2003 No 615

New South Wales

Radiation Control Regulation 2003

under the

Radiation Control Act 1990

Her Excellency the Governor, with the advice of the Executive Council, has made the following Regulation under the *Radiation Control Act 1990*.

BOB DEBUS, M.P.,

Minister for the Environment

Explanatory note

This Regulation replaces, with only minor changes in substance but with the addition of new matter (specified in paragraph (i) below), the *Radiation Control Regulation 1993*. That Regulation will be repealed on 1 September 2003 by section 10 (2) of the *Subordinate Legislation Act 1989*.

This Regulation deals with matters relating to the following:

(a) the licensing of persons to use certain radioactive substances and radiation apparatus,

(b) prescribing activities that may be carried out only by an accredited radiation expert,

(c) regulating the use of radiation apparatus and radioactive substances in the workplace and requiring employers to supply certain information to persons who are, or are likely to be, exposed to radiation in the course of their employment,

(d) requiring the radiation doses received by persons in the course of their employment to be monitored,

(e) regulating the disposal and transport of radiation apparatus and radioactive substances and the discharge of radioactive substances,

(f) requiring employers to take certain action in the event of a radiation accident,

(g) enabling the Director-General of the Environment Protection Authority (***the Authority***) to direct an employer to appoint a radiation safety officer or radiation safety committee, or both, for a workplace,

(h) exemptions from certain provisions of the Act and this Regulation,

(i) prescribing certain offences under the *Radiation Control Act 1990* and this Regulation as offences in respect of which penalty notices may be issued.

This Regulation adopts or refers to the following documents:

(a) *Administration of Ionizing Radiation to Human Subjects in Medical Research* published by the Australian Radiation Protection and Nuclear Safety Agency (***ARPANSA***),

(b) Australian Standard 2243.4—1998, *Safety in laboratories–Ionizing radiations* published by Standards Australia,

(c) *Code of practice for protection against ionizing radiation emitted from X-ray analysis equipment* published by the National Health and Medical Research Council,

(d) *Code of Practice for the Safe Transport of Radioactive Material* published by ARPANSA,

(e) *Guideline: Preparation of Radiation Safety Manuals*, a copy of which is deposited in the offices of the Authority,

(f) *Guideline: Monitoring Devices*, a copy of which is deposited in the offices of the Authority,

(g) *Radiation Guideline 6: Registration requirements & industry best practice for ionising radiation apparatus used in diagnostic imaging—Part 1—Mammography* published by the Authority,

(h) *Radiation Guideline 6: Registration requirements & industry best practice for ionising radiation apparatus used in diagnostic imaging—Part 2—Fluoroscopy & Radiography* published by the Authority,

(i) *Radiation Guideline 6: Registration requirements & industry best practice for ionising radiation apparatus used in diagnostic imaging—Part 3—Dentistry (Including maxillofacial)* published by the Authority,

(j) *Radiation Guideline 6: Registration requirements & industry best practice for ionising radiation apparatus used in diagnostic imaging—Part 4—Veterinary Science* published by the Authority,

(k) *Radiation Guideline 6: Registration requirements & industry best practice for ionising radiation apparatus used in diagnostic imaging—Part 5—Computed Tomography and Bone Mineral Densitometry* published by the Authority,

(l) *1990 Recommendations of the International Commission on Radiological Protection* adopted by the International Commission on Radiological Protection in November 1990.

This Regulation is made under the *Radiation Control Act 1990*, including sections 39 (Exemptions) and 40 (the general regulation–making power) and various other sections mentioned in this Regulation.

Contents

Radiation Control Regulation 2003

under the

Radiation Control Act 1990

Part 1 Preliminary

1 Name of Regulation

This Regulation is the *Radiation Control Regulation 2003*.

2 Commencement

(1) This Regulation commences on 1 September 2003, except as provided by this clause.

(2) Clause 10 (b) commences on 1 February 2004.

Note. This Regulation replaces the *Radiation Control Regulation 1993* which is repealed on 1 September 2003 by section 10 (2) of the *Subordinate Legislation Act 1989*.

3 Definitions

(1) In this Regulation:

approved means approved for the time being by the Director-General.

Computed Tomography and Bone Mineral Densitometry Radiation Guideline means the document published by the Authority entitled *Radiation Guideline 6: Registration requirements & industry best practice for ionising radiation apparatus used in diagnostic imaging—Part 5—Computed Tomography and Bone Mineral Densitometry* as in force from time to time.

Dentistry Radiation Guideline means the document published by the Authority entitled *Radiation Guideline 6: Registration requirements & industry best practice for ionising radiation apparatus used in diagnostic imaging—Part 3—Dentistry (Including maxillofacial)* as in force from time to time.

Director-General means the Director-General of the Authority.

effective dose has the same meaning as it has in the 1990 ICRP recommendations.

equivalent dose has the same meaning as it has in the 1990 ICRP recommendations.

Fluoroscopy and Radiography Radiation Guideline means the document published by the Authority entitled *Radiation Guideline 6: Registration requirements & industry best practice for ionising radiation apparatus used in diagnostic imaging—Part 2—Fluoroscopy & Radiography* as in force from time to time.

Mammography Radiation Guideline means the document published by the Authority entitled *Radiation Guideline 6: Registration requirements & industry best practice for ionising radiation apparatus used in diagnostic imaging—Part 1—Mammography* as in force from time to time.

occupationally exposed person means a person who is exposed to ionising or non-ionising radiation directly arising out of, or in the course of, the person's employment.

radiation accident is defined in clause 26.

the Act means the *Radiation Control Act 1990*.

the 1990 ICRP recommendations means the document entitled *1990 Recommendations of the International Commission on Radiological Protection* and numbered ICRP Publication 60, as adopted by the International Commission on Radiological Protection in November 1990, a copy of which is deposited in the offices of the Authority.

Veterinary Radiation Guideline means the document published by the Authority entitled *Radiation Guideline 6: Registration requirements & industry best practice for ionising radiation apparatus used in diagnostic imaging—Part 4—Veterinary Science* as in force from time to time.

(2) In this Regulation, a reference to a radioactive substance of a particular Group is a reference to a radioactive substance referred to in the corresponding Group in Schedule 1.

(3) Notes in the text of this Regulation, other than in Schedules 2 and 5, do not form part of this Regulation.

4 Definition of "radioactive ore": section 4

(1) For the purposes of the definition of ***radioactive ore*** in section 4 (1) of the Act, the prescribed concentrations of uranium and thorium are:

(a) in the case of an ore that contains uranium but not thorium, 0.02 per cent by weight of uranium, or

(b) in the case of an ore that contains thorium but not uranium, 0.05 per cent by weight of thorium, or

(c) in the case of an ore that contains both uranium and thorium, a percentage by weight of uranium and thorium such that the expression:

$$\frac{U}{0.02} + \frac{Th}{0.05}$$

is equal to, or greater than, one.

(2) In the expression referred to in subclause (1) (c):

U represents the percentage by weight of uranium.

Th represents the percentage by weight of thorium.

5 Definition of "radioactive substance": section 4

(1) For the purposes of the definition of ***radioactive substance*** in section 4 (1) of the Act:

(a) the prescribed amount is 100 becquerels per gram, and

(b) a substance has the prescribed activity if the expression:

$$\frac{A_1}{40} + \frac{A_2}{400} + \frac{A_3}{4000} + \frac{A_4}{40000}$$

is equal to, or greater than, one.

(2) In the expression referred to in subclause (1) (b):

$\boldsymbol{A_1}$ represents the total activity, in kilobecquerels, of the Group 1 radionuclides contained in the substance.

$\boldsymbol{A_2}$ represents the total activity, in kilobecquerels, of the Group 2 radionuclides contained in the substance.

$\boldsymbol{A_3}$ represents the total activity, in kilobecquerels, of the Group 3 radionuclides contained in the substance.

$\boldsymbol{A_4}$ represents the total activity, in kilobecquerels, of the Group 4 radionuclides contained in the substance.

6 Dose limits to be taken into account by the Authority

When making a decision under the Act, the Authority is to take into account, where relevant, the dose limits for exposure to ionising radiation, and the notes for assessing those limits, set out in Schedule 2.

Part 2 Licensing, registration and accreditation

7 Exemptions from section 6 licensing requirements for certain radioactive substances and radiation apparatus

A person is exempt from the requirement to be licensed under section 6 of the Act in relation to the following:

(a) the use of the kinds of radioactive substances specified in Part 1 of Schedule 3,

(b) the possession, use or sale of the kinds of radioactive substances specified in Part 2 of Schedule 3,

(c) the use of the kinds of ionising radiation apparatus specified in Part 3 of Schedule 3,

(d) the possession, use or sale of the kinds of ionising radiation apparatus specified in Part 4 of Schedule 3.

8 Exemptions from section 6 licensing requirements for certain persons

(1) The following persons are exempt from the licensing requirements of section 6 of the Act in relation to the use of radioactive substances and ionising radiation apparatus:

(a) a person who is a medical registrar at a hospital and is training in nuclear medicine, diagnostic radiology, radiation oncology, ophthalmology, dermatology, rheumatology or in a medical discipline which uses fluoroscopy,

(b) a person who is a student in medical radiation technology and is a trainee technologist in nuclear medicine, diagnostic radiology or radiation oncology,

(c) a person who is an assistant to an industrial radiographer,

(d) an undergraduate student in a university or other educational institution who is undertaking course work or research that involves the use of such substances or apparatus,

(e) a postgraduate student in a university or other educational institution who is undertaking research or higher studies that involve the use of such substances or apparatus,

(f) a person who is a registered nurse at a hospital or a medical officer at a hospital and is required to inject radiopharmaceuticals by that hospital (but only if a person who is the holder of a licence and who is able to inject the radiopharmaceuticals is not readily available at the hospital).

(2) This exemption does not have effect with respect to a person unless the person:

(a) is the subject of an approval under this clause, and

(b) is complying with the conditions to which the approval is subject.

(3) A person who holds a licence may give approvals, for the purposes of this clause, for activities authorised by the licence, but only if the conditions of the licence so allow.

(4) An approval must:

(a) be in writing, and

(b) specify the radioactive substances or radiation apparatus to which it relates, and

(c) set out any conditions to which it is subject, and

(d) identify each person, or class of persons, to whom it relates, and

(e) identify the person or persons, or class or classes of persons, who are to supervise each person, or class of persons, to whom it relates.

(5) A person who gives an approval for the purposes of this clause must ensure that a copy of the approval:

(a) is given to each person to whom it relates, or

(b) is conspicuously displayed at each place in which the radioactive substances or ionising radiation apparatus to which the approval relates are proposed to be used.

Maximum penalty: 25 penalty units.

(6) A person who grants an approval must ensure that each person so approved is supervised by a qualified person as follows:

(a) a person referred to in subclause (1) (a) must be subject to:

(i) immediate supervision at all times during the first 6 months of the person's training, and

(ii) general supervision after that period,

(b) a person referred to in subclause (1) (b) must be subject to:

(i) immediate supervision at all times while the person is using the radioactive substances or radiation apparatus to which the approval relates during clinical experience in the course of training, and

(ii) general supervision at all other times,

(c) a person referred to in subclause (1) (c) must be subject to immediate supervision at all times,

(d) a person referred to in subclause (1) (d) must be subject to:

(i) immediate supervision at all times while the person is using the radioactive substances or radiation apparatus to which the approval relates in any clinical situation, and

(ii) general supervision at all other times,

(e) a person referred in subclause (1) (e) or (f) must be subject to general supervision at all times.

Maximum penalty: 25 penalty units.

(7) In this clause:

general supervision means supervision by a qualified person who oversees the person being supervised and ensures that the person follows safe radiation work practices in relation to the use of radioactive substances or radiation apparatus.

immediate supervision means supervision by a qualified person who is present at all times during, and is observing and directing, the use by the person being supervised of radioactive substances or radiation apparatus.

qualified person, in relation to supervision for a particular radioactive substance or item of radiation apparatus, means a person who is the holder of a licence which allows the person to provide supervision with respect to that substance or item.

9 Registration of certain sealed radioactive sources

(1) All sealed radioactive sources, other than fixed radiation gauges, are exempt from the application of section 7 of the Act.

(2) This clause ceases to have effect on 1 July 2004.

10 Registration of certain radiation apparatus

For the purposes of section 7 (1) (b) of the Act, the following kinds of radiation apparatus are prescribed as apparatus to which section 7 applies:

(a) any ionising radiation apparatus used or intended to be used for any medical diagnostic, veterinary diagnostic or dental diagnostic purpose,

(b) any ionising radiation apparatus used or intended to be used for radiotherapy or radiotherapy planning purposes,

(c) any cyclotron.

11 Requirements for registration of radiation apparatus

For the purposes of section 7 (5) of the Act, the applicable requirements for registration of ionising radiation apparatus of a type specified in Column 1 of the table to this clause are the requirements specified opposite that type in Column 2 of the table.

Column 1	Column 2
Type of ionising radiation apparatus	**Requirements for registration**
Apparatus for computed tomography or bone mineral densitometry	The requirements specified in Schedule 1 to the *Computed Tomography and Bone Mineral Densitometry Radiation Guideline*
Apparatus for dental diagnostic purposes	The requirements specified in Schedule 1 to the *Dentistry Radiation Guideline*
Apparatus for fluoroscopy or radiography	The requirements specified in Schedule 1 to the *Fluoroscopy and Radiography Radiation Guideline*
Apparatus for mammography	The requirements specified in Schedule 1 to the *Mammography Radiation Guideline*
Apparatus for veterinary diagnostic purposes	The requirements specified in Schedule 1 to the *Veterinary Radiation Guideline*

Note. The Guidelines referred to in this clause, and defined in clause 3 (1), are available from the Environment Protection Authority.

12 Consulting radiation experts

(1) For the purposes of section 9 (1) of the Act, the following activities are prescribed as the activities of a consulting radiation expert:

(a) advising on the design of premises to be registered under section 8 of the Act in relation to radiation safety requirements,

(b) assessing plans for premises to be registered under section 8 of the Act in relation to radiation safety requirements for the purpose of certifying compliance with the requirements necessary for registration,

(c) calibrating ionising radiation apparatus used for medical therapy,

(d) calibrating ionising radiation apparatus used for diagnostic purposes,

(e) advising on the design of premises, in relation to radiation safety requirements, in which sealed radioactive sources or radiation apparatus prescribed under section 7 (1) of the Act are kept or used,

(f) assessing plans for premises in which sealed radioactive sources or radiation apparatus prescribed under section 7 (1) of the Act are kept or used, for the purpose of certifying compliance with any requirements for registration under section 7 (5) of the Act,

(g) assessing radiation apparatus, sealed radioactive sources and premises that are required to be registered under section 7 or 8 of the Act for the purpose of certifying compliance with the requirements for registration,

(h) assessing the integrity of any shielding of premises in which sealed radioactive sources or radiation apparatus prescribed under section 7 (1) of the Act are kept or used for purposes of certifying compliance with the requirements for registration.

(2) Authorised officers are exempt from the provisions of section 9 (1) of the Act.

13 Fees

(1) The following fees are prescribed for the purposes of the Act and this Regulation:

Table of fees

Licence under section 6 of the Act	$117
Registration under section 7 of the Act (other than for cyclotrons)	$155
Registration of cyclotron under section 7 of the Act	$1,000
Registration under section 8 of the Act	$155
Accreditation under section 9 of the Act	$128
Variation of licence under section 10A of the Act	$83
Variation of accreditation under section 10A of the Act	$91
Renewal of licence under section 11 of the Act	$67
Renewal of registration under section 11 of the Act (other than for cyclotrons)	$105
Renewal of registration of cyclotron under section 11 of the Act	$800
Renewal of accreditation under section 11 of the Act	$103
Transfer of registration under section 12 of the Act	$38
Approval of personal monitoring devices required by clause 17	$525
Approval of area monitoring devices required by clause 19	$525

(2) The Authority may waive the whole or such part of the fees as the Authority may in a particular case think proper.

Part 3 Radiation safety

Division 1 Radiation safety in the workplace

14 Duty to comply with dose limits

An employer must ensure that each occupationally exposed person in his or her employ is not exposed to ionising radiation that exceeds the dose limits set out in Schedule 2.

Maximum penalty: 100 penalty units.

15 Duty to inform occupationally exposed persons

An employer must ensure that each occupationally exposed person in his or her employ is made aware of, and kept informed of any changes in, the following particulars:

(a) the hazards that can arise in connection with the use of radioactive substances and radiation apparatus,

(b) the safety arrangements that exist to protect persons from such hazards and of the steps that the person must take in order to minimise the likelihood that such a hazard will arise,

(c) the name of the radiation safety officer or other person to whom the person should refer in connection with any matters relating to the use of radioactive substances and radiation apparatus.

Maximum penalty: 25 penalty units.

16 Radiation safety manual

(1) The Director-General may, by notice in writing served on an employer, direct the employer:

(a) to prepare or adopt a radiation safety manual, and

(b) to submit a copy of the manual to the Authority for approval,

within such time as is specified in the direction.

(2) An employer must not fail to comply with such a direction.

Maximum penalty: 25 penalty units.

(3) An employer whose radiation safety manual has been approved by the Authority:

(a) must ensure that a copy of the manual is available to all occupationally exposed persons employed by the employer, and

(b) must take all reasonable steps to ensure that the procedures set out in the manual with respect to the use of radioactive substances and radiation apparatus are followed by all persons in his or her employ.

Maximum penalty: 25 penalty units.

(4) A radiation safety manual is not to be approved by the Authority unless it conforms to the document adopted by the Authority and entitled *Guideline: Preparation of Radiation Safety Manuals*, a copy of which is deposited in the offices of the Authority.

Division 2 Radiation monitoring

17 Personal monitoring devices

(1) An employer must ensure that all occupationally exposed persons in his or her employ who are involved in the use of ionising radiation for any one or more of the following purposes are issued with appropriate approved personal monitoring devices for detecting and measuring cumulative exposure to ionising radiation:

(a) radiotherapy,

(b) industrial radiography,

(c) nuclear medicine,

(d) scientific research in laboratories classified as medium or high level laboratories (within the meaning of Part 4 of AS 2243.4—1998, *Safety in laboratories–Ionizing radiations*, published by Standards Australia, as in force from time to time) where unsealed radioactive sources are used,

(e) diagnostic radiology (other than dentistry, veterinary and chiropractic applications),

(f) neutron based detection, analysis and gauging (but only when used in bore-hole logging).

Maximum penalty: 50 penalty units.

(2) An occupationally exposed person to whom an approved monitoring device has been issued in accordance with this clause must wear the device while involved in the use of ionising radiation in the course of the person's employment.

Maximum penalty: 25 penalty units.

(3) The Director-General may impose conditions on the approval of a personal monitoring device referred to in this clause.

18 Personal radiation exposure record

(1) An employer must ensure that, for each occupationally exposed person to whom a personal monitoring device is issued, a record is kept, in accordance with this clause and on an appropriate periodic basis:

(a) of the amount of radiation to which the person has been exposed, as measured by the device, and

(b) of the results of any tests carried out or caused to be carried out by the employer in relation to the person for the purpose of determining the amount of radiation to which the person has been exposed.

Maximum penalty: 25 penalty units.

(2) Such a record must contain the following particulars:

(a) the full name, sex and date of birth of the occupationally exposed person,

(b) the current home address of the occupationally exposed person or, if the person is no longer employed by the employer, the person's last known home address,

(c) the date of commencement of employment (and, if applicable, the date of cessation of employment) as an occupationally exposed person,

(d) the kind of work performed by the occupationally exposed person,

(e) details of the types of ionising radiation to which the occupationally exposed person may have been exposed in the course of employment with the employer, including information about radioactive substances in unsealed form (if any) to which the occupationally exposed person may have been exposed,

(f) details of any radiation accidents in which the person has been involved or by which the person may have been affected,

(g) details of the personal monitoring device worn by the occupationally exposed person,

(h) the results of monitoring the levels of radiation exposure of the occupationally exposed person.

(3) When an employee leaves an employer's employment, the employer:

(a) must cause a copy of the radiation exposure records relating to the employee to be given to the employee, and

(b) if the employee is taking up employment as an occupationally exposed person with another employer and if the employee requests, must cause a further copy of those records to be given to the other employer.

Maximum penalty: 25 penalty units.

(4) An employer must ensure that a warning in the following terms accompanies a copy of the radiation exposure records given to an employee by the employer in accordance with subclause (3):

THESE RECORDS SHOULD BE KEPT SAFELY AND PERMANENTLY AND BE GIVEN TO ANY FUTURE EMPLOYER EMPLOYING YOU AS A RADIATION WORKER.

Maximum penalty: 25 penalty units.

(5) An employer by whom records are required to be kept must ensure that the records are available for inspection by the person to whom they relate at reasonable times during normal working hours.

Maximum penalty: 25 penalty units.

19 Area monitoring devices

(1) The Director-General may, by notice in writing served on an employer, direct the employer to take specified action with respect to the monitoring of radiation on specified premises.

(2) In particular, such a direction may require the employer to ensure that specified premises are equipped with approved monitoring devices for the purpose of monitoring the presence and level of radiation on the premises.

(3) The Director-General may impose conditions on the approval of a monitoring device referred to in this clause.

(4) An employer must not contravene a direction in force under this clause.

Maximum penalty: 25 penalty units.

20 Maintenance of monitoring devices

An employer must ensure that all monitoring devices that are issued or installed by the employer in accordance with the requirements of this Division are checked, maintained and calibrated in accordance with the document entitled *Guideline: Monitoring Devices*, a copy of which is deposited in the offices of the Authority.

Maximum penalty: 50 penalty units.

21 Records to be kept of monitoring devices

An employer must ensure that, for each monitoring device issued or installed by the employer in accordance with this Division, a record is kept of the following particulars:

(a) the date on which the device was acquired,

(b) the date of each occasion on which the device was repaired and the details of the repairs,

(c) the date on which the device was last calibrated.

Maximum penalty: 25 penalty units.

Division 3 Voluntary exposure to radiation for scientific or research purposes

22 Voluntary exposure to radiation for scientific or research purposes

A person must not expose any other person to ionising radiation for scientific or research purposes except in accordance with the document published by the Australian Radiation Protection and Nuclear Safety Agency entitled *Administration of Ionizing Radiation to Human Subjects in Medical Research*, as in force from time to time.

Maximum penalty: 50 penalty units.

Division 4 Disposal and transport of radioactive substances and radiation apparatus

23 Disposal of radioactive substances and radiation apparatus

(1) A person must not dispose of any radioactive substance or any radiation apparatus except with the consent of the Director-General.

Maximum penalty: 100 penalty units.

(2) A person must not dispose of any radiation apparatus unless the apparatus has been rendered permanently inoperable.

Maximum penalty: 100 penalty units.

(3) The consent of the Director-General may be given generally or in a particular case and may be subject to such conditions as the Director-General thinks fit to impose.

24 Records to be kept of discharge of radioactive substances

(1) The occupier of any premises on which radioactive substances are kept must maintain a record, in accordance with this clause, of all radioactive substances discharged from the premises.

Maximum penalty: 100 penalty units.

(2) The record must include the following information:

(a) the type of radioactive substances discharged,

(b) an estimate of the total activity of the radioactive substances discharged,

(c) the manner in which the radioactive substances were discharged,

(d) the date on which the radioactive substances were discharged.

25 Transport of radioactive substances

A person must not cause any radioactive substance to be transported otherwise than in accordance with the requirements of the document published by the Australian Radiation Protection and Nuclear Safety Agency entitled *Code of Practice for the Safe Transport of Radioactive Material*, as in force from time to time.

Maximum penalty: 100 penalty units.

Division 5 Radiation accidents

26 Certain occurrences are taken to be radiation accidents

(1) For the purposes of this Regulation, a ***radiation accident*** is to be treated as having occurred if there is an occurrence that involves the unplanned or unexpected emission of radiation (such as spillage or leakage of a radioactive substance or damage to radiation apparatus) and that is of such a nature or extent that it is likely:

(a) that one or more persons have, or could have, received a dose of radiation equal to or in excess of:

(i) 5 millisieverts, in the case of an occupationally exposed person, or

(ii) 1 millisievert, in any other case, or

(b) that premises or the environment may have become contaminated within the meaning of section 21 of the Act.

(2) For the purposes of this Regulation, a radiation accident is to be treated as having occurred if there is an occurrence that involves the misuse of radiation apparatus or maladministration of a radioactive substance used for medical purposes, including any of the following:

(a) the administration of a radioactive substance for diagnostic purposes in a quantity of more than 50 per cent more than that prescribed,

(b) the administration of a radioactive substance for therapeutic purposes at an activity differing by more than 15 per cent from that prescribed,

(c) administration of a therapeutic dose of radiation from radiation apparatus or a sealed radioactive source which differs from the total prescribed treatment dose by more than 10 per cent,

(d) the unintended administration of radiation as a result of a malfunction of radiation apparatus,

(e) administration of a radiopharmaceutical otherwise than as prescribed.

27 Duty to report and investigate apparent radiation accidents

(1) An employer must give written notice to the Director-General of the particulars:

(a) specified in subclause (2) (a)–(d) within 48 hours of becoming aware of an apparent radiation accident, and

(b) specified in subclause (2) (e) within 10 days of becoming aware of an apparent radiation accident.

Maximum penalty: 25 penalty units.

(2) The notice must contain the following particulars:

(a) particulars of the accident indicating, as far as is possible, the place where it occurred and the period during which emission of radiation was uncontrolled,

(b) particulars of the area over which any radioactive substances may have been dispersed,

(c) particulars of any steps taken to rectify the accident,

(d) particulars of any personal injury or exposure that may have resulted,

(e) particulars of any assessment of the radiation dose to which any person may have been exposed as a result of the accident.

28 Record of accidents

(1) An employer must maintain a record, in accordance with this clause, of all radiation accidents.

Maximum penalty: 25 penalty units.

(2) Such a record must, for each radiation accident that is reported to the employer, contain the following particulars:

(a) particulars of the accident indicating, as far as is possible, the place where it occurred and the period during which emission of radiation was uncontrolled,

(b) the name of any occupationally exposed person or other person who was there during that period,

(c) an estimate of the radiation dose to which any person may have been exposed,

(d) details and results of any medical examinations undertaken as a result of the accident,

(e) particulars of the area over which any radioactive substances may have been dispersed,

(f) particulars of any steps taken to rectify the accident,

(g) the time at which the accident was reported to the employer,

(h) the probable cause of the accident,

(i) particulars of any investigations conducted into the accident, together with the results of the investigations,

(j) details of any steps taken to reduce the risk of a similar accident occurring in the future.

29 Faults or defects

(1) An employer, on becoming aware that a fault may exist in any radiation apparatus:

(a) must investigate the apparent fault and, if necessary, cause the apparatus to be removed, replaced or repaired, and

(b) must inform all persons who may have been exposed to radiation in quantities in excess of those that would normally be received from the apparatus in faultless condition that they may have been so exposed.

Maximum penalty: 50 penalty units.

(2) An employer, on becoming aware that a fault or defect may exist in any sealed radioactive source:

(a) must investigate the apparent fault or defect and, if necessary, cause the sealed radioactive source to be removed, replaced or repaired, and

(b) must inform all persons who may have been exposed to radiation in quantities in excess of those that would normally be received from the sealed radioactive source in faultless condition that they may have been so exposed.

Maximum penalty: 50 penalty units.

Part 4 Radiation safety officers and committees

30 Appointment of radiation safety officers and committees

(1) The Director-General may, by notice in writing served on an employer:

(a) direct the employer to appoint a radiation safety officer or a radiation safety committee, or both, for a workplace, and

(b) in the case of a direction to appoint a radiation safety officer, determine the qualifications to be held by a person so appointed, and

(c) direct what functions are to be exercised by a radiation safety officer or radiation safety committee so appointed.

(2) An employer:

(a) must not fail to appoint a radiation safety officer or a radiation safety committee, or both, in accordance with a direction under this clause, and

(b) must not allow the functions of the radiation safety officer or radiation safety committee to be exercised otherwise than by the officer or the committee, as the case requires.

Maximum penalty: 25 penalty units.

Part 5 Miscellaneous

31 Destruction or disposal of records

(1) An employer must not destroy or otherwise dispose of any records required to be kept under this Regulation otherwise than in accordance with this clause.

Maximum penalty: 25 penalty units.

(2) An employer may, with the consent of the Director-General, destroy or otherwise dispose of any records that the employer is required by this Regulation to keep.

(3) The Director-General is not to give consent to the destruction of any records kept under clause 18 by an employer until at least 5 years after the cessation of employment with the employer of the employee concerned.

(4) An employer may forward to the Director-General the records kept under this Regulation by the employer if the employer ceases to carry on business in New South Wales.

(5) The Director-General may dispose of any records forwarded to or kept by the Director-General in accordance with this Regulation.

32 Contamination of premises by radioactivity: section 21

(1) For the purposes of section 21 (4) of the Act, the prescribed level of activity for premises inside a building is:

(a) 0.04 becquerels per square centimetre for any Group 1 or Group 2 radioactive substance that emits alpha radiation, or

(b) 0.4 becquerels per square centimetre for any Group 3 or Group 4 radioactive substance that emits alpha radiation, or

(c) 0.4 becquerels per square centimetre for any radioactive substance that emits beta or gamma radiation.

(2) For the purposes of section 21 (4) of the Act, the prescribed level of activity for premises outside a building is:

(a) 0.01 becquerels per square centimetre for any Group 1 radioactive substance, or

(b) 0.1 becquerels per square centimetre for any Group 2 radioactive substance, or

(c) 1.0 becquerels per square centimetre for any Group 3 radioactive substance, or

(d) 10.0 becquerels per square centimetre for any Group 4 radioactive substance.

33 Loss or theft of radioactive substance or radiation apparatus

(1) If any radioactive substance, or any radiation apparatus registered under section 7 of the Act, is lost or stolen:

(a) the person who is the owner of the substance or apparatus, and

(b) any other person who is the holder of a licence and is employed to use, or to supervise the use of, the substance or apparatus,

must cause notice of the loss or theft to be given to the Director-General as soon as possible (but in any event, no later than 3 days) after the person becomes aware of the loss or theft.

Maximum penalty: 100 penalty units.

(2) Notice does not have to be given by any one of those persons if notice has already been given by any other of those persons.

34 Penalty notice offences

For the purposes of section 25A of the Act:

(a) each offence created by a provision specified in Column 1 of Schedule 4 is declared to be a penalty notice offence, and

(b) the prescribed penalty for such an offence is the amount specified in Column 2 of Schedule 4.

35 Forfeiture of property: sections 26 and 27

(1) An application made by or on behalf of the Authority for the purposes of section 26 (2) of the Act is to be in writing.

(2) A notice referred to in section 27 (1) (b) of the Act is to be in writing addressed to the owner of the substance or thing concerned at that person's address last known to the Authority.

36 Warning signs

The occupier of any premises in or on which any radiation apparatus or radioactive substance, not specified in Schedule 3, is kept must ensure that a warning sign in or to the effect of the form set out in Schedule 5 (with colouring as indicated in the note to that Schedule) is conspicuously displayed in the immediate vicinity of the apparatus or substance.

Maximum penalty: 25 penalty units.

37 Savings provision

Any act, matter or thing that, immediately before the repeal of the *Radiation Control Regulation 1993*, had effect under that Regulation continues to have effect under this Regulation.

Schedule 1 Prescribed activity of a radioactive substance

(Clause 3 (2))

Column 1								Column 2
Group 1								
Ac227	Am241	Am243	Cf249	Cf250	Cf252	Cm242	Cm243	40 kilo-becquerels
Cm244	Cm245	Cm246	Np237	Pa231	Pb210	Po210	Pu238	
Pu239	Pu240	Pu241	Pu242	Ra223	Ra226	Ra228	Th227	
Th228	Th230	U230	U232	U233	U234			
Any alpha emitting radionuclide that is not included in any other Group in this Schedule								

Column 1								Column 2
Group 2								
Ac228	Ag110m	At211	Ba140	Bi207	Bi210	Bk249	Ca45	400 kilo-becquerels
Cd115m	Ce144	C136	Co56	Co60	Cs134	Cs137	Eu152	
Eu154	Ge68	Hf181	I124	I125	I126	I131	I133	
In114m	Ir192	Mn54	Na22	Pa230	Pb212	Ra224	Ru106	
Sb124	Sb125	Sc46	Sr89	Sr90	Ta182	Tb160	Te127m	
Te129m	Th234	T1204	Tm170	U236	Y91	Zr95		
Any radionuclide that is not alpha emitting and is not included in any other Group in this Schedule								

Column 1								Column 2
Group 3								
Ag105	Ag111	Ar41	As73	As74	As76	As77	Au196	4 mega-becquerels
Au198	Au199	Ba131	Ba133	Be7	Bi206	Bi212	Br75	
Br76	Br82	C14	Ca47	Cd109	Cd115	Ce141	Ce143	
Cl38	Co57	Co58	Cr51	Cs129	Cs131	Cs136	Cu64	
Cu67	Dy165	Dy166	Er161	Er169	Er171	Eu152m	Eu155	
F18	Fe52	Fe55	Fe59	Ga67	Ga68	Ga72	Gd153	
Gd159	Hf175	Hg195m	Hg197	Hg197m	Hg203	Ho166	I123	
I130	I132	I134	I135	In111	In115	In115m	Ir190	
Ir194	K42	K43	Kr85m	Kr87	La140	Lu177	Mg28	
Mn52	Mn56	Mo99	Na24	Nb93m	Nb95	Nd147	Nd149	
Ni63	Ni65	Np239	Os185	Os191	Os193	P32	Pa233	
Pb203	Pd103	Pd109	Pm147	Pm149	Pr142	Pr143	Pt191	
Pt193	Pt197	Rb81	Rb86	Re183	Re186	Re188	Rh105	
Rn220	Rn222	Ru103	Ru105	Ru97	S35	Sb122	Sc47	
Sc48	Se75	Si31	Sm151	Sm153	Sn113	Sn121	Sn125	
Sr85	Sr91	Sr92	Tc96	Tc97	Tc97m	Tc99	Te125m	
Te127	Te129	Te131m	Te132	Th231	Tl200	Tl201	Tl202	
Tm171	U239	V48	W181	W185	W187	Xe135	Y87	
Y90	Y92	Y93	Yb175	Zn62	Zn65	Zn69m	Zr97	

Column 1								Column 2
Group 4								
Ar37	C11	Co58m	Cs134m	Cs135	Cu62	Ga68	Ge71	40 mega-becquerels
H3	I129	In113m	Kr81m	Kr85	N13	Nb97	Ni59	
O15	Os191m	Pt193m	Pt197m	Rb87	Re187	Rh103m	Se73	
Sm147	Sr85m	Sr87m	Tc96m	Tc99m	Th nat	Th232	U nat	
U235	U238	Xe131m	Xe133	Y91m	Zn69	Zr93		

Schedule 2 Dose limits for exposure to ionising radiation

(Clauses 6 and 14)

Application	Dose limit Occupationally exposed person	Dose limit Member of public (other than patient)
Effective dose	20 mSv per year averaged over a period of 5 consecutive calendar years[4, 5, 6]	1 mSv in a year[7]
Equivalent dose to: (a) lens of the eye	150 mSv in a year	15 mSv in a year
(b) skin[8]	500 mSv in a year	50 mSv in a year
(c) the hands and feet	500 mSv in a year	No limit specified

Note 1. The limits apply to the sum of the relevant doses from external exposure in the specified period and the committed dose from intakes in the same period. In this Note, ***committed dose*** means the dose of radiation, arising from the intake of radioactive material, accumulated by the body over 50 years following the intake (except in the case of intakes by children, where it is the does accumulated until the age of 70).

Note 2. Any dose resulting from medical diagnosis or treatment should not be taken into account.

Note 3. Any dose attributable to normal naturally occurring background levels of radiation should not be taken into account.

Note 4. With the further provision that the effective dose must not exceed 50mSv in any single year.

Note 5. When a female employee declares a pregnancy, the embryo or foetus should be afforded the same level of protection as required for members of the public.

Note 6. When, in exceptional circumstances, a temporary change in the dose limitation requirements is approved by the Authority, one only of the following conditions applies:

(a) the effective dose limit must not exceed 50mSv per year for the period, that must not exceed 5 years, for which the temporary change is approved,

(b) the period for which the 20mSv per year average applies must not exceed 10 consecutive years and the effective dose must not exceed 50mSv in any single year.

Note 7. In special circumstances, a higher value of effective dose could be allowed in a single year, provided that the average over 5 years does not exceed 1mSv per year.

Note 8. The equivalent dose limit for the skin applies to the dose averaged over any 1 square centimetre of skin, regardless of the total area exposed.

Schedule 3 Exemptions from licensing

(Clause 7)

Part 1 Exemptions from licensing for use of radioactive substances

1 Radioactive substances used for gas chromatography detectors

2 Sealed radioactive sources used for radiation gauging installed in fixed positions

3 Industrial smoke detectors that contain Am–241, if they do not contain any other radioactive substance

4 Self-shielded irradiators (that is, gamma irradiators in which the radioactive substance is completely enclosed in a dry container constructed of solid material that shields the radioactive substance to 0.5 µSv per hour at 1 metre from the accessible surfaces of the irradiator at all times)

Part 2 Exemptions from licensing for possession, use or sale of radioactive substances

1 Clocks, watches and other devices that have luminous dials

2 Gaseous tritium luminous devices (including self luminous “EXIT” signs)

3 Radioactive substances used in nuclear medicine for checking gamma cameras and dose calibrators and having a level of activity of less than 40 megabecquerels

4 Radioactive substances used as laboratory reference sources and having a level of activity of less than 40 megabecquerels

5 Radioactive substances for demonstration, teaching and training having a level of activity of less than 40 megabecquerels

6 Uranium metal of natural isotopic composition, or depleted in uranium 235, which is used as radiation shielding in transport packages for radioactive substances or in any other manner

Part 3 Exemptions from licensing for use of ionising radiation apparatus

1 X-ray baggage inspection apparatus

2 Cabinet x-ray inspection apparatus installed in a fixed position

3 Enclosed x-ray diffraction, absorption and fluorescence analysers that comply with the requirements for enclosed units as defined in the document published by the National Health and Medical Research Council entitled *Code of practice for protection against ionizing radiation emitted from X-ray analysis equipment* (or as defined in any document replacing that document that is published by the Australian Radiation Protection and Nuclear Safety Agency)

Part 4 Exemptions from licensing for possession, use or sale of ionising radiation apparatus

1 Television receivers

2 Visual display units

3 Cold cathode gas discharge tubes

4 Electron microscopes

Schedule 4 Penalty notice offences

(Clause 34)

Column 1	Column 2
Provision	**Penalty**
Offences under the Act	
Section 6 (2)	$1500 for a corporation $750 for an individual
Section 6 (3)	$1500 for a corporation $750 for an individual
Section 7 (2)	$1500 for a corporation $750 for an individual
Section 7 (3)	$1500 for a corporation $750 for an individual
Section 8 (1)	$1500 for a corporation $750 for an individual
Section 8 (2)	$1500 for a corporation $750 for an individual
Section 9 (1)	$500
Section 13 (6)	$100
Section 18 (4)	$1000
Offences under this Regulation	
Clause 8 (5)	$250
Clause 8 (6)	$250
Clause 14	$1000
Clause 15	$250

Column 1	Column 2
Provision	**Penalty**
Clause 16 (2)	$250
Clause 16 (3) (a)	$250
Clause 16 (3) (b)	$250
Clause 17 (1)	$500
Clause 17 (2)	$250
Clause 18 (1)	$250
Clause 18 (3) (a)	$250
Clause 18 (3) (b)	$250
Clause 18 (4)	$250
Clause 18 (5)	$250
Clause 19 (4)	$250
Clause 20	$500
Clause 21	$250
Clause 22	$500
Clause 23 (1)	$1000
Clause 23 (2)	$1000
Clause 24 (1)	$1000
Clause 25	$1000
Clause 27 (1)	$250
Clause 28 (1)	$250

Column 1	Column 2
Provision	**Penalty**
Clause 29 (1) (a)	$500
Clause 29 (1) (b)	$500
Clause 29 (2) (a)	$500
Clause 29 (2) (b)	$500
Clause 30 (2) (a)	$250
Clause 30 (2) (b)	$250
Clause 31 (1)	$250
Clause 33 (1)	$1000
Clause 36	$250

Schedule 5 Prescribed warning sign

(Clause 36)

Note. The sign is to have a yellow background with the distinctive symbol in black and the lettering “CAUTION RADIATION” in black.