chiropractic radiographic procedure, to:

(a) expose his chest or abdomen to scattered radiation unless he is wearing a protective apron with a shielding value of not less than 0.25mm lead equivalent;

(b) expose his hands to the useful X-ray beam unless he is wearing protective gloves with a shielding value of not less than 0.25mm lead equivalent;

(c) remain in the room in which the procedure is being carried out unless:

(i) his presence is necessary; or

(ii) he is receiving instruction from the person conducting the procedure.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

127. (1) No person other than the patient shall, during any fluoroscopic procedure or any test procedure, remain in the room in which the procedure is being carried out unless:

(a) he has been granted permission by the person operating the apparatus; and

(b) (i) he is wearing a protective apron with a shielding value of not less than 0.25mm lead equivalent; or

(ii) he is shielded by a protective screen of a kind referred to in regulation 123(2)*(b)* of these regulations.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

128. (1) No person shall use direct exposure film for the purpose of mammography.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

129. (1) No person licensed to operate apparatus in accordance with section 31 of the Act shall:

(a) manually process; or

(b) cause, suffer or permit any other person to manually process,

a radiographic film of a human patient otherwise than in accordance with this regulation.

(2) The processing shall be carried out as follows:

(a) developer and fixer chemicals shall be diluted as recommended by the manufacturer of those chemicals, be replenished as necessary, and replaced at intervals as recommended by the manufacturer of those chemicals;

(b) the developer and fixer shall be maintained within the temperature range recommended by the manufacturer of those chemicals;

(c) the developer and fixer shall be stirred thoroughly prior to each use of those chemicals;

(d) the temperature of the developer shall be measured with a thermometer prior to each use of the developer;

(e) the film shall be developed for the developing time recommended by the manufacturer of the developer according to the measured temperature of the developer; and

(f) the film shall be fixed and washed in the manner recommended by the manufacturer of the fixing chemicals used.

(3) Subregulation (2) of this regulation shall not apply to a radiographic film taken by a dentist during the course of endodontic treatment provided that the processing method used does not necessitate radiation exposures greater than those which would be required in order to comply with that subregulation.

(4) Any person who wilfully contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

130. (1) No person other than a patient shall, where apparatus is operated or used for radiotherapy at voltages:

(i) above 50 kilovolts remain in; and

(ii) at or below 50 kilovolts remain in an unshielded area of,

the treatment room during the treatment of the patient.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

131. (1) For the purpose of attaining the general objective, the Commission may direct any registered owner of apparatus used for diagnostic radiography to institute and maintain a program of quality assurance tests on the apparatus and on the equipment ancillary to it.

(2) The program referred to in subregulation (1) of this regulation shall consist of such tests as the Commission directs.

(3) A direction from the Commission must be in writing served on the registered owner of the apparatus and must specify:

(a) the apparatus or ancillary equipment to be tested;

(b) the methods to be used in carrying out the tests;

(c) the time within which the tests must be carried out;

(d) the frequency at which the tests are to be carried out;

(e) the criteria to be used in deciding whether or not the apparatus or ancillary equipment has passed the tests; and

(f) the action to be taken upon a failure to pass a test being detected.

(4) A person who has been directed by the Commission to carry out tests in accordance with this regulation shall keep a register for the purpose of recording such tests.

(5) Where a person has carried out tests in accordance with this regulation he shall make an entry in the register and such entry must contain:

(a) sufficient details to identify the apparatus or ancillary equipment tested;

(b) the date of the tests; and

(c) the results of the tests.

(6) Such an entry must be made within 14 days of the date upon which the tests were carried out.

(7) The tests referred to in this regulation may include, but need not be limited to:

(a) tests of the performance of automatic film processors;

(b) tests of the alignment of the light beam from a light beam diaphragm with the primary radiation beam;

(c) tests of consistency of radiation output;

(d) tests of linearity of radiation output with charge (mAs);

(e) tests of accuracy of selected kilovoltage;

(f) tests of timer accuracy;

(g) tests on automatic exposure control systems;

(h) tests on radiographic cassettes and viewing boxes; and

(j) for fluoroscopic apparatus:

(i) tests on automatic collimation systems;

(ii) measurements of the maximum air kerma rate at the patient's skin;

(iii) measurements of the air kerma or air kerma rate at the image intensifier;

(iv) measurements of the product of the air kerma and primary beam area at the exit surface of the beam limiting device;

(v) tests on the synchronization of a pulsed X-ray tube with a cine camera shutter; and

(vi) tests on the imaging performance of the system.

(8) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

PART IV—RADIOACTIVE SUBSTANCES

A—GENERAL

DIVISION I—Sale of Radioactive Substances

132. (1) No person shall carry on a business during the course of which he sells, installs or maintains any radioactive substance or any device that contains a radioactive substance unless he has first served on the Commission a notice that complies with this regulation.

(2) A person who was carrying on a business of the kind referred to in subregulation (1) of this regulation on the date immediately preceding the date upon which this regulation took effect shall not continue to carry on such business unless he has first served on the Commission a notice that complies with this regulation.

(3) In order to comply with this regulation a notice must:

(a) be in writing;

(b) contain the full name and address of the person carrying on the business or in the case of a company the name of the company and the address of its registered office;

(c) state the number of persons who will in the course of carrying on the business handle any radioactive substance or device containing any radioactive substance;

(d) state whether or not any radioactive substance or device containing any radioactive substance will be stowed or stored during the course of carrying on the business and, if so, where it is likely that it will be stowed or stored; and

(e) state, where it is proposed to sell any radioactive substance or any device containing any radioactive substance, details of such substance or device.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

133. (1) Where during the course of carrying on a business of a kind referred to in regulation 132 of these regulations a person sells or installs a registrable device and after such sale or installation becomes aware that:

(a) the registrable device he has sold or installed has a defect; or

(b) registrable devices of the same class or kind as the registrable device he has sold or installed, has a defect,

he shall serve on the Commission a notice that complies with this regulation.

(2) In order to comply with this regulation a notice must:

(a) be in writing; and

(b) contain:

(i) details of the defect;

(ii) the class or kind of registrable device affected by the defect;

(iii) the likely effects of the defect; and

(iv) details of the steps the person is taking or intends to take to rectify the defect.

(3) The person required to serve a notice in accordance with this regulation shall serve such notice on the Commission within seven days of his becoming aware of the defect.

(4) In this regulation "defect" means a fault in the design or the construction of the registrable device that is likely to increase the dose of ionizing radiation that may be received by any person from the registrable device.

(5) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and shall be liable to a penalty not exceeding $50 000, or imprisonment for a term not exceeding 5 years or both.

(6) An offence against this regulation is declared to be a minor indictable offence.

134. (1) Where a person serves a notice on the Commission in accordance with regulation 133 of these regulations, he shall:

(a) if he becomes aware of any change in the information he has already supplied; or

(b) if he becomes aware of any additional information relating to the information already supplied,

serve on the Commission a further notice, in writing, setting out full details of any change to or information additional to the information already supplied.

(2) The notice required by subregulation (1) of this regulation must be served within 7 days of his becoming aware of such information.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

135. (1) The Commission may, by notice in writing served on a person who has served any notice in accordance with this Part of these regulations, require such person to supply such additional information as the Commission thinks fit.

(2) A person who is served with a notice under this regulation shall supply the information requested by that notice, in writing, within 28 days of the date on which the notice is served on him.

(3) A person who wilfully refuses to comply with a notice served on him in accordance with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

136. (1) Where a person who carries on a business of a kind referred to in regulation 132 of these regulations receives an order for the sale of a registrable device, he must, where he intends to sell the device, serve on the person to whom he intends to sell the device:

(a) a form in the form of Form 6 in Schedule 7; and

(b) a form in the form of Form 8 in Schedule 7.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

137. (1) Where a person who carries on a business of a kind referred to in regulation 132 of these regulations delivers any mobile registrable device that he has sold, he shall within 7 days of the date of such delivery serve on the Commission a notice in writing containing the following information:

(a) the name of the person to whom the device has been sold;

(b) the address to which the device was delivered; and

(c) full details of the device sold and delivered.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

138. (1) Where a person who carries on a business of a kind referred to in regulation 132 of these regulations intends to install at any premises a registrable device that is to be fixed he must at least seven days before he commences the installation give to the Commission a notice in writing containing the following information:

(a) the name of the person to whom the device has been sold;

(b) the address at which the device is to be installed; and

(c) full details of the device to be installed.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

139. (1) No person shall sell a sealed radioactive source that is required by the Act to be registered unless at the time of such sale he supplies with the source a certificate that complies with this regulation.

(2) In order to comply with this regulation, a certificate must meet the relevant requirements of International Standard ISO 1677—1977(E) "Sealed Radioactive Sources—General" published by the International Organisation for Standardisation reference number ISO 1677—1977(E).

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

140. (1) Where a person, not being a person who carries on a business of a kind referred to in regulation 132 of these regulations, sells a sealed radioactive source that is registered under section 30 of the Act he shall within seven days of the sale serve on the Commission a notice in writing containing the following information:

(a) the name and address of the registered owner of the source prior to the sale;

(b) the name and address of the person to whom the source has been sold; and

(c) the registered number of the source.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

141. (1) A person who carries on a business of a kind referred to in regulation 132 of these regulations shall:

(a) within 3 months of first notifying the Commission in accordance with regulation 132 of these regulations; and

(b) thereafter at intervals of no longer than 3 months,

serve on the Commission a notice in writing containing the following information:

(a) details of all sales of radioactive substances made by him during the preceding 3 months or since the last notice given by him in accordance with this regulation; and

(b) in respect of each sale:

(i) the name and address of the person to whom the sale was made;

(ii) the radionuclides sold and total activity of each radionuclide sold;

(iii) where the device sold is a sealed radioactive source larger than 50 MBq, the activity of each such sealed radioactive source sold; and

(iv) for each radionuclide sold, the total activity of each such radionuclide supplied in unsealed form.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

142. (1) No person shall sell any consumer product.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

143. (1) No person shall sell an ionization chamber smoke detector.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

DIVISION II—Licence to Use or Handle Radioactive Substances

144. For the purposes of section 28(2)*(b)* of the Act, substances to which these regulations do not apply by virtue of Division III of Part I of these regulations are a prescribed class of substances.

145. Pursuant to and for the purposes of section 28(2)*(b)* of the Act, the prescribed classes of persons consist of persons:

(a) who use or handle any sealed radioactive source, being a source with an activity of less than the following:

for group 1 and 2 radionuclides: 5 MBq;

for group 3 and 4 radionuclides (not including tritium in gaseous tritium light sources): 50 MBq;

for tritium in gaseous tritium light sources: 20 GBq;

and who use or handle such a sealed radioactive source under the directions of a person who holds a licence under section 28 of the Act;

(b) who use a sealed radioactive source that is contained in a radiation gauge but do not use or handle the source at any time other than by operating the source control mechanism under the directions of a person who holds a licence under section 28 of the Act;

(c) who handle a sealed radioactive source that is contained in a radiation gauge under the direct supervision of a person who holds a licence under section 28 of the Act, and does not dismantle the source container nor handle the source while it is out of the source container;

(d) who use or handle an unsealed radioactive substance in type C premises and are working under the directions of a person who:

(i) supervises the persons who work in those premises; and

(ii) holds a licence pursuant to section 28 of the Act which entitles him to use or handle the radioactive substances used or handled in those premises in the manner in which they are used or handled in those premises;

(e) who, being a member of the public, handles any radioactive substance that is packaged for transport in accordance with the *Radiation Safety (Transport of Radioactive Substances) Regulations, 1984*;

(f) who, being members of the nursing staff employed in a hospital ward in which patients are treated by the use of a radioactive substance, are supervised by a registered nurse in charge of that ward who holds a licence pursuant to section 28 of the Act that entitles him to use or handle such a radioactive substance in that ward;

(g) who is a patient undergoing diagnosis or treatment by use of a radioactive substance;

or

(h) who use, for the purpose of industrial radiography, a sealed radioactive source that is located in a fully protected enclosure and who use that source under the supervision of a person who holds a licence under section 28 of the Act.

146. (1) Pursuant to section 28(3) of the Act, a person who wishes to apply for a licence under section 28 of the Act must:

(a) complete and sign a form in the form of Form 7 set out in Schedule 7; and

(b) send such form to the Commission together with the application fee, where applicable, and the licence fee.

(2) Pursuant to section 28(3) of the Act, the prescribed fee for a licence is $43.00, and the application fee for a licence is $43.00, provided that:

(a) no application fee shall be payable by a person who, on the date immediately prior to the date upon which these regulations were made, held a licence to use radioactive substances under the revoked Health Act regulations; and

(b) no additional licence fee or application fee shall be payable by a person who applies for a temporary licence and a permanent licence at the same time where the subject matter of both applications is the same.

(3) Where for any reason an application for a licence is not granted, the licence fee shall be returned to the applicant.

147. (1) Where the address for service of a holder of a licence granted under section 28 of the Act is changed, the holder of the licence shall serve on the Commission a notice in writing informing the Commission of his new address for service.

(2) The notice referred to in subregulation (1) of this regulation shall be served on the Commission within 14 days of the change occurring.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

DIVISION III—Accounting for, Storage and Labelling of Radioactive Substances

148. (1) The registered occupier of any premises in which an unsealed radioactive substance is kept or handled shall maintain a register of unsealed radioactive substances.

(2) The registered occupier shall in respect of each unsealed radioactive substance which is kept or handled at the premises enter in the register an entry in respect of each unsealed radioactive substance, and such entry must contain:

(a) the radionuclide contained in the substance;

(b) the activity or nominal activity;

(c) the date to which the activity refers;

(d) the name of the person in whose care the substance has been placed; and

(e) the date upon which the substance was first taken onto the premises.

(3) Such an entry must be made in the register within 24 hours of the date on which the substance is first taken onto the premises, but where at the date this regulation took effect a person is the occupier of premises in which unsealed radioactive substances are kept or handled, the entry must be made within seven days of that date.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

149. (1) Any person who is in possession of a sealed radioactive source, whether registered under section 30 of the Act or not, shall maintain a register of sealed radioactive sources.

(2) A person shall in respect of each sealed radioactive source of which he is in possession enter in the register of sealed radioactive sources an entry in respect of each source and such entry must contain:

(a) the name of the manufacturer of the source;

(b) the manufacturer's model or type number;

(c) the serial number of the source;

(d) the radionuclide enclosed in the source;

(e) where it is a neutron source, the target element;

(f) the activity or nominal activity;

(g) the date to which the activity refers;

(h) where it is permanently mounted in a device, article or thing, sufficient information to identify the device article or thing;

(i) where it is permanently fixed, the place where it is located;

(j) the name of the person in whose care the source has been placed;

(k) where it is not permanently fixed, the place at which it is usually stored; and

(l) the date upon which he took possession of the source.

(3) Such an entry must be made in the register within 24 hours of a person taking possession of the sealed radioactive source, but where at the date this regulation took effect a person is in possession of the source, he must make the entry within 7 days of that date.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

150. (1) Any person who owns a sealed radioactive source or is the registered occupier of any premises in which an unsealed radioactive substance is stored, which source or substance is not being handled or used, shall:

(a) store such source or substance so that:

(i) the dose equivalent rate in any area accessible to members of the public and outside the place of storage shall be as low as is reasonably achievable and in no case exceed 25 microsievert per hour;

(ii) no person receives a dose equivalent exceeding the appropriate dose equivalent limit referred to in Division V of Part I of these regulations; and

(iii) the place of storage is ventilated in such a way that the concentration of airborne radioactive substances within the place of storage will, for any period of time that the place of storage is occupied, be as low as is reasonably achievable;

(b) take reasonable precautions to prevent unauthorized access to such source or substance or unauthorized removal of such source or substance from the place of storage; and

(c) where it is reasonably foreseeable that, during a period of time, chemical, radiation or other action may weaken or rupture a container in which such source or substance is stored so as to cause leakage from that container, provide suitable secondary containment adequate to contain the entire quantity of radioactive substance.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

151. (1) Any person who owns a sealed radioactive source and the registered occupier of any premises in which an unsealed radioactive substance is kept, handled or stored shall mark every door and every entrance to the area in which such source or substance is kept, handled or stored with a sign:

(a) bearing the radiation symbol;

(b) having a total surface area of not less than 4 500mm^2;

(c) which, if it bears words and those words are other than or in addition to "CAUTION", bears the words "RADIATION AREA" or "STORE FOR RADIOACTIVE SUBSTANCES" or words of similar effect;

(d) that conforms with those requirements of Australian Standard AS 1319—1983 "Safety Signs for the Occupational Environment" published by the Standards Association of Australia relating to caution (warning) signs; and

(e) bearing the name and telephone number of a person to contact in the event of any emergency arising within or emanating from that area.

(2) Subregulation (1) of this regulation shall not apply to a sealed radioactive source that is contained in a radiation gauge.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

152. (1) Any person who owns a sealed radioactive source or is the registered occupier of any premises in which an unsealed radioactive substance is kept shall mark each such source and every vessel containing such substance with a sign:

(a) bearing the radiation symbol;

(b) bearing the word "RADIOACTIVE"; and

(c) containing the identity and activity of the radionuclide.

(2) A person need not mark a source or a vessel containing a radioactive substance if by reason of the size of the source or vessel it is not reasonably practicable to do so.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

DIVISION IV—Disposal of Radioactive Substances

153. This Division does not apply to:

(a) radioactive substances to which these regulations do not apply by reason of Part I, Division III of these regulations;

(b) any radioactive ore; or

(c) the discharge from a place other than a hospital into a sewerage system of a radioactive substance contained in excreta from a person who is or has been undergoing medical diagnosis or treatment with a radioactive substance.

154. (1) No person shall dispose of a radioactive substance without first obtaining the approval of the Commission.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

155. (1) An application for approval to dispose of an unsealed radioactive substance must be made by the registered occupier of the premises in which the substance is kept or handled.

(2) An application may relate to the disposal of one or more unsealed radioactive substances on one occasion or a proposal to dispose of more than one or a variety of unsealed radioactive substances on more than one occasion extending over a period of up to twelve months from the date of the approval.

(3) An application must:

(a) be in writing;

(b) specify the substance or substances to be disposed of;

(c) contain details of the substance or substances to be disposed of including their chemical and physical form;

(d) specify the maximum activities of the substances likely to be disposed of, and the arrangements to prevent the maximum activities from being exceeded;

(e) contain details of the place or places where the substance or substances will be disposed of;

(f) contain the approximate date or dates when the substance or substances will be disposed of;

(g) contain details of the method of the proposed disposal including details of packaging, storage, segregation, labelling, monitoring and transport;

(h) contain the name of any person or persons who it is proposed will handle the substance or substances during the course of their disposal.

156. (1) An application for approval to dispose of a sealed radioactive source must be made by the registered owner of the source where the source is registered or the owner of the source where it is not registered.

(2) An application may relate to the disposal of one or more sealed radioactive sources.

(3) An application must:

(a) be in writing;

(b) specify the source or sources to be disposed of;

(c) contain details of the source or sources to be disposed of including their chemical and physical form and the activity of such source or sources;

(d) contain details of the place or places where the source or sources will be disposed of;

(e) contain the approximate date or dates when the source or sources will be disposed of;

(f) contain details of the method of the proposed disposal including details of segregation, labelling, monitoring, and transport;

(g) contain details of any container or device in which the source is housed;

(h) contain the name of any person or persons who it is proposed will handle the source or sources during the course of their disposal.

157. (1) Before the Commission decides whether or not to grant its approval to an application it may direct the applicant to supply it with such further information as it considers is necessary to enable it to give full consideration to the application.

(2) Where the Commission requests an applicant to supply it with further information it shall do so by notice in writing and shall defer consideration of the application until the applicant has complied with the notice.

158. The Commission may grant or refuse an application for approval to dispose of an unsealed radioactive substance or a sealed radioactive source and in deciding whether to grant or refuse such an application it shall have regard to the following matters:

(a) the nature of the substance or source;

(b) the activity of the substance or source;

(c) whether the substance or source may be safely disposed of;

(d) whether the method of disposal proposed by the applicant is appropriate;

(e) whether the place at which it is proposed to dispose of the substance or source is appropriate;

(f) whether the proposed disposal will adversely affect the health of any person, any class of person or members of the public generally;

(g) whether the proposed disposal is consistent with the general objective.

159. (1) Where the Commission grants its approval to a proposal to dispose of an unsealed radioactive substance or a sealed radioactive source it may do so unconditionally or it may impose such conditions as it considers ought to be imposed so that the disposal may take place in accordance with the general objective.

(2) Where the Commission grants its approval to an application it shall notify the applicant in writing.

(3) An approval of the Commission may relate to the disposal of one or more sealed radioactive sources or to one or more unsealed radioactive substances on one occasion, or to the disposal of more than one or a variety of unsealed radioactive substances on more than one occasion extending over a period of up to twelve months from the date of the approval.

(4) Where the Commission imposes conditions it shall notify the applicant in writing of the precise nature of such conditions.

160. Where the Commission refuses an application for approval to dispose of an unsealed radioactive substance or a sealed radioactive source it shall give to the applicant a notice in writing stating:

(a) that the application is refused; and

(b) the reasons for its refusal.

161. (1) At any time during the period for which an approval has been granted the Commission may, by notice in writing served upon the applicant:

(a) vary any condition which it had imposed;

(b) impose a condition to an approval which had been granted unconditionally; or

(c) impose an additional condition.

(2) An applicant shall comply with any condition imposed on an approval.

(3) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

162. (1) Where the Commission has:

(a) refused an application;

(b) imposed a condition to which an approval is subject; or

(c) has varied a condition to which an approval is subject,

the applicant may within 14 days of his receiving notice of refusal or imposition or variation apply to the Commission and request it to reconsider its decision.

(2) An application for reconsideration must be in writing and shall set out fully any representations the applicant wishes to make in support of his application.

(3) The Commission shall within 28 days of receiving such an application reconsider the decision the subject of the application and inform the applicant of its further decision.

(4) In reconsidering the application the Commission shall have regard to the matters contained in regulation 158 of these regulations and to the written representations made by the applicant.

B—SEALED RADIOACTIVE SOURCES

DIVISION V—Registration of Sealed Radioactive Sources

163. (1) Pursuant to and for the purposes of section 30(3) of the Act, the prescribed classes of sealed radioactive sources are sealed radioactive sources:

(a) to which these regulations do not apply by reason of Part I, Division III of these regulations;

(b) that consist solely of H-3 or Po-210;

(c) that consist solely of Au-198, are in the form of seeds or grains, and are used for radiotherapy;

(d) that contain Co-60 or Ir-192, are in the form of wire or pins, and are used for radiotherapy;

(e) that are kept, stored and used while contained in an instrument or device that contains another sealed radioactive source that is registered under section 30 of the Act;

(f) that contain Ir-192 and are used for industrial radiography, where:

(i) the source replaces a source in a source container;

(ii) the replaced source is registered under section 30 of the Act; and

(iii) the source replacing the registered source has a maximum activity no greater than the maximum activity of the source it has replaced;

(g) that are held as stock for sale by a person who has complied with regulation 132 of these regulations;

(h) that are being installed by a person who has complied with regulation 132 of these regulations;

(i) that are the subject of an application for registration in accordance with these regulations, and which application is under consideration by the Commission;

(j) that contain a group 1 or 2 radionuclide with an activity of less than 50 MBq except:

(i) Ra-226; and

(ii) Sr-90 used for ophthalmological radiotherapy;

(k) that contain less than 25 MBq of Ra-226; or

(l) that contain a group 3 or 4 radionuclide with an activity of less than 500 MBq.

(2) Pursuant to section 30 of the Act a person who wishes to register a sealed radioactive source must:

(a) complete and sign a form in the form of Form 8 in Schedule 7; and

(b) send such form to the Commission together with the application fee and the registration fee.

164. (1) Pursuant to section 30(4) of the Act the prescribed registration fee is:

(a) where the registration is for one year, $16.00; or

(b) where the registration is for three years, $48.00.

(2) Subject to subregulation (3) of this regulation, the application fee for registration is:

(a) $43.00 for the first sealed radioactive source registered by the registered owner; and

(b) $16.00 for each subsequent sealed radioactive source so registered.

(3) No application fee shall be payable in respect of a sealed radioactive source which on the date immediately prior to the date upon which these regulations were made was on the register of sealed radioactive sources kept by the Commission.

(4) Where for any reason an application for registration of a sealed radioactive source is not successful the registration fee shall be returned to the applicant.

165. (1) Where the address for service of the registered owner of a sealed radioactive source is changed, the registered owner shall serve on the Commission a notice in writing informing the Commission of his new address for service.

(2) Where a source container housing a registered sealed radioactive source is modified, the registered owner of that sealed radioactive source shall serve on the Commission a notice setting out the particulars of the modification that has been made.

(3) The notices referred to in subregulations (1) and (2) of this regulation shall be served on the Commission within 14 days of the change or modification occurring.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

DIVISION VI—Special Requirements for Sealed Radioactive Sources

166. (1) A capsule must be designed and constructed so that any radioactive substance within the capsule remains effectively enclosed within the capsule:

(a) during all the conditions that are likely to arise when the source is being put to its normal use; and

(b) during all the conditions that are likely to arise if the source is involved in an accident of a kind that is likely to arise when the source is being put to its normal use.

(2) A source holder must be designed and constructed so that any sealed radioactive source housed within the holder will remain so housed, and will resist dispersal of the radioactive substance in the event of the integrity of the source capsule failing, during:

(a) all the conditions that are likely to arise when the bore hole logging tool of which the source holder is a component is being put to its normal use; and

(b) all the conditions that are likely to arise if the bore hole logging tool of which the source is a component is involved in an accident of a kind that is likely to arise when the tool is being put to its normal use.

(3) For the purposes of this regulation, a capsule complies with the requirements of subregulation (1) of this regulation if it complies with the requirements of the International Standard ISO 2919 "Sealed Radioactive Sources—Classification" published by the International Organisation for Standardisation reference number ISO 2919—1980 (E) as those requirements relate to the usage to which the sealed radioactive source is to be put, as expressed in Annex C to that standard.

167. Where a sealed radioactive source is to be used in a device, article or thing, the radionuclide to be used in the source must be one:

(a) the activity which is not larger than is necessary for the satisfactory operation of the device, article or thing beyond its ordinary working life;

(b) the energy and type of radiation emitted from which are appropriate to the use for which the device, article or thing has been designed;

(c) the half life of which is as short as is practicable; and

(d) from a group other than group 1 unless there are no other radionuclides readily available with the necessary properties.

168. A sealed radioactive source must be in a chemical and physical form that will throughout its ordinary working life:

(a) minimise corrosion;

(b) minimise the build up of internal pressure; and

(c) minimise the dispersal of the radioactive substance or the dissolution of the radioactive substance in water in the event of the capsule being ruptured.

169. (1) The Commission may direct the owner of a sealed radioactive source to carry out in respect of the source such tests as the Commission directs.

(2) A direction from the Commission must be in writing served on the owner of the source and must:

(a) identify the source to be tested;

(b) the method to be used in carrying out the tests;

(c) the time within which the tests must be carried out;

(d) the frequency at which the tests are to be carried out; and

(e) the criteria to be used in deciding whether or not the source passes the tests.

(3) A person who has been required by the Commission to carry out tests in accordance with this regulation shall keep a register for the purpose of recording such tests.

(4) Where a person has carried out tests in accordance with this regulation he shall make an entry in the register and such entry must contain:

(a) sufficient details to identify the source tested;

(b) the date of the tests; and

(c) the results of the tests.

(5) Such an entry must be made within 14 days of the date upon which the tests are carried out.

(6) Where a source has failed to pass a test conducted pursuant to this regulation, the owner of the source shall forthwith:

(a) cease to use the source;

(b) prevent any other person from using the source; and

(c) notify the Commission that the source has failed to pass the test.

(7) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

170. (1) Where in order to use a sealed radioactive source it is necessary for that source to be moved away from the premises controlled by the owner of the source, he shall in respect of the source make entries in a register kept especially for that purpose.

(2) The register referred to in subregulation (1) of this regulation is in addition to the register of sealed radioactive sources referred to in regulation 149 of these regulations.

(3) The purpose of the register is to establish, so far as is possible, the location of a sealed radioactive source at any given time.

(4) Each entry in the register must contain:

(a) the registered number of the source;

(b) if the source is being moved in a vehicle the registered number of that vehicle;

(c) the site, district or other locality at which the source is to be used;

(d) where the source is to be used pursuant to a contract between the owner and another person, the name of the other person;

(e) the name of the person who has taken charge of the source;

(f) the date on which the source was taken by the person who has taken charge of the source; and

(g) the date on which the source was returned to the premises controlled by the owner.

(5) A person who takes charge of a sealed radioactive source to which subregulation (1) of this regulation applies shall sign the register on the date he takes charge of the source and when the source is returned to the premises controlled by the owner the person returning it shall on the date upon which it is returned sign the register, and shall indicate in the register:

(a) details of any abnormal occurrence which had occurred while he was in charge of the source, being an occurrence which:

(i) is indicative of some fault or defect in the source, its capsule, container or source control mechanism;

(ii) may have damaged the source, its capsule, container or source control mechanism; and

(b) details of any fault or defect he observed in the source, source capsule, source container or source control mechanism.

(6) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

171. (1) In this regulation the "Code" means the "Code of Practice for the Safe Use of Radiation Gauges" published by the National Health and Medical Research Council.

(2) A reference in the Code to the "Statutory Authority" or to the "relevant Statutory Authority" shall be construed as a reference to the Commission.

(3) A source container used for a radiation gauge, that is first installed after 1 April 1986, shall comply with the design and construction requirements set out in the following paragraphs of the Code:

3.1.1, 3.1.2, 3.1.3., 3.1.4, 3.1.5, 3.1.6, 3.1.7, 3.1.9, 3.1.10, 3.1.11, 3.1.12, 3.1.13, 3.1.14 and 3.1.15.

(4) The owner of a radiation gauge shall comply with the requirements of the Code set out in subregulation (5) of this regulation.

(5) Paragraphs 4.3.2, 4.3.5, 4.3.7, 4.3.8, 4.3.9, 4.3.10, 4.3.11, 4.3.14, 4.3.15, 4.3.16, 4.3.17, 4.3.18, 4.3.19, 7.2.3 and 7.2.4.

(5a) The owner of a radiation gauge that is first installed after 1 April 1986 shall comply with the requirements of paragraph 4.3.6 of the Code.

(6) The owner of a radiation gauge shall:

(a) make available at least one radiation survey meter at each separate establishment at which a radiation gauge owned by him is used;

(b) provide survey meters which comply with the requirements of paragraph 5.2.1 of the Code;

(c) calibrate each survey meter provided at intervals not exceeding 12 months;

(d) cause the calibration of the survey meter to be carried out by a body or organisation approved by the Commission for that purpose;

(e) keep a record of each calibration, and such record may consist of calibration certificates issued by the body or organisation that performed the calibration; and

(f) maintain each survey meter in good order and condition.

(7) Any person who contravenes or fails to comply with subregulations (4), (5) and (6) of this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

172. (1) A radioactive substance used for bore hole logging shall be in a capsule which consists of at least 2 layers of metal so that the radioactive substance within the capsule is contained within two separate metal casings.

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(3) A source container used to house a sealed radioactive source used for bore hole logging must be durably marked with a label containing the following:

(a) the radiation hazard symbol;

(b) the word "RADIOACTIVE";

(c) the name of the radioactive substance;

(d) where it is a neutron source, the target element;

(e) the activity of the radioactive source and the date on which the activity was measured;

(f) the total dose equivalent rate from all types of ionizing radiation at a distance of 1 metre from the source container and the date on which the measurement was made;

(g) the name, address, telephone number and telex number of the owner of the container;

(h) the name and address of the manufacturer or supplier of the container;

(i) the manufacturer’s identification number of the container.

(4) The word referred to in paragraph *(b)* of subregulation (3) of this regulation must be in black on a yellow or white background.

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173. (1) An owner of a sealed radioactive source used for bore hole logging shall provide a radiation survey meter that:

(a) is designed to measure the gamma radiation emissions from the bore hole logging source and bore hole logging source containers;

(b) has a measurement range of absorbed dose rate (or its equivalent exposure rate) from 10 microgray per hour to at least 1 000 microgray per hour;

(c) continues to indicate, either visibly or audibly, when the radiation level exceeds the maximum of the measurement range being used; and

(d) indicates the measured quantity with a measurement uncertainty of no more than ± 30%, inclusive of uncertainty due to variations in response with energy over the range of energies of radiation to be measured.

(2) An owner of a sealed radioactive neutron source used for bore hole logging must provide ready access to a radiation monitor capable of detecting the X-rays or gamma rays emitted by the radioactive substance contained in that source which is sufficiently sensitive to detect background levels of that radiation.

(3) An owner to whom subregulation (1) of this regulation applies, shall in respect of any survey meter that he is required to provide by that subregulation:

(a) calibrate each survey meter so provided at intervals not exceeding 12 months;

(b) cause the calibration of the survey meter to be carried out by an approved body or organisation; and

(c) keep a record of each calibration and such record may consist of calibration certificates issued by the body or organisation which performed the calibration.

(4) An owner to whom subregulation (1) of this regulation applies shall maintain in good order and condition the survey meters referred to in subregulations (1) and (2) of this regulation.

(5) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

174. (1) Where the operator of a bore hole logging tool has failed to raise the tool from a bore hole by the means usually employed to raise the tool, he shall forthwith inform the owner of the sealed radioactive source contained in the bore hole logging tool of that fact.

(2) Where the owner has been informed by an operator pursuant to subregulation (1) of this regulation he must:

(a) take all reasonable precautions to prevent the cable attached to the tool from becoming broken until he has decided that the tool cannot be retrieved;

(b) during any operation to recover the tool:

(i) prevent the source holder from becoming damaged; and

(ii) make available a device sufficiently sensitive to detect background radiation of the type and energy emitted by the radioactive substance involved and cause it to be used to monitor all equipment, materials and other matter brought to the surface; and

(c) where he becomes aware that a bore hole logging tool cannot be raised inform the Commission of that fact.

(3) Where an owner has informed the Commission that a bore hole logging tool cannot be raised, he must, unless otherwise directed by the Commission, cease all operations to recover the tool immediately a device of a kind referred to in subregulation (2) of this regulation detects a level of radiation above background and shall immediately inform the Commission of that fact.

(4) Any person who contravenes or who fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $50 000, or imprisonment for a term not exceeding 5 years, or both.

(5) An offence against this regulation is declared to be a minor indictable offence.

175. (1) No person shall carry out site radiography using a sealed radioactive source unless he is, at all times while engaged in carrying out site radiography, accompanied by a person who has been trained in the emergency procedures to be carried out in the event of a radiation incident, radiation accident or other mishap of a kind the occurrence of which is reasonably foreseeable during the course of site radiography.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

176. (1) No person shall carry out or assist in the carrying out of site radiography using a sealed radioactive source unless:

(a) he is wearing or has affixed to his person a device of a kind specified in subregulation (2) of this regulation; and

(b) he has a radiation survey meter of a kind specified in subregulation (3) of this regulation immediately available for his use.

(2) The device referred to in subregulation (1)*(a)* of this regulation (commonly known as a "chirper") must be a device which:

(a) is capable of detecting the type and energy of radiation being used;

(b) emits an audible signal upon detecting radiation, the rate at which the audible signal is produced being proportional to the absorbed dose rate incident upon the device; and

(c) is of a kind that has been approved.

(3) The radiation survey meter referred to in subregulation (1)*(b)* of this regulation must be a device that:

(a) is designed to measure radiation of the type and energy emitted by the sealed radioactive source in use;

(b) has a measurement range of absorbed dose rate (or its equivalent exposure rate) from 10 microgray per hour to at least 10 000 microgray per hour;

(c) continues to indicate, either visibly or audibly, when the radiation level exceeds the maximum of the measurement range being used; and

(d) indicates the measured quantity with a measurement uncertainty of no more than ± 30%, inclusive of uncertainty due to variations in response with energy over the range of energies of radiation to be measured.

(4) An owner of a sealed radioactive source used for site radiography shall provide every person who uses a sealed radioactive source of which he is the owner with a chirper and radiation survey meter of the kind required by subregulation (1) of this regulation.

(5) It shall be sufficient compliance with subregulation (1) of this regulation if the same radiation survey meter is available for use by both the person carrying out the site radiography and the person assisting him.

(6) An owner of a sealed radioactive source used for site radiography shall in respect of a radiation survey meter he provides under subregulation (4) of this regulation:

(a) calibrate the survey meter at intervals not exceeding 12 months;

(b) cause the calibration of the survey meter to be carried out by an approved body or organisation; and

(c) keep a record of each calibration, which record may consist of calibration certificates issued by the body or organisation that performed the calibration.

(7) An owner of a sealed radioactive source used for site radiography shall in respect of a chirper he provides pursuant to subregulation (4) of this regulation:

(a) test the chirper at intervals not exceeding 3 months; and

(b) make or cause to be made records of each test so performed.

(8) The tests referred to in subregulation (7) of this regulation shall:

(a) test the response of the chirper to the type and energies of radiation used by the owner for the purposes of site radiography;

(b) test the dependence of the chirp rate upon the absorbed dose rate received by the chirper; and

(c) be of a kind that has been approved.

(9) An owner of a sealed radioactive source used for site radiography shall maintain in good order and condition the chirper and survey meter provided by him pursuant to subregulation (4) of this regulation.

(10) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

177. (1) Where the owner of a sealed radioactive source used for site radiography carries out site radiography using that source on premises owned by another person, the owner of the source and the person on whose behalf the site radiography is being carried out shall comply with this regulation.

(2) Before the owner of the source begins to carry out the site radiography:

(a) he shall provide the person on whose behalf the site radiography is to be carried out with an instrument in writing, such instrument to set out the safety precautions to be adopted so that the exposure to ionizing radiation of any person who is likely to be on the premises on which the site radiography is being carried out (not being the person carrying out or assisting in the carrying out of the site radiography) is as low as is reasonably achievable and is no more than the exposure limits for members of the public;

(b) he shall request the person on whose behalf the site radiography is to be carried out to nominate a person who is to be responsible for ensuring that the safety precautions referred to in paragraph *(a)* of this subregulation are carried out; and

(c) the person on whose behalf the site radiography is to be carried out shall have nominated a person to be responsible for carrying out the safety precautions referred to in paragraph *(a)* of this subregulation.

(3) Where a person for whom site radiography is to be carried out is requested to nominate a person to be responsible for carrying out the safety precautions referred to in subregulation (2)*(a)* of this regulation, he shall comply with such request before the owner of the source begins to carry out the site radiography.

(4) During the time site radiography using a sealed radioactive source is being carried out on the premises:

(a) the person nominated by the person on whose behalf the site radiography is being carried out shall give such instructions as are necessary so that such safety precautions are carried out by all persons who are on the premises, not being the persons who are carrying out or assisting in the carrying out of the site radiography; and

(b) all persons on the premises not being the persons carrying out or assisting in the carrying out of the site radiography shall obey all reasonable instructions given to them by the person nominated as being responsible for carrying out the safety precautions referred to in subregulation (2)*(a)* of this regulation.

(5) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

178. (1) A person shall not carry out site radiography which involves the use of a sealed radioactive source unless:

(a) he uses a collimating device designed to limit the radiation beam from the source to a size which is, as far as is reasonably practicable, limited to the minimum necessary for the radiographic exposure; and

(b) where a remotely operated source control mechanism is used, he locates the control mechanism so that the absorbed dose rate at the control position is as low as is reasonably achievable.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

179. (1) Where a person intends to carry out site radiography which involves the use of a sealed radioactive source he shall, before he commences to do so, mark out the area around the exposure site with barriers and signs that comply with this regulation.

(2) In order to comply with this regulation:

(a) the barriers must:

(i) be marked with bunting of a vivid colour; and

(ii) be placed so that the absorbed dose rate outside the barrier does not exceed 25 microgray per hour; and

(b) the signs must:

(i) comply with subregulation (3) of this regulation; and

(ii) be located in such positions so that they are visible from all modes of access to the exposure site.

(3) Each sign must:

(a) be at least 600mm long by 450mm high;

(b) be divided into two panels as described for the regulatory class of signs in Table 2.2 of Australian Standard AS 1319-1983 "Safety Signs for the Occupational Environment";

(c) have a top panel which bears the word "DANGER" and is as described in Clause 4.2.3 of AS 1319-1983;

(d) have a bottom panel that must:

(i) be as described in AS 1319-1983;

(ii) bear the words "RADIATION: KEEP OUT"; and

(iii) bear the radiation symbol; and

(e) have letters the height of which shall be at least 60mm.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

180. (1) Subject to this regulation, a source container used for industrial radiography, and any equipment used for handling the source, must comply with section 3 of the *Code of Practice for the Safe Use of Industrial Radiography Equipment (1989)* published by the National Health and Medical Research Council.

(2) The label with which the source container is to be marked under section 3.1.15 of the Code must incorporate a warning of the presence of radioactive materials but need not do so by use of the symbols and words required by that section.

(3) For the purposes of this regulation, a reference in the Code to the Statutory Authority is to be taken to be a reference to the South Australian Health Commission.

181. (1) This regulation shall apply to source containers, transfer containers and remote control mechanisms used for industrial radiography.

(2) The owner of any device of a kind to which this regulation applies shall have the device inspected by a competent person at intervals not exceeding three months, such inspection being for the purpose of determining whether or not the device is in good working order and condition.

(3) A person who carries out an inspection of a device pursuant to subregulation (2) of this regulation shall check the device in order to determine whether or not it is in good working order and condition.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

182. (1) No person shall use a device, article or thing in the course of industrial radiography unless the device, article or thing is in good working order and condition.

(2) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

183. (1) A sealed radioactive source used for external beam radiotherapy must be enclosed in a housing so that when the beam control mechanism is in the "off" position:

(a) the air kerma rate from leakage radiation at a distance of 1 metre from the source does not exceed 10 microgray per hour; and

(b) the air kerma rate from leakage radiation at any accessible point 50mm from the surface of the housing does not exceed 200 microgray per hour.

(2) For the purposes of this regulation leakage radiation shall be measured over an area not greater than:

(a) 10 000mm^2 at a distance of 1 metre from the source; or

(b) 1 000mm^2 at a distance of 50mm from the source housing.

184. A sealed radioactive source used for external beam radiotherapy must have adjustable or interchangeable beam limiting devices that are designed and constructed so that leakage radiation through those devices does not exceed 2% of the useful beam.

185. A sealed radioactive source used for external beam radiotherapy must be designed and constructed so that the beam control mechanism automatically returns to the "off" position:

(a) at the end of an exposure; and

(b) when there is a breakdown or interruption of the force that holds it in the "on" position.

186. (1) A sealed radioactive source used for external beam radiotherapy must be designed and constructed so that:

(a) the "off" position is maintained at all times except when the beam control mechanism is activated from the control panel;

(b) in the event of failure of the automatic return system referred to in regulation 185 of these regulations the source can be returned by some alternative means;

(c) there is a reliable indicator at the control panel and near to or at the source that indicates when the source is in the "on" and "off" positions; and

(d) the beam control mechanism returns to the "off" position after a preset time period has elapsed.

(2) The source housing of a sealed radioactive source used for external beam therapy must be fire resistant so that in the event of it being involved in a fire the radiation shielding provided by the source housing is preserved.

187. A sealed radioactive source used for external beam therapy must be installed in a room or other enclosed area:

(a) near to the entrance to which is a reliable indicator that indicates when the source is in the "on" and "off" position;

(b) the entrance to which is provided with interlocks that cause the return of the source to the "off" position when the door to the room or area is opened;

(c) where an interlock referred to in paragraph *(b)* of this regulation has caused the return of the source to the "off" position, the source must not move to the "on" position when the door is closed until the source control is activated from the control panel;

(d) the door to which may be opened from the inside;

(e) so that when the source is in the "on" position the air kerma rate 50mm from any wall, door, entrance, floor or ceiling of the room or enclosed area:

(i) does not exceed 25 microgray per hour in any area outside the room or enclosed area, being an area continuously occupied by any radiation worker or any corridor, walkway, lift, stairway, car park, toilet or any other area which is normally occupied by a member of the public for a short time; or

(ii) does not exceed 2.5 microgray per hour in any area outside the room or enclosed area, being an area occupied by any member of the public for other than a short period of time.

188. A sealed radioactive source used for external beam therapy must be installed so that:

(a) the control panel is located in a shielded position outside the treatment room or area; and

(b) a shielded window, mirror, closed circuit television system or other means is provided so that it is possible to continuously observe and communicate from the control panel with a patient undergoing treatment.

189. (1) Where a sealed radioactive source is used for the purpose of human brachytherapy, the person administering the brachytherapy shall, where the patient undergoing treatment is in hospital, post on the patient's bed a sign containing:

(a) the radiation symbol;

(b) the number of sealed radioactive sources being used to treat the patient;

(c) the type and activity of each source being used to treat the patient;

(d) the air kerma rate 1 metre from the patient and the time the air kerma rate was measured;

(e) the date on which the air kerma rate was measured;

(f) the name and signature of the person who measured the air kerma rate; and

(g) the name and phone number of the person to be contacted in the event of a radiation incident, radiation accident or radiation emergency involving any of the sealed radioactive sources being used to treat the patient.

(2) Where a sign has been placed on a patient's bed pursuant to subregulation (1) of this regulation, no person shall interfere with or remove that sign unless he is removing it to make an entry on it or until:

(a) the patient is discharged from the hospital;

(b) all sealed radioactive sources are removed from the patient; or

(c) the air kerma rate 1 metre from the patient falls below 1 microgray per hour.

(3) This regulation shall not apply to the use of a sealed radioactive source for brachytherapy where that source is used in a remote controlled afterloading device.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

190. (1) In this regulation "patient" means an animal undergoing veterinary radiotherapy of the kind referred to in subregulation (2) of this regulation.

(2) Where a sealed radioactive source used for the purpose of veterinary radiotherapy is intended to be inserted in or attached to an animal and some time later removed or detached from the animal, as the case may be, the person carrying out the veterinary radiotherapy shall comply with subregulations (3) to (6) and subregulation (8) of this regulation.

(3) He shall not commence the radiotherapy until the patient is locked in a kennel, yard, box, stable or other enclosure which:

(a) is designed and constructed to house an animal of the same kind as the patient;

(b) is designed and constructed so that it can be secured in such a manner so that the patient is unlikely to be able to leave it without human assistance; and

(c) is located in a position that is at least 3 metres from:

(i) any part of any other kennel, yard, box, stable or other enclosure that is normally occupied by another animal; and

(ii) any part of any area that is normally used as a corridor or thoroughfare by any person or other animal.

(4) Before commencing the radiotherapy he shall give to the owner of the patient or the person in whose care the patient has been placed by the owner a written notice containing the following instructions:

That until any sealed radioactive source inserted into or attached to the patient has been removed or detached, as the case may be:

(a) the patient must remain in the kennel, yard, stable, box or other enclosure in which it is to be housed at the commencement of the radiotherapy;

(b) apart from the essential feeding and care of the patient no person shall enter the kennel, yard, stable, box or other enclosure in which the patient is housed;

(c) no person shall remain in the kennel, yard, stable, box or other enclosure in which the patient is housed for any one period or periods, exceeding or exceeding in aggregate, as the case may be, 15 minutes in any one day; and

(d) he must prevent any person who is a member of the public and who is not a person involved in the essential care of the animal from entering any area that is less than 1 metre from any part of the kennel, yard, stable, box or other enclosure in which the patient is housed.

(5) He shall make a register in which he shall forthwith make the following entries:

(a) the serial number, if any, of any sealed radioactive source inserted into or attached to the patient;

(b) the physical or chemical form of the radioactive substance;

(c) the date he received any source used;

(d) the activity of the source and the date to which the activity refers;

(e) the date on which any source was inserted into or attached to the patient;

(f) the date on which any source was removed or detached from the patient.

(6) At all times while carrying out the veterinary radiotherapy he shall have in his immediate possession or control a radiation monitoring instrument that is:

(a) suitable for monitoring the kind of ionizing radiation that is likely to be produced; and

(b) in good working order and condition.

(7) Where the patient dies before the veterinary radiotherapy has been completed, the owner of the patient or the person in whose care the patient has been placed by the owner shall notify, forthwith, the person carrying out the radiotherapy.

(8) Where the person carrying out the radiotherapy has been notified in accordance with subregulation (7) of this regulation he shall remove the source as soon as is reasonably practicable.

(9) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

191. (1) In this regulation:

"companion animal" means a domestic pet or other animal that is normally in regular contact with humans;

"field animal" means an animal that is normally housed in a paddock or other large area and is not in regular contact with humans;

"patient" means an animal undergoing veterinary radiotherapy of the kind referred to in subregulation (2) of this regulation.

(2) Where a sealed radioactive source used for the purpose of veterinary radiotherapy is intended to be permanently implanted in an animal, the person carrying out the veterinary radiotherapy shall comply with subregulations (3) to (9) of this regulation.

(3) He shall not commence the radiotherapy until the patient is housed in a kennel, yard, box, stable or other enclosure of a kind referred to in subregulation (3) of regulation 190 of these regulations.

(4) Before commencing the radiotherapy he shall give to the owner of the patient, or the person in whose care the patient has been placed by the owner, a written notice containing the following instructions:

That until the total activity contained in the patient is less than:

For companion animals:

Rn - 222 : 400 MBq	Au - 198 :	1200 MBq;

For field animals:

Rn - 222 : 2000 MBq	Au - 198 :	6000 MBq:

(a) the patient must remain in the kennel, yard, stable, box or other enclosure in which it is to be housed at the commencement of the radiotherapy;

(b) apart from the essential feeding and care of the patient no person shall enter the kennel, yard, stable, box or other enclosure in which the patient is housed;

(c) no person shall remain in the kennel, yard, stable, box or other enclosure in which the patient is housed for any one period or periods, exceeding or exceeding in aggregate, as the case may be, 15 minutes in any one day; and

(d) he must prevent any person who is a member of the public and who is not a person involved in the essential care of the animal from entering any area that is less than 1 metre from any part of the kennel, yard, stable, box or other enclosure in which the patient is housed.

(5) Where the patient's total activity becomes less than the activity specified in subregulation (4) of this regulation the person who carried out the veterinary radiotherapy shall give to the owner of the patient or the person in whose care the patient has been placed by the owner a written notice containing the following instructions:

(a) that apart from essential feeding and care, no person shall come closer to the patient than 1 metre for the first 4 days after the discharge of the patient;

(b) that the patient shall not be ridden, groomed or be allowed to have any other form of close contact with any human for a period of at least 14 days; and

(c) that if any seed or grain from an implant becomes dislodged:

(i) it shall be handled only by means of tweezers, pliers or other similar tool; and

(ii) the fact that it has become dislodged shall be forthwith reported to the person who carried out the radiotherapy or the Commission and kept in a place away from other persons until it is disposed of by the person who carried out the radiotherapy or the Commission.

(6) He shall make a register in which he shall make the following entries:

(a) the serial number, if any, of any sealed radioactive source implanted in the patient;

(b) the physical or chemical forms of the radioactive substance;

(c) the date he received the source;

(d) the activity of the source and the date to which the activity refers.

(7) All entries made in the register referred to in subregulation (6) of this regulation shall be made as soon as is reasonably practicable.

(8) At all times while carrying out veterinary radiotherapy he shall have in his immediate possession or control a radiation monitoring instrument that is:

(a) suitable for monitoring the kind of ionizing radiation that is likely to be produced; and

(b) in good working order and condition.

(9) Where a patient dies before the total activity contained in the patient has fallen to one thousandth of the value given in subregulation (4) of this regulation, the carcass of the patient shall not be disposed of except as is approved.

(10) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

192. (1) In this regulation "patient" means an animal undergoing veterinary radiotherapy of the kinds referred to in regulations 190 and 191 of these regulations.

(2) The owner of the patient or the person in whose care the patient has been placed by the owner shall keep the patient in a kennel, yard, box, stable or other enclosure of the kind referred to in subregulation (3) of regulation 190 of these regulations until:

(a) all sealed radioactive sources have been removed or detached from the patient; or

(b) the total activity contained in the patient is less than that specified in the table to subregulation (4) of regulation 191 of these regulations.

(3) The owner of the patient or the person in whose care the patient has been placed by the owner shall attend the patient in the manner referred to in subregulation (4) of regulation 190 of these regulations until:

(a) all sealed radioactive sources have been removed or detached from the patient; or

(b) the total activity contained in the patient is less than that specified in the table to subregulation (4) of regulation 191 of these regulations.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

C—UNSEALED RADIOACTIVE SUBSTANCES

DIVISION VII—Registration of Premises

193. (1) For the purposes of section 29(3)*(b)* of the Act, substances to which these regulations do not apply by virtue of Division III of Part I of these regulations are a prescribed class of substances.

(2) Pursuant to and for the purposes of section 29(3)*(b)* of the Act premises:

(a) in which radioactive substances are stored in transit during the course of transport in accordance with the *Radiation Safety (Transport of Radioactive Substances) Regulations, 1984*; and

(b) in respect of which an application has been made to the Commission for registration and in respect of which the Commission has not made a determination,

are premises of a prescribed class.

194. (1) Pursuant to section 29(4) of the Act a person who wishes to apply to register premises under section 29 of the Act must:

(a) complete and sign a form in the form of Form 9 set out in Schedule 7;

(b) send such form to the Commission together with the application fee and the registration fee.

(2) Where an application for registration relates to part of any land, building or structure the applicant must submit with his application a plan of the land, building or structure which clearly identifies the part of the land, building or structure to which the application relates.

(3) Pursuant to section 29(4) of the Act the registration fee is:

(a) where the registration is for one year, $74.00; or

(b) where the registration is for three years, $222.00.

(4) The application fee is $43.00.

(5) Where for any reason an application for registration of premises is not granted the registration fee shall be returned to the applicant.

195. (1) Where the address for service of a registered occupier is changed, the registered occupier shall serve on the Commission a notice in writing informing the Commission of his new address for service.

(2) Where any structural alterations are made to any registered premises, the registered occupier shall serve on the Commission a notice in writing setting out details of the alterations that have been made.

(3) The notices referred to in subregulations (1) and (2) of this regulation shall be served on the Commission within 14 days of the change or alteration occurring.

(4) Any person who contravenes or fails to comply with this regulation shall be guilty of an offence and liable to a penalty not exceeding $10 000.

DIVISION VIII—Special Requirements for Premises

196. (1) For the purposes of this Division a reference to "premises" means a reference to those parts of premises that are registered pursuant to section 29 of the Act or in respect of which registration has been applied for.

(2) For the purposes of this Division "derived air concentration" in relation to airborne radioactivity, means the derived air concentration for the radionuclide concerned recommended by the International Commission on Radiological Protection in its Publication 30 "Limits for Intakes of Radionuclides by Workers".

(3) For the purposes of subregulation (2) of this regulation, where the International Commission on Radiological Protection recommends more than one value for a derived air concentration, and where the information needed to choose which of these values is relevant to the circumstances of the case has not been obtained by the specified employer, the value that gives rise to the smallest value of derived air concentration shall be used.

197. (1) Every laboratory in which an unsealed radioactive substance is kept or handled must comply with the requirements set out in subregulations (2) to (7) of this regulation.

(2) A sign that displays—

(a) the type of the laboratory (as set out in schedule 4); and

(b) the name of the person in charge of the laboratory (being a person who holds a licence under section 28 of the Act),

must be displayed at each entrance to the laboratory.

(2a) The sign referred to in subregulation (2) may be part of or separate to the sign required to be displayed under regulation 151.

(3) In respect of any laboratory where any unsealed radioactive substance the half life of which is 12 hours or longer, is likely to be kept or handled, the surfaces of the walls, floors, ceilings and fittings of the laboratory must either:

(a) be smooth and free from cracks and crevices; or

(b) consist of or be covered by a substance that:

(i) in the case of bench or floor coverings, prevents the spread of any radioactive liquid beyond the confines of such substance; and

(ii) is readily:

(A) removable;

(B) disposable as radioactive waste; and

(C) replaceable.

(4) Furniture must be moveable so as to facilitate the decontamination and cleaning of the surfaces of walls, ceilings, floors and fittings of the laboratory.

(5) All pipes and drains that are connected to the laboratory must be installed so that:

(a) they are readily accessible for maintenance;

(b) they do not affect the surfaces of the walls, ceilings, floors and fittings of the laboratory in such a way that those surfaces cease to be smooth or contain cracks or crevices in which contamination with radioactive substances is likely to accumulate.

(6) Drains that are used to carry radioactive effluent must comply with the requirements of subregulation (5) of this regulation and in addition must be labelled at all points at which there is access to them for the purposes of maintenance with a label that:

(a) conforms with the requirements for a caution (warning) sign as expressed in Australian Standard AS 1319-1983 "Safety Signs for the Occupational Environment"; and

(b) contains the radiation symbol.

(7) Subregulation (5) shall not apply to a laboratory in which, on the date this regulation took effect, an unsealed radioactive substance had been kept or handled.

198. (1) Where an operation or process that is likely to produce airborne radioactivity in excess of the derived air concentration is carried out in a laboratory, a fume cupboard or total enclosure which complies with this regulation must be provided.

(2) The fume cupboard or total enclosure provided in accordance with this regulation must be designed, constructed, maintained and used so that the concentration of airborne radioactivity in the air breathed by a radiation worker is not likely to exceed the derived air concentration.

(3) Where the laboratory referred to in subregulation (1) of this regulation had, on the date on which this regulation took effect, not been used for the keeping or handling of unsealed radioactive substances, a fume cupboard provided in accordance with that subregulation must comply with regulation 199 of these regulations.

199. (1) For the purposes of regulations 198(3) and 200 of these regulations, the requirements with which a fume cupboard must comply are set out in subregulations (2) to (5) of this regulation.

(2) It must be designed and constructed so that:

(a) there is a constant non-turbulent flow of air at a rate sufficient to prevent the movement of radioactive substances from its interior into the laboratory and in any case the flow of air must be at a rate not less than 0.5 metres per second;

(b) the efficiency of the fume cupboard is not impaired by changing the position of the sash;

(c) the accumulation of contamination with radioactive substances in any part of the fume cupboard or the fume extraction system is minimised; and

(d) its internal surfaces and the surfaces of any of its fittings must comply with regulation 197(3)*(a)* of these regulations.

(3) The fume extraction system must be labelled at all accessible points with signs that comply with the requirements of regulation 197(6) of these regulations.

(4) The extraction system must be designed and constructed so that there is no escape of air from the fume cupboard into a part of the laboratory or to a part of the premises in which the laboratory is situated if such part of the laboratory or premises is normally occupied by any person.

(5) It shall be sited in such a position so that the opening of any door or window or the presence of any furniture or other object in the laboratory does not significantly disturb the flow of air into the fume cupboard.

(6) Paragraph *(a)* of subregulation (2) of this regulation shall not apply to a fume cupboard that is a laminar flow cupboard.

200. (1) A type B laboratory must, in addition to complying with the requirements of regulations 197 and 198 of these regulations, comply with the requirements of subregulation (2) of this regulation.

(2) It must have:

(a) where volatile radioactive substances, or radioactive substances in the form of dry powders are kept or handled, a fume cupboard that complies with the requirements of regulation 199 of these regulations or a glovebox or other total enclosure that encloses such radioactive substances and has an extraction system that complies with regulation 199(4) of these regulations;

(b) an area at or near to the entrance but separated from the remaining part of the laboratory by a barrier which area is suitable for changing into and out of protective clothing;

(c) an eyewash facility;

(d) a hand basin fitted with taps that are connected to the mains water supply;

(e) a shower connected to the mains water supply; and

(f) a ventilation system that complies with subregulation (3) of this regulation.

(3) The ventilation system for a Type B laboratory must be such as to maintain a negative air pressure in the laboratory relative to areas immediately outside the laboratory but which does not interfere with the proper operation of the fume cupboard or glovebox.

(4) The surfaces of any furniture used in a type B laboratory must comply with regulation 197(3) of these regulations.

201. (1) A type A laboratory must comply with the requirements for all laboratories including a type B laboratory and shall comply with any additional requirements which the Commission may specify by direction in a notice that complies with subregulation (2) of this regulation.

(2) Such notice must:

(a) be in writing;

(b) specify the requirements with which the laboratory must comply;

(c) be served on the registered occupier;

(d) specify a reasonable time in which the laboratory must be made to comply with the additional requirements.

202. (1) The registered occupier of any premises in which an unsealed radioactive substance is kept or handled must:

(a) provide monitoring equipment suitable for detecting radioactive contamination by the types of radioactive substances kept or handled on the premises;

(b) post in a prominent position near to all parts of the premises where a radioactive substance is kept or handled, a summary of:

(i) the working rules referred to in regulation 10 of these regulations; and

(ii) the contingency plan prepared in accordance with regulation 42 of these regulations; and

(c) display in a prominent position on the premises a sign which contains a prohibition against eating, drinking and smoking on the premises.

(2) Any person who contravenes or fails to comply with these regulations shall be guilty of an offence and liable to a penalty not exceeding $10 000.

D—URANIUM, THORIUM AND RADIOACTIVE ORES

DIVISION IX—Licence to Mine or Mill Radioactive Ores

203. (1) For the purposes of section 24 of the Act, the operations set out in subregulation (2) are prescribed classes of operations.

(2) Operations for the milling of radioactive ore where:

(a) the radioactive ore is not subjected to a process of chemical treatment and the amount of radioactive ore milled is less than 10 tonnes of ore per calendar month;

(b) the ore is subjected to a process of chemical treatment including leaching, dissolution, solvent extraction or ion exchange but the amount of ore involved in the operation is less than 10 tonnes in any one year.

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204. (1) For the purposes of section 24(3) of the Act, the form of application for a licence is that set out in form 10 of schedule 7.

(2) For the purposes of section 24(4a) and (4b) of the Act, the fee for each year of the term of a licence under that section is—

(a) in relation to a site containing one or more mines or mills in commercial production—an amount calculated in accordance with the following formula:

$$A = \$100\ 000 \times \frac{I2}{I1}$$

Where—

A is the amount to be paid;

I2 is the A.B.S. Index for the March quarter ended immediately prior to the date on which the fee being calculated is payable;

I1 is the A.B.S. Index for the March 1988 quarter;

or

(b) in relation to a site containing a non-commercial mine or mill used for the purpose of exploration or developmental testing of a process—an amount calculated in accordance with the following formula:

$$A = \$200 \times \frac{I2}{I1}$$

Where—

A is the amount to be paid;

I2 is the A.B.S. Index for the March quarter ended immediately prior to the date on which the fee being calculated is payable;

I1 is the A.B.S. Index for the March 1988 quarter.

(3) In this regulation—

"A.B.S. Index" means the *Gross Non Farm Product Implicit Price Deflator Index* published quarterly in catalogue number 5206 by the Australian Bureau of Statistics.

PART V—MISCELLANEOUS

DIVISION I—USE OF IONIZING RADIATION IN SCHOOLS

205. In this division—

"the Code" means the *Code of Practice for the Safe Use of Ionizing Radiation in Secondary Schools (1986)* published by the National Health and Medical Research Council, as modified by this division.

206. For the purposes of this division, the Code is modified—

(a) by striking out from the glossary the definition of "Ionizing radiation" and substituting the following definition:

Ionizing radiation has the meaning ascribed to it in the *Radiation Protection and Control Act 1982*.;

(b) by striking out from the glossary the definition of "Radioactive material" and substituting the following definition:

Radioactive material has the meaning ascribed to "radioactive substance" in the *Radiation Protection and Control Act 1982*.;

(c) by striking out from the glossary the definition of "Sealed source" and substituting the following definition:

Sealed source has the meaning ascribed to "sealed radioactive source" in the *Radiation Protection and Control Act 1982*.;

(d) by inserting in the glossary after the definition of "Sievert" the following definition:

Statutory authority means the South Australian Health Commission.;

(e) by striking out from the glossary the definition of "Unsealed source" and substituting the following definition:

Unsealed source has the meaning ascribed to "unsealed radioactive substance" in the *Radiation Protection and Control Act 1982*.;

and

(f) by striking out sections 10.1 and 11.

207. (1) The use of a radioactive substance or apparatus in a secondary school must be in accordance with the Code.

(2) A person in charge of a secondary school must ensure that at all times there is a person designated to act as the responsible teacher for the purposes of compliance with the Code.

(3) If default is made in complying with this regulation, the person in charge of the school is guilty of an offence.

Penalty: $10 000.

DIVISION II—Miscellaneous

208. Pursuant to and for the purposes of section 16(3) of the Act, the certificate of identification of an authorized officer shall be in the form of Schedule 8.

209. (1) Pursuant to section 37(2) of the Act, a person who wishes to apply for the renewal of a licence under section 24 of the Act must:

(a) complete and sign a form in the form of Form 10 in Schedule 7; and

(b) send such form to the Commission not less than 28 days prior to the expiry of the term of the licence.

(2) Pursuant to section 37(2) of the Act, a person who wishes to apply for renewal of:

(a) a licence granted under section 28 of the Act;

(b) a registration under section 29 of the Act;

(c) a registration under section 30 of the Act;

(d) a licence granted under section 31 of the Act; or

(e) a registration under section 32 of the Act,

must complete and sign a form in the form of Form 11 or Form 12, as the case may be, in Schedule 7 and send such form to the Commission.

(3) Pursuant to and for the purposes of section 37(2) of the Act, the fee for the renewal of a licence or registration is:

* * * * * * * * * *

(b) for a licence granted under section 28 of the Act: $43.00;

(c) for a registration under section 29 of the Act:

(i) where the registration is for one year, $74.00; or

(ii) where the registration is for three years, $222.00;

(d) for a registration under section 30 of the Act:

(i) where the registration is for one year, $16.00; or

(ii) where the registration is for three years, $48.00;

(e) for a licence granted under section 31 of the Act: $43.00; and

(f) for a registration under section 32 of the Act:

(i) where the registration is for one year, $74.00; or

(ii) where the registration is for three years, $222.00.

210. (1) Pursuant to section 38 of the Act, the register of licences under section 24 of the Act must:

(a) contain the information specified in subregulation (2) of this regulation; and

(b) be in the form specified in subregulation (3) of this regulation.

(2) In respect of each licence the register must contain the following information:

(a) the name and postal address of the licence holder;

(b) the address and location of—

(i) the mine;

(ii) the mill;

(c) the name and address of the manager;

(d) the date of first issue of the licence;

(e) the date of last renewal of the licence;

(f) the current expiry date of the licence;

and

(g) the conditions imposed on the licence.

(3) The form of the register must consist of the information referred to in subregulation (2) of this regulation, being reduced into writing and inserted into S.A. Health Commission docket 08/127/132.

211. (1) Pursuant to section 38 of the Act, the register of licences in respect of licences granted under sections 28 and 31 of the Act must:

(a) contain the information specified in subregulation (2) of this regulation; and

(b) be in the form specified in subregulation (7) of this regulation.

(2) In respect of each licence the register must contain the following information:

(a) name, postal address and occupation of licence holder;

(b) name, postal address and principal business activity of the employer of the licence holder;

(c) in the case of apparatus, the kind of work performed with the apparatus;

(d) in the case of radioactive substances, the kind of work performed with radioactive substances, and whether the radioactive substances are sealed or unsealed;

(e) the conditions imposed on the licence;

(f) the date the licence was first issued;

(g) the most recent date upon which the licence was renewed; and

(h) the date the current licence expires.

(3) Pursuant to section 38 of the Act, the register in respect of sealed radioactive sources and apparatus registered under sections 30 and 32 of the Act must:

(a) contain the information specified in subregulation (4) of this regulation; and

(b) be in the form specified in subregulation (7) of this regulation.

(4) In respect of each registration the register must contain the following information:

(a) name, postal address and occupation or principal business activity of the registered owner;

(b) the make, model, and serial number of the apparatus and of the sealed radioactive source or the registrable device;

(c) the address at which the apparatus or sealed radioactive source is located or at which it is stored when not in use;

(d) the purposes to which the apparatus or sealed radioactive source are put;

(e) in the case of a sealed radioactive source, the radionuclide involved;

(f) in the case of a sealed radioactive source with a half life of less than one year, the maximum activity registered by the registered owner;

(g) in the case of a sealed radioactive source with a half life of more than one year, the activity of the source, and the date to which that activity refers;

(h) the conditions imposed upon the registration;

(i) the date the registration was first granted;

(j) the most recent date upon which the registration was renewed; and

(k) the date the current registration expires.

(5) Pursuant to section 38 of the Act, the register of premises registered under section 29 of the Act must:

(a) contain the information specified in subregulation (6) of this regulation; and

(b) be in the form specified in subregulation (7) of this regulation.

(6) In respect of each registration, the register must contain the following information:

(a) the name, postal address, and occupation or principal business activity of the registered occupier;

(b) the address of the registered premises;

(c) a description sufficient to identify the premises at that address so registered;

(d) the type of premises;

(e) the kind of work performed on the premises;

(f) the date the registration was first granted;

(g) the most recent date upon which the registration was renewed;

(h) the date the current registration expires; and

(i) the conditions imposed upon the registration.

(7) The registers must be kept in electronic form and a printout made available for public inspection.

212. (1) Pursuant to and for the purposes of section 43(4)*(a)* of the Act, the International Organization for Standardization is a prescribed body.

(2) Any code of practice or standard referred to or incorporated in these regulations is so referred to or incorporated as such code of practice or standard is in force from time to time.

213. (1) A person seeking approval of the Commission to dispose of or destroy a document pursuant to regulations 29, 34 or 58 of these regulations must apply to the Commission in accordance with this regulation.

(2) The application must be in writing and must contain:

(a) details of the document to be disposed of and the proposed manner of disposal;

(b) details of the document to be destroyed and the proposed manner of destruction; and

(c) the reasons for the disposal or destruction.

(3) The Commission may approve of the application if it is satisfied that the document is not required for the purposes of the Act or these regulations.

214. The Commission may release to the Australian Radiation Laboratory of the Commonwealth any information relating to radiation incidents, radiation accidents or radiation emergencies.

215. Pursuant to section 43(3)*(m)* of the Act, the Australian Radiation Laboratory of the Commonwealth is a prescribed body for the purposes of that section.

216. Where in these regulations a person is required to serve a notice or other document on the Commission or to send any document to the Commission such notice or other document may be served on or sent to the Commission:

(a) by sending it by certified mail addressed to the Commission at its postal address; or

(b) by leaving it at the principal place of business of the Commission with a person who is apparently:

(i) over sixteen years of age; and

(ii) in the employ of the Commission.

217. Subject to these regulations, the Commission may, by notice in writing served on the person to whom the notice is addressed, give any direction or approval that is required by these regulations.

PART VI—SCHEDULES

SCHEDULE 1

CLASSIFICATION OF RADIONUCLIDES INTO GROUPS

GROUP 1								
Pb-210	Po-210	Ra-223	Ra-226	Ra-228	Ac-227	Th-227	Th-228	Th-230
Pa-231	U-230	U-232	U-233	U-234	Np-237	Pu-238	Pu-239	Pu-240
Pu-241	Pu-242	Am-241	Am-243	Cm-242	Cm-243	Cm-244	Cm-245	Cm-246
Cf-249	Cf-250	Cf-252						
GROUP 2								
Na-22	Cl-36	Ca-45	Sc-46	Mn-54	Co-56	Co-60	Ge-68	Sr-89
Sr-90	Y-91	Zr-95	Ru-106	Ag-110m	Cd-115m	In-114m	Sb-124	Sb-125
Te-127m	Te-129m	I-124	I-125	I-126	I-131	I-133	Cs-134	Cs-137
Ba-140	Ce-144	Eu-152(13y)	Bi-210	Eu-154	Tb-160	Tm-170	Hf-181	Ta-182
Ir-192	Tl-204	Bi-207		At-211	Pb-212	Ra-224	Ac-228	Pa-230
Th-234	U-236	Bk-249						
GROUP 3								
Be-7	C-14	F-18	Na-24	Cl-38	Si-31	P-32	P-33	S-35
Ar-41	K-42	K-43	Ca-47	Sc-47	Sc-48	V-48	Cr-51	Mn-52
Mn-56	Fe-52	Fe-55	Fe-59	Co-57	Co-58	Ni-63	Ni-65	Cu-64
Zn-65	Zn-69m	Ga-67	Ga-72	As-73	As-74	As-76	As-77	Se-75
Br-82	Kr-85m	Kr-87	Rb-81	Rb-86	Sr-85	Sr-91	Y-87	Y-90
Y-92	Y-93	Zr-97	Nb-93m	Nb-95	Mo-99	Tc-96	Tc-97m	Tc-97
Tc-99	Ru-97	Ru-103	Ru-105	Rh-105	Pd-103	Pd-109	AG-105	Ag-111
Cd-109	Cd-115	In-115m	Sn-113	Sn-125	Sb-122	Te-125m	Te-127	Te-129
Te-131m	Te-132	I-123	I-130	I-132	I-134	I-135	Xe-135	Cs-129
Cs-131	Cs-136	Ba-131	La-140	C-141	C-143	Pr-142	Pr-143	Nd-147
Nd-149	Pm-147	Pm-149	Sm-151	Sm-153	Eu-152	Eu-155	Gd-153	Gd-159
Dy-165	Dy-166	Ho-166	Er-169	Er-171	(9.2hr)	Tm-171	Yb-175	Lu-177
W-181	W-185	W-187	Re-183	Re-186	Re-188	Os-185	Os-191	Os-193
Ir-190	Ir-194	Pt-191	Pt-193	Pt-197	Au-196	Au-198	Au-199	Hg-197
Hg-197m	Hg-203	Tl-200	Tl-201	Tl-202	Pb-203	Bi-206	Bi-212	Rn-220
Rn-222	Th-231	Pa-233	Np-239					
GROUP 4								
H-3	C-11	N-13	O-15	Ar-37	Co-58m	Ni-59	Ga-68	Zn-69
Ge-71	Kr-85	Sr-85m	Sr-87m	Rb-87	Y-91m	Zr-93	Nb-97	To-96m
Tc-99m	Rh-103m	In-113m	I-129	Xe-131m	Xe-133	Cs-134m	Cs-135	Sm-147
Re-187	Os-191m	Pt-193m	Pt-197m	Th-232	Th-Nat	U-235	U-238	U-Nat

Notes: (1) An alpha emitting radionuclide not listed in this Schedule shall be in Group 1.

(2) A radionuclide which is not an alpha emitter and which is not listed in this Schedule shall be in Group 2.

SCHEDULE 2

RADIATION SYMBOL

The radiation symbol consists of the conventional three blade design shown below.

The symbol shall be in black, and the background colour shall be as provided in Australian Standard AS 1319-1983 "Safety Signs for the Occupational Environment".

[Symbol appears in *Gaz*. 4.4.85, p. 993]

SCHEDULE 3

METHOD FOR CALCULATING THYROID INTAKES OF IODINE-125 OR IODINE-131 FROM THYROID BURDEN MEASUREMENTS

This method is used to estimate the thyroid intake of either Iodine-125 or Iodine-131 for a period defined by:

(a) the time between two thyroid burden measurements; or

(b) where there has been no prior thyroid burden measurement taken, the time between the day, following the date on which regulation 30 of these regulations took effect, on which the person was first potentially exposed to radioactive iodine and the day on which a thyroid burden measurement took place.

This method relies on the worst case assumption that all of the calculated thyroid intake resulted from intake occurring on the first day (in case A, after the first of the two measurements; in case B, after the date on which regulation 30 of these regulations took effect) during which the person was potentially exposed to radioactive iodine.

Case A:

Let A_1 be the first thyroid burden measured (in kilobecquerel)
A_2 be the second thyroid burden measured (in kilobecquerel)
d_1 be the number of days between the two measurements
d_2 = d_1 minus the number of days between the first measurement and when the person was next potentially exposed to radioactive iodine at work.

For Iodine-125 the intake U, in kilobecquerel, is given by

$$U = (A_2 — A_1 e^{-0.017 d_1}) e^{0.017 d_2}$$

For Iodine-131 the intake U, in kilobecquerel, is given by

$$U = (A_2 — A_1 e^{-0.092 d_1}) e^{0.092 d_2}$$

Case B:

Let A be the measured thyroid burden in kilobecquerel

Let d be the number of days between the day on which the measurement took place and the first day, after regulation 30 of these regulations took effect, on which the person was potentially exposed to radioactive iodine at work.

For Iodine-125 the intake U, in kilobecquerel, is given by

$$U = Ae^{0.017d}$$

For Iodine-131 the intake U, in kilobecquerel, is given by

$$U = Ae^{0.092d}$$

SCHEDULE 4

CLASSIFICATION OF PREMISES

The classification of premises into Type A, Type B or Type C depends on:

(a) the groups to which the radionuclides kept or handled belong;

(b) the maximum activities handled; and

(c) the type of operations performed on the premises.

If more than one radionuclide is handled, or if more than one type of operation is performed, then the highest classification found when all radionuclides and operations are separately considered is the classification of the premises (Type A = highest classification, Type C = lowest classification).

The maximum activity of a particular radionuclide handled on the premises should be multiplied by the modifying factors given in Table 1, and the results applied to Table 2 to determine the premises classification.

TABLE 1 MODIFYING FACTORS

Type of Operation	Factor
Simple storage (no operations)	0.01
Simple wet operations such as preparation of aliquots of stock solutions	0.1
Normal chemical operations involving few transfers	1
Complex chemical operations involving many transfers or complex apparatus	10
Simple dry operations (e.g. manipulation of powders)	10
Work with volatile radioactive compounds	10
Dry, dust producing operations such as grinding	100

TABLE 2 PREMISES CLASSIFICATION

Group of radionuclide	Allowable Activity Range for:		
	TYPE C	TYPE B	TYPE A
1	less than 400 kBq	400 kBq-40MBq	more than 40 MBq
2	less than 40 MBq	40 MBq-4 GBq	more than 4 GBq
3	less than 4 GBq	4 GBq-400 GBq	more than 400 GBq
4	less than 400 GBq	400 GBq-40 TBq	more than 40 TBq

SCHEDULE 5

ANNUAL DOSE EQUIVALENT LIMITS AND WEIGHTING FACTORS FOR INDIVIDUAL ORGANS OR TISSUES

Organ or Tissue	Annual Dose Equivalent Limit (millisievert)	Weighting Factor
gonads	200	0.25
breast	333	0.15
red bone marrow	417	0.12
lung	417	0.12
thyroid	500	0.03
bone surfaces	500	0.03
lens of the eye	150	0
skin	500	0 (see note 1)
hands and forearms	500	0
feet and ankles	500	0
any other single organ	500	(see note 2)

Note 1: If the skin is irradiated with beta particles with maximum energy of less than 10 kV, a weighting factor of 0.01 should be used.

Note 2: Weighting factors for "other" organs are to be assigned as follows:

The five organs or tissues receiving the highest dose equivalents are to each have a weighting factor of 0.06, and the remaining organs or tissues a weighting factor of zero.

SCHEDULE 6

QUESTIONNAIRE FOR URANIUM INDUSTRY WORKERS

The health of workers in various industries is of increasing interest to the Australian public. To monitor long-term health trends for various occupational groups adequately, it is necessary to collect information from large numbers of workers over many years.

This questionnaire has been designed specifically to monitor the health of uranium industry workers. We assure you that personal information will be used only by a governmental health monitoring agency to monitor health trends among the worker population as a whole. However, the information you personally provide will be available to you at any time.

Thank you for your cooperation.

Chairman, S.A. Health Commission

155.

[Form 1 appears in *Gaz*. 18.7.91, p. 309]

156.

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SCHEDULE 7

FORM 3—NOTICE TO BE GIVEN TO A PURCHASER OF APPARATUS

Important Notice

To the purchaser of an X-ray machine:

This notice, which the person or organization from whom you are buying an X-ray machine is obliged by law to give to you, is intended to inform you of certain legal obligations you will face as the owner of an X-ray unit. *Failure to take note of these obligations could result in a great deal of unnecessary expense and inconvenience.*

1. *Basic Obligations*

Two basic obligations are created by the *Radiation Protection and Control Act, 1982*:

- all apparatus (X-ray machines) must be registered with the South Australian Health Commission (Section 32, *Radiation Protection and Control Act, 1982*). Ownership of an unregistered machine is an offence, with a maximum fine of $10 000, or a continuing fine of up to $1 000 per day.
- all persons who operate the apparatus must hold a licence issued by the South Australian Health Commission to do so (Section 31, *Radiation Protection and Control Act, 1982*).

The second obligation has been modified by Part III, Division II of the *Ionizing Radiation Regulations, 1985*. The remainder of this notice will be concerned with the first obligation.

2. *Availability of Advice*

The Radiation Control Section of the Health Commission (Ph. (08) 218 3211) is available to help you ensure that your installation does comply with the regulations right from the start.

3. *Application to Register an X-ray Unit*

An application to register an X-ray machine should be submitted to the Commission as early as possible, certainly before installation commences (an application form for registration should have been given to you with this notice). Confidentiality of any application will be assured.

The registration form should be completed with full details of the machine that was purchased and its proposed installation, including room layout. (It is realised that serial numbers will not be available until after the machine has been installed).

Important:

An application to register your new machine must be lodged before the installation is finalised. On the receipt of an application to register an X-ray machine designed for medical, dental or chiropractic use the Health Commission may give you, the owner, notice in writing that the X-ray machine must not be used on patients until it has been tested by the Health Commission and found to be satisfactory.

4. *Registration of X-ray Equipment*

Once the installation of your new machine is finalised, officers of the Health Commission will inspect the new facility.

Your X-ray machine must comply with the construction, shielding and installation requirements laid down in the *Ionizing Radiation Regulations, 1985*, in order to be registered. However if it is found not to satisfy the specified requirements, you will be given an opportunity to correct any non-compliance.

If the corrections are not made, the Health Commission has no choice but to refuse registration. This could give rise to a prosecution and forfeiture of the offending equipment. To ensure this does not occur, you should seek advice and assistance from the Radiation Control Section (Ph. (08) 218 3211) as soon as practicable.

158.

SCHEDULE 7

[Form 4 appears in *Gaz*. 29.8.85, p. 635]

159.

SCHEDULE 7

[Form 5 appears in *Gaz*. 29.8.85, p. 635]

SCHEDULE 7

FORM 6—NOTICE TO BE GIVEN TO A PURCHASER OF A SEALED RADIOACTIVE SOURCE

Important Notice

To the purchaser of a Sealed Radioactive Source:

This notice, which the person or organisation from whom you are buying a sealed radioactive source is obliged by law to give to you, is intended to inform you of certain legal obligations you will face as the owner of the source. *Failure to take note of these obligations could result in a great deal of unnecessary expense and inconvenience*.

1. *Basic Obligations*

Two basic obligations are created by the *Radiation Protection and Control Act, 1982*:

- most sealed radioactive sources must be registered by the owner with the South Australian Health Commission (Section 32, *Radiation Protection and Control Act, 1982*). The list of sealed radioactive sources which are not required to be registered is given in regulation 163 of the *Ionizing Radiation Regulations, 1985*. Ownership of an unregistered sealed radioactive source is an offence, with a maximum fine of $10 000, or a continuing fine of up to $1 000 per day.
- all persons who use or handle radioactive substances must hold a licence issued by the South Australian Health Commission to do so (Section 31, *Radiation Protection and Control Act, 1982*).

The second obligation has been modified by Part III, Division II of the *Ionizing Radiation Regulations, 1985*. The remainder of this notice will be concerned with the first obligation.

2. *Availability of Advice*

The Radiation Control Section of the Health Commission (Ph. (08) 218 3211) is available to advise you on the design, construction and installation requirements of the sealed source, to help you ensure that the sealed source will comply with the regulation requirements right from the start.

3. *Application to Register a Sealed Radioactive Source*

An application to register a sealed radioactive source should be submitted to the Commission as early as possible, certainly before you take possession of the source. (An application form for registration should have been given to you with this notice). Confidentiality of any application will be assured.

The registration form should be completed with full details of the sealed source purchased and its proposed location.

4. *Registration of a Sealed Radioactive Source*

On the receipt of an application to register a sealed radioactive source, the Commission will consider the construction, shielding and installation of the source which must comply with the requirements laid down in the *Ionizing Radiation Regulations, 1985*, in order for your sealed source to be registered.

However, if it is found not to satisfy the specified requirements you will be given an opportunity to correct any non-compliance.

If the corrections are not made, the Health Commission has no choice but to refuse registration. Alternatively the Commission may direct you to dispose of the source, which may mean that it must be returned to the seller. Ultimately, ownership of an unregistered sealed radioactive source could give rise to a prosecution. To ensure that registration is approved you are encouraged to seek advice from the Radiation Control Section (Ph. (08) 218 3211) as soon as practicable.

161.

SCHEDULE 7

[Form 7 appears in *Gaz*. 29.8.85, p. 635]

SCHEDULE 7

[Form 8 appears in *Gaz*. 29.8.85, p. 635]

163.

SCHEDULE 7

[Form 9 appears in *Gaz*. 29.8.85, p. 635]

SCHEDULE 7

[Form 10 appears in *Gaz*. 8.9.88, p. 1004]

165.

SCHEDULE 7

[Form 11 appears in *Gaz*. 4.4.85, p. 993]

SCHEDULE 7

[Form 12 appears in *Gaz*. 4.4.85, p. 993]

SCHEDULE 8

CERTIFICATE OF IDENTIFICATION OF AN AUTHORIZED OFFICER

Name: . . . .

Title: . . . .

Specimen Signature: . . . .

Card No.: . . . .

Pursuant to section 16 of the *Radiation Protection and Control Act, 1982*, I certify that the person whose name, title, signature and photograph appear on this certificate is an authorized officer under that Act.

Date: . . . .

For Commission

SCHEDULE 9

MINIMUM HALF VALUE LAYERS FOR DIAGNOSTIC APPARATUS

Indicated potential kV (peak)	Half value layer mm AI
30	0.3
40	0.4
49	0.5
50	1.2
60	1.3
70	1.5
71	2.1
80	2.3
90	2.5
100	2.7
110	3.0
120	3.2
130	3.5
140	3.8
150	4.1

SCHEDULE 10

ERROR DISTANCES FOR AUTOMATIC COLLIMATION TO A SPOT FILM DEVICE

For the purposes of this schedule:

(a) "area being imaged" means the area of X-ray film available for imaging but does not include any area of the film covered by X-ray opaque masks or any area of the X-ray film which has previously been imaged by X-rays; and

(b) "error distance" means the lack of alignment between the X-ray field and the area being imaged, where the X-ray field lies outside the area being imaged.

For a polygonal X-ray field, measurements of the error distance are taken perpendicularly from the mid-point of each side of the X-ray field, which is outside of the area being imaged, to the corresponding boundary of the area being imaged.

For an X-ray field with a curved boundary (e.g. a circular X-ray field) the error distance is defined for all points on the boundary of the X-ray field which lie outside of the area being imaged. For any such point the error distance is measured perpendicularly from the tangent to the boundary at that point to the corresponding boundary of the area being imaged.

In no case shall the error distance, measured in the way described above, exceed 1½ per cent of the focal spot to film distance.

SCHEDULE 11

ERROR DISTANCES FOR AUTOMATIC COLLIMATION TO AN IMAGE INTENSIFIER

For the purposes of this schedule:

(a) "area being imaged" means the area of the input phosphor which produces an image on the television monitor; and

(b) "error distance" means the lack of alignment between the X-ray field and the area being imaged, where the X-ray field lies outside the area being imaged.

For a polygonal X-ray field, measurements of the error distance are taken perpendicularly from the mid-point of each side of the X-ray field, which is outside of the area being imaged, to the corresponding boundary of the area being imaged.

For an X-ray field with a curved boundary (e.g. a circular X-ray field) the error distance is defined for all points on the boundary of the X-ray field which lie outside of the area being imaged. For any such point the error distance is measured perpendicularly from the tangent to the boundary at that point to the corresponding boundary of the area being imaged.

In no case shall the error distance, measured in the way described above, exceed 1 per cent of the focal spot to image receptor distance.

APPENDIX

LEGISLATIVE HISTORY

Regulation 4(1):	definition of "chiropodist" inserted by 161, 1991, reg. 2(a)
	definition of "committed dose equivalent" revoked and definition of "committed effective dose equivalent" inserted in its place by 161, 1991, reg. 2(b)
	definition of "dental therapist" substituted by 161, 191, reg. 2(c)
	definition of "dentist" substituted by 161, 1991, reg. 2(d)
	definition of "designated employee" varied by 161, 1991, reg. 2(e)
	definition of "ophthalmologist" inserted by 161, 1991, reg. 2(f)
	definition of "oral surgeon" inserted by 161, 1991, reg. 2(f)
	definition of "physiotherapist" inserted by 161, 1991, reg. 2(g)
	definition of "radiation oncologist" inserted by 161, 1991, reg. 2(h)
	definition of "*Radiation Protection (Mining and Milling) Code*" inserted by 161, 1991, reg. 2(h)
	definition of "radiation worker" varied by 245, 1991, reg. 2
	definition of "radiotherapist" revoked by 161, 1991, reg. 2(i)
	definition of "radon daughter exposure" revoked by 161, 1991, reg. 2(j)
	definition of "specified employer" varied and paragraphs (e) and (f) revoked by 193, 1988, reg. 3
	definition of "thoron daughter exposure" revoked by 161, 191, reg. 2(j)
	definition of "Working Level Month (WLM) or WLM" revoked by 161, 1991, reg. 2(j)
Regulation 14(1):	substituted by 161, 1991, reg. 4
Regulation 15(1):	definition of "total dose" varied by 165, 1985, reg. 3; substituted by 161, 1991, reg. 5(a)
Regulation 15(2)(a):	revoked by 161, 1991, reg. 5(b)
Regulation 16(1):	substituted by 161, 1991, reg. 6(a)
Regulation 16(2):	varied by 161, 1991, reg. 6(b)
Regulation 30(1) and (2):	substituted by 161, 1991, reg. 7
Regulation 30(2a):	inserted by 161, 1991, reg. 7
Regulation 51(1):	substituted by 161, 1991, reg. 8(a)
Regulation 51(2) and (3):	varied by 161, 1991, reg. 8(b)
Regulation 51(4):	varied by 161, 1991, reg. 8(b), (c)
Regulation 51(5) - (7):	revoked by 161, 1991, reg. 8(d)
Regulation 56(3):	varied by 161, 1991, reg. 9(a)
Regulation 56(6):	varied by 161, 1991, reg. 9(b)
Regulation 56(7):	varied by 161, 1991, reg. 9(c)
Regulation 56(8) - (12):	inserted by 161, 1991, reg. 9(d)
Regulation 57(3):	varied by 161, 1991, reg. 10
Regulation 75(1):	varied by 234, 1988, reg. 3; 115, 1991, reg. 3; 82, 1995, reg. 3; 115, 1996, reg. 3; 96, 1997, reg. 3
Regulation 76:	substituted by 161, 1991, reg. 11
Regulation 80(1):	varied by 234, 1988, reg. 4(a), (b); 115, 1991, reg. 4(a), (b); 82, 1995, reg. 4(a), (b); 115, 1996, reg. 4(a), (b); 96, 1997, reg. 4(a), (b)
Regulation 80(2):	varied by 234, 1988, reg. 4(c); 115, 1991, reg. 4(c); 82, 1995, reg. 4(c); 115, 1996, reg. 4(c); 96, 1997, reg. 4(c)
Regulation 83(1):	varied by 161, 1991, reg. 12(a), (b)
Regulation 83(2):	varied by 161, 1991, reg. 12(c)
Regulation 83(3):	inserted by 161, 1991, reg. 12(d)
Regulation 84(1):	varied by 161, 1991, reg. 13(a)
Regulation 84(2):	varied by 161, 1991, reg. 13(b)
Regulation 84(3):	varied by 161, 1991, reg. 13(c)
Regulation 84(4):	varied by 161, 1991, reg. 13(d)
Regulation 101(3):	varied by 165, 1985, reg. 4
Regulation 109(1):	varied by 161, 1991, reg. 14
Regulation 109(1)(a)(v):	revoked by 161, 1991, reg. 14(b)
Regulation 110(1):	varied by 161, 1991, reg. 15
Regulation 110(1)(a)(iii):	revoked by 161, 1991, reg. 15
Regulation 111(1):	varied by 161, 1991, reg. 16

Regulation 111(1)(iv):	revoked by 161, 1991, reg. 16
Regulation 112(1):	varied by 161, 1991, reg. 17(a)-(c)
Regulation 112(1)(a)(iii):	revoked by 161, 1991, reg. 17(b)
Regulation 112(3)(b):	revoked by 161, 1991, reg. 17(d)
Regulation 112(3a):	inserted by 161, 1991, reg. 17(e)
Regulation 114(1):	varied by 161, 1991, reg. 18(a)
Regulation 114(1)(a)(iii):	revoked by 161, 1991, reg. 18(a)
Regulation 114(2):	varied by 161, 1991, reg. 18(b)
Regulation 115(1):	varied by 161, 1991, reg. 19(a)
Regulation 115(1)(a)(iii):	revoked by 161, 1991, reg. 19(a)
Regulation 115(4):	substituted by 161, 1991, reg. 19(b)
Regulation 117(1):	varied by 161, 1991, reg. 20(a)
Regulation 117(1)(a)(iii):	revoked by 161, 1991, reg. 20(a)
Regulation 117(12):	varied by 161, 1991, reg. 20(b)
Regulation 117(13):	substituted by 161, 1991, reg. 20(c)
Regulation 118(1):	varied by 161, 1991, reg. 21(a)-(c)
Regulation 118(2):	revoked by 161, 1991, reg. 21(d)
Regulation 118(7):	varied by 161, 1991, reg. 21(e)
Regulation 118(12)(b):	revoked by 161, 1991, reg. 21(f)
Regulation 118(13):	varied by 161, 1991, reg. 21(g)
Regulation 118(20):	revoked by 161, 1991, reg. 21(h)
Regulation 119(3):	substituted by 161, 1991, reg. 22
Regulation 123(9):	revoked by 161, 1991, reg. 23
Regulation 144:	substituted by 193, 1988, reg. 4
Regulation 145:	varied by 161, 1991, reg. 24
Regulation 146(2):	varied by 234, 1988, reg. 5; 115, 1991, reg. 5; 82, 1995, reg. 5; 115, 1995, reg. 5; 96, 1997, reg. 5
Regulation 150(1):	varied by 165, 1985, reg. 5; 161, 1991, reg. 25
Regulation 151(1):	varied by 161, 1991, reg. 26
Regulation 158:	varied by 161, 1991, reg. 27
Regulation 164(1):	varied by 234, 1988, reg. 6(a), (b); 115, 1991, reg. 6(a), (b); 82, 1995, reg. 6(a), (b); 115, 1996, reg. 6(a); 96, 1997, reg. 6(a)
Regulation 164(2):	varied by 234, 1988, reg. 6(c), (d); 115, 1991, reg. 6(c), (d); 82, 1995, reg. 6(c), (d); 115, 1996, reg. 6(b), (c); 96, 1997, reg. 6(b)
Regulation 171(3):	varied by 165, 1985, reg. 6(a)
Regulation 171((5):	varied by 165, 1985, reg. 6(b)
Regulation 171(5a):	inserted by 165, 1985, reg. 6(c)
Regulation 172(2):	revoked by 161, 1991, reg. 28
Regulation 172(5):	revoked by 165, 1985, reg. 7
Regulation 180:	substituted by 161, 1991, reg. 29
Regulation 193(1):	substituted by 193, 1988, reg. 5
Regulation 193(2):	varied by 165, 1985, reg. 8
Regulation 194(3):	varied by 234, 1988, reg. 7(a), (b); 115, 1991, reg. 7; 82, 1995, reg. 7(a), (b); 115, 1996, reg. 7(a), (b); 96, 1997, reg. 7(a), (b)
Regulation 194(4):	varied by 234, 1988, reg. 7(c); 82, 1995, reg. 7(c); 115, 1996, reg. 7(c); 96, 1997, reg. 7(c)
Regulation 197(2):	substituted by 161, 1991, reg. 30
Regulation 197(2a):	inserted by 161, 1991, reg. 30
Regulation 199(6):	inserted by 165, 1985, reg. 9
Regulation 200(2):	varied by 165, 1985, reg. 10
Regulation 202(1):	varied by 161, 1991, reg. 31
Part IV, Division IX heading:	substituted by 193, 1988, reg. 6
Regulation 203(1):	substituted by 193, 1988, reg. 7(a)
Regulation 203(2)(c):	revoked by 193, 1988, reg. 7(b)
Regulation 204:	substituted by 193, 1988, reg. 8
	Division I of Part V comprising regs. 205 - 207 and heading revoked and regs. 205 - 207 and heading inserted in its place by 161, 1991, reg. 32
Regulation 209(1):	varied by 193, 1988, reg. 9(a)
Regulation 209(3)(a):	revoked by 193, 1988, reg. 9(b)

Regulation 209(3):	varied by 234, 1988, reg. 8; 115, 1991, reg. 8; 82, 1995, reg. 8; 115, 1996, reg. 8; 96, 1997, reg. 8
Regulation 210(1):	varied by 193, 1988, reg. 10(a)
Regulation 210(2):	substituted by 193, 1988, reg. 10(b)
Regulation 211(7):	substituted by 161, 1991, reg. 33
Schedule 1	
Group 1:	varied by 165, 1985, reg. 11
Group 3:	varied by 161, 1991, reg. 34
Schedule 6	
Form 1:	substituted by 161, 1991, reg. 35
Form 2:	revoked by 161, 1991, reg. 35
Schedule 7	
Forms 4 and 5:	substituted by 165, 1985, reg. 12
Forms 7 - 9:	substituted by 165, 1985, reg. 13
Form 10:	substituted by 193, 1988, reg. 11